HOSPITAL AND HEALTHCARE

SUMMER 2024

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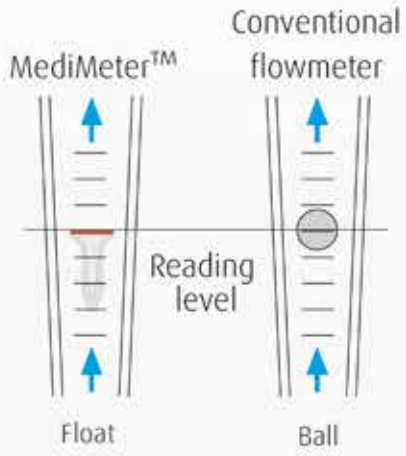

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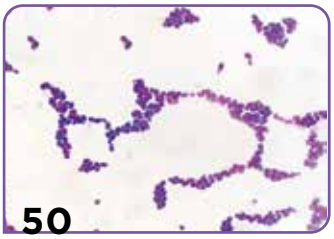

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Welcome to our Summer issue

Global obesity rates have ballooned over the last four decades, increasing to 650 million in 2016, according to the World Health Organization. Almost 40% of adults, 18 years and older, were found to be overweight in 2016, and around 13% were obese.

Australia has one of the highest rates of overweight and obesity with almost one in three adults obese in the developed world. The country ranked 9th out of 21 countries with available data for the proportion of people aged 15 and over who were living with overweight or obesity (65%) — this was greater than the OECD average of 60%, according to the AIHW data.

With overweight and obesity contributing to a number of diseases, including cardiovascular conditions, diabetes, musculoskeletal conditions and some types of cancers, and further adding to the country's total disease burden, there is an urgent need to shift the dial.

In her thought leadership piece (page 22), Joanna Munro, Director Prevention Systems, Health and Wellbeing Queensland, reflects on the cause of and the solution to the obesity problem with insights on the consequences of failure to act.

Laureate Professor Clare Collins, Director of the Food and Nutrition Research Program at the Hunter Medical Research Institute and the University of Newcastle, would like to see dietary check-ups introduced to our healthcare system in a model that more closely mirrors dentistry to improve outcomes. For details, read her interview on page 18.

This issue also features articles and insights on a range of topics including public health, preventative services, latest trends in antimicrobial use and resistance, growing use of artificial intelligence, cancer care and outcomes, cybersecurity, payroll, inclusivity and more.

