

# HOSPITAL AND HEALTHCARE

AUTUMN 2021

## SAFETY ISSUE

PP100002780



## NEW COVID-19 STRAINS

HOW CAN WE  
PROTECT OURSELVES?

### INFECTION CONTROL

Hotel quarantine

### AGED CARE

Better ageing futures

### TECHNOLOGY

The virtual hospital

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Editor: Jane Allman  
[hh@wfmedia.com.au](mailto:hh@wfmedia.com.au)

Contributing Editor: Amy Sarcevic

Publishing Director/MD: Geoff Hird

Art Director/Production Manager:  
Julie Wright

Art/Production: Colleen Sam, Veronica King

Circulation: Dianna Alberry, Sue Lavery  
[circulation@wfmedia.com.au](mailto:circulation@wfmedia.com.au)

Copy Control: Mitchie Mullins  
[copy@wfmedia.com.au](mailto:copy@wfmedia.com.au)

Advertising Manager:  
Nicky Stanley  
0401 576 863  
[nstanley@wfmedia.com.au](mailto:nstanley@wfmedia.com.au)

Advertising Sales:  
Nikki Edwards  
+61 2 9168 5516  
[nedwards@wfmedia.com.au](mailto:nedwards@wfmedia.com.au)

Kerrie Robinson  
+61 2 9168 5517  
[krobinson@wfmedia.com.au](mailto:krobinson@wfmedia.com.au)

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[www.wfmedia.com.au](http://www.wfmedia.com.au)

Head Office  
Unit 7, 6-8 Byfield Street, North Ryde  
Locked Bag 2226  
North Ryde BC NSW 1670  
AUSTRALIA  
ph: +61 2 9168 2500

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## Welcome to our Autumn Safety issue

**W**ill you say yes to a COVID-19 vaccine? Although not the silver bullet we may have all hoped for, the rapid development and production of vaccines to protect against COVID-19 has been a monumental global undertaking. With Australia now manufacturing the AstraZeneca vaccine on home soil, hopefully we will start to see the beginnings of more widespread vaccination across the country.

This issue we focus on safety, with features exploring the safety profiles of each COVID-19 vaccine currently available and what we can do to protect ourselves from new variants. In addition, we investigate a new infection control technology for ultrasound probes that is making the process easier and safer for patients and healthcare staff.

I hope you enjoy this issue's features.  
Keep safe.

*Jane*

**Jane Allman**

Editor, H+H

[hh@wfmedia.com.au](mailto:hh@wfmedia.com.au)



### WANT TO CONTRIBUTE?

We welcome articles and research reports from health professionals across Australia for review for the quarterly print publication and our daily web page. If you have a story you think would be of interest, please send an email to [hh@wfmedia.com.au](mailto:hh@wfmedia.com.au).

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# The Rounds

## Updates in health care

### Bees top list of hospitalisations for venomous bites and stings

More than 3500 Australians were hospitalised due to contact with a venomous animal or plant in 2017-18, with more than a quarter (26% or 927 cases) caused by bee stings, according to the Australian Institute of Health and Welfare's (AIHW) Venomous bites and stings, 2017-18 report.

"Australia is home to some of the most venomous animals in the world — including spiders, ticks and 20 of the 25 most venomous snakes in the world," said Professor James Harrison from the AIHW's National Injury Surveillance Unit, based at Flinders University. "The majority of hospitalisations for bee stings were due to allergic reactions, with bees and wasps responsible for 12 of the 19 deaths related to venomous bites and stings in 2017-18."

Spider bites accounted for one-fifth (19% or 666 cases) of all venomous bite and sting-related hospitalisations. Of those 666 cases, redback spiders were responsible for 42.5% (283 cases) of hospitalisations, followed by white-tailed spiders (38 cases) and funnel-web spiders (25 cases). The type of spider was unknown in just under half of all cases (45% or 300 cases).

Venomous snakes were chiefly responsible for 17% (606 cases) of hospitalisations, with the type of snake unknown in around one-third of those cases (34% or 208 cases). Brown snakes accounted for 36% (215 cases) of hospitalisations due to venomous snake bites, followed by black snakes (83 cases) and tiger snakes (65 cases). Of the 19 deaths recorded in 2017-18, seven were attributed to venomous snakes.

"Alongside land-dwelling animals, Australia also has some of the world's most venomous marine animals, including the Irukandji jellyfish," Professor Harrison said.

Contact with venomous marine animals accounted for just under 400 hospitalisations and zero deaths, with stinging fish (including stonefish and stingrays) responsible for 320 hospital admissions, followed by jellyfish (73 cases).

The rate of hospitalisations for all venomous bites and stings varied by states and territories across Australia. The highest rate occurred in the Northern Territory (31 cases per 100,000 population) and the lowest in the Australian Capital Territory (nine cases per 100,000).

"Residents of the very remote regions of Australia had the highest rate of hospitalisations (49 cases per 100,000), while the lowest rate was observed for residents of the major cities of Australia (nine cases per 100,000)," Professor Harrison said.

### St John Ambulance launches defibrillators to boost bystander rescues



St John Ambulance has launched two groundbreaking defibrillators — the G5 and G3 Elite — aimed to improve bystander participation during sudden cardiac arrest (SCA) emergencies. Both defibrillators use audio technology to guide first-time users to correctly and quickly apply defibrillation.

In an SCA emergency, lives are saved by people who are brave enough to use a defibrillator, often for the first time. In Australia, 33,000 suffer from SCA each year and, currently, 9% will not survive. A person

surviving an SCA will depend on them receiving instant CPR and defibrillation within minutes. The shocking reality is that only 4% in Victoria receive defibrillation help from bystanders. It is St John Ambulance's mission to improve SCA survival by increasing bystander use of defibrillators to 50% nationwide by 2025.

Also concerning is that the SCA survival rate decreased by half during the pandemic due to COVID-19 safety protocols delaying paramedics by only two minutes. Every minute counts, and if we rely on paramedics alone to save SCA victims, help may come too late. This is why it's crucial for workplaces to be fitted with defibrillators and ensure people are comfortable using them.

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- Rescue prompts and critical rescue information is displayed on a backlit text display.
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- 90 minutes of rescue data available via USB data download.
- Paediatric pads automatically alter the shock capacity needed for paediatric victims.
- Automatic self-testing conducts daily self-tests on pads, battery and internal circuitry to ensure your AED is always Rescue Ready.
- Intellisense CPR feedback gives distinct text and voice corrective CPR prompts for rate, depth and recoil.





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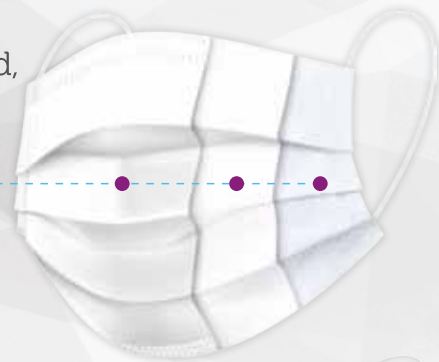
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# The Rounds

## Updates in health care

### Exoskeleton technology comes to Australia

Royal Rehab — an Australian provider of rehabilitation and disability support services — has entered into an agreement with United States robotic company Ekso Bionics to bring advanced exoskeleton technology to Australia. The agreement propels Royal Rehab's plans to become a centre of excellence in technology-driven rehabilitation through the acquisition of assistive technologies, to help patients move more freely, communicate, control objects and complete everyday tasks.

The EksoNR is set to revolutionise the Australian rehabilitation sector with its ability to help patients stand and walk following incomplete spinal cord injury, acquired brain injury, stroke and other neurological conditions including Parkinson's disease and multiple sclerosis.

Royal Rehab CEO Matt Mackay said breakthroughs in technology are driving better and faster outcomes for people living with life-changing conditions and injury; however, these have been unavailable in Australia, until now.

"Those treated for spinal cord injuries or a neurological condition overseas will often have access to assistive technology that can dramatically change a person's quality of life," he said.

"Robotics, virtual reality and exoskeletons are an integral part of rehab programs in

other countries because they can accelerate recovery, strength and mobility to a whole new level. Australian patients now have the opportunity to access this potentially life-changing technology.

"The reality is that the rehabilitation equipment available to Australian patients has not evolved much in decades. We are delighted to be changing the status quo with EksoNR," Mackay said.

"It is our vision to create a centre of excellence in rehabilitation technology which will empower people with disabilities with an unparalleled level of freedom, choice and independence."

According to Chwee Foon, CEO Asia Pacific Ekso Bionics, "Technology is revolutionising the rehabilitation sector, and tech-savvy organisations like Royal Rehab are embracing the opportunities they bring for patients.

"We are delighted to welcome Royal Rehab as one of our certified rehab centres, to bring the EksoNR to Australians. With their strong reputation in neurological, brain and spinal cord injury rehabilitation and commitment to empowering people to reach their potential, the organisation is a perfect fit."

Under the agreement, Royal Rehab physiotherapists have completed comprehensive training to operate the two EksoNRs, which will be utilised across Royal Rehab facilities in personalised rehabilitation



Image courtesy of Royal Rehab.

programs for people with disabilities. EksoNR is currently available through Royal Rehab's services including Royal Rehab Private Hospital, Community Rehabilitation Services and specialist brain and spinal injury units, and is coming soon to MetroRehab Hospital.

Royal Rehab is also in discussions with Ekso Bionics to act as the demonstration site of the EksoNR for other rehabilitation providers in the Australian market in the future.

### Early nut introduction linked to fall in infant peanut allergy

Changes to food allergy guidelines have led to a significant increase in parents introducing peanut to their babies' diets, with a 16% decrease in peanut allergy among infants, according to a study led by the Murdoch Children's Research Institute (MCRI).

Introducing peanut early in a child's life has been shown to prevent peanut allergy during randomised controlled trials. But MCRI PhD candidate and study lead author Victoria Soriano said this research was the first to test the approach in homes and to analyse what impact the guideline changes have had on peanut allergies.

International infant feeding guidelines changed in 2016 to recommend introduction of peanut and other allergenic foods before 12 months.

"In the 1990s some guidelines recommended avoiding allergenic foods until age 1-3 years and avoidance of these foods in infancy became widespread," Soriano said. "By 2008, this advice started to be removed based on increasing evidence that delaying allergenic foods was associated with an increased food allergy risk. However, evidence was still insufficient for specific recommendations for what age these foods should be introduced."

The Melbourne study, published in *The Journal of Allergy and Clinical Immunology*, compared data from the 1933 infants enrolled in the EarlyNuts study in 2018-2019 to the 5276 infants recruited in the HealthNuts study across 2007-2011. Peanut allergy prevalence in 2018-2019 was 2.6% compared to 3.1% in 2007-2011, which amounted to



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a 16% decrease after accounting for migration and population changes.

Of infants in the 2018-2019 cohort who did not consume peanut until 12 months or later, 4.8% were allergic. Severe reactions to introducing peanut early were uncommon, the data showed.

Soriano said despite concern that parents may not follow the advice to introduce peanut early, there was a high uptake. Peanut consumption by 12 months increased from 28 to 89% in the 10 years to 2019, which may have halted the rise in peanut allergy.

MCRI's Dr Jennifer Koplin said that, despite the decrease in peanut allergy, the prevalence overall continued to be high.

Australia has the highest reported rates of childhood food allergy in the world, with about one in 10 infants and one in 20 children up to five years of age being allergic.

"The safety of early peanut introduction at home is of significant interest to parents as well as health professionals around the world," Dr Koplin said. "More research must be done to look closer at these trends to help us understand how well early introduction to peanut works to prevent peanut allergies in real-life situations."

The Vitality trial is recruiting Melbourne infants aged six to 12 weeks testing whether taking a vitamin D supplement over the first year of life can help prevent food allergies. To find out more about MCRI's allergy trials, visit the Centre for Food and Allergy Research.

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# The Rounds

## Updates in health care

### Identifying concussion from spit

Researchers have identified distinct chemical 'signatures' for concussion in the spit of elite male rugby players, with findings published in the *British Journal of Sports Medicine*. The discovery could lead to the development of non-invasive, pitch-side testing for concussion.

Diagnosis currently relies on a clinician's interpretation of the observed signs and symptoms, and the results of formal clinical assessments. A high percentage of concussions are missed, and concerns have emerged about the long-term brain health of athletes exposed to repeated concussions.

Advances in gene sequencing have allowed scientists to look into the diagnostic potential of molecules called small non-coding RNAs (sncRNAs), which regulate the expression of different cellular proteins that are linked to various diseases, such as cancer and Alzheimer's disease.

Saliva samples were obtained from more than 1000 male professional players in the top two tiers of England's elite rugby union across two seasons (2017-19) of competition. Samples were collected from 1028 players before the season began, and during standardised 'gold standard' head injury assessments at three time points: during the game, immediately afterwards and 36-48 hours later in 156 of these players.

Saliva samples were also collected from a comparison group of 102 uninjured players and 66 who had sustained muscle or joint injuries, and therefore had not been assessed for head injury.

A combined panel of 14 sncRNAs differentiated concussed players from those with suspected traumatic brain injury, but whose head injury assessments had ruled out concussion, and from the comparison group, both immediately after the game and 36-48 hours later.

Although the study reveals that the sncRNA biomarkers cannot outperform the gold standard clinical assessment, it is thought that saliva can receive cellular signals directly from cranial nerves in the mouth and throat, and so can rapidly register traumatic brain injury, making a saliva test suitable for a pitch-side diagnosis, the researchers suggested.

"Concussion can be hard to diagnose and is often missed, especially where a structured evaluation by an expert clinician is not possible — for example, at grass-root level," they wrote. "Small non-coding RNAs can provide a diagnostic tool that might reduce the risk of missing this type of injury at all levels of participation.

"In community sport, [sncRNAs] may provide a non-invasive diagnostic test that is comparable in accuracy to the level of assessment available in a professional sport setting, while the test could be added to current head injury evaluation protocols at the elite level.

"The detection of signatures of concussion at early time points in saliva (a non-invasively sampled biofluid) presents both at the pitch side, and in primary care and emergency medicine departments, an opportunity to develop a new and objective diagnostic tool for this common clinical presentation," they concluded.



### National ICU dashboard critical during Vic second wave

The Critical Health Resources Information System (CHRIS) — a national tool for monitoring and sharing intensive care unit (ICU) capacity — has been described as a vital component of Victoria's COVID-19 response.

Dr David Pilcher — an intensivist at the Alfred Hospital in Melbourne, and Chair of the Centre for Outcome and Resource Evaluation with the Australian and New Zealand Intensive Care Society (ANZICS) — and colleagues detailed the development and success of CHRIS in the *Medical Journal of Australia*.

"In late March 2020, rising numbers of COVID-19-related admissions to ICUs were observed throughout Australia," Dr Pilcher and colleagues wrote.

"ANZICS and the Australian Government Department of Health [DoH] recognised that ICU demand was unlikely to be uniform, that capacity might be exceeded in one region but not in another, and that matching ICU resources to areas of greatest need might be required. A single sentence encapsulated the approach: 'Why would we let a patient die in Western Australia if we can see a spare ventilator in Sydney?'"

In a collaboration between ANZICS, the DoH, Telstra Purple and Ambulance Victoria, a national dashboard of ICU activity (CHRIS) was created.

The authors explained that public and private adult and paediatric ICUs throughout Australia were instructed to enter data twice daily, with each ICU able to see patient numbers and resources available within every ICU in their region and an aggregate summary of all ICUs in Australia. CHRIS was available to all state and territory health departments, to all patient transport and retrieval agencies, and also to ICUs in New Zealand. Three weeks after the system went live on 1 May 2020, 184 out of 188 eligible ICUs (98%) in Australia were contributing data, meaning that the system was ready for the second wave of COVID-19 that hit Melbourne and Victoria at the end of June.

"From the beginning of July to the end of September 2020, there were 237 ICU admissions with COVID-19 pneumonitis, of which 210 (88%) occurred in July and August," Dr Pilcher and colleagues wrote.

"Admissions were predominantly to public hospitals in north-western Melbourne. The rapid and localised nature of presentations meant that it was faster to transfer patients to ICUs with vacant capacity than to open and staff additional beds, despite physical ICU bed spaces being available.

"Transfers from the emergency department or ICU at the four north-western metropolitan hospitals alone accounted for 35% (46/133) of all critical care transfers in Victoria during July and August."

CHRIS provided real-time data on ICU activity and capacity, as well as facilitating the transfer of critically ill patients. The system also enabled early diversion of ambulance presentations to emergency departments at hospitals where ICUs had capacity.

# The Rounds

## Updates in health care

### Australian back pain trial slashes opioid use

A NSW trial has led to a 24% reduction in opioid prescribing for patients with acute back pain in emergency departments.

Led by researchers and clinicians from the Institute for Musculoskeletal Health, University of Sydney and Sydney Local Health District, the randomised trial was conducted across four NSW emergency departments, with results published in *BMJ Quality and Safety*.

The study included almost 4500 patients from Royal Prince Alfred, Canterbury, Concord and Dubbo hospitals, and involved training about 300 clinicians in assessing, managing and referring patients with acute back pain without necessarily prescribing opioids, providing alternatives such as other medicines and heat wraps.

Real-time feedback of prescription use was provided to clinicians using Qlik Sense technology.

Across the four hospitals there was a 12% decrease in opioid use, from 63 to 51%, over the four-month trial. At Canterbury Hospital, opioid use fell from 61% of patients being prescribed opioids to 37%. No increase in patient pain levels, nor any drop in satisfaction with care, was observed, despite clinicians giving out fewer opioid painkillers.



"Every year thousands of Australians are unnecessarily being prescribed opioid painkillers, which can cause addiction, overdose and in some cases even death," lead author Dr Gustavo Machado said.

"Patients turn up at emergency departments often in incredible pain and discomfort and receive a highly addictive painkiller. It's meant to be just a short-term fix but in reality, a month later, a third of patients are still taking these pills.

"Emergency departments are incredibly busy places and there is a huge pressure on clinicians to treat people as quickly as possible. Unfortunately there is no easy fix for acute back pain, but providing opioids has a lot of downsides."

Dr Machado said that the trial demonstrated a safer way to treat acute back pain that can easily be adopted by hospitals across the country, and could help tackle the global opioid epidemic.

Dr Eileen Rogan, senior emergency physician and the Director of Medical Services at Canterbury Hospital, said, "It's clear there is a better model of care to help people with back pain, and one that does not rely so heavily on opioid painkillers. Our main aim is to make people better and alleviate their pain, not unwittingly place them on a path to addiction."



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SCAN ME

# What can we do to protect ourselves from **new COVID-19 strains?**

Amy Sarcevic

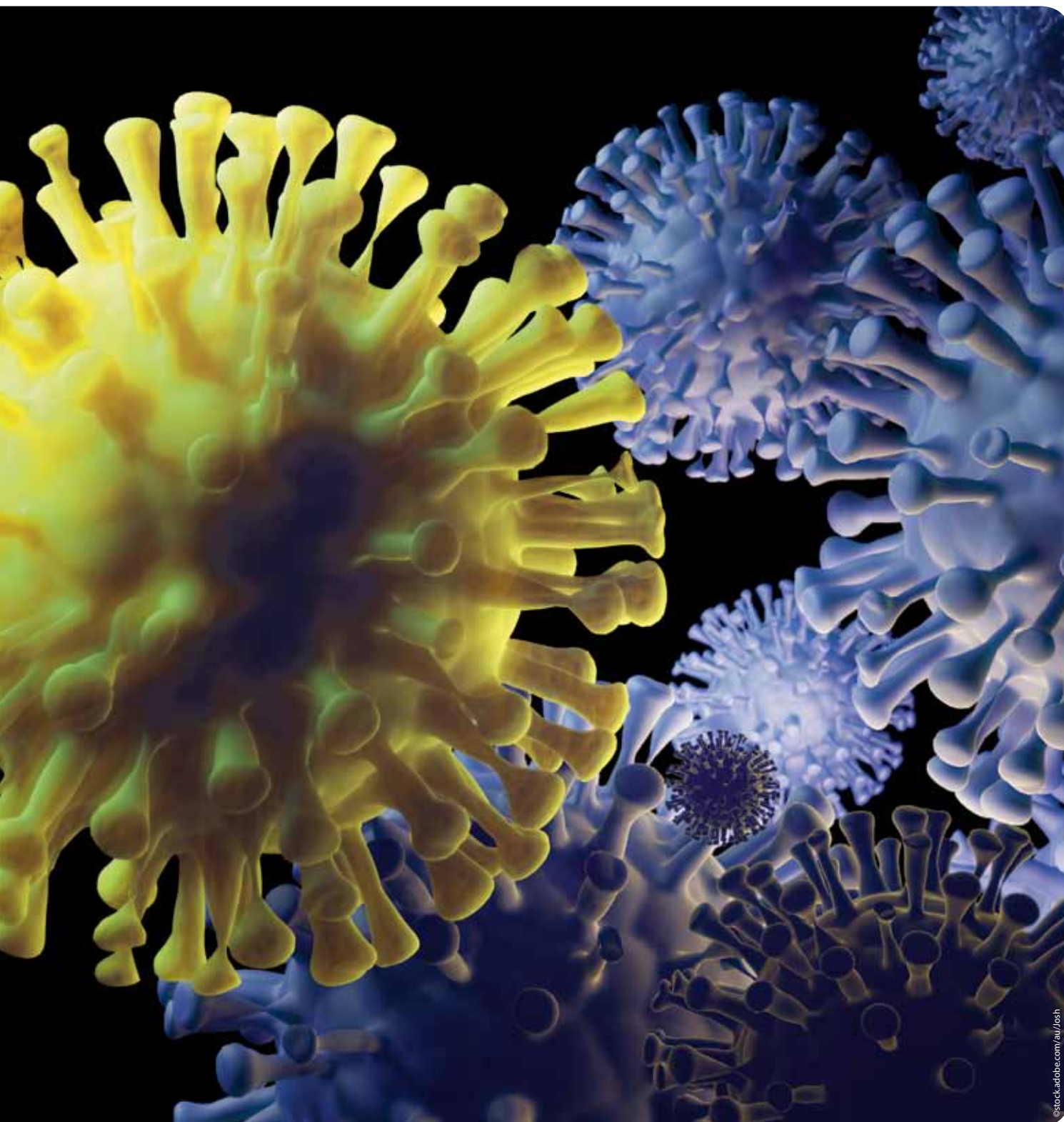


In the United Kingdom, Christmas is usually a joyful time, providing light and cheer in the harsh depths of winter. Last year, though, was a different scene, as a seemingly more virulent COVID-19 variant sprung up just before the festivities. First detected in September, it grew to represent a quarter of infection cases by November, reaching nearly two-thirds by mid-December.<sup>1</sup>

The timing of this COVID-19 variant was unfortunate, but not a surprise to immunologists. As viruses replicate, they naturally acquire changes to their basic

genetic information. Most of these changes are a dead end for the virus, or don't affect how dangerous it is, but occasionally some changes emerge that make the virus stronger. The more people infected, the higher the chance that deadly variants and strains emerge. In the 1918 influenza pandemic, for example, around 80% of the reported illnesses and fatalities were attributable to the second wave.<sup>2</sup>

With a tendency to mutate being a hallmark of any pathogen, what can we do to protect ourselves from the threat of more deadly



COVID-19 strains? Immunologist Dr Larisa Labzin from the University of Queensland says there are various things to consider.

### Vaccinate fully and quickly

As the new UK variant raged through the population, government made a tough decision: to inoculate more people with just one dose of the Pfizer vaccine by delaying administration of the second dose.

The gamble was made swiftly and without the aid of clinical data. Pfizer had recommended that a second dose of the vaccine be

administered within three weeks of the first, to achieve its maximum efficacy rate of 95%, as demonstrated in clinical trials.<sup>3</sup> However, with a single dose offering around 52% protection,<sup>4</sup> the government thought a wider rollout of initial doses could lessen the demand for acute care, at a time when resources were stretched.

Dr Labzin said this approach can, however, be dangerous. "If people who are given just one dose of the vaccine go back to normal behaviour and are exposed to the virus, that insufficient level of immunity might create just enough 'selective pressure' within their

body for the virus to fight back and develop mutations," she said.

"In contrast, administering two vaccine doses induces an immune response strong enough to completely eliminate the virus from the recipient's body before the virus has a chance to adapt," she added.

However, sticking to the manufacture guidelines and opting for a quality over quantity approach in the Pfizer vaccine rollout may incur a similar outcome, with mutations also becoming more likely when viruses are

**“If we can help people sick with COVID-19 get better more quickly, we are minimising that time for the virus to adapt and grow stronger within their body.” — Dr Labzin**

given the chance to replicate in large pools of people. If more citizens get at least one jab — and that jab prevents at least some viral transmission — the government's decision may pay off.

“It's a really tough call for authorities to make and only time and further data from genomic sequencing and transmissibility studies will confirm if they have made the right choice,” Dr Labzin said.

### Prioritising the development of antivirals

In a similar vein, drugs that reduce the time that someone remains sick with the COVID-19 virus can also help prevent mutations, given that some people cannot or will not be vaccinated.

“If we can help people sick with COVID-19 get better more quickly, we are minimising that

time for the virus to adapt and grow stronger within their body,” Dr Labzin said.

“There are also new variants of COVID-19 — like the South African variant — which the vaccines aren't as effective against. Drugs that target the virus directly, like antibiotics do for bacteria, are one of the most promising alternatives.”

At present, no antiviral for COVID-19 has been approved by the TGA, but several are in development. Dr Labzin said it is worth prioritising research into these drugs and making them available for mainstream usage, quickly.

### Keeping distance in the meantime

Whilst we wait for everyone to be vaccinated and effective antivirals to be developed, good old-fashioned social distancing, hygiene and PPE are still called for.

This may be especially important for immunocompromised people, who are more prone to long-term illness from COVID-19.<sup>5</sup> Their bodies are more likely to enter into an ‘arms race’ with the virus, prompting it to evolve into new strains.

Failure to keep cases down through these measures could mean the virus has enough

opportunity to escape vaccine-induced immunity, meaning new vaccine formulas need to be continually developed. This is a possibility we are already facing with some of the new South African variants.

“Influenza has grown to be really good at escaping vaccine-induced immunity, which is why we see new variants each year and have to update our vaccines,” Dr Labzin said.

“It is very possible, we could see a similar scenario with COVID-19, with regular updates to our vaccines. This is an eventuality we need to prepare for,” she concluded.

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# O<sub>2</sub>matic PRO: automated closed-loop oxygen therapy

The O<sub>2</sub>matic PRO is a novel medical device that brings oxygen treatment to a new level. The technology was developed in close cooperation with four hospitals in Denmark and is demonstrated to quickly stabilise arterial oxygen saturation in patients suffering from conditions that can lead to respiratory distress<sup>(1,2)</sup>.

The O<sub>2</sub>matic PRO solves the issue of the labour-intensive titration of oxygen flow rates associated with the current manual apparatus. Oxygen flow is automatically titrated responding to real-time arterial oxygen saturation (SpO<sub>2</sub>) as measured by pulse oximetry. The O<sub>2</sub>matic PRO controls the dose of oxygen administered to the patient to maintain the SpO<sub>2</sub> within a prescribed target range; hence reducing patient-nurse exposure times.

Supplemental oxygen therapy is central to the treatment of respiratory insufficiency caused by a variety of acute and chronic diseases. A clinical study conducted with the use of the O<sub>2</sub>matic PRO on patients suffering chronic pulmonary diseases demonstrated its ability to keep oxygen saturation within a prescribed bracket with the use of its unique algorithm<sup>(1)</sup>. It shows that the O<sub>2</sub>matic PRO maintains the oxygen saturation within the specified range 85% of the time, in contrast to 47% achieved by the conventional practice, while decreasing episodes of hypoxemia<sup>(1)</sup>. Another study conducted on admitted patients of the 2020 global pandemic demonstrated similar results. Using the O<sub>2</sub>matic PRO, medical staff were able to maintain patient oxygen saturation within the prescribed bracket 83% of the time<sup>(2)</sup>.

## Key benefits of closed-loop oxygen therapy:

- Improving patients' time within the target SpO<sub>2</sub> levels<sup>(1,2)</sup> hence reducing mortality rates<sup>(3)</sup>.
- Reducing oxygen consumption by up to 50%<sup>(4)</sup>.
- Faster weaning from oxygen and reducing length of stay<sup>(5)</sup>.
- Reduction in costs of care<sup>(6)</sup> and patient-nurse exposure times.

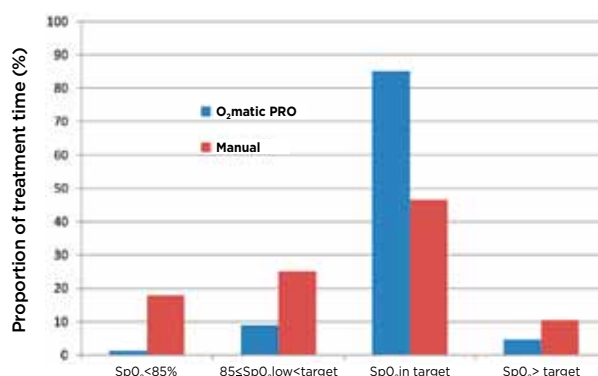
Automatic closed-loop oxygen therapy has been the subject of many more clinical studies with promising outcomes. To request a summary of clinical studies and technical features, please visit our website [www.boc.com.au/o2matic](http://www.boc.com.au/o2matic).



The O<sub>2</sub>matic PRO device easily connects to existing oxygen wall outlets or oxygen cylinders.



Patient arterial oxygen saturation levels during oxygen treatment



The O<sub>2</sub>matic PRO maintains the oxygen saturation within the specified range 85% of the time in contrast to 47% achieved by the conventional practice in patients with chronic respiratory disease<sup>(1)</sup>.

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The S-Monovette needle is ready to use so that there is no need for assembly to

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# Exploring the safety profiles

## of each vaccine in circulation

Amy Sarcevic

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One year ago, almost to the day, the World Health Organization officially declared a pandemic and the world sat back, unarmoured, as everything fell into a frightening unfamiliarity. Businesses closed their doors, supermarket shelves were emptied, and the streets of once-thriving city centres became desolate.

**T**he prospect of a vaccine gave many of us hope and we watched with bated breath as media announcements grew evermore promising. Five months after the first vaccine manufacturer issued its first media release, in November, two vaccines have now made it onto Australian shores, with full Therapeutic Goods Administration (TGA) approval: the Pfizer–BioNTech and AstraZeneca formulas.

But amid the chinking of champagne glasses, some are still hesitant to roll up their sleeves for a jab, concerned that a formula tipped to take three or more years could be ready so quickly. With that in mind, we explored the safety profiles of these vaccines.

### Potential for flu-like symptoms

Pfizer and BioNTech's vaccine belongs to the mRNA family and AstraZeneca's to the

adenovirus vector. Both are effectively gene therapies, as they manipulate cells in the body to produce the viral spike protein. This contrasts with the traditional method of making vaccines from either inactivated virus or synthetic protein.

Although both Pfizer and AstraZeneca COVID-19 vaccines were deemed by the TGA to have safety profiles in large-scale clinical trials suitable for conditional approval,<sup>1,2</sup> they do come with side effects.

"Synthetic mRNA can generate toxicity, as foreign RNA within cells is interpreted by the body as if it was a viral infection. In response, the cells produce inflammatory signals that cause temporary but sometimes severe flu-like symptoms such as fevers, weakness and muscle aches," said Dr Nikolai Petrovsky, Professor in the College of Medicine and Public Health at Flinders University.

On the positive side, people who received the Pfizer vaccines in clinical trials were



**“It is important that approved vaccines have a wide safety margin to ensure that there are minimal risks, even in the event of an overdose.”**

up to 95% less likely than unvaccinated people to develop symptoms of COVID-19.<sup>3</sup> In contrast, those who received the AstraZeneca vaccine were just 62–90% less likely to develop symptoms,<sup>4</sup> suggesting a much more modest effect.

The risk-benefit ratio of each vaccine must also be considered, as potential side effects differ between individual formulas.

### Adverse reactions

Anaphylaxis is a heightened possibility with the mRNA vaccines. These contain ‘polyethylene glycol’, a known allergen, explaining why the rate of anaphylactic reactions is approximately 10 times that of influenza vaccines.<sup>5</sup>

“This appears to be an allergic reaction to the molecules that the mRNA is packaged into. It’s well known that people can have allergies to these types of molecules,” Dr Petrovsky said.

There has been no suggestion to date that AstraZeneca’s vaccine causes a higher-than-

normal rate of allergies, so this might be the preferred vaccine of the two for those with known severe allergies, he added.

All centres administering mRNA vaccines should have adrenaline available to treat any anaphylactic reactions in those unlucky enough to experience one.

### Theoretical risks in pregnancy

No vaccine is ever assumed to be safe in pregnancy, until proven otherwise, particularly those based on gene therapies — like the Pfizer and AstraZeneca formulas.

“Although the flu vaccine is now regarded as safe to give during pregnancy, we simply don’t know enough about the interaction these new types of vaccines may have with the foetus and the placenta,” Dr Petrovsky said.

Since pregnant women are automatically excluded from standard clinical trials, it is unlikely we will have clarity on this any

time soon, although Pfizer has recently announced that it is trialling its mRNA vaccine in pregnant women at over 24 weeks of gestation.

In the meantime, pregnant women are being omitted from the vaccination program.

### Safety margin

It is important that approved vaccines have a wide safety margin to ensure that there are minimal risks, even in the event of an overdose. The Pfizer vaccine recently demonstrated this, when two aged-care residents in Australia were erroneously given four times the recommended dosage by a doctor who has now been struck off.

The 88-year-old man and 94-year-old woman were hospitalised as a precaution, but showed no signs of adverse reaction.<sup>6</sup>

### Antibody-dependent disease enhancement

While some previous coronavirus vaccines, including those for SARS, could actually make infections worse, this has fortunately not been seen with COVID-19 vaccines, Dr Petrovsky said.

“As we accumulate data over time, this will become more certain, but at the moment things look encouraging,” he said.

As with any new technology there is a hypothetical risk of harm, but these risks should be tightly managed and made public through data sharing and regulatory and manufacturer warnings.

“TGA approval is not granted unless they have assessed that the overall benefit of these vaccines significantly outweigh the risks,” Dr Petrovsky concluded.

In other words, anyone invited to do so by authorities should have enough confidence to roll up their sleeves.

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# The future of food and medicine safety is digital and traceable

**W**hen it comes to keeping food and medicines safe, Australia has some of the highest standards in the world. And new technologies are making it easier to achieve full compliance — while saving time and money.

Despite the best intentions, the daily tasks of ensuring food and medicines are safely stored and handled can be easily forgotten or neglected by busy staff.

For example, valuable stock (that may in fact be safe) is often discarded due to inadequate temperature records — or far worse, unsafe food or medicines may be used that should have been discarded. These costly and dangerous mistakes can almost always be put down to inadequate monitoring and record keeping.

With cloud-based digital technologies, pharmacy teams can protect valuable stock and ensure the safety and efficacy of vaccines, bloods, insulins and more. These tools can also be used by foodservice teams to ensure their HACCP food safety plan is implemented correctly — and efficiently.

So how do digital monitoring technologies ensure the right actions are taken, and records are kept, to keep food and medicines safe — easily and traceably?

## Automated, real-time temperature records

Replacing manual or time-delayed temperature logs with live sensors across refrigeration equipment will help you achieve the highest level of food and medicine safety and traceability.

With simulated, customisable temperature ranges, you can have peace of mind that even the most high-risk or sensitive products are safely stored. Alarms and email/SMS alerts are triggered 24/7, so you can rescue stock if needed. Staff are prompted to take the appropriate corrective/preventive actions for the situation.

When combined with live temperature monitoring, batch probing ensures traceability of food from the point of delivery to the point of service — offering peace of mind and defensibility in the event of a claim. Probing tasks can also be sequenced to guide staff through the most complex scenarios in real-time — such as cook-chill procedures and the 2 hour/4 hour rule.

## Manage all food safety and hygiene tasks

With the help of a mobile touchscreen device, a digital monitoring system can ensure staff complete and log all safety

and hygiene tasks across their work area, according to a schedule set by you — from hand probing, cleaning and maintenance to stock rotation and shelf-life checks.

A fully customisable digital food safety system allows you to assign tasks to specific work areas at designated times or intervals, in accordance with your food safety plan and to maximise staff resources. Flexible task verification and alert escalations will help managers ensure tasks are completed on time and to the required standard.

Safety issues need an immediate response — they can't be addressed retrospectively. Any system that is not real-time and cloud-based will be unreliable and inefficient — particularly manual, paper-based systems. A digital system ensures the highest level of data integrity, responsiveness and accountability — while drastically reducing staff time spent filing and accessing records.

Monika has been designing and implementing digital food safety management and clinical temperature monitoring systems for healthcare institutions worldwide since the early 1990s. For a live demonstration of our enterprise solution, MonikaPrime, call us on 1300 857 025 or email [info@monika.com.au](mailto:info@monika.com.au).



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# Oncology centre design

puts patients front and centre



Creating a space where patients could comfortably spend time receiving treatment was central to the design ethos of the new \$9.5 million day oncology centre at South Eastern Private in Melbourne.

**T**he state-of-the-art centre, which opened to its first patients in late January 2021, promotes an abundance of natural light, offers views from treatment areas and modern family break-out spaces for visits from loved ones, along with dedicated research areas.

A new front entry, cafe, gym, specialist consulting wing and 14 single-bed rehabilitation rooms were also included as part of the redevelopment of the

Credit: Evan Sycamias, Pixelife Studio



Credit: Evan Sycamias, Pivell Studio.

**“The additions have made South Eastern Private the most comprehensive oncology hospital in the south-eastern Melbourne metro region.”**



Credit: Niki Photography.



HealthCare-operated facility in Noble Park, bolstering the services offered by the 164-bed private hospital.

HealthCare Executive General Manager (Victoria) of Specialty Hospitals Andrew Blyth said the project further develops a sense of place and identity for South Eastern Private and aligns with the hospital's focus on providing holistic treatment for cancer patients.

The additions have made South Eastern Private the most comprehensive oncology hospital in the south-eastern Melbourne metro region, supported by significant surrounding infrastructure, increasing its capacity for day chemotherapy treatments by approximately 30%.

“South Eastern Private has been providing oncology services for more than two decades, with a long and proud history in the community. This redevelopment further advances our service while bringing our facility into a new and exciting era,” Blyth said.

“Modern health care identifies three key components to cancer treatment and recovery — medical intervention, including chemotherapy, mental health support and ongoing physical activity and rehabilitation — and we are the only hospital in the region to offer all three under one roof.

“This means we not only provide the medication patients need to get better, but support through each of the stages, including mental health and rehabilitation services that are often a significant part of the recovery journey.”

Blyth said the redevelopment was undertaken with the patient experience front and centre.

“We understand the impact the surrounding environment has on a patient's journey, which is why getting the design right was so vital,” he said.

“Natural light, views, a place to spend time with family and friends and a feeling of welcome

as people walk through the door — all of these are so important to our patients, many of who spend hours here for weeks, months or sometimes years at a time.”

Designed by specialist healthcare and aged-care architect HSPC Health Architects and built by Melbourne-based commercial construction company Kingdom Constructions, the redevelopment is the second stage of a 10-year masterplan for the site.

The first phase, completed in 2016, included a new 60-bed mental health ward and new consulting suites along with the addition of electroconvulsive therapy and transcranial magnetic stimulation treatment services.

Detailed design for the new stage commenced in mid-2019 and, along with the addition of the new state-of-the-art oncology outpatient centre and entry, aimed to promote new connections with the hospital's modern hydrotherapy pool and physical rehabilitation service.

The building's exterior complements the uncomplicated and functional interior.

Credit: Niki Photography



a \$1 million redevelopment, which saw a new 30-bed mental health ward opened last February.

Healthe Care's Specialty Hospitals and Services Group is one of the largest private mental health and rehabilitation providers in Australia, with standalone and integrated mental health and rehabilitation/medical hospitals, along with a community services business. The portfolio comprises 16 private hospitals and community services in Australia's major cities and key regional areas, with over 900 mental health beds, 500 rehabilitation/medical beds and a range of outpatient and day programs.



Credit: Evan Sycamias, Pixelife Studio

HSPC Health Architects lead designer Askolds Petersons said he seized the opportunity to develop a new focal point for South Eastern Private, reinterpreting the existing rectilinear and panelised building form and injecting a fresh palette to create a vibrant environment for patients.

"We believe materiality and architectural detail should form a language that is meaningful and coherent with respect to its function and relationship with its immediate receiving environment," Petersons said.

"In this case, we considered the adjoining hydrotherapy pool designed by HSPC Health Architects some years ago and ensured the new corten steel facade, panelisation, face brickwork and standing seam cladding complemented the existing simple and uncomplicated medical planning and interiors."

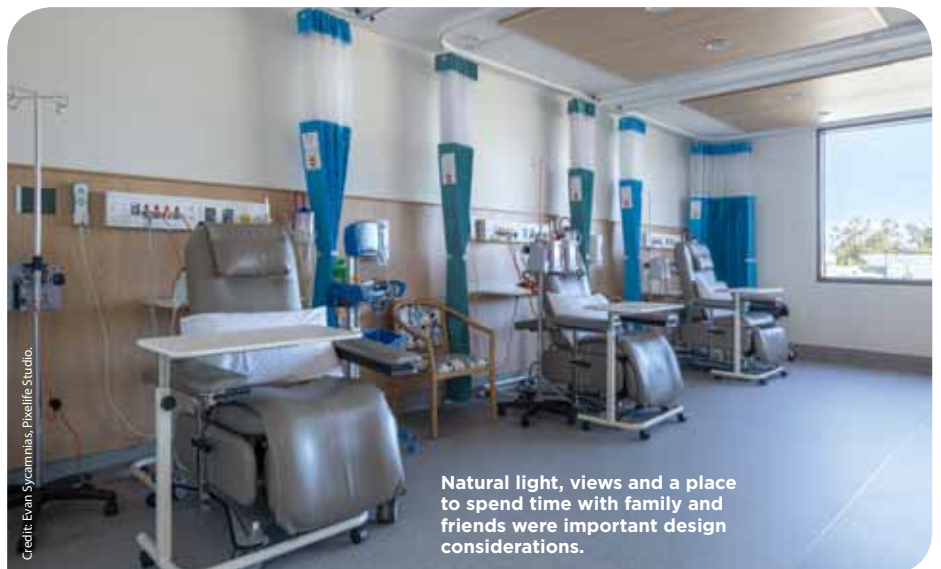
Blyth said the design creates a welcoming experience for patients, while also allowing South Eastern Private to further expand its services.

The new 300 m<sup>2</sup> day oncology centre offers 18 chairs, an increase from the existing 12, allowing it to service about 700 chemotherapy visits per month, up from about 500.