Mansi Gandhi
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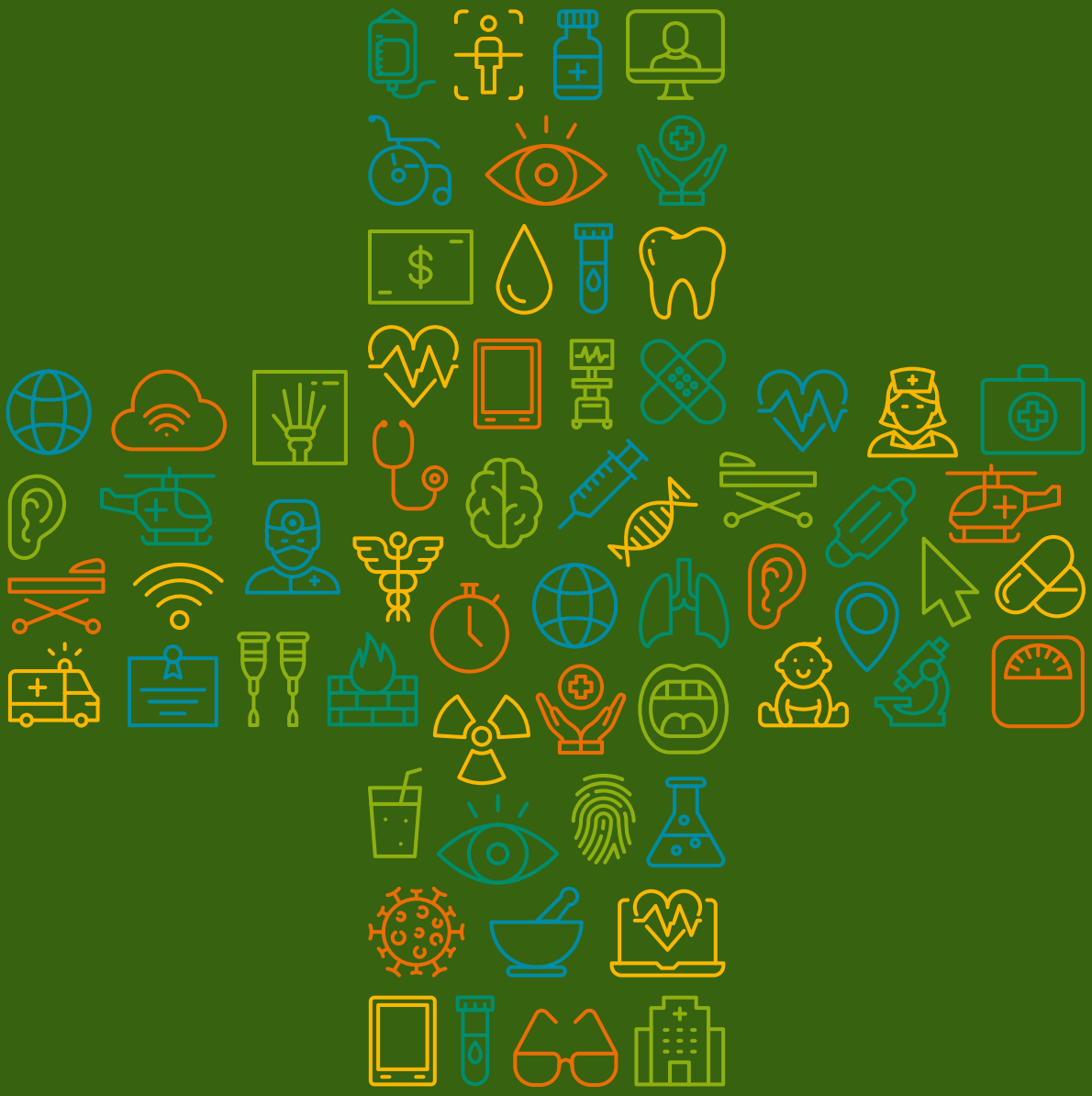
hh@wfmedia.com.au

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**.



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Cart Couture

In the intricate tapestry of healthcare, time is not just a ticking clock; it's a precious resource that directly impacts patient well-being. The constant quest for innovative solutions to enhance workflow efficiency and ensure unwavering care delivery is crucial to the healthcare sector.

Proudly contributing to this endeavour is Alpha Lifecare, an innovator in healthcare solutions, as it welcomes Capsa's Avalo Medical Carts into its arsenal of cutting-edge offerings.

Michael Rice, Acute Care Manager at Alpha Lifecare, shares "the Capsa range continues to showcase the very latest in cart innovation, including a range of security locking platforms, a large variety of accessories and flexible configurations to not only meet but exceed the expectations of the changing healthcare market."

Unparalleled Security Features

Avalo carts transcend conventional standards with their unparalleled security features, "these carts provide a comprehensive array of customisable security features, including key, keyless and quick-access breakaway locking, ensuring a highly secure and efficient healthcare environment," Michael emphasises.

Diverse Range of Carts Addressing Specific Needs

"Avalo Medical Carts are not one-size-fits-all solutions," says Michael. "They come in a range of specialised configurations, including Emergency, Paediatric, Anaesthesia, Isolation, Procedure, and Medication."