"We have specialist rehabilitation programs to support the work of our oncologists and haematologists, including a lymphoedema clinic and a specialised prostate rehabilitation program," Blyth explained.

These specialised programs are supported by access to a wide range of allied health professionals including physiotherapists, exercise physiologists, occupational therapists, psychologists and dietitians.

The expansion at South Eastern Private is part of a \$10.5 million investment into Healthe Care's hospitals in Victoria, with its sister hospital, Brunswick Private, also undergoing



Credit: Evan Sycamias, Pixelife Studio

Natural light, views and a place to spend time with family and friends were important design considerations.



Credit: Evan Sycamias, Pixelife Studio

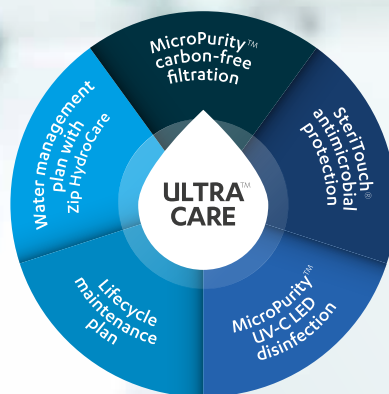
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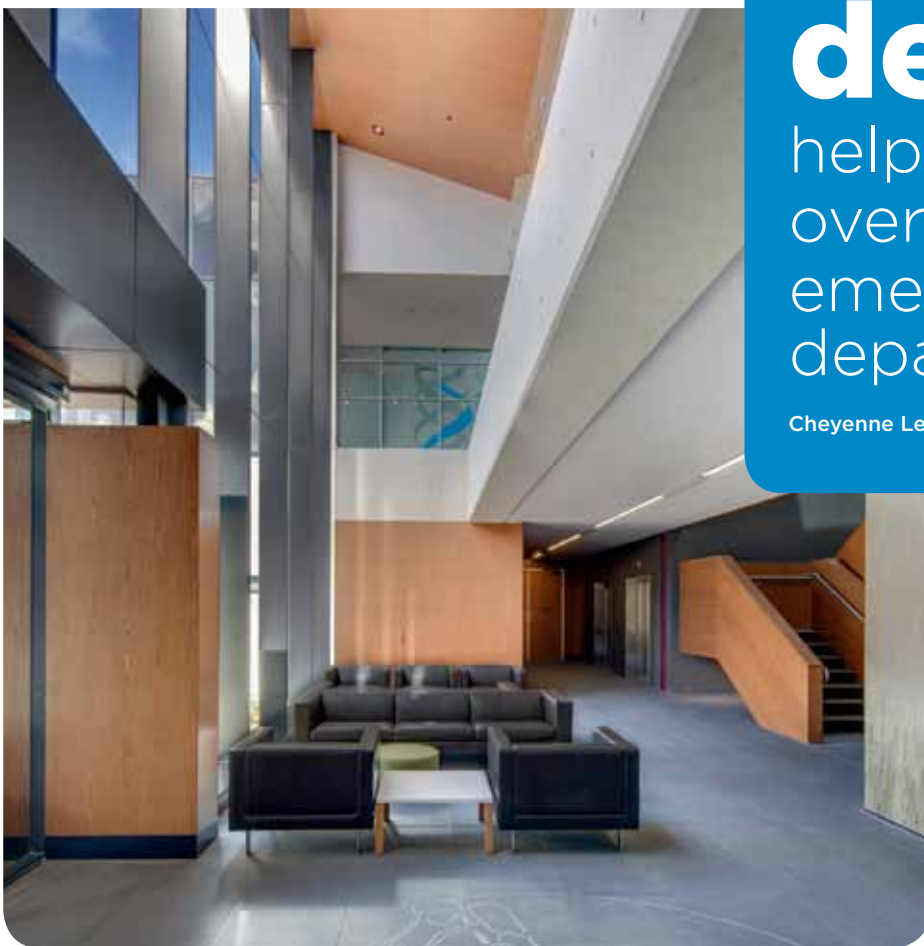




# How can design

help alleviate  
overcrowded  
emergency  
departments?

Cheyenne Lee, Project Leader at Hames Sharley



Excessively long lines that stretch out the door, patients on trolleys blocking exits, nurses struggling to keep up with triage and bored, impatient families waiting hours to be seen. No — this has nothing to do with the coronavirus pandemic.



**“By understanding the way hospitals work and the pressures they face, healthcare architects can design EDs that are better equipped to deal with the growing influx of patients.”**



**T**he overcrowding of Emergency Departments (EDs) has been a serious issue facing many Australian hospitals for at least the last decade. It's a complex problem resulting from multiple issues, from inadequate funding, to doctor shortages and a scarcity of beds. And while architects have no control over those particular problems, what many people don't realise is that some of the overcrowding problems can be alleviated through design.

### Designing healthcare delivery

A great deal depends on whether an architect is designing a building to accommodate healthcare activities or whether the architect is designing the healthcare-delivery system. At Hames Sharley, our healthcare architects

are trained to work with client representatives to design the entire healthcare-delivery system, not just the building.

By understanding the way hospitals work and the pressures they face, healthcare architects can design EDs that are better equipped to deal with the growing influx of patients. With smart design techniques aimed at maximising workflow and minimising cross infection of diseases, it's possible to help decrease the chance of errors and create more efficient space for beds, ultimately helping to reduce overcrowding.

### Life-saving efficiencies

Efficient EDs are crucial when it comes to providing patient care, but it's much more than just providing a satisfactory patient

experience. Overcrowded and inefficient EDs can lead to patients being left untreated, suffering needlessly or overlooked, and in some situations, can increase the chances of patients dying. It's quite literally a matter of life or death.

It is imperative that EDs are designed to maximise optimal workflow. Quick and efficient evaluation, treatment and discharge of patients to home or a treatment bed helps to reduce overcrowding. The seamless flow of patients also allows staff to better provide treatment — increasing their effectiveness and helping to reduce errors. To achieve this, ED design needs to be re-imagined to create a process that segregates patients and moves them through quickly, despite the limited number of available doctors.



**“Smart design solutions can provide EDs with more bed space without having to extend the hospital.”**



## Smart design solutions

A lack of space and limited beds are some of the key reasons EDs cite for overcrowding. However, smart design solutions can provide EDs with more bed space without having to extend the hospital. Appropriately sized and located waiting areas — along with the features medical staff need to effectively and efficiently treat patients — are key aspects that can be improved through intelligent design.

Key components to improve ED design include:

**Minimising exposure to disease:** In addition to maximising throughput and increasing efficiencies, EDs need to be patient focused and designed to minimise cross infection and exposure to disease. While this has always been a crucial design requirement for hospitals, the COVID-19 pandemic has highlighted its importance. In Australia, the pandemic has resulted in some mandated changes to the ED layout and flow, including factors such as ensuring waiting areas are of adequate size to encourage physical distancing and, where possible, segregating those who display signs of COVID-19 symptoms into a different waiting zone.

**Design of healthcare-delivery systems:** Architects with experience and understanding of how EDs fit into the ‘Model

of Care’ delivered by hospitals can assist in designing the overall healthcare-delivery system to improve the design of EDs.

**Wayfinding:** Hospitals are complex buildings that can be difficult to navigate. Providing clearly marked and easy-to-follow paths of movement can improve patient and visitor flow, reducing congestion.

**Improved room design:** Space is at a premium in hospitals — especially in EDs — so it’s imperative that each room is designed to maximise space. Rather than looking to build more rooms, reorganising existing space can result in more efficient flowthrough. This is not a one-size-fits-all approach — each ED needs to be analysed and assessed to determine the best room design to achieve maximum efficiencies.

**Improved staff scaling:** Rethinking the way EDs are designed to utilise staff can help to improve the way resources are managed. When EDs are designed in traditional pod configurations, each pod requires a full contingent of staff regardless of the number of patients in each one. But when an ED is more linear in design, staff can be assigned incrementally, helping to remedy staffing issues.

**Flexible spaces:** A lean design approach can help improve ED staff efficiency by creating spaces that are flexible and have multiple

uses. Whether it’s creating new spaces or renovating old spaces, it’s important to accommodate for flexibility in the design to allow for high patient numbers and to provide overflow capacity when required.

In some cases, designated areas for staff to put on personal protective equipment (PPE) may be required, while in Victoria, detailed cohorting and isolation guidelines have been introduced. To minimise the risk of transmission between patients, and also between healthcare workers, strict screening, triage, and clear signage and flowthrough have been introduced as a way to curb transmission.

## Focus on the design of healthcare-delivery systems, not just the building

If 2020 has taught us anything, it’s that Australia needs an efficient and effective public healthcare-delivery system. Although our hospitals and medical staff are some of the best in the world, the issue of overcrowding has been plaguing many EDs across the country for the best part of a decade.

With the need to maximise workflow and minimise cross infection highlighted during the pandemic, hospitals should now look to redesigning their EDs by focusing on the design of the healthcare-delivery system, not just the physical spaces required. By using this holistic approach, efficient EDs will boast shorter wait times, faster diagnoses, less strain on resources and, ultimately, higher patient satisfaction.

# The benefits of flexible healthcare facilities



An unplanned event, or a requirement to refurbish, upgrade or reconfigure existing clinical space, can often result in a need for a reliable temporary solution. Using a nearby facility is one option, but flexible healthcare infrastructure can provide a more efficient alternative.

Amid the daily pressures of a busy healthcare system, planning for a department refurbishment or upgrade project can be a challenge. It is essential that the temporary solution chosen is both reliable and effective, to minimise disruption to processes and patient care.

Sterilisation departments, for example, are often in use seven days a week, and are critical for the flow of patients and procedures in hospitals to continue unhindered. While utilising a nearby hospital or outsourcing to another provider are options, this requires taking the equipment offsite and is therefore associated with a level of risk.

By using a flexible mobile or modular facility on an insourcing basis, the hospital can retain control of the entire process ensuring any disruption to the existing service delivery is kept to a minimum. Bringing a mobile Central Sterilisation Services Department (CSSD) onsite has a number of benefits.

## Ensuring continuity

The fact that all devices can be kept on the hospital site reduces risk and minimises delays, allowing the vital service of cleaning, sterilising and repackaging of surgical instruments to continue without disruption.

This reduces the need for outsourcing, which can often mean purchasing additional surgical devices or relying on a third-party track and trace solution. With an onsite facility this is not needed — Q-bital's mobile and modular CSSD units are equipped to integrate

with the hospital's own equipment track and trace and IT systems.

Another benefit is that the hospital's existing CSSD staff can be utilised effectively during any refurbishment period.

## Boosting capacity

In addition to providing replacement capacity during a temporary breakdown or periods of planned refurbishment, a mobile CSSD can help boost capacity at times of increased demand, alongside a hospital's existing sterilisation department.

A mobile CSSD can increase capacity substantially. During a recent contract in the Netherlands, one of Q-bital's mobile CSSD units processed 25,000 DIN trays and packages over the course of just six weeks.

Mobile CSSD facilities stand alone and can be quickly deployed and installed in a place convenient for the hospital. They can also be quickly decommissioned and moved when no longer needed.

## Improving resilience

Unexpected events and emergencies, such as fires, storms, floods and other events, can leave a hospital with a need to very rapidly implement a temporary facility. Or, as has been the case during the COVID-19 pandemic, a need to upscale activity. Being prepared for such an event is essential, and since mobile and modular healthcare facilities can be installed within a very short space of time, they are ideal for this purpose.

However, many health service organisations also use flexible infrastructure in a planned way, incorporating these types of facilities into disaster recovery or service continuity plans.

Mobile facilities provide an optimal solution for quickly providing additional capacity to

cope with future expected shifts in demand; to provide replacement capacity for planned refurbishments or to help choreograph a series of complicated changes to a hospital site.

## Achieving compliance

For many hospitals, the requirement to adopt the new AS/NZS 4187:2014 sterilisation standards has meant a need to extend, upgrade or renovate existing sterilisation departments. In some cases, extensive works are needed.

Q-bital Healthcare Solutions' mobile CSSD units or endoscopy decontamination units are already fitted out with compliant equipment, and can provide instant, albeit temporary, compliance while refurbishment is taking place. In addition, refurbishment or construction timescales for work done to the inside of the hospital can be reduced, meaning the risk of not meeting the standard by the deadline is significantly lowered.

With activity and staff moved to a facility that is already compliant with the new standards, new processes can also be implemented at an earlier stage.

Whenever a temporary facility is needed — whether because of a need to refurbish, or undertake essential works, an emergency or a temporary increase in demand — using flexible healthcare infrastructure makes sense.

The key benefit of mobile and modular facilities is their flexibility. Mobile and modular facilities can easily be removed and relocated, and as they require little in the way of enabling works, can be set up very quickly. In summary, flexible healthcare facilities provide flexible options for managing the estate.

Get in touch on [info@q-bital.com](mailto:info@q-bital.com) to find out about availability of Q-bital's mobile CSSD.



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For more information please contact  
**Q-bital Ltd** [www.q-bital.com](http://www.q-bital.com)



# Putting pharmacists

## where they're needed most

Kristin Michaels, SHPA CEO

Caring for our older population is everyone's responsibility — a measure of the maturity and compassion of a society.

**T**he health and wellbeing of older Australians living in residential aged care has come under intense scrutiny in recent years, culminating in the Final Report: Care, Dignity and Respect to the Royal Commission into Aged Care Quality and Safety, released in March 2021.

This is for good reason: recent research released by the Office of the Royal Commission found that between 2014 and 2019, hospital admissions from aged-care residents increased by 20%, while emergency department (ED) admissions increased by 27%. More than one-third of all aged-care residents present to EDs at least once a year.

Amid the avalanche of responses that greeted the final report, the crucial role of pharmacy in aged care is undeniable.

Australian research indicates that 91% of aged-care residents take at least five regular medicines, and 65% take more than 10, every day, carrying enormous risk if not managed in a regular, appropriate and considered way.

To this end, the final report's proposed patient safety measures supporting the inclusion of pharmacists in aged-care settings,

underpinned by a new Aged Care Act and immediate review of Aged Care Quality Standards, are warmly welcomed.

Recommendations to provide pharmacy services in all residential aged-care facilities, and embed them in hospital-led multidisciplinary outreach services, were first detailed in the Society of Hospital Pharmacists of Australia's (SHPA) Standard of practice in geriatric medicine for pharmacy services, released in February 2020. Hospital pharmacists know all too well that a lack of follow-up — through timely and thorough medication review after discharge — can lead to increased readmission, missed medicines or harmful dosing errors. Recent Medicare Benefits Schedule data revealed that as little as 30% of all aged-care residents received a Residential Medication Management Review (RMMR) service.

While the final report from the Royal Commission falls short of recommending embedding geriatric medicine pharmacists in aged care, SHPA welcomes the recommendation for aged-care residents to receive a government-funded RMMR upon entry into the aged-care system, and at least annually thereafter.

This dovetails with recent policy changes to Home Medicine Reviews, which are mostly provided to older Australians, allowing for reviews to be initiated in the hospital setting — a major policy shift for which SHPA has been campaigning for over a decade.

SHPA will continue to advocate for investment in embedding geriatric medicine pharmacists as part of clinical pharmacy services for aged-care residents — including 1:200 pharmacist-to-resident ratios — so pharmacists can identify and manage medication-related issues before they lead to avoidable harm and admission to hospital.

When present in the right place at the right time, pharmacists can identify deprescribing opportunities and foster high-quality clinical handover, which is vital for residents' wellbeing and quality of life.

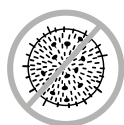
Heartbreaking stories were central to the harrowing evidence presented during the Royal Commission's investigations — the very real personal loss concealed beneath entrenched, systemic neglect.

Personal connection is key to improving Australian aged care. Pharmacists are the health professionals with the knowledge and experience to enact change, to improve the lives of those who have suffered in silence for too long.

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# An insight into environmental cleaning practices through the eyes of nurses and midwives

Carla De Marco, RN, BN, GCertNurs (CriticalCare), GCertNurs (InfectionPrevention),  
Senior Infection Prevention Nurse Specialist, GAMA Healthcare

**E**nvironmental cleaning is one of the fundamental principles of infection prevention. Contaminated hospital surfaces play an important role in the transmission of some dangerous pathogens such as COVID-19, influenza, norovirus, *Clostridioides difficile* (*C.diff*) and Multi drug Resistant Organisms (MROs). It is well documented that improving cleaning practices and compliance reduces exposure to pathogens and therefore reduces the incidence of infection.

In many facilities the assumption is that hospital cleaning staff perform the majority of the environmental cleaning and disinfecting duties within a hospital. This usually includes patient bed spaces, bathrooms, treatment areas and common areas. Hospital cleaners have usually participated in some form of training and education on how to clean, when and correct use of their cleaning products; but is this really reality? Do they always clean bed spaces? Who cleans the shared patient equipment? Has everyone received the same amount of training and education on environmental cleaning?

As frontline carers, nurses and midwives also play a critical role in the cleaning and disinfecting of the environment. A recent Australian study by Prof. Brett Mitchell, Phillip Russo, Martin Kiernan and Cassie Curryer (2021) explored the cleaning knowledge, attitudes and practices of nurses and midwives. The sample size consisted of

96 participants, who accessed an online survey and was made up of predominantly female nurses and midwives varying in age, academic qualifications, location, and duration of work across all states of Australia.

Just like anyone, nurses and midwives have many reasons why they do not comply with cleaning duties. Organisations have policies and procedures that differ from one hospital to the next. The monitoring and enforcement of cleaning compliance can vary across a ward and at an organisational level. How to clean effectively is not a common topic that is taught. There are so many people with cleaning responsibilities within a hospital which often leads to confusion on whose responsibility it is to clean certain items and when to clean them. Often items are left dirty and contaminated with no one claiming cleaning responsibility. The study by Mitchell et al, showed 10% of participants did not know whose responsibility it was to clean shared medical equipment such as an IV pole and pump. Many nurses know that cleaning is vital for infection prevention and although they may feel it is not their job to perform certain cleaning duties, nurses often inherit these duties as no one else is assigned and items still require cleaning. Mitchell et al, identified many of these above issues but despite these issues, 94% of the clinical participants understood that the main reason for cleaning was to reduce the risk of infection transmission.

Understanding, knowledge and practice of cleaning were also explored. With 81% reporting using wipes for the cleaning of shared equipment, only 61% of participants selected the correct answer on how to clean a surface using a wipe; that is cleaning in an 'S' shape pattern. When asked about items that posed the greatest risk for infectious transmission the majority alluded to an image of a cluttered room, however, the correct answer was 'Don't know' as pathogens are invisible to the naked eye — any item can pose a risk.

Nurses and midwives clean! The study showed they want clarity with cleaning products, role responsibility and increased accountability from staff and management. With most nurses and midwives concluding that they did not feel comfortable being admitted to a room where the previous patient had an MRO, the findings from this study have further highlighted the risks associated with the environment and provide the healthcare community with valuable information for healthcare organisations to improve practice but emphasises the need for medical and cleaning manufacturers in healthcare to step-up and provide further training and education on their products and the basic foundations of infection prevention.

## Reference

Mitchell, B., Russo, P., Martin, K., Curryer, C. (2021) Nurses' and midwives' cleaning knowledge and practice: An Australian study. *Infection, Disease and Health* 26, 55-62 <https://doi.org/10.1016/j.idh.2020.09.002>



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# Hotel quarantine

## How secure is the system?

Jane Allman



**With hotel quarantine forming a crucial line of defence against variants of SARS-CoV-2, just how watertight is the system?**

**A** 14-day period of mandatory hotel quarantine was introduced in March 2020 for those entering Australia from overseas. Since then, the suitability of hotels as quarantine facilities has been called into question, with concern growing over airborne transmission, more infectious strains of COVID-19 and several reports of breaches. With every hotel posing a different set-up and unique challenges, what can be done to make the system safer for guests and staff?

Many health experts are calling for the establishment of national standards for hotel quarantine facilities, to address the problem of continual breaches. In an opinion piece published in the *Australian Financial Review*, Professor Mike Toole from the Burnett Institute expressed his concern regarding the failure to do

everything possible to ensure better control of air quality and aerosol transmission in quarantine hotels. With evidence that the virus can escape from a room into a corridor and even into other rooms via aerosol transmission, many health experts are calling for higher-grade, standardised PPE for hotel workers, including N95 masks and face shields, to treat hotel quarantine in a similar way to a clinical setting.

### Ventilation

A key concern surrounding hotel quarantine is airborne transmission and the possibility that virus can circulate via the hotel's ventilation and air-conditioning systems. Heating, ventilation and air-conditioning (HVAC) systems can be used as an infection control measure, but have the potential to contribute to the spread of airborne diseases if not used correctly.

Highlighting the role of ventilation in the spread of COVID-19, a collaborative study published in *Proceedings of the Royal Society A*, involving researchers from the University of Cambridge and Imperial College London, found that in poorly ventilated spaces the SARS-CoV-2 virus spreads further than two metres in seconds.

Dr Pedro de Oliveira from Cambridge's Department of Engineering said the team's mathematical modelling could demonstrate the quick spread of small infectious droplets over several metres in a matter of a few seconds and show how these droplets can accumulate in indoor spaces in the long term. Based on their models, the researchers have built Airborne.cam, a free, open-source tool that can be used by those managing public spaces, such as shops, workplaces and classrooms, in order to determine whether ventilation is adequate.

Taghrid Istivan, Associate Professor of Microbiology and Senior Program Leader of Biosciences at RMIT University, explained that the highly infectious and transmissible nature of new SARS-CoV-2 variants — combined with increasing evidence of small droplet and airborne transmission — makes it necessary to consider the shared ventilation and air-conditioning plans in quarantine hotel buildings.

"Hotels were not designed to control the airflow between different rooms and levels, which is necessary in respiratory hospital wards, for example. Therefore, a system similar to the Howard Springs facility in the Northern Territory, with separate ventilation for individual rooms, would be a safer option,"

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Assoc Prof Istivan said. "Furthermore, the use of the N95-grade masks and face shields in addition to other PPE measures should be considered for all staff working inside hotels where infected travellers are quarantined."

### Air purification technology

The Australian arm of Delos is importing surgical-grade air purification units to Australia that can filter and remove SARS-CoV-2 particles and reduce the viral load within hotel rooms where infected travellers are quarantining. The air purification units physically remove and deactivate viruses from the air by capturing ultrafine particles and treating them with ultraviolet germicidal irradiation (UVGI).

Delos Australia President Bill Giannikos said the air purifiers could be used in hotel quarantine to reduce potential viral load within rooms where returned travellers are quarantining or have been diagnosed with COVID-19, thereby limiting the risk of the virus infecting workers and return travellers.

"Air purification systems are considered by many to be a critical supplementary approach to reducing transmission rates by remediating airborne pollutants and contaminants. The 'Delos powered by Healthway' air purification units capture ultrafine particles and can reduce particles that carry airborne bacteria and viruses," he explained.

"In these pandemic times, science-backed air purification units and considered ventilation systems form key components to any safe hotel quarantine setting; however, these should not be pigeon-holed to just quarantine programs. All building owners and managers have a duty of care to the public and need to stay on top of maintenance and servicing ventilation infrastructure to ensure people occupying their indoor spaces are safe from invisible airborne threats."

Giannikos also discussed the challenges of achieving successful air purification in the hotel setting.

"Many hotels containing original ventilation systems have not been upgraded since they were installed during construction, nor are they designed to adequately filter indoor air. Our new 'Delos powered by Healthway' purifiers are capable of trapping and eliminating airborne particles down to 0.007  $\mu\text{m}$  at 99.99% efficiency, smaller than the SARS-Cov-2 virus particles. These filters are an easy-to-move, freestanding unit that can also be wall mounted in a room of choice."

Delos is liaising with several hoteliers in Australia to roll out the new 'Delos powered by Healthway' units. The recent partnership with workplace technology integrator Ci Group will see the unit and other advanced Delos wellness technologies offered to a broad range of hotel, health, and aged-care and commercial hospitality operators around Australia.

Australia's hotel quarantine system has many challenges ahead, such as the continuing stream of overseas travellers, emerging variants of SARS-CoV-2, and the impact of the various vaccine programs being rolled out globally. Establishing national standards will help to keep the community safe as we navigate living with the coronavirus.

**"With evidence that the virus can escape from a room into a corridor and even into other rooms via aerosol transmission, many health experts are calling for higher-grade, standardised PPE for hotel workers."**



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# Managing infection risks

## during construction, renovation and maintenance activities in healthcare facilities

Phoebe Gane, National Practice Lead, Health and Safety, Greencap

**N**osocomial infections are a serious risk to patients, especially those with haematological malignancies and who are immunosuppressed, which includes the elderly and the very young, patients receiving dialysis, patients taking immunosuppressive medications (including steroids) and oncology patients receiving chemotherapy.

Construction, renovation and maintenance activities are an ever-present reality of healthcare facilities and, without correct management, can disperse dust particles contaminated with bacteria and fungi. The connection between hospital construction works and healthcare-associated invasive aspergillosis is well recognised, with a significant body of evidence estimating that hospital construction or renovation activities account for approximately 50% of the sources of healthcare-associated aspergillosis outbreaks.

Aspergillosis is acquired primarily by inhalation of fungal spores and can lead to pneumonia. The fungus can also disseminate through the bloodstream to impact deep organs. Legionnaire's disease is acquired through potable water contamination, which can occur when construction activities shut down or depressurise water supplies, allowing bacterial growth in the system. Multiple studies place mortality rates for healthcare-associated aspergillosis at between 65–100%, and 24–80% for Legionnaires' disease, even after diagnosis and treatment of these infections.

In addition to the risks of infection, other common construction hazards, such as exposure to inhalable/respirable dust and asbestos fibres, can also pose an elevated risk within healthcare settings given the increased vulnerability of many of the occupants of these facilities.

### Integrating infection control into design and construction

Early planning and integration of infection prevention and control strategies is critical in facility design, construction, renovation and maintenance projects to prevent infections, minimise allergen loading and effectively control other workplace hazards related to hazardous materials.

The management and control of hazardous materials during construction-related activities is well defined within Australian model WHS legislation and is an established consideration for any appropriately managed construction or maintenance project. However, follow-on

Increasing occupant awareness to promote good hygiene behaviours

Ongoing monitoring of infection control measures during maintenance management

Onsite verification of infection control during construction works



**Figure 1:**  
Infection Control Management for Healthcare Facilities  
Design, Construction & Operation

infection risks remain for patients, visitors and staff, primarily associated with dispersion of dust potentially contaminated with bacteria and fungi. Multiple international standards and procedures provide guidance and processes to address these serious infection and health risks. Within the Australian legislative framework, there exists state-specific mandatory infection prevention and control procedures to inform the undertaking of healthcare-related construction, renovation and maintenance activities.

Assessing infection control and hazardous materials risks to healthcare facility occupants, and preventing and detecting fungal and bacterial infections, requires a multidisciplinary team (MDT) approach. The MDT should leverage the knowledge and skill sets of hospital staff, architects, engineers, infection control staff (doctors and nurses), contractors, facilities managers, infection control professionals and occupational hygienists to:

- improve understanding of the issues and identify responsibilities;
- implement suitable avenues of communication between responsible parties;
- plan and implement measures to mitigate risks;
- follow precautionary measures during construction-related activities to reduce infection risks. Precautionary measures

should consider the type of construction, renovation or maintenance work, and proximity of such work to occupants.

Achieving effective infection control begins at the outset of a building's design, via consideration of principals such as promotion of physical distancing, elimination of high touch points and creation of a hygienically controlled indoor environment.

The role of occupational hygienists and infection control professionals during planning, procurement and completion of healthcare-related construction is critical to identify and assess infection risks. This enables the design and construction process to be enhanced by developing, implementing and monitoring appropriate control measures. Figure 1 outlines the infection control considerations that an MDT should embed at relevant stages of a healthcare facility's lifecycle.

While the association between construction activities and nosocomial infection is now well recognised and understood, there are significant opportunities to further embed holistic infection control into the design, construction and maintenance of Australian healthcare facilities. By embedding the knowledge and expertise of occupational hygienists and infection control professionals into collaborative MDTs for any healthcare-related construction or maintenance work, infection control risks can be proactively addressed and mitigated.

Source: Greencap © 2021

# Bridging the gaps in healthcare supply chains

The past twelve months have seen a significant acceleration in technology adoption across the many parts of healthcare in Australia. The wide adoption of telehealth, increased use of health consumer 'apps', more data flowing into MyHealthRecord and the introduction of electronic prescriptions are just some of the achievements where technology has played a key role in evolving how care is provided and managed.

## But what technology improvements in the supply chain underpin the delivery of care?

Part of the original national eHealth program included work within the supply chain to move it towards a nationally harmonious, digitally enabled part of the Australian health ecosystem. Although the program delivered some of the much-needed tools, they were well ahead of the maturity of many sector stakeholders. Whilst the focus continued on the necessary digitisation across the healthcare system more broadly, the supply chain has lingered in the shadows, largely manual in many aspects and is sadly disconnected from the strategic digital vision for the sector and has no national program to guide and hasten the needed changes.

## Why does the healthcare supply chain matter to all of us?

No Australian healthcare organisations have made it through the past year without having issues of some kind with availability and the supply of products, and ensuring availability where and when needed. Beyond the individual organisations who were managing their challenges, was the added need to suddenly compete with the federal government who also started to source products, and in many cases wiped out all available stocks. Although contracts were mostly in place, at least for public health jurisdictions, the past year has been littered with significant product shortages, enormous freight charges and the frantic sourcing of alternate products — in some cases without the same rigour. Amongst the challenges faced by the supply chain teams was the need to urgently redeploy products from around the country to the eastern states, which were severely impacted by COVID outbreaks, so that they were able to treat patients and protect their staff.

Roll forward to today, one of the most complex and critical supply chains of our time is in operation to manage the COVID vaccines, diluents and necessary consumables for administration. To support this process, it has been necessary to develop technologies and facilitate a significant uplift in capability to manage the capturing of the product identification, maintain visibility of inventory and have some elements of traceability within the chain through to administration to those receiving the vaccines.

There are ongoing shortages of some products, including another recent incidence where federal initiatives wiped out stocks of some products that were forecast for state use. Not only is greater collaboration needed, but the time has come for a renewed strategic national approach to digitising the healthcare supply chain in Australia and its health services.

## Are we alone in Australia?

The short answer is no. Studies from other parts of the world have revealed that other countries are also struggling with the lack of data, no true visibility of what products they have available in-country, overwhelmingly manual processes, issues with surge demand and little, if



any, infrastructure in place to ensure traceability and visibility across the country. The 'fragile healthcare supply chains' and challenges outlined in a recent study in Canada\* are indeed similar to those of Australia. The World Health Organization, and partners within the COVAX global initiative, also continue to call out the need for improved supply chain processes.

## If this needs a national approach, what can individual organisations do?

Regardless of whether there is a national digital supply chain framework that returns to help guide what needs to be done, the investment and programs at a state, organisational and local level still need to commence to properly understand the current state and true gaps that exist. Given that so many processes are largely manual, without readily available information, and still missing standardised identification to ensure interoperable data, addressing these factors is an obvious starting point. We need supply chain standards capable technology platforms and to invest in simple items such as 2D barcode scanners to help capture some of the data that provides the traceability and visibility of products across the ecosystem. We need to implement data exchange mechanisms across the supply chain to ensure that data supports product movement and critical events and that the security within the supply chain and accuracy extends to the patient or consumer.

We need to balance the investment in greater sovereign manufacturing capability and overall productivity and investment in technology improvements in areas such as the approval and regulation of products. Hopefully we will also see leadership and focus on operational limitations and how to support the acceleration of technology and foundations of global data standards across this important part of the sector.

## About GS1 Healthcare

GS1 Australia is a non-profit, global data standards organisation specialising in supply chain standards that enable visibility and traceability across and within healthcare around the world. Our work supports the adoption and implementation of interoperable global data standards within the Australian healthcare sector to enhance patient safety, and operational and supply chain efficiencies.

For more information about GS1 standards in Australian healthcare, visit the GS1 Australia website [www.gs1au.org/healthcare](http://www.gs1au.org/healthcare) and follow us on Twitter [gs1au\\_health](https://twitter.com/gs1au_health) and LinkedIn [gs1-australia](https://www.linkedin.com/company/gs1-australia).



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For more information visit [www.gs1au.org](http://www.gs1au.org)



# UV-C high-level disinfection technology

A sound solution for  
point-of-care ultrasound

Jane Allman

Danika Southwell is an experienced cardiac sonographer and co-founder of MedTech solutions provider MediSound. Along with business partner Laiken Clarke, Southwell recognised that approaches to high-level disinfection (HLD) of point-of-care ultrasound (POCUS) probes were inadequate, introducing an unnecessary chemical burden to patients, posing a safety risk to staff and damaging the environment.

**T**he team felt strongly that advances in POCUS services were hindered by lengthy probe reprocessing times and had growing concerns about the growing body of research linking ultrasound probes to the transmission of hospital-acquired infections (HAIs).<sup>1,2</sup>

To deliver a solution to the Australian market, MediSound partnered with French company Germitec to offer a system that can high-level disinfect an ultrasound probe and cable in 90 seconds, enabling technicians to safely see more patients and reduce waiting times, while reducing chemical exposure and environmental waste.

## Chemical-free HLD

In place of chemical corrosives and irritants, the Hypernova Chronos uses UV-C light to disinfect ultrasound probes and cables, prolonging the life of the probes and significantly improving safety for patients and ultrasound technicians. The device was awarded the prestigious Prix Galien Award for Best Medical Device in 2020.



A second product, the Antigerminx AE1, provides a chemical-free solution to high-level disinfect the entire length of a transoesophageal echocardiography (TOE) probe, including the handle, which has been shown to be the vector of cross contamination.<sup>2</sup>

### The problem with probes

Ultrasound probes are used in a variety of healthcare applications — to monitor ovarian response and follicle growth during IVF; to assess lung function; to assist in pain reduction in surgeries via nerve blocks; in prostate biopsies; and to monitor hearts during cardiac surgery. They are used in open wounds and down people's throats.

Traditional methods for HLD of ultrasound probes require chemical methods in the form of liquid or gas to rid the probes of microbes — a process that can take up to 30 minutes from pre-clean to completion. There is also the risk of recontaminating the probe when wiping off residual chemicals following HLD. In addition to being a time-consuming process — resulting in pushback from doctors working in busy departments — chemical options pose safety concerns to patients and healthcare providers, with residual chemicals left on the probe causing skin irritation.<sup>3</sup> In a recent study, 47% of sonographers personally experienced an adverse event from using a hydrogen peroxide system, most commonly skin burns.<sup>4</sup> Hydrogen peroxide used for HLD can also pose an explosive risk if stored incorrectly.

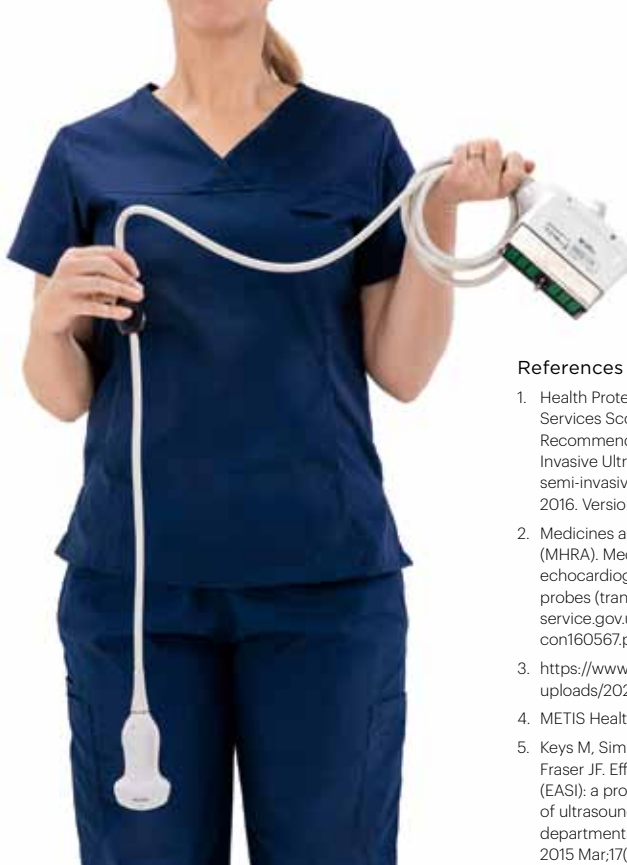
### Pass it on

HAIs are a growing concern for Australian hospitals. And while infection control and mitigating cross contamination remain key priorities for healthcare facilities, particularly with the emergence of COVID-19, preventable sources of infection are driving up the incidence of HAIs. One such source is ultrasound probes.<sup>5</sup> POCUS equipment is used in busy hospital settings such as Emergency, ICUs and operating theatres. A probe may be placed on top of an open wound — a quick wipe and then it's used on another patient. The water-based ultrasound gel acts as a vector for HAIs and can harbour bacteria and viruses that are passed on from one patient to the next. A multicentre study across five Australian ICU and emergency departments showed that 61% of ultrasound probes were positive for blood contamination and 48% were positive for microbiological contamination, despite looking clean — the microbes detected were of the variety that can cause severe illness and morbidity.<sup>5</sup>

### The need for speed

ICUs are tasked with handling acute and life-threatening situations. The environment can be chaotic and stressful. In an emergency situation, a doctor's priority is to save lives — timely procedures such as chemical handling and processing can disrupt workflows and threaten time-critical, life-saving procedures. In this scenario, a patient may leave the hospital with their life only to develop an

**“Transitioning to UV-C technology to disinfect ultrasound probes will save lives.”  
— Danika Southwell**



HAI down the track, which in itself could be life-threatening. This was the case for a British patient who died from hepatitis B in 2012, three months after undergoing heart surgery. The death was attributed to a failure to adequately decontaminate the TOE ultrasound probe that was used in the procedure.<sup>2</sup>

Globally, outbreaks of bacterial infections associated with inadequately disinfected probes have been documented. HAIs such as MRSA, or gastrointestinal infections from microbes such as *C. difficile*, are reported to be rampant in ICUs, and it appears that this is largely preventable.<sup>5,6,7,8,9,10,11</sup>

### Dissolving misinformation and changing practice

Earlier, it was not understood why HAIs are so rampant in the acute setting — until the realisation that the ultrasound machine was the common factor, being passed from one patient to another in the ICU and other point-of-care settings. Operators were wearing protective clothing, but the probes themselves were not being high-level disinfected between patients. The cable of the probe had also been neglected in the HLD of ultrasound probes, despite being in direct patient contact. It became clear that the POCUS equipment was responsible.

After this realisation the Australian standard shifted, mandating that probes be high-level disinfected if used inside a cavity; however, this directive did not address the microbes that can be passed from one patient to the next from contact with a wound or a needle entry site. As such, at the end of 2021 it will be a minimum requirement to high-level disinfect all ultrasound probes that have the potential to come into contact with blood, an open wound or body fluids. Some have taken it further and have already implemented HLD for every probe regardless of use. This is to

eliminate any chance of surface transmission from one patient to the next.

Why do we have to wait for this critical infection control and safety measure to come into effect? Southwell explained that making changes to a minimum standard of care takes time. She highlighted that one of the greatest barriers to enacting change is misinformation.

“Transitioning to UV-C technology to disinfect ultrasound probes will save lives,” she said.

“Simple breakthroughs in infection control knowledge can have an enormous impact on public health. Like the handwashing discovery of the 1840s, this is one of those revelations. But despite UV-C technology being safer for patients and staff, fast enough to be used between patients without interrupting workflows and better for the environment, without ongoing costs, as with any innovative technology there are still some that are reluctant.

“As we have seen with the COVID-19 pandemic, misinformation can put lives at risk, so it is important for stakeholders to undertake their due diligence.”

Southwell urges Australians to do their own research and look carefully at arguments put forward by companies that have a vested interest in the old ways. “If a claim is made by a company, it’s worth digging deeper and going to the original paper to look at the evidence and the context in which it is presented. It’s important to pay particular attention to ensuring papers relate specifically to the HLD device, model or chemical composition in question.

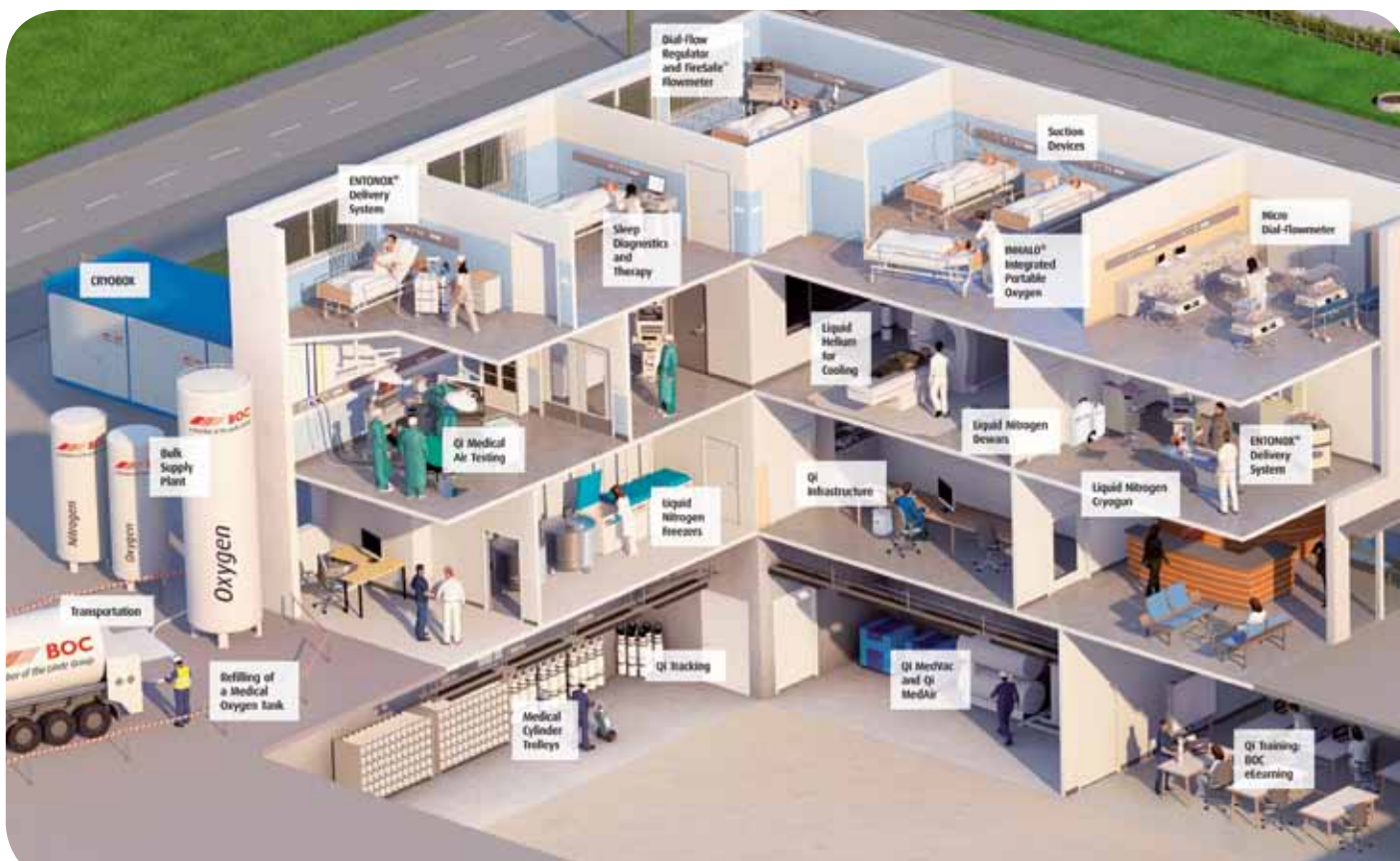
“We need to do better for patients and healthcare providers. The evidence shows that changing our ultrasound disinfection practices by adopting UV-C technology can save lives.”