Noteworthy Features

1. **Built to Last**: The precision-welded steel frame, coupled with durable, high-impact panels, ensures the utmost in robustness and longevity.
2. **Effortless Mobility**: Lightweight design and streamlined profile make movement and steering a breeze, even in the most crowded healthcare environments.
3. **Hygiene at the Forefront**: With smooth panels, a functional work surface, and seamless drawers, these carts promote simple cleaning, which is crucial for effective infection prevention.
4. **Security at Your Fingertips**: Feature innovative locking systems, including key, keyless, or quick-access breakaway locking mechanisms, to safeguard valuable medical supplies and equipment.
5. **Tailored to Your Needs**: They come in Standard, Intermediate, or Compact height options, and offer a choice of three drawer depths (3", 6", and 10"), catering to the diverse storage needs of healthcare professionals.
6. **Endless Possibilities**: Wide selection of accessories and organisation systems, allowing you to create a truly personalised cart that complements your workflow seamlessly.
7. **Expansive Work Area**: With the option of a slide-out work surface, these carts offer a generous workspace that can adapt to the demands of your tasks.
8. **Ready to Roll**: Delivered fully assembled, requiring no tools for setup, saving valuable time for healthcare teams.
9. **Peace of Mind**: 10-year limited warranty on the structure and 2-year limited warranty on the key locking mechanism, castors, and the drawer runner system.

Convenient Bundles

Recognising the significance of time-saving solutions and the need for ease of purchasing, Alpha Lifecare has curated convenient bundles that combine a medical cart with an accessory package.

Michael mentions, "this approach aligns seamlessly with Alpha Lifecare's commitment to providing holistic solutions for our customers. It goes beyond mere products, emphasising our dedication to supporting customers and providing behind-the-scenes assistance."

Bespoke Solutions for Unique Requirements

If you require a configuration beyond what's offered in the bundles, the good news is you can design your own bespoke cart, "one of the most compelling features of Avalo Medical Carts is their customisability," says Michael.

"Users have the freedom to design carts according to their facility's unique workflow and storage requirements, ensuring seamless integration into daily operations."

Michael further adds that "by including Capsa's Avalo Medical Carts into our range, we are now able to offer our customers a total solution to their cart requirements."

Find out more about Alpha Lifecare's Capsa Avalo Medical Cart Range by downloading their comprehensive brochure visiting bit.ly/ALCapsa.