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MediSound was founded in 2017 by Medical Devices Executive Laiken Clarke (L) and Medical Devices Executive and experienced cardiac sonographer Danika Southwell (R).



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# The virtual hospital

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The last year has seen a rapid increase in virtual healthcare technology adoption, with virtual hospitals overcoming the challenges of COVID-19 to provide care to patients remotely. But what exactly is a virtual hospital? *Hospital + Healthcare* spoke with Philips ANZ General Manager Matt Moran to learn more.

## How would you define virtual care?

Virtual care is a proven model of care that brings together a centralised, senior team of clinicians and leverages technology to support patients both in and out of the hospital. The solution delivers need-to-know information to caregivers, empowering them to care for the patients who need it most, preventing deterioration before it happens. This care model challenges the current paradigm by allowing a small group of clinicians to support hundreds of bedside clinicians and their patients, leading to better health and economic outcomes.

In Australia, virtual healthcare technologies are on the rise. A change in the Medical Benefits Scheme (MBS) for telehealth arrangements has enabled widespread telehealth adoption. Until 2020, Australians overwhelmingly preferred face-to-face

settings with healthcare providers, with only 0.1% being MBS virtual care attendances. During COVID-19, a survey found that 62% of respondents found their telehealth experience was as good as or better than traditional in-person medical appointments.

## What scope is there for virtual care to improve patient outcomes?

Virtual care works on multiple fronts to improve patient outcomes. Apart from the clinical benefits associated with early clinical intervention, the ability to deliver virtual acute care unhindered by the challenges of distance in a country like Australia creates an enormous opportunity. For patients requiring longer-term continuous care, such as for those with chronic conditions, these solutions allow for treatment in the comfort and safety of their homes.



Specific health and economic outcomes include:

- Lower mortality risk overall — patients were 26% more likely to survive the ICU; 16% more likely to survive the hospital stay;
- In-patient care teams can reduce falls and assist with monitoring patient wellbeing and mobility.
- Altogether faster discharge from both ICU and the hospital.
- Greater patient satisfaction from both telehealth services and virtual hospitals.
- The ability to provide care across the healthcare continuum from healthy living to prevention to diagnosis, treatment and home care — rather than siloed intervention in a crisis.

#### **What are other key benefits of the technology?**

Beyond improved patient outcomes, virtual care enhances patients' experience by enabling health systems to deliver person-centred care, improved safety and quality through process standardisation, improved efficiency and enhanced integrated care multidisciplinary team coordination.

The platforms underpinning these models of care are designed to allow for rapid, efficient scale-up allowing for health systems to support multiple hospital systems and patients across vast geographies.

For healthcare providers, this technology creates capacity by focusing teams on the patients who need them most to reduce mortality, maximise adherence to clinical best practices and shorten the length of stay. It also

optimises existing capacity by having the right resources in the right place at the right time to remove bottlenecks within and across facilities.

Philips has successfully rolled out a remote ICU for US-based Emory Healthcare based at the Royal Perth Hospital in Western Australia. This program sees critical care physicians (intensivists) and acute care nurse experts provide medical care to patients in the US from their base at Royal Perth Hospital using Philips' remote ICU monitoring technology.

#### **What are the barriers to uptake of virtual care solutions?**

There are a number of internal and external barriers that are slowing the widespread adoption of virtual hospital technologies. The largest barrier is the availability of suitable re-imbursement models to justify investment and sustainability. The current



**“Virtual care enhances patients’ experience by enabling health systems to deliver person-centred care.”**

the clinicians and the bedside teams in in-hospital models.

- Questions around security and privacy of personal information and records are not uncommon. Our latest Philips Future Health Index 2020 report found that 89% of younger healthcare professionals believe technology will provide better patient outcomes, and 70% of Australians believe AI will offer personalised care.

The 2019 edition of the Philips Future Health Index report explored the impact of digital health technology on healthcare professionals and patients and detailed key barriers and solutions to virtual care adoption locally. Key findings from the 2019 report include:

- Patient empowerment: enabling patients to be actively involved in managing their health improves patients’ and healthcare professionals’ experience.
- Breakdown of data silos: the research shows that Australians are more open to granting healthcare professionals access to their data when they access that data themselves. Healthcare professionals agree that patients having access to their health data improves their patients’ experience.
- Healthcare professional advocates: patients are more likely to track health indicators upon recommendations from healthcare professionals who actively advocate the use of virtual technologies.
- Training and awareness: exposure to digital health technology increases how proactive people are in managing their health. Creating strong education programs for healthcare professionals and patients will accelerate the willingness to adopt new technologies.

### A closer look at a virtual hospital

Philips has delivered virtual hospital services to East Metropolitan Health Service (EMHS) to

improve patient care and proactively detect the risk of patient deterioration.

The Clinical Command Centre is a cornerstone of EMHS’s Health in A Virtual Environment (HIVE) program, responsible for driving a hub-and-spoke model of care that utilises machine learning and predictive analytics to reduce length of stay as well as complications, avoidable transfers and mortality.

Based at Royal Perth Hospital, the Clinical Command Centre oversees inpatients in step-down units and higher acuity wards. The technology will provide a virtual safety net of specialist support for over 100 beds over the next five years.

The Clinical Command Centre is an example of how technology can be integrated within health care to deliver improved patient outcomes and staff support. In Clinical Command Centres across the world, Philips has leveraged its monitoring, machine learning and advanced analytics to drive reduced mortality, reduced complications and reduced length of stay. This technology has historically improved patient experience and reduced provider turnover on multiple fronts, including a 26% reduction in patient mortality;<sup>1</sup> a 30% reduction in length of stay<sup>2</sup> and helped 15% of patients be discharged home faster.<sup>3</sup>

Philips Managing Director Australia and New Zealand Matt Moran said, “In working with the East Metropolitan Health Service to develop the HIVE program, we have created a virtual hospital solution capable of predicting patient deterioration and to help identify and prioritise patients most at risk for earlier interventions.

“This Clinical Command Centre will help EMHS unlock gains and efficiencies and drive innovations that help deliver on the ‘quadruple aim’: enhancing the patient experience; improving health outcomes; lowering the cost of care; and improving the work life of care providers.”

At the launch of the HIVE project at EMHS, Western Australia Deputy Premier and Health Minister Hon Roger Cook said, “The McGowan government has a strong commitment to encouraging investment in innovation to improve the future health of all Western Australians. The Sustainable Health Review highlighted the need to invest in digital health care to transform and improve the quality of care for Western Australians, and the HIVE is a great example of that investment in action.

“The HIVE will revolutionise the way we deliver health care in WA and will also provide ongoing opportunities for research involving artificial intelligence and data analytics to ensure WA researchers are at the forefront. The HIVE also represents a major opportunity for WA researchers and innovators to become world leaders in the development of biotechnology and AI assisted healthcare delivery.”

hospital reimbursement models of activity-based funding tend to support funding for intervention rather than prevention, which inhibits rapid scale-up of these solutions.

Other contributing factors include:

- Limited access/reduced connection to the internet, which reduces facilities’ and patients’ abilities to access and maintain services. Poor internet can have a flow-on effect on audio and video quality, reducing virtual technologies’ effectiveness.
- Change management is one of the largest challenges in uptake. Hospitals wishing to adopt virtual care need to rethink their staffing ratios and retrain clinicians to practise medicine in a new way. Successful programs come with powerful partnerships, whether between the patient and the clinician in home-monitoring solutions, or



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Image courtesy of Philips.

**Philips ANZ General Manager Matt Moran says now is the time to ensure we maintain momentum and maximise the opportunity of virtual health care.**

Moran concluded, "The advanced technologies behind our Clinical Command Centre reference sites have a proven track record and are constantly improving. However, achieving value-based outcomes requires clinical transformation — and that is precisely what has driven the success of the Philips Clinical Command Centre globally over the last 20 years. Our program combines people, technology and process to provide measurable, predictable and sustainable outcomes."

### Virtual hospital extends to support COVID-19 patients

Queensland's West Moreton Health has expanded its innovative virtual hospital

program to support COVID-19 patients recovering at home.

Developed by Philips and introduced in 2016, MeCare — Mobile Enabled Care — allows chronically ill patients to track their daily health targets, manage symptoms and use videoconferencing to connect with a clinical team each day.

West Moreton Health and Philips expanded their partnership to safely care for more people in response to the COVID-19 pandemic and reduce demand for hospital services.

West Moreton Health's Community and Rural Services Executive Director Melinda Parcell said the MeCare model was adapted for COVID-19 patients with milder symptoms.

"West Moreton Health has expanded its hospital capacity as part of its response to the COVID-19 outbreak, but we have also considered how we can use existing technology and innovation to provide safe care within the community setting. It means people can receive the care they need in the comfort of their own homes and we are also eliminating the risk of transmission in the hospital setting, where other vulnerable people may be receiving care."

Depending on their acuity and care needs, COVID-19 patients can be cared for at home under either the moderate or 'lite' model. Moderate model patients are given tablets and health devices so they can measure their temperature, blood pressure and oxygen saturation levels and respond to regular health surveys to track their health progress. Others who require less supervision can use their own mobile device to receive remote support via Philips'

enterprise remote patient monitoring platform (eCareCoordinator).

The health information recorded on each of these devices is monitored by West Moreton Health's virtual care team, which can provide timely intervention through phone calls, videoconferencing and in-home visits as needed.

Moran said well-designed virtual hospital programs enabled health systems to best leverage clinical resources to ensure patient care was not compromised.

"In partnership with West Moreton Health, we are proud of the virtual capability of MeCare now being leveraged to manage COVID-19 patients," he said.

"Supported by Philips technology, a small group of highly trained West Moreton clinicians are able to deliver care to a large amount of people in the community.

"This is possible because these clinicians are able to provide timely intervention to only those participants needing care, while smart clinical decision support tools highlight those at greatest need. Using the right technology and the most appropriate ratio of clinicians to patients is a crucial success factor at a time when resources must be conserved."

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# Keeping health care cyber safe

Adam Sloan, Principal Sales Engineer, BlackBerry Spark



**H**ealth care is facing a crisis of cybersecurity. To ignore it might prove fatal for trust — for both patients and healthcare professionals. As cyber professionals, we know the pandemic has created enormous opportunity for cybercriminals to target healthcare systems and they are being helped by the current assumption that Australian healthcare organisations don't need to focus on cybersecurity as a priority.

It is possible to thwart the threat of cyber attackers, but to do so healthcare providers need to acknowledge there is a problem facing their sector.

2020 saw emergency deployments of technology to keep Australians safe and healthy, ranging from contact tracing apps to telehealth services to remote working systems for non-patient-facing staff.

However, what hasn't been evident is focus on protecting the sector's vulnerability to cyber

attack. We saw in the latest breach report by the Office of the Australian Information Commissioner (OAIC) that health was once again the highest reporting sector with 22% of the 518 notified breaches.

Malicious or criminal attacks caused 40% of health sector reported data breaches, while 57% resulted from human error (65 notifications). This is just the tip of the iceberg, as many breaches go unreported and also these figures don't include the My Health Record scheme, which has separate notification requirements.

Following a warning from the Australian Cyber Security Centre (ACSC) that cybercriminals can cause severe service disruption to hospitals, with two significant threats identified, now is the time to act.

## Learning a deadly lesson

America's Universal Health Services (UHS), which has more than 400 locations mostly in the US, was hit with a cyber attack in late

September 2020 — described as one of the largest attacks against a medical service provider in US history. As UHS systems failed, some hospital staff were reduced to recording patient information with pen and paper, while online medication systems were inaccessible. Reports of the incident quoted a source as saying the attack "looks and smells like ransomware".

Cyber attacks on hospitals can prove to be deadly. The UHS attack was preceded by a cyber attack on a German hospital in mid-September that led to a patient dying. Duesseldorf University Clinic was infiltrated by a hacker that caused the hospital's IT systems to gradually crash. The hospital could no longer access data and an incoming patient with a life-threatening condition had to be redirected to another hospital over 30 km away. The patient died due to the delay in receiving care. Local prosecutors launched an investigation against the unknown perpetrators of the attack on suspicion of negligent manslaughter.

## “We saw in the latest breach report by Office of the Australian Information Commissioner (OAIC) that health was once again the highest reporting sector with 22% of the 518 notified breaches.”

We saw the Victorian healthcare system falling prey last year to a ransomware attack that shut down administrative systems in nearly a dozen regional centres. While security staff disconnected the systems from the internet and scrambled to isolate the ransomware, the impact hit staff and patients over days.

Following the attack, a review of the Victorian health services' security found that all were vulnerable to the theft or alteration of patient data. Yet despite the state government's ongoing efforts to improve cybersecurity response, a review of health services' recent annual reports found that cybersecurity is still not an executive priority.

This clearly needs to change.

### A tonic to prevent cyber issues within Australian health care

How can Australian healthcare providers better respond to cyber threats and avoid making

the same mistakes? The OAIC recommends a four-step process: contain, evaluate, notify and review. The containment step involves taking any action necessary to stop the breach. Activate the data breach plan (you do have one, don't you?), then stop the unauthorised practice, recover the records or disconnect the system that was breached.

Modern security solutions are being powered by artificial intelligence (AI), machine learning (ML) and automation to provide superior cyber threat prevention and remediation. This means that threats can be contained before they execute (even if they've never been seen before), and that tablets and other mobile devices used by healthcare staff can be better protected.

With the increased volume and variety of enterprise IoT endpoints and as the scale of cyber threats continues to grow, AI-driven security solutions provide a consolidated,

simplified endpoint security and management offering to reduce cost and complexity in a chaotic environment.

The second step in ensuring healthcare IT environments are secured effectively involves evaluation of what was breached and the likelihood of physical, psychological, emotional, financial or reputational harm and any remedial actions required.

The notification step requires promptly contacting affected individuals and notifying the OAIC.

The review stage involves investigating the cause of the breach and modifying procedures as needed, to guard against future attacks. Outside help should be called in if necessary, such as seeking advice from the ACSC in developing and tweaking cyber incident response plans.

2020 has been a pivotal year for healthcare organisations trying to maintain business continuity, while undergoing digital transformation and workplace upheaval — all while focusing on maintaining quality of patient care in the face of an extreme health crisis.

Healthcare providers cannot afford to make securing operations a secondary priority any longer. While patient care should, and will, remain the number one priority, part of that is ensuring cyber threats and data breaches do not prevent frontline staff from continuing to deliver patient services.

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# Protected and connected

## Restoring humanity in healthcare for health workers and their patients

**F**rontline healthcare workers across the world are facing unimaginable challenges, pushing on to deliver care after 18 grueling months entrenched in the pandemic.

Bridget Duffy, MD — Chief Medical Officer of Vocera Communications — has witnessed harrowing scenes in the US health system and is working to determine what healthcare leaders, governments and technology companies can do to protect the physical, emotional and psychological wellbeing of nurses, doctors and other frontline healthcare workers.

“Healthcare workers are exhausted, burnt out and fearful of bringing COVID-19 home to their families,” Dr Duffy said. “Nurses in particular are at risk — they have the most direct, hands-on patient contact, and face the greatest risk of infection of all healthcare workers. In many scenarios, PPE has been inadequate, leaving nurses feeling unsafe in their working environment.

“The fatigue that is setting in is not good. There was a public health crisis of burnout and cognitive overload before the pandemic — now it is amplified. We will see people with post-COVID stress disorder syndrome, it is real, and this is a global issue.”

One of Dr Duffy’s major concerns is that people will choose to leave the healthcare profession in droves, and people will choose to not enter nursing or medical school.

“If we don’t fix the system issues, we will lose a generation of practitioners and that will cripple healthcare systems around the globe. We need to remove the preventable trauma and deploy technology that keeps people safe and enables them to do their jobs more easily, and we need to do it now.”

If there’s anything positive to come from the pandemic, it’s the drive that propels the industry to move faster to design environments that protect and connect the healthcare workforce and restore joy amongst those in the profession.

Dr Duffy explained that a new declaration of safety is being drafted to safeguard the physical and psychological safety of healthcare workers. The standard should focus on PPE as well as technology (PPET) that enables healthcare staff to communicate safely with colleagues, creating a connected care team through voice.

“We need some basic standards around protecting the physical safety of our healthcare workforce, as well as those that ensure psychological and emotional wellbeing.

“We’re going to need to rebuild trust and put in assurances that we can protect the physical safety of healthcare workers. This is why the new Vocera Smartbadge has a dedicated panic button with real-time location and broadcast capabilities — if a nurse is subjected to violence, he or she can hit the panic button, which will broadcast to the local hospital security or the police,” Dr Duffy explained.

“We want nurses and other frontline team members to go to work with this device knowing they are safe. Having the badge means that a health worker is never alone, when they are isolated in a patient’s room or elsewhere within the hospital.”



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Communication is at the core of safety, so PPE needs to include technology that keeps people safe. According to Dr Duffy, the greatest risk to healthcare staff is taking their PPE on and off to contact a colleague or get the supplies they need to do their job. They should not have to risk contamination to reach their colleagues.

“Voice-activated, hands-free technology would enable them to stay safe, connected to their care team and at the bedside providing the best possible care to patients.”

Historically, psychological wellbeing has been seen as a ‘soft’ concern. Dr Duffy explained that, as a result of the pandemic, most institutions in the US are appointing senior roles to address the wellbeing of staff. One US hospital implemented a distress index to help measure and monitor staff wellbeing. The index, powered by human-centered technology, allows staff to record on a scale of one to five, how distressed they are on a given day. A high distress response is immediately routed to a support system. Health workers are witnessing numerous traumas every day, so it is vital that support and resources are available to them.

“The pandemic has forced us to separate loved ones at their greatest time of need. There are technologies that can restore humanity at the bedside by connecting the patient with their loved ones. We now have technology that allows us to take video and photos and connect families in a secure way.”

“It is our hope to restore humanity through improved smart communication that creates a connected care team inside and outside the walls of the hospital.

“With a connected care team, features like our panic button, and a smart workflow management system that alleviates cognitive overload, we can design a healing healthcare ecosystem in which people will want to work and where patients will receive the compassionate care they deserve.”



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# Domestic abuse disclosure

## and the vital role of GPs

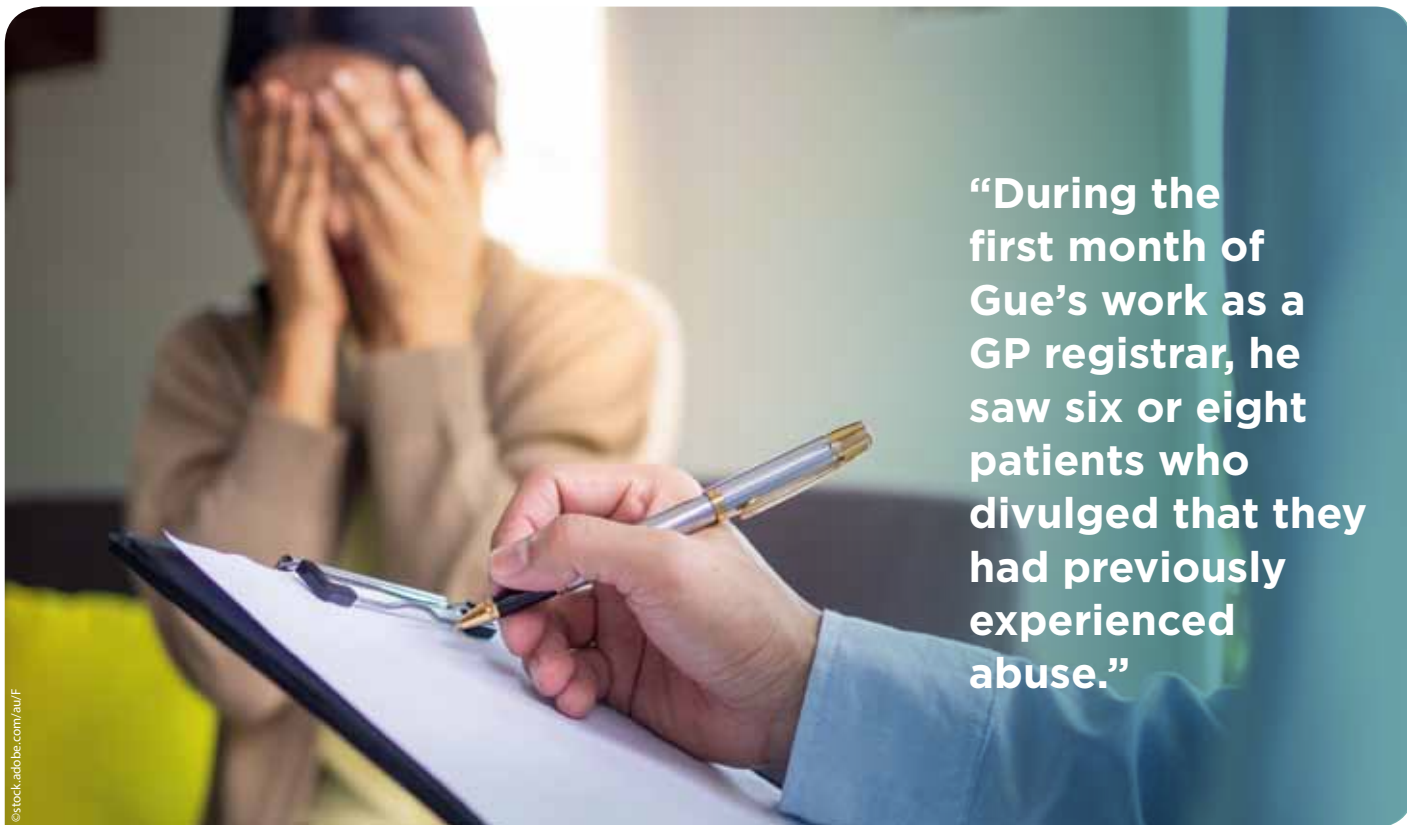
Jane Allman

**A**ustralian statistics on domestic violence paint a harrowing picture. One in four women has experienced violence since the age of 15.<sup>1</sup> One in five has experienced sexual violence since the age of 15;<sup>1</sup> 85% of Australian women have been sexually harassed.<sup>2</sup> Impact reported that in 2020, 56 women, 18 men and 20 children were killed as the result of domestic and family violence.<sup>3</sup>

It has been estimated that full-time GPs are seeing up to five women per week who have experienced some form of intimate partner abuse in the past 12 months.<sup>4</sup> One or two of these women will have experienced severe intimate partner abuse — for example, being raped, attacked with a weapon, locked in their home or not allowed to work.

GPs play an important role in responding to family abuse and violence in Australia, and they are often the first point of contact for people who are experiencing family abuse or violence. According to the RACGP White Book, Abuse and violence: Working with our patients in general practice (4th edition), GPs' roles can include identifying risk factors and noting early signs and symptoms; assessing for violence and safety within families; managing consequences of abuse to minimise morbidity and mortality; knowing and using referral and community resources; and advocating for changes that promote a violence-free society.

Violence doesn't necessarily present in an obvious way, and a patient may not identify being a victim of domestic violence as the reason for their GP visit. Studies show that



**“During the first month of Gue’s work as a GP registrar, he saw six or eight patients who divulged that they had previously experienced abuse.”**

there is a need for patients to be encouraged to discuss abuse and to see it as affecting their health. Women are significantly more likely to disclose if they are asked by their doctor about the abuse.

### Safety planning

An important part of a GP’s response in the case of domestic violence is safety planning, which involves the development of a plan to achieve and maintain safety of women and their children. GPs can refer to a series of questions that help to assess a woman’s immediate safety. The RACGP White Book details that safety planning includes:

- compiling a list of emergency numbers
- helping to identify a safe place for the woman to go to and how she will get there
- identifying family and friends who can provide support
- ensuring cash is available
- providing a safe place to store valuables and important documents.

Safety behaviours can include hiding money and keys, asking neighbours to call police if they witness a violent situation, establishing a code with family or friends to signal that help is needed, removal of weapons and ensuring quick access to important documents such as passports and Medicare numbers.

### Developing a referral pathway for GPs

Brian Gue is a GP registrar from Adelaide who is conducting research as part of the Australian General Practice Training program (AGPT) Academic Post Program. His research focuses on how GPs can be supported in

their approach to patients who are victims of domestic violence and the establishment of an evidence-based referral pathway.

During the first month of Gue’s work as a GP registrar, he saw six or eight patients who divulged that they had previously experienced abuse. “The patients came from different backgrounds and had different experiences, from an abusive, controlling partner, to an elderly patient whose partner had dementia and had become abusive,” Gue explained. “I wanted to know what I should do if they said they needed my help. This led me to look more closely into this area and find a way to focus on a referral pathway to help GPs steer their patients to the services best suited to their needs and situation.”

Gue explained that there are many great services available in South Australia, but they are not currently organised into a formalised referral pathway that GPs can use at the point of care. He is working with Adelaide Primary Health Network (PHN) and Country Health SA PHN to assess services in the state and provide GPs with clarity regarding what services are out there and how they cater to different subgroups and needs categories. Qualitative research, involving discussions with professionals specialising in domestic abuse, will explore current challenges and barriers faced by GPs to inform the referral pathway so that services can be recommended to patients at the point of care to optimise patient outcomes.

“Better understanding of the services on offer will make sure these services are used to the best of their ability and will mean that GPs can have confidence they are referring their patient to the service that can help them,” Gue said.

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GP registrar Brian Gue is researching how GPs can be supported in their approach to patients who are victims of domestic violence and the establishment of an evidence-based referral pathway.



# Showers for independent living.

## Balancing form and function in independent living

Con-Serv has long been recognised as a leader in the healthcare industry assisting architects, designers, and specifiers in creating liveable bathroom spaces that address the evolving requirements of Australia's ageing population.

In developing their Premium Healthcare Shower Range, Con-Serv has continued to focus on creating safe products for people of different abilities, whilst maintaining aesthetics and functionality.

Shower systems for healthcare applications usually require the installation of height adjustable handheld showers that cater for both the standing and seated user. Handheld showers for these applications should be lightweight, hard wearing, easily held in soapy hands and feature a soft spray pattern that will not irritate sensitive skin. Hoses should also feature a smooth, non-abrasive surface to allow for thorough cleaning.

Con-Serv's Premium Healthcare Showers meet these requirements.

All Con-Serv handheld showers are fitted with licenced dual check valves and are WELS 3 Star Rated - 9L/min.

For more information about Con-Serv's Premium Healthcare Shower Systems and Healthcare range, visit [con-serv.com.au](http://con-serv.com.au) or contact our team on 1300 467 322.

### Premium Healthcare Showers (HF Series)



# A Day in the Life of a House Companion

**T**racey Hogan is a long-standing House Companion at NewDirection Care in Bellmere, Queensland — a microtown that provides freedom of movement, independence and choice for the elderly and those living with younger onset dementia and complex care needs. Residents live in seven-bedroom homes with six other residents and have House Companions who provide 24/7 relationship-based support and care.



**Tracey the House Companion sharing morning tea with David.**

**06:00:** I am up and enjoying my morning coffee and readying for my day.

**07:00:** I arrive at work, log in and head down to my house for the day, taking a trolley with personal care items that are required for the shift. On entering the house, I greet any residents that are up with a big smile and a good morning and assess how they are feeling. This is a very important step in working with dementia residents, guiding the direction to set them up for their best day. I uncover our resident budgie George and open the curtains, attending to any personal cares.

**08:00:** I start preparing breakfast for the residents in our house kitchen and sit at the table with them, chatting about what activities are on for the day and how they slept, and encourage them to eat their meal. Medications are also given. I check the handover notes from the night staff for anything that may need addressing this morning and note any resident appointments.

**09:00:** Some of the residents like to sleep in, so I open curtains to help them orientate to the start of day and let them know the time. I offer breakfast and let them know I will be back in five to 10 minutes to check on them again.

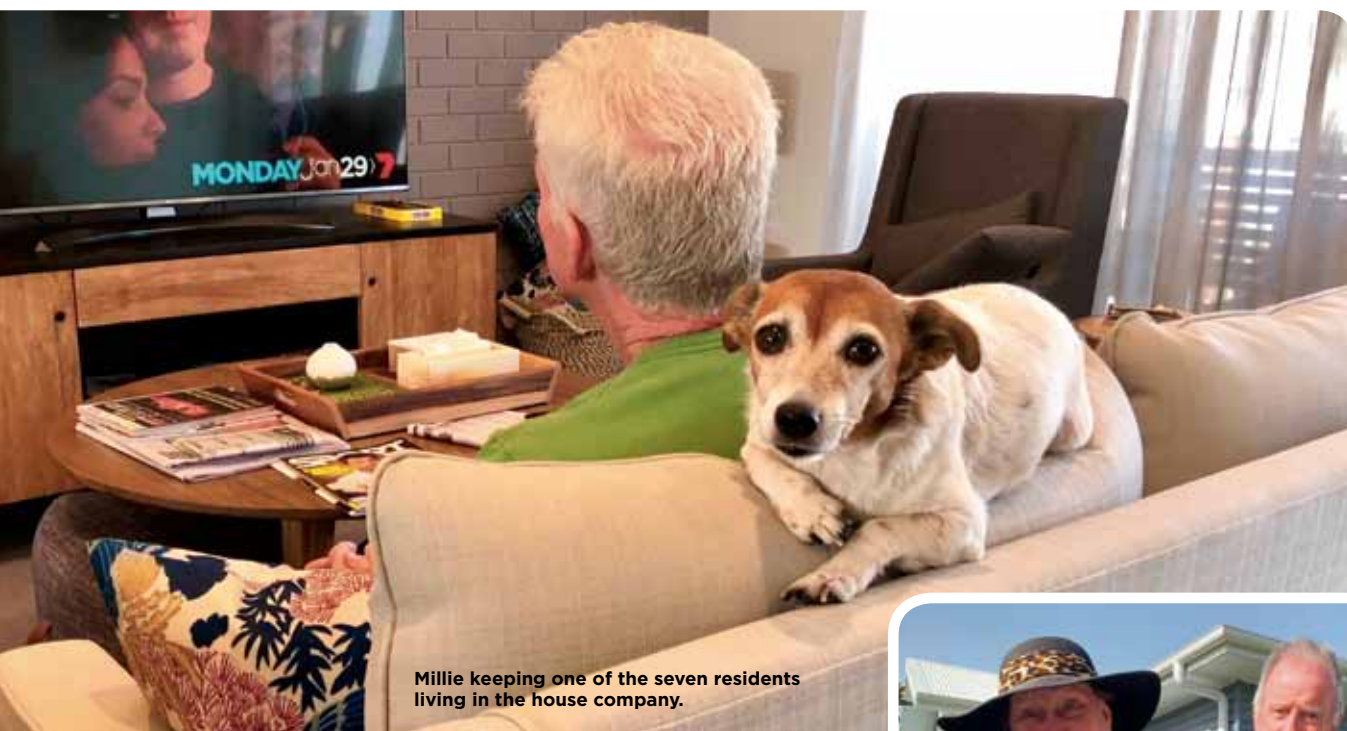
Then, off to the chickens we go! One of our residents has put himself in charge of the NDC chickens, Lorna, Dora and Blacky. We collect vegetable scraps from dinner prep and take them down each morning; we sit and have a chat and learn about growing up as the youngest of 13 children.

Time for some cleaning — the residents' washing goes on and it's time to start residents' room clean for the day. Each resident has a day assigned for a full room clean. House companions are responsible for all the normal household cleaning tasks for each resident in their house. Just like home. All washing is done on-site in the house laundry.

Next, I assist residents in attending activities in the community — this might be a movie at the cinema, a haircut, family visit or high tea at our cafe, or a visit from one of the dogs, Millie, who loves to keep residents company while they are relaxing at home in the lounge.



**One of the houses in the NewDirection Care microtown.**



Millie keeping one of the seven residents living in the house company.

**11:00:** Morning tea is a great time to listen to residents' stories about their childhood or have interesting conversations. Sometimes I'm not quite sure where the conversations are heading, like when an 86-year-old lady with dementia tells me she's worried she might be pregnant.

Switching to resident cares, it's time to trial some scheduled toileting — this can be interesting with some of our residents. Today I provided emotional support and encouragement for one of our non-verbal dementia residents as they try to process the changes in their mind and body. This requires reassurance, verbal and non-verbal cues, patience and a kind, caring attitude. We shared some tears and laughs and sat and had a cup of tea and spent some time one on one reading the newspaper and looking through the travel section.



Rita and Derek with one of the NDC chickens.



11:00

12:00

14:00

14:45

**12:00:** I prepare lunch, with one of the residents helping with kitchen clean-up and making sure I'm not making too much mess. All daily meals and snacks are prepared fresh in-house by the staff and factor in any nutritional needs for the individual resident. Residents have input into the meals they would like as well. Some residents will be busy out and about in the NDC community, so out we go to encourage them back to the house for lunch — sometimes we take lunch to them, so they can continue enjoying socialising with other residents from other houses. After lunch we might listen to some music or put on a movie, especially during summer to encourage residents out of the heat. We might share some funny dances and some laughs.

**14:00:** Heading into the last hour of my shift, I make notes, finish tasks and make sure all residents are happy and comfortable.

**14:45:** It's time for the handover with the afternoon staff, filling them in on the outcome of the day or any task not completed. After a short debrief I head home after saying goodbye to the residents and letting them know when I will be back. The drive home is time for reflection of the day and taking note of what worked and what didn't, the highs and the lows and the giggles at all the funny little things that make this job so rewarding.



**A Day in the Life** is a regular column opening the door into the life of a person working in their field of health care. If you would like to share a day in your working life, please write to: [hh@wfmedia.com.au](mailto:hh@wfmedia.com.au).



## Connecting aged care

In 2019 the world population exceeded seven billion people, of which about 800 million are considered elderly. Currently, according to The World Bank, about 9% of the world's population consists of people aged above 65 years, many of whom require constant supervision because of health problems, among other reasons.

Many aged-care homes across the world provide accommodation and personal care for elderly people. Personal care includes assistance with making food, socialising, dressing, and taking medication. However, a care worker cannot replace a family, or provide care and comfort 24/7.

### The challenge

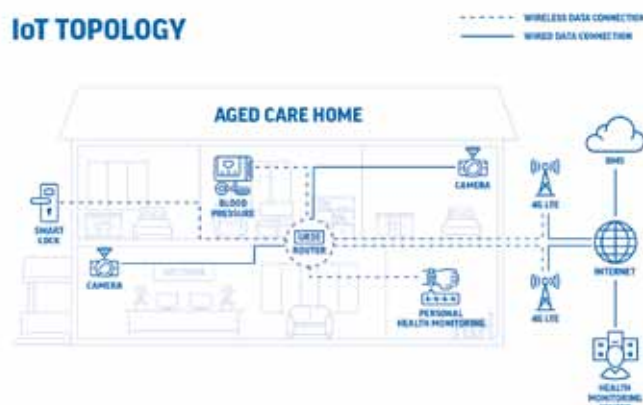
Today, as the world is still in the grip of the COVID-19 crisis, countries across the globe are enforcing quarantine and social distancing measures. One of the most crucial actions is to limit access to older adults since they are in a group of people who might be affected the most.

However, relatives still need to communicate with their family members, and care workers must be able to provide essential health services. Because of this, internet-based IoT solutions for aged-care homes are growing in popularity. This includes health-monitoring devices such as blood pressure testing devices and portable, personal health-monitoring equipment. CCTV and smart-lock solutions are used to enable remote monitoring and access. Considering the importance of socialising, video conferencing with care workers and relatives is becoming the new norm. These solutions require stable, reliable and secure internet connectivity, which can be a challenge due to a lack of existing infrastructure, limited availability of network installers during the social distancing period, and technological competence of older adults.

### The solution

The solution presented here revolves around a professional cellular router — the UR35, which provides essential connectivity for multiple health-monitoring, security and socialising devices. The internet source is 4G LTE, which the UR35 shares wirelessly to blood pressure detection and personal health monitoring devices, then forwards to remote health-monitoring centres. Wireless connectivity is used to connect the smart-lock system, which enables care workers and relatives to receive notifications and access the care home or their relative's home in the case of an emergency. The UR35 provides wired access to CCTV cameras inside the home that enable visual monitoring to confirm if there is an emergency. With socialising forming an essential part of this solution, the router can provide secure

### IoT TOPOLOGY



WiFi service to smartphones and personal computers that can be used for video calls.

### The benefits

**Uninterruptable internet** — UR35 is equipped with two SIM card slots, which enable two different operators to create reliable internet source with automated failover between Ethernet and Cellular.

**WiFi** — the UR35 series can connect up to 100 users at a time, with the ability to limit data consumption and create access restrictions.

**Easy to use** — Uرسالink Device Hub provides easy setup, mass configuration, and centralised management of remote devices.

### Why Powertec?

Powertec believes in a world where everyone can communicate and be connected no matter where they are, with the help of connected technologies. This case demonstrates how, using a single professional router and with the help of IoT and internet connectivity, better care can be provided to loved ones. The UR35 professional cellular router is deployed in the most complex industrial and public solutions that require critical connectivity, but is as easy to use as any consumer device on the market. In this case, it is an ideal and essential connectivity solution to improve the lives of people at risk during these difficult times.

### Does your aged-care home require innovative connectivity solutions?

Talk to our team of experts today on 1300 769 378, email [sales@powertec.com.au](mailto:sales@powertec.com.au) or visit [www.powertec.com.au](http://www.powertec.com.au) to view the full range of products.



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# Better ageing futures

Our obligations from the Royal Commission report

Sean Rooney, CEO of Leading Age Services Australia

Better ageing futures for older Australians is the thrust of the final report from the Royal Commission into Aged Care Quality and Safety — empowering older Australians to live the lives they choose and enabling our elders to do the things that are meaningful for them as they age. How we support and care for older people is defined by a new vision of ageing and aged care.

**T**he Royal Commissioners said the Australian aged-care system is unacceptable and unsustainable in its current form. The extent of substandard care in Australia's aged-care system is intolerable, reflecting poor quality on the part of some aged-care providers and systemic flaws in the way the Australian aged-care system is designed and governed. For those individuals or services who have been found to be unable or unwilling to meet quality standards, they must address these issues or exit the system. The sector is committed to doing better and we have made changes to raise standards — and we are continuing to do so.



**“Many of the people and institutions in the sector want to deliver the best possible care to older people but are overwhelmed, underfunded or out of their depth.”**

The systemic problems identified include inadequate funding, variable provider governance and behaviour, absence of system leadership and guidance, and poor access to health care. The role of government and its need to make decisions between competing priorities is at the heart of the shortfalls in Australia's aged-care system.

Many of the people and institutions in the sector want to deliver the best possible care to older people but are overwhelmed, underfunded or out of their depth.

The final report must drive Australia and our governments to come together to achieve world-leading care. We welcome the Prime Minister's commitment to change and his emphasis on a new Aged Care Act that will be based on an individual's needs and rights.

Aged care needs to be defined by the meaningful and measurable differences we make in people's lives. We must reshape and reimagine the story of Australian aged care because we have a broken system, and the Royal Commission is a once-in-a-lifetime opportunity to make aged care better.

Aged-care providers need to be rewarded for their initiative and performance, so that we can demonstrate and build on the positive impact they make in people's lives. Then our communities will be confident that our aged-care system delivers good-quality and value-for-money care. We must have a system that will result in accessible, affordable care and services; choice for older people when

and where they need it, delivered by more well-trained and well-paid staff who work in a high-performing and sustainable aged-care system. This is what older Australians need and deserve and this is what our sector wants to deliver, with strong levels of governance and transparency, supported by the government in their initial response to the report. Implemented effectively, the resulting reforms will build the foundation for aged care that is sustainable, centred on individual rights and respect.

However, we cannot do this alone and that is why Leading Age Services Australia — the largest representative organisation of aged care and retirement living — is a committed member of the Australian Aged Care Collaboration (AACC). The AACC is conducting a national campaign, aiming to ensure that the opportunity presented by the Royal Commission to transform the aged-care system is a top priority.

The campaign includes the detailed report 'It's time to care about aged care', a national petition and engagements with Members of Parliament in the 30 'oldest' electorates in Australia.

The Royal Commission found that Australia spends less than half of what other comparable countries spend on aged care, and getting the support for the system right must be part of the solution. Given the level of funding required, we need to consider what is likely to be a mix of

contributions between government funding and consumer contributions. Options include a levy, personal contributions, support for home equity release, and payment through superannuation products such as annuities and longevity insurance.

We urge the government to use their considerable resources to take the various recommendations made by the Commissioners to deliver the best model that incorporates a mixture of these.

It is worth noting that research for the Royal Commission found 61% of current taxpayers were willing to pay more tax to support aged care.

Older people require access to care and support that is safe, high quality and delivered with passion and compassion, always.

The government and the federal parliament must analyse where there are differences of opinions in the report and push ahead with massive reforms to improve the quality of life for all older people.

We must not see our rapidly ageing population as a 'problem' or a 'burden' — instead, more older Australians signifies our success as a nation in enabling people to live longer, healthier and more productive lives.

This is a critical investment in prioritising quality care and choice, while driving professionalism, more jobs and a post-COVID expansion for a stronger economy.

# Featured Products

Keep up with the latest industry innovations

## Hospital-grade disinfectant

Viraclean from Whiteley is a hospital-grade, hard surface disinfectant proven to kill a wide range of bacteria and viruses, including SARS-CoV-2 (the virus that causes COVID-19).

Manufactured in Australia, Viraclean is the result of years of intensive research into advanced cleaning and disinfecting technology from Whiteley. The product is ready to use, with a pleasant fragrance. It is pH neutral with good materials compatibility.