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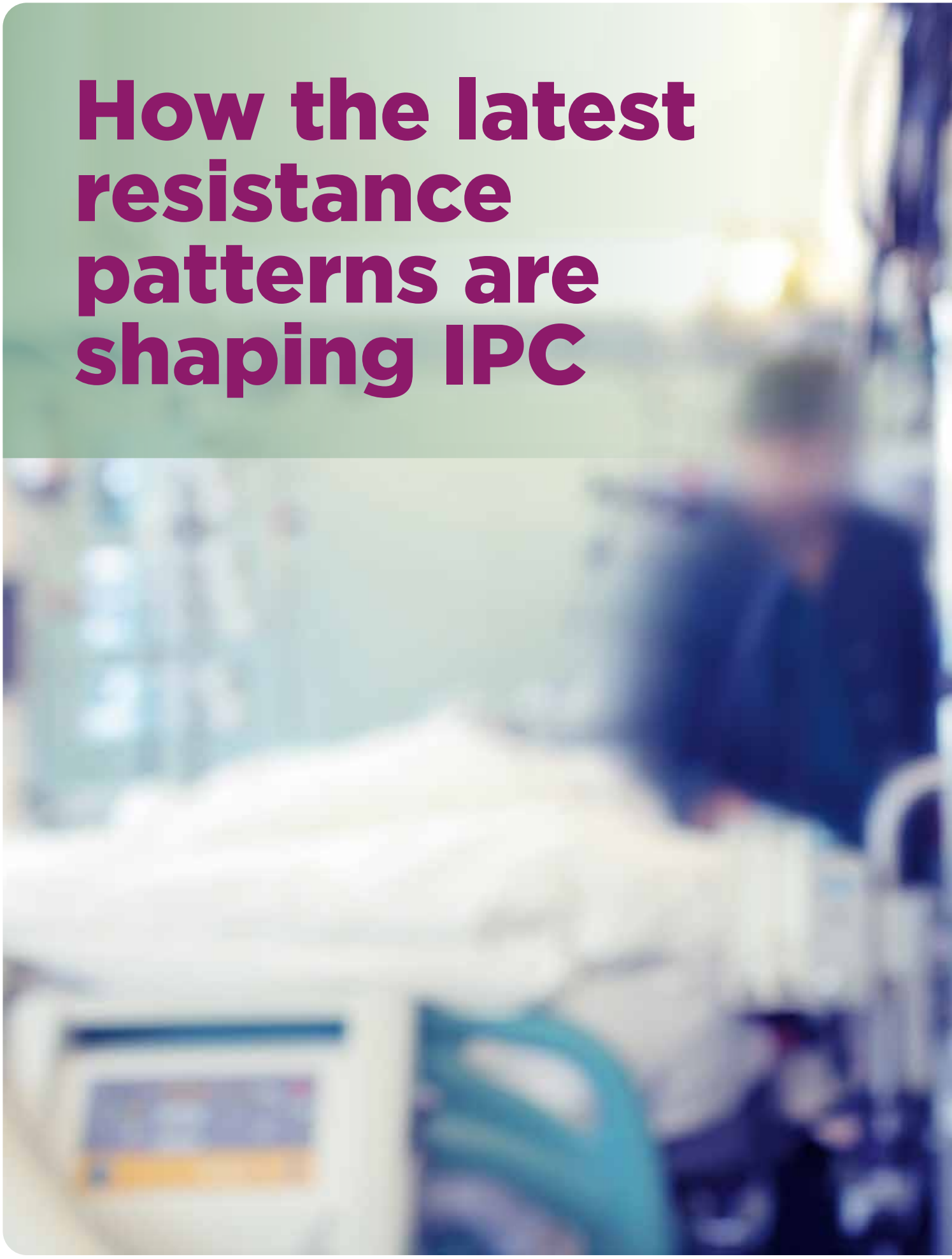
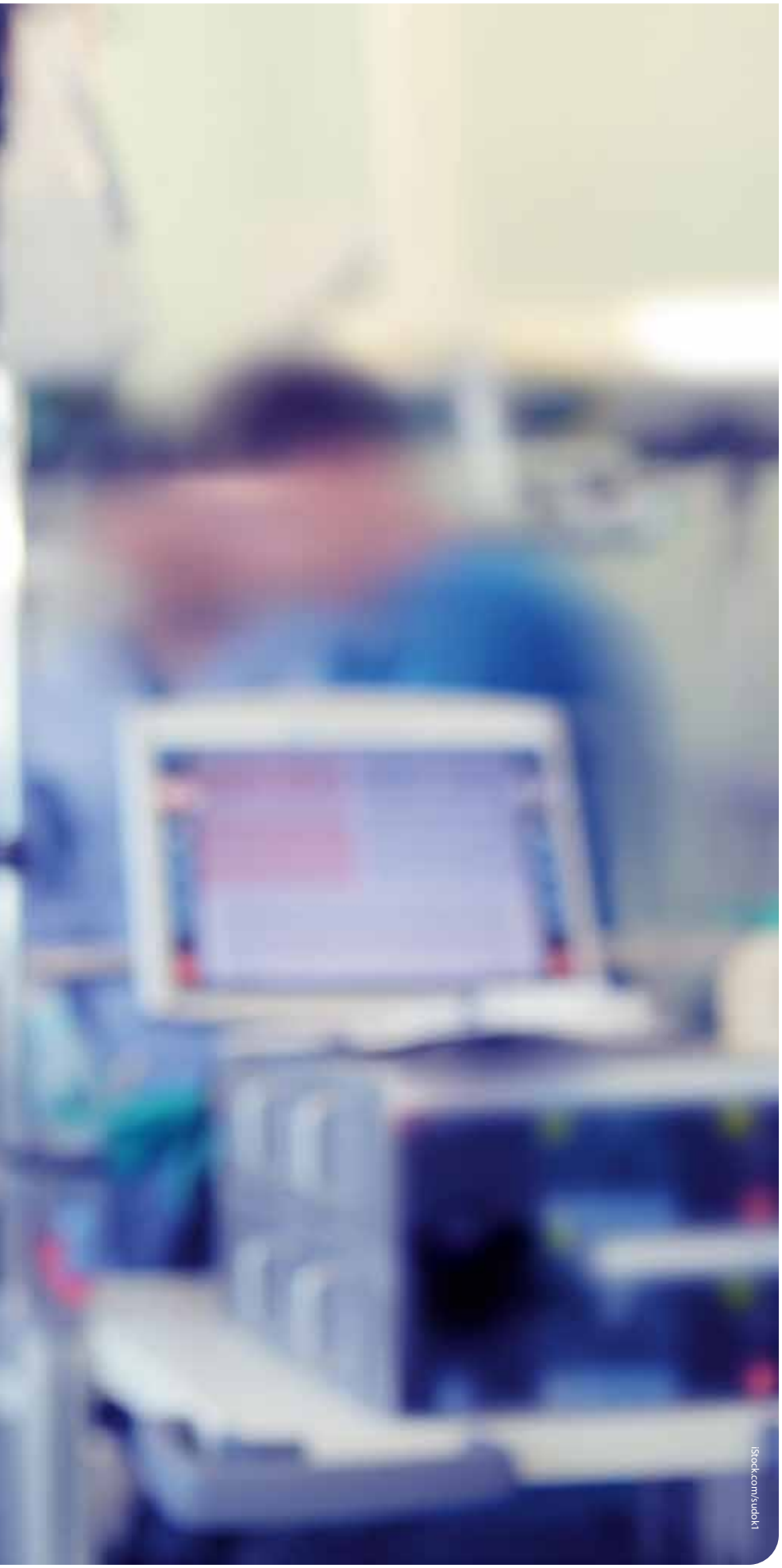
How the latest resistance patterns are shaping IPC





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Professor Peter Collignon AM* and Conjoint Associate Professor Carolyn Hullick** from the Australian Commission on Safety and Quality in Health Care detail why we need to pay attention to the latest trends in antimicrobial use and resistance.

The Australian Commission on Safety and Quality in Health Care (the Commission) released the *First Australian report on antimicrobial use and resistance in human health* in 2016, to monitor trends over time and inform what actions are needed in our health system to prevent the rise of antimicrobial resistance (AMR).

Since then, the AURA reports analysing data from the Antimicrobial Use and Resistance in Australia Surveillance System (AURA), have highlighted the concerning growth in rates of resistance and the magnitude of the impact of AMR in Australia.

There is no question that prevention and control of infections and the spread of resistance is a key pillar of the Australian response to AMR. It is one of the seven priorities for action in *Australia's National Antimicrobial Resistance Strategy – 2020 and beyond*.

Those of us operating within the healthcare system understand that preventing infections is critical because it helps to stop the development of AMR by decreasing the need for treatment of infections.

Infection prevention and control also contributes to improving the sustainability of the health system. Patients who do not get an infection whilst receiving health care have shorter lengths of stay than those who do, and also have less intense healthcare needs.

Antibiotics are an essential component of modern health care as they cure illnesses that were previously untreatable. But using antibiotics is not without risk. Antibiotics kill the good bacteria that keep you healthy as well as those that cause serious infections, and they have side effects such as allergic reactions and diarrhoea.

There is also a growing body of evidence that taking antibiotics can increase the risk of chronic illness for adults and children. Additionally, antibiotic use drives antimicrobial resistance.

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Resistance patterns and infection sources

Released in November, the *Fifth Australian report on antimicrobial use and resistance in human health*, AURA 2023, published by the Commission, highlights priorities for minimising infection and resistance risks.

The report reveals that while national rates of resistance for many organisms have not changed substantially since 2019, there are several concerning variations nationally in rates and patterns of resistance and the sources of infections.

These recent trends in resistance shine a spotlight on important considerations for infection prevention and control, particularly in the hospital environment.

AURA 2023 shows that resistance to carbapenems, one of our most important last line antibiotics, remains uncommon and was found more often in *Enterobacter cloacae* complex than in the much more common pathogens such as *Escherichia coli* or *Klebsiella pneumoniae*.

However, it is concerning that there are increasing rates of carbapenemase-producing *Enterobacterales (CPE)* in hospitals. A useful resource for health services that are managing CPE is the *Recommendations for the control of carbapenemase-producing Enterobacterales (CPE): A guide for acute care health service organisations and local guidance*.

Vancomycin resistance rates in *Enterococcus faecium