Viraclean has been proven to kill: *Acinetobacter*, *Candida albicans*, Coronaviruses including SARS-CoV-2, *Enterococcus faecalis* (VRE), *Escherichia coli* (*E. coli*), Hepatitis B Group virus, Herpes Simplex virus, Influenza virus, *Klebsiella pneumoniae* (CPE/CRE), *Proteus vulgaris*, *Pseudomonas aeruginosa*, *Salmonella choleraesuis* and *Staphylococcus aureus* (MRSA or Golden Staph).

Effective surface cleaning, particularly of high-touch areas, such as door handles and benchtops, combined with good hand hygiene will assist in protecting staff and patients as we move into the winter months and a higher incidence of colds and flu.

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## Detergent and disinfectant wipes

Reynard's Premier Detergent and Disinfectant Wipes are designed to clean and disinfect hard surfaces and equipment simply and effectively while saving time and money. The wipes are claimed to offer the largest and thickest cloth in class, meaning that each wipe covers a large surface area, with the unique design allowing better active ingredient contact, and improved dirt and debris pick-up and removal.

The Premier Detergent and Disinfectant Wipes are a proven, single-step solution to cleaning and disinfecting hard surfaces and equipment. The new, gentle formula is optimised for use in clinical and non-clinical settings and is suitable for use across a wide variety of materials. Proven to kill at least 99.999% of pathogens, the product is ARTG listed for use against SARS-CoV-1 and 2 as well as a wide variety of bacteria, viruses and fungi.

The product is available in 50-wipe and 100-wipe soft packs as well as the larger commercial 280-wipe tub.

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**VIRUSES** : in controlled environments viral traces were reduced by 88.96% after 90 minutes.



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BACILLUS SUBTILIS SPORE  
SALMONELLA  
SACCHAROMYCES CEREVISIAE  
MRSA, C.DIFF(SPORE FORM) AND NOROVIRUS

# A palliative care digital dashboard

## for the aged-care sector

Dr Priyanka Vandersman and Professor Jennifer Tieman

Australian Institute of Health and Welfare data shows that three in five Australians over 65 years of age were clients of an aged-care program when they died, and that 43% of all people over 65 who died were living in residential aged care.<sup>1</sup>

**T**he aging population increases pressure on aged-care provision and highlights the potential contribution of innovative approaches that support the identification and delivery of care to older people as they approach the end of their life, and who may have palliative care needs.<sup>2</sup>

The Technology Solutions stream of work conducted under the End of Life Directions for Aged Care (ELDAC) project is looking at a range of technology innovations relevant to the care of older people at the end of life (EOL). Funded by the Australian Government, the ELDAC project is conducted by a national consortium of eight partners — three universities and five national agencies: Queensland University of Technology (QUT), Flinders University of South Australia (FUSA), University of Technology Sydney (UTS), Palliative Care Australia (PCA), Aged & Community Services Australia (ACSA), Leading Age Services Australia (LASA),

Australian Healthcare and Hospitals Association (AHHA) and Catholic Health Australia (CHA).

To support aged-care workers in planning and providing good-quality palliative and EOL care, the ELDAC team at Flinders University created an integrated palliative care web platform known as the ELDAC Digital Dashboard. The dashboard is developed based on the Aged Care Quality Standards and the National Palliative Care Standards. Built using a 'co-design' approach, the dashboard makes use of the ELDAC Care Model to provide prompts and triggers to guide care. It provides guidance on advance care planning, recognising the EOL, assessing palliative care needs, providing palliative care, working together as a multidisciplinary team, responding to deterioration, managing dying and offering bereavement support. The ultimate aim of the dashboard is to support workforce understanding and capability



competing priorities and a relatively low level of technology readiness within the sector. Despite these challenges, staff and managers reported that the dashboard facilitated family conversations about a resident's decline and care needs, particularly when recognition of gradual EOL decline was presented to the team.

Care managers found the dashboard useful for the purposes of audit, compliance, and to assure accountability in the EOL processes provided at their service. For some services, the role of EOL and palliative care was still evolving, so having access to the associated suite of ELDAC resources was seen as valuable. In terms of driving and embedding a technology dashboard, the role of a site-based dashboard champion was seen as critical.

Innovations such as the ELDAC Digital Dashboard show that technology and digital resources can support staff and services in identifying and responding to an older person's needs as they move into the last months, or year, of life, as well as responding to specific palliative care needs. The ELDAC Digital Dashboard enhanced the capacity of existing systems by creating a framework to organise existing data that can highlight EOL needs and assist services in examining their care processes. The importance of digital systems and technology solutions has already been identified as a key direction for the aged-care sector, as has the need to provide person-centred and quality care for older people coming to the end of their life.

For more information about the ELDAC Digital Dashboard, please contact Dr Priyanka Vandersman: [Priyanka.Vandersman@flinders.edu.au](mailto:Priyanka.Vandersman@flinders.edu.au).

#### References

1. Australian Institute of Health and Welfare. Use of aged care services before death. <https://www.aihw.gov.au/getmedia/c1731ae2-e3ae-440f-994b-5b54b639ed05/18510.pdf.aspx?inline=true>
2. Palliative Care Australia. Palliative Care in Aged Care. <https://palliativecare.org.au/palliative-care-in-aged-care>

around palliative care so that older Australians receive high-quality, person-centered care at the end of their lives.

One of the unique abilities of the dashboard is that it uses existing data that is captured within an aged-care service's clinical data management system, processes it, and provides a one-stop shop for clinicians to graphically view and track all relevant EOL care activities and processes of their residents/clients. There is no need to feed data to the dashboard, which makes it ideal for integration into existing clinical data management systems, as opposed to being a standalone piece of software with additional management and application requirements.

The dashboard prototype was built on a review of aged-care resources, articulation with standards and a co-design process, with work completed in 2019. Since then, it has been integrated into the clinical and

care systems of four aged-care IT providers, providing the opportunity to examine how it could be adopted and used in aged-care services with access to the four IT companies' systems. In the second half of 2020, a three-month implementation evaluation study was conducted involving services that had access to the newly integrated dashboard. Care managers, nurses and admin staff used the dashboard for a trial period of up to eight weeks, with the support of a site-based 'dashboard champion'.

At the end of the trial period, over 40 staff members from 14 sites participated in a focus group or interview sessions to share their experience of dashboard use. Aged-care staff noted that the dashboard was easy to use and that it helped them organise EOL care. It is worth noting that this implementation occurred in an extremely challenging period marked by COVID-19 concerns, time and resource pressures,

# How digital care technology

can help reduce resident falls and dehydration by up to 50%

Tammy Sherwood\*



It is estimated that one in two older people worldwide will suffer a fall within the first 12 months of being transferred to a residential care setting, and as many as 30% of those people will sustain a significant physical injury, such as a fracture, as a result.

**W**ith falls estimated to cost the Australian healthcare system more than \$3 billion each year and the human cost of falling including pain, distress and loss of confidence, the value in fall prevention and intervention cannot be denied.

Until recently, almost all fall prevention strategies in aged-care homes relied heavily on human intervention; watching and assisting the vulnerable when they need

to be mobile. Whether it's a resident going to the toilet, entering the lounge or going outside for some fresh air, aged-care staff need to be on guard at all times, which can be difficult in large facilities and on a 24/7 schedule.

As with most of today's professions and necessities, however, technology has played a key role in supporting people, alleviating pressures, improving time management and,

in the aged-care industry, adding an extra layer of protection to resident health, safety and wellbeing. There are now technologies available, such as mobile clinical management systems, that can help reduce falls and pressure injuries among the elderly by up to 50% — a revolutionary feat unachievable on such a scale before.

Recent research by a team at Adelaide's Flinders University found that mobile digital software can significantly reduce the likelihood of falls and pressure injuries by half, which in turn reduces the number of subsequent admissions to hospital. The study involved comparing clinical outcomes across all Southern Cross Care SA, NT and VIC sites, to examine the differences between care providers using a traditional documentation system and those using a more contemporary digital system.

As well as helping to minimise falls in aged-care homes, digital care technology was also found to improve peoples' hydration levels and enable more direct resident care time. In addition, by using software to document residents' intakes of fluid in real time, aged-care homes can immediately see which people have not had sufficient fluids and take the appropriate action required.

The fluid offered to people living in aged-care homes, and the amount drunk in millilitres, can be easily evidenced at the point of delivery on mobile devices. Reminders to offer drinks can also be set up as part of a planned care routine.

Some digital software systems simplify the process even further by using a traffic light system to alert staff when a care task is due or when a resident is falling below the recommended fluid threshold for the rolling 24-hour period and flagging the need for intervention.

Whilst it may be difficult to distinguish between poor outcomes due to an underlying illness and poor outcomes from dehydration itself, dehydration is often associated with increased hospitalisation. By implementing innovative software to help prevent dehydration amongst residents, facilities can ensure resident hydration levels are kept replenished and reduce the likelihood of hospital admissions. With good hydration also thought to be helpful in preventing urinary

tract infections, low blood pressure and even more serious medical episodes such as seizures, the benefits of more efficient hydration management are vast. By providing aged-care facilities with valuable fluid data, the chances of adverse incidents can be considerably reduced.

As well as helping to improve resident hydration levels, technology can give care providers the ability to analyse any incidents, to trace what actions led up to them and prevent future incidents occurring. For example, by documenting incidents such as falls, facilities may be able to spot patterns and can adjust their practices to support residents better.

It's clear to see that data collection can be of great assistance to aged-care homes and empower care staff to make responsive decisions that benefit everyone involved. It also provides an attainable solution to many of the 'failure to monitor' scenarios outlined in the Royal Commission.

Overall, with more than one in seven Australians aged 65 years and over — and with the number of people in permanent residential aged care rising by 17% between 2007 and 2017 (from 153,000 to 179,000) — the need for digital care technology cannot be understated. Ultimately, its implementation helps to support care providers and improve the overall quality of care received by residents in an ever-expanding sector.



\*Tammy Sherwood is the CEO of Person Centred Software Australia, a global technology company and developer. Its app-based Mobile Care Monitoring system allows care home staff to digitally plan, record and monitor the care of residents as it is given. Widely used throughout the industry, the software has been developed with over 20 years' experience in social care and is focused on improving the lives of service users and care staff whilst providing aged-care facilities with the tools necessary to help them achieve outstanding levels of care. Person Centred Software officially launched in Australia in May 2018 and is currently being used by 90 aged-care facilities, with further plans for growth.

For more details about Person Centred Software Australia, please visit [www.personcentredsoftware.com/au](http://www.personcentredsoftware.com/au).

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# How Hygiena ATP testing is reducing the risk of infection

## What is ATP? (Adenosine Triphosphate)

ATP is an energy giving chemical found in all living things and is a universal indicator of organic residue.

## How is it measured?

Hygiena ATP testing devices contain a natural enzyme found in fireflies. This enzyme produces a simple bioluminescence (light giving) reaction when it comes in contact with ATP.

Using bioluminescence technology, Hygiena Luminometers can measure extremely low levels of ATP collected with testing devices (swabs). Measuring light produced from the reaction with ATP gives an excellent indication of surface cleanliness because the quantity of light generated is directly proportional to the amount of ATP present in the sample. The reaction is immediate, and results can be processed in seconds. The result is expressed numerically on the luminometer screen as a Relative Light Unit (RLU).

## How and where is it helping to reduce infection risks?

**In ultrasound departments and clinics** — Case study: Using ATP Monitoring to Maintain Hospital Ultrasound Equipment (1). Conducted in Sydney across 5 facilities, the study showed that out of 253 surfaces tested, 26% showed possible or definite lack of cleanliness (RLU readings at 100 or above). Of these, 6% had to undergo a cleaning intervention more than once to achieve the intended level of cleanliness, which had been set at 25 RLUs or below. Where a surface was challenging to clean or had residual organic matter, none were able to be identified without ATP testing.

**In sterilisation departments (CSSDs)** — ATP testing is being carried out on equipment put through the washers to ensure that organic matter has been removed prior to sterilisation. A level of 10 RLUs or below is set for this testing. The EndoSwab brushes also allow testing to be conducted on the inner channels of lumen scopes and other small hard to get to places. ATP testing is an accepted method of validation in the AS/NZ 4187 Guidelines which include recommendations on validation of cleaning lumen and non-lumen scopes. This method is being used in many Australian Hospital CSSDs.

**In aged care** — Case Study: Brent Care Home Study (3). The outcomes of implementing ATP Cleaning Verification showed a reduction in viral contamination based on peer reviewed studies. The outcomes were that it re-assured customers and staff that their operation was clean and safe with validated cleaning data; differentiated them from their competitors; and minimised the turnover time for rooms and facilities with faster cleaning verification. It identified difficult areas before they became a problem, reducing the risk of infection and protected their brand from negative PR related to an outbreak.

Rampling et al (2001) J. of Hospital Infection. Vol 49, 109–116 (2) showed additional cleaning resulted in a reduced rate of environmental isolation and infection of MRSA from 42% to 0%.

Cost benefit analysis was A\$170k per ward per annum (costs converted to 2021 in line with inflation).

**In general environments within healthcare** — Case study: North Tees and Hartlepool Hospitals, United Kingdom. In this study conducted by North Tees and Hartlepool Hospitals in the UK, data showed that by monitoring cleaning performance with the Hygiena SystemSURE Plus, these two hospitals experienced a 20% increase in Pass scores. In this study, Pass scores were categorised as any score below 100 RLU. During this time, the hospitals also experienced a 35.24% reduction in reported post 48-hour *C. Difficile* infections. (Hygiena 2012) (4)

Anaeron is working closely with Australian healthcare facilities on how ATP Testing can assist with reducing the risk of infection and contamination. We provide training and on-going support to each user.

What our customers say about us: "It is very refreshing, especially in these trying times, to deal with a company that actually cares about their clients." And "The support we receive from the staff at Anaeron is second to none. They are very knowledgeable in their field, professional and ethical. They are always available to provide assistance and advice to their clients."

Hygiena Luminometers and Swabs lead the world in sensitivity, accuracy, repeatability and do not require expensive re-calibration of units.

Data Sourced from Guh A and Carling PC. Options for Evaluating Environmental Cleaning. Centers for Disease Control and Prevention. 2010.(5) showed that Hygiena ATP Testing removed bias, was quantitative, timely, acted as a training and management tool, was fraud-proof and provided software analysis.

SureTrend Software developed by Hygiena comes pre-set with reports, graphs and charts. Test results are captured and can be immediately analysed to assist in providing feedback and improve on cleaning performance. Continuous improvement is an essential part of the Hygiena ATP cleaning verification system.

For more information and on the latest technology of Hygiena Luminometers and ATP Rapid Hygiene testing contact Anaeron Pty Ltd, distributors of Hygiena into Australian Healthcare.

## References

1. Case study: Using ATP Monitoring to Maintain Hospital Ultrasound Equipment. Hygiena website; Resources.
2. Rampling et al (2001) J. of Hospital Infection. Vol 49, 109–116.
3. Brent Care Home Study. Hygiena website; Resources.
4. Hygiena (2012) Case Study: North Tees and Hartlepool Hospitals, United Kingdom. Two Hospitals Improve Cleaning Scores and Experience Lower Infection Rates.
5. Guh A and Carling PC. Options for Evaluating Environmental Cleaning. Centers for Disease Control and Prevention. 2010.



# Being a female CEO in 2021

Tammy Sherwood, CEO of Person Centred Software Australia



Tammy Sherwood is the CEO of Person Centred Software Australia, a leading global technology company and developer. Its app-based Mobile Care Monitoring system allows care home staff to digitally plan, record and monitor the care of residents as it is given.

**W**idely used throughout the industry, the software has been developed with over 20 years' experience in social care and is focused on improving the lives of service users and care staff whilst providing aged-care facilities with the tools necessary to help them achieve outstanding levels of care. Person Centred Software officially launched in Australia in May 2018 and is currently being used by 90 aged-care facilities, with further plans for growth.

"The 2019–20 Australian Bureau of Statistics indicated almost 80% of workers in aged care were female, with over 40% of CEO positions being occupied by women — the

**“What I enjoy most about working at Person Centred Software is that we can improve the lives of people living and working in aged care. We’re passionate about creating positive cultures and being a part of that change.”**



highest workforce percentage in Australia. Nationally, the statistics showed that only 17% of CEOs were women — an increase of just 1.4% over five years. So while there's still clearly a lot of progress to be made in gender equality, it's incredible to see aged care leading the way, and it's a privilege to fall into that bracket,” Sherwood said.

“Before my current role as CEO of Person Centred Software Australia, a leading global technology developer for the aged-care sector, I held several different positions at a number of companies, but a career in aged care wasn't on my radar. That being said, I've had a close affinity to the care sector since the age of 12. I had a paper round which would see me delivering the local newspaper to a nearby retirement village. I used to love riding through the village on my bike where all the residents would greet me. One day I was told the newspaper would be discontinued, so I struck a deal with the newsagent to keep me on by offering to deliver other items to the retirement village, such as bread and milk. I was only paid 20 cents per trip, but it wasn't about the money; I had been ingrained with a deep desire to help the elderly.

“In my early 20s I worked in a community pharmacy, which was managed by an inspiring woman — the first of many I would work with — who ran the successful business while raising her children. I then moved to a hospital pharmacy, and that's when I decided to pursue a career in aged care. I remember delivering medication to an aged-care home and on my way out a resident asked me to

sit with them, so I did, and she proceeded to hold my hand and tell me a story. As we sat there, the realisation of wanting to make a career out of aged care hit me, and I haven't looked back since. I remember getting in trouble with my employer at the time for returning from the delivery drop-off so late — that's how long the woman's story was!

“Person Centred Software was already an established company in the UK and was making serious waves in the digital care market. One of its co-founders flew out to Australia and after a brief meeting at a conference along with a director of Belgravia, we discovered we shared the same common values and decided we would launch Person Centred Software to the Australian residential aged-care market.

“It's been an incredible journey and a bit of a whirlwind at that. What I enjoy most about working at Person Centred Software is that we can improve the lives of people living and working in aged care. We're passionate about creating positive cultures and being a part of that change.

“As CEO, every day is different. I alternate between spending time with my team, customers and partners, although COVID-19 has changed the way we operate. While Zoom is great for maintaining a connection with everyone, I must admit I miss onsite visits to aged-care homes, and I can speak on behalf of the whole organisation when I say we can't wait to get back out there again.

“Looking at the lopsided national statistics, I feel very fortunate to be a female CEO. In

saying that, however, I've always believed that the right person should be appointed to the right role, regardless of gender.

“My two directors are male and have years of experience in a vast range of businesses. There's not much they haven't seen or experienced, and they are always available if I need them to guide me in the right direction. Simply put, I've never felt they treat me any differently for being female.

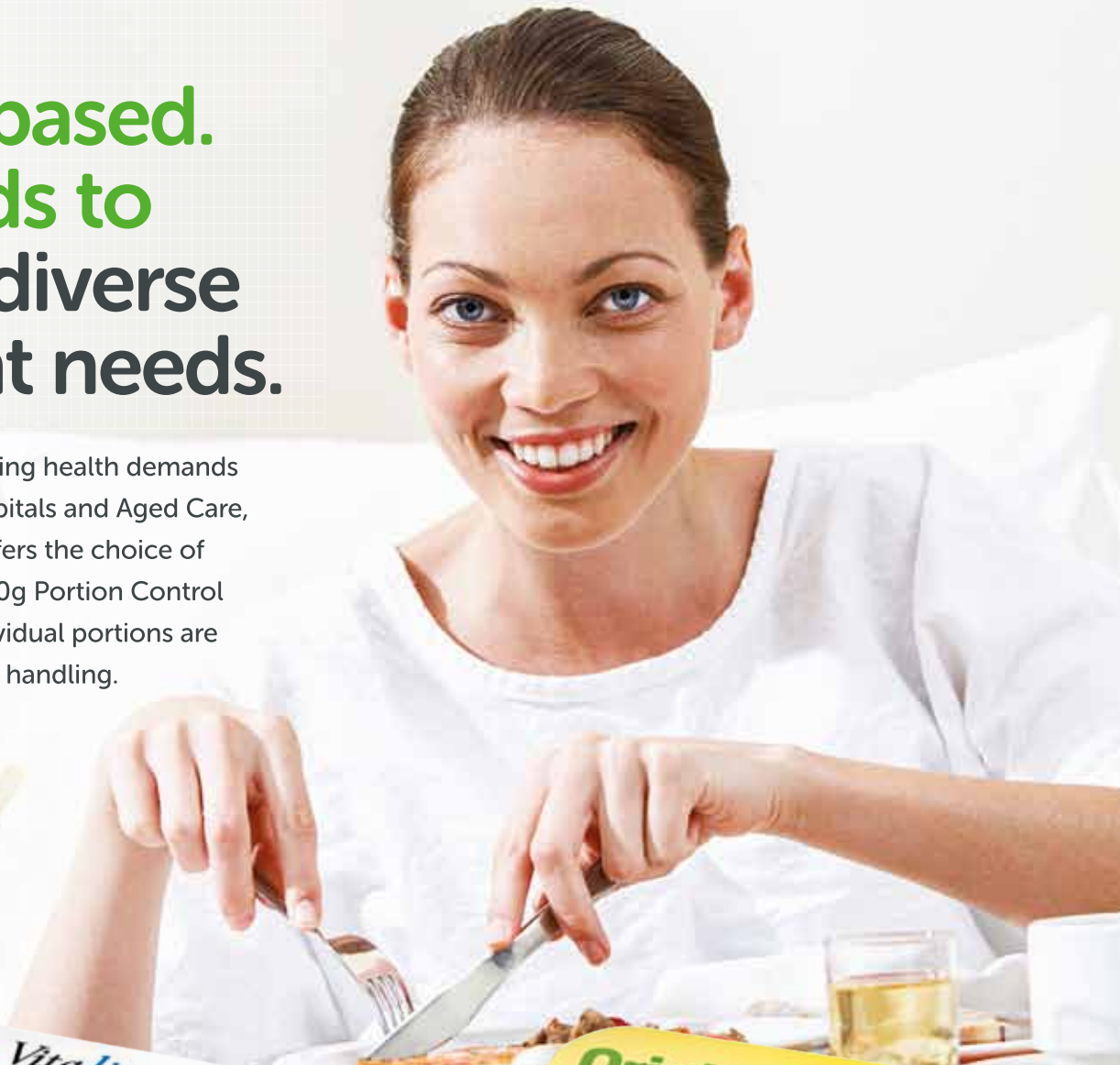
“Even when I started my family, my female manager at the time was always understanding and accommodating despite not having children of her own, and was there to help me find the perfect work-life balance. Personally, I don't think I would be in my current role if it wasn't for the support of the people who have managed me along the way. Even today I will often pick up the phone and call the very people who helped me all those years ago for support and guidance.

“Overall, working in aged care is extremely rewarding regardless of gender and I recognise I have been fortunate not to have experienced the challenges of inequality. This is an exciting time to be in the industry as we look forward to the next phase with spirited hope. My message to all young Australian women thinking about pursuing a senior career in aged care would be to think big, back yourself, find a mentor, listen, learn and, ultimately, enjoy the ride.”

For more details about Person Centred Software Australia, please visit [www.personcentredsoftware.com/au](http://www.personcentredsoftware.com/au).

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# Keeping Australia's Indigenous communities COVID safe

Jane Allman



**A**cross Australia, Aboriginal and Torres Strait Islander communities have been faring well when it comes to COVID-19. Nationwide there have been just 151 cases and zero deaths\* — a rate of infection six times lower than the non-Indigenous population.

What strategies are helping to keep Indigenous Australians safe? *Hospital + Healthcare* spoke to National Aboriginal Community Controlled Health Organisation (NACCHO) Medical Advisor Dr Jason Agostino, who discussed some of the key measures that are working to successfully protect these communities.

"The main driving force behind the safety strategies for Aboriginal and Torres Strait Islander communities has been the leadership from these communities," Dr Agostino explained. "At the very start of the pandemic, Indigenous leaders requested that the Australian Government establish a COVID-19 advisory group, leading to the formation of the Aboriginal and Torres Strait Islander Advisory Group on COVID-19 in early March 2020."

Members of the Group (the Taskforce) sought to develop and deliver a National Management

Plan to protect Aboriginal and Torres Strait Islander communities and save lives. The Taskforce is co-chaired by NACCHO and the Department of Health.

## Health messaging

A wide range of measures have been implemented to protect Aboriginal and Torres Strait Islander communities from COVID-19 across Australia. Most of Australia's Aboriginal and Torres Strait Islander population lives in cities and country towns — in areas that have witnessed cases of COVID-19.

Dr Agostino explained that messaging has been a critical safety component, by relaying important COVID-19 health information to Indigenous communities. Sharing messages under the tagline 'Keep our Mob safe' has been encouraged throughout the community, with core focus points of good hygiene, protecting communities and Elders, and staying connected.

A range of material has been developed in partnership with a First Nations media communications agency including video messages, brochures, posters and a regular

eNewsletter. This has been done in conjunction with mass media advertising including print, radio, digital and social advertising which has been specifically developed to be inclusive of Aboriginal and Torres Strait Islander audiences.

Key topics of focus in public communications include:

- Understanding what COVID-19 is and how it spreads.
- How to protect families, communities and the elderly from the virus.
- Encouraging access to support services, in particularly mental health, medical appointments for chronic illness management and domestic violence safety.
- Protecting family and community from the impacts of influenza.

## Rapid testing

The establishment of rapid COVID-19 PCR point-of-care testing for remote and rural Indigenous communities has also played a key role in keeping Indigenous communities safe. Access to rapid-testing facilities allows quick

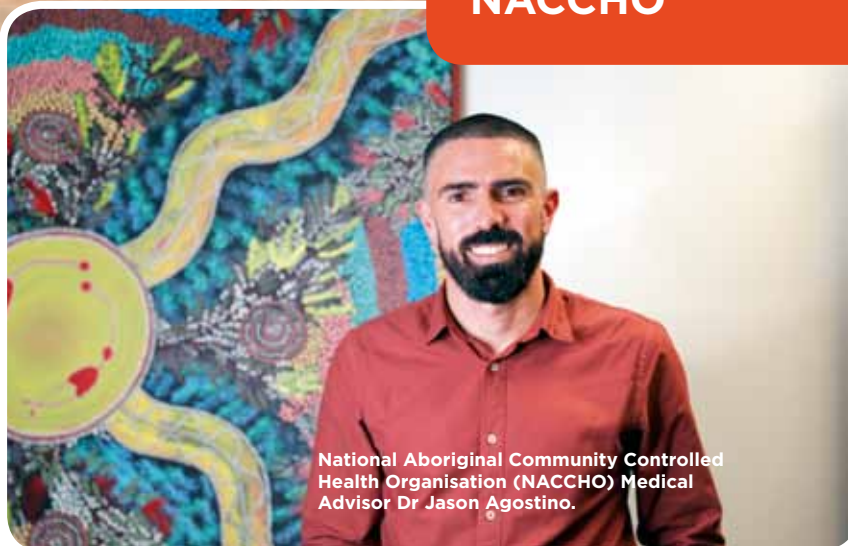
The Kununurra Remote Outreach Clinic (KROC) and the team at the Ord Valley Aboriginal Health Service (OVAHS) visited 25 remote communities around the Kununurra area to provide health services during the COVID-19 pandemic.



**“The main driving force behind the safety strategies for Aboriginal and Torres Strait Islander communities has been the leadership from these communities.” — Dr Jason Agostino, NACCHO**



**Aboriginal Health Worker (AHW), Deakin Walker of Galambila Aboriginal Health Service, NSW.**



**National Aboriginal Community Controlled Health Organisation (NACCHO) Medical Advisor Dr Jason Agostino.**

identification of COVID-19 cases to prevent spread, particularly in areas where infrastructure and/or ability to self-isolate is compromised due to lack of housing and crowding.

The Taskforce reported that, as at 13 December 2020, 86 health services are participating in the program, with a further 67 services acting as spoke sites, increasing the reach of the program to over 150 remote communities.

### GP-led respiratory clinics

The Australian Government has allocated \$206.7 million to establish more than 100 general-practice-led respiratory clinics (GPRCs) across Australia, including in urban, rural and regional areas. GPRCs are designed to provide advice and health care to all Australians with mild-to-moderate COVID-19 symptoms while reducing the pressure on hospitals and the risk of transmission by visits to regular GP clinics.

A Taskforce update in December 2020 reported that 150 GPRCs had opened across the country, of which 23 are Aboriginal Community Controlled Health Organisations (ACCHOs). These ACCHOs have seen mainly non-Indigenous patients throughout the pandemic,

but their establishment means there are options for Aboriginal and Torres Strait Islander people to get tested at places that are familiar and culturally safe.

### Restricted access to remote communities

Early lockdown and restricted access to remote Indigenous communities — at the request of these communities — was implemented to protect community members from the spread of coronavirus. All non-essential visitors to remote communities have ceased. Those returning to communities are required to self-isolate for 14 days in line with health guidelines.

In the event of positive cases in remote communities, provisions have been made to evacuate early cases to enable an effective response and limit exposure to other community members.

### Vaccination

The Australian Technical Advisory Group on Immunisation (ATAGI) acknowledged that Aboriginal and Torres Strait Islander people have an increased risk of acquiring and

developing serious illness from COVID-19 due to factors including having a high rate of chronic health conditions and a greater chance of living in communities where crowded living conditions exist.

Aboriginal and Torres Strait Islander adults aged 55 years and above will be eligible for the vaccine in the second priority group (Phase 1b) of the National Rollout Strategy; Indigenous Australians aged 18–54 years will receive the COVID-19 vaccine in Phase 2a of the rollout. GPRCs and ACCHOs will be key vaccine provider sites.

The approach to Indigenous community safety during the COVID-19 pandemic is multi-factorial, with additional strategies including grants for remote community organisations to support planning and preparedness activities; online training modules for healthcare workers; and the expansion of telehealth. The community-led approach, based on accurate health information, has been successful in assuring the safety of Australia's Aboriginal and Torres Strait Islander population.

*\*At time of writing.*

# Featured Products

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## Friction glide slide for grab rail showers



The Con-Serv Friction Slide Grab Rail Handset Cradle (HC 932 C) is specifically designed for people with weakened or arthritic grip.

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in place. Those with weakened or arthritic grip can easily shift the position with the side of their hand.

The cradle pivoting C hook allows for easy positioning of the showerhead and can be adjusted to meet the user's needs.

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Tested and approved by both Boeing and Airbus aircraft manufacturers for material compatibility, Netbiokem DSAM+ can be used on all hard surfaces including vinyl, plastics or metals without any cracking, crazing or discolouration over time.

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The system is designed to remove the uncertainty and paperwork associated with manual record keeping to ensure food and medicines are safely handled and stored, providing a high level of control and peace of mind — even in large, complex healthcare operations.

With live equipment temperature sensors and mobile task-based devices streaming data live to the cloud, users can keep on top of compliance across their operations — from anywhere. Monika's real-time monitoring and alerts help ensure valuable stock is safe and staff are accountable for food safety activities.

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## Multi-pocket bag filters

Camfil's range of Hi-Flo glass fibre, multi-pocket bag filters feature an innovative pocket design for optimal energy-efficient air distribution, resulting in longer filter life and a lower total cost of ownership (TCO) for your facility.

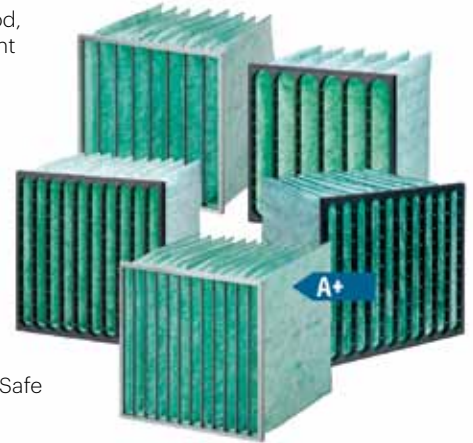
TCO includes the sum of total product, maintenance and energy costs for a given period, with savings found through high-performance filters requiring less frequent replacement and lower resistance operation, resulting in reduced fan horsepower and energy consumption.

Designed to remove airborne contaminants such as smoke, bacteria, fumes, fungi and virus-bearing droplet nuclei, the Camfil Hi-Flo incorporates high-lofted, air-laid glass microfibre filtration media to help ensure consistent sub-micron particle capture, reliable efficiency and a low resistance to airflow throughout the life of the filter. An additional synthetic micro mesh media backing ensures media protection and support in turbulent or varying airflows and particle capture performance is unaffected by dust loading and/or humidity.

Designed for use within supply and exhaust air applications, including pre-filtration within cleanrooms, Camfil Hi-Flo filters are available in M6, F7, F8 and F9 efficiencies to EN 779. Certain models are also available with an A+ EuroVent Energy Rating and/or ProSafe certification.

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# In Conversation:

## Scrubbing up to the challenge

Sisters kit out healthcare workers in comfort and style

Registered nurse Van Nguyen (right) and sister Linh (left) founded Scrub Lab to solve Van's scrub woes.



**W**hen Van Nguyen graduated and became a registered nurse, she struggled to find good-quality scrubs locally. The scrubs that were available lacked comfort, style and functionality.

Van is a critical care nurse at Sunshine Hospital, one of the busiest emergency departments (EDs) in the west of Melbourne. Together with her sister Linh, Van founded Scrub Lab to solve her scrub woes.

"My research led me to realise that there was a gap in the Australian market and that healthcare workers like me were paying way too much just for shipping in order to obtain decent quality scrubs

from overseas," Van said. "With this in mind, I approached my sister Linh, and we realised there was an opportunity for us to make a change.

"Being a frontline worker in the ED, all I really wanted was some stylish, functional and comfortable scrubs that would enable me to show up every day, feeling good about what I do and how I looked."

Van and Linh wanted their scrubs to be functional, flattering and comfortable for healthcare professionals to wear during long shifts, with more pockets being essential.

"I couldn't put up with how non-attractive my scrubs were — sometimes it felt like a chore

having to put them on for work. I envisioned something creative, colourful and fun."

Van explained that her mother is a very talented seamstress, who was able to bring the sisters' prototype to life.

"The amount of interest I received after wearing my prototype to work was overwhelming. It confirmed to us that there really was a need for premium-quality scrubs that were functional and stylish, and hence Scrub Lab was born!"

Scrub Lab's range is available in different colours and styles, so that healthcare professional look good and feel good when they put them on. To set them apart

**“My research led me to realise that there was a gap in the Australian market and that healthcare workers like me were paying way too much just for shipping in order to obtain decent quality scrubs from overseas.”**



from competitors, Scrub Lab's fabrics are engineered to have antimicrobial, anti-wrinkle and super soft qualities, with four-way stretch.

Scrub Lab has seen exponential growth in response to the shifting apparel choices of healthcare workers nationally in response to the pandemic.

“The pandemic caused a shockwave through the healthcare system. It made us more aware and more vigilant in regards to infection control — we were now fighting an invisible enemy. So, for us to go to work and come home during the pandemic was a big risk for our families. We didn't want to carry it home, so the demand for scrubs increased. Everyone — including occupational

therapists, physiotherapists and admin staff for example — was encouraged to change from casual clothes to scrubs and started wearing them instead of their own uniform.”

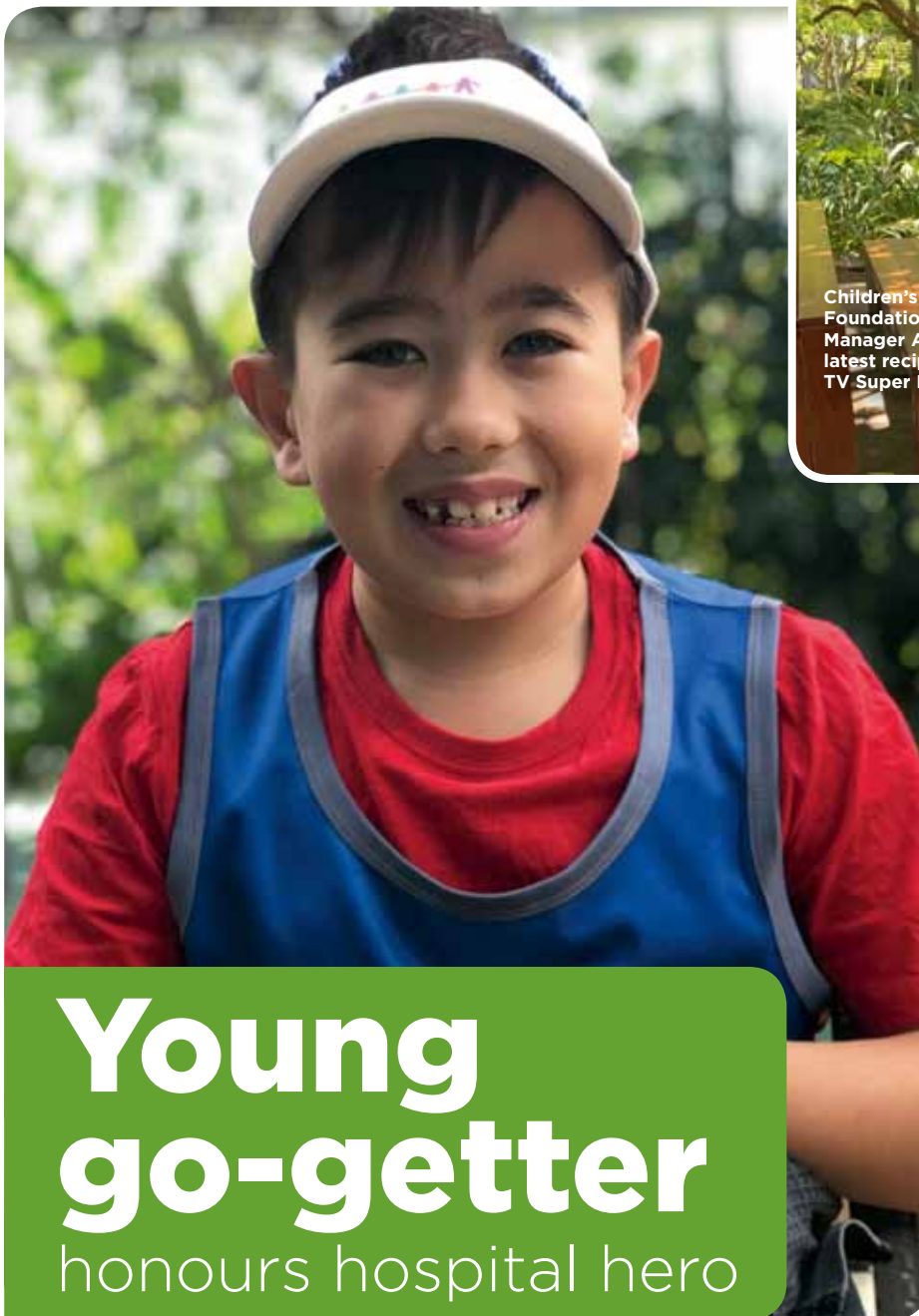
Professor Declan Murphy, Director Of Robotic Surgery at Peter MacCallum Cancer Research Centre in Melbourne, is one such professional ditching his 'suit and tie' uniform for a more comfortable scrub. Dr Murphy stumbled upon Scrub Lab by chance.

“One of Dr Murphy's colleagues was wearing our scrubs and he thought they looked great, so he approached us to buy some scrubs for himself,” Van said. “He

was blown away at how comfortable and well fitted they were. His exact comment that he left on our website was, ‘Fantastic. Great fit, handy pockets, easy wash with no ironing’.”

Scrub Lab has had numerous reviews and emails from happy customers, who really appreciate that there is now an Australian brand they can buy from that provides them with comfortable and stylish scrubs.

Van said, “The most outstanding thing for us would be our material and how it is ultrasoft. Our customers like our designs and definitely the colours. It's a game changer and gets them excited to go to work.”



Joshua is an 11-year-old who has defied the odds throughout his young life.

**D**espite being diagnosed with spina bifida in the womb he pushes boundaries and lives life to the full, participating in sports like sailing, swimming, wheelchair basketball and motocross. These exciting pursuits have been made possible by Joshua's regular visits to Queensland Children's Hospital for multiple surgeries and appointments.

At the age of seven, *Juiced TV* — the TV show made by kids in hospital for kids in hospital — asked Joshua to guest host the Juiced TV Super Hero Awards.

Supported by QSuper, the awards shine a light on the hospital's medical and support staff — the doctors, nurses, volunteers and others who selflessly dedicate themselves to the wellbeing of others.

When considering a recipient for the Super Hero Awards, Joshua and his mum Abbi decided to shine a light on someone who has made life easier for their family — Children's Hospital Foundation Family Liaison Manager Angie Brooks.

"We met Angie when we were filming with *Juiced TV* over three years ago. She came and introduced herself to us," Abbi said.

"Since then she has kept in contact, included us in events and reached out when we have been admitted or are at the hospital for appointments. Angie always makes us feel welcome, no matter how rushed off her feet she is."

This has included Angie being a voice of comfort during Joshua's bouts of procedural anxiety. One time, Angie, recognising that Abbi was passionate about disability advocacy, connected her with another parent going through similar challenges, with both parties' permission.



Children's Hospital Foundation Family Liaison Manager Angie Brooks is the latest recipient of the Juiced TV Super Hero Awards.



Joshua hosting the Juiced TV Super Hero Awards.

"She's the most warm, bubbly person with such a motherly instinct. She always reaches out to me as a mum and she put me in touch with another parent to help them with their experience. She's an angel in disguise ... she is well and truly the Queen Bee," Abbi said.

Humbled by the nomination, Angie said: "I feel flattered when families take the time to recognise what we do when they're going through so much."

Working at Queensland Children's Hospital for nine years, with almost four in her current role as Family Liaison Manager with the Children's Hospital Foundation, Angie's position includes helping find talent for *Juiced TV*'s episodes, engaging with volunteers and helping families navigate their time in hospital.

Thanking Joshua and Abbi for the recognition, Angie said she had been inspired by Joshua's strength and resilience, along with his mum's passion of supporting his development and providing him every opportunity possible.

"Thank you for considering me ... Keep doing what you're doing. I really look forward to seeing Josh take on all the opportunities that his mum has worked towards for him and I can't wait to see how far he goes."

Through the awards program, QSuper and *Juiced TV* have helped recognise many humble hospital heroes who are quietly transforming young lives. Angie is the 10th person to receive the award.

QSuper CEO Michael Pennisi said he was proud to support *Juiced TV* and the awards program that celebrates the superheroes of the healthcare sector who put others' best interests first.



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*Greg Whiteley*

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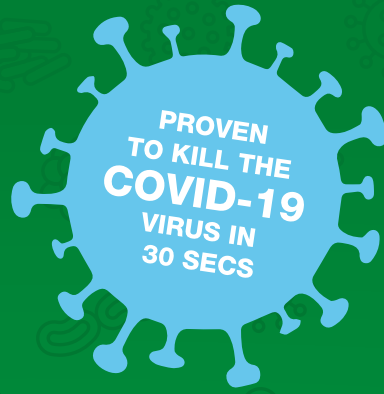
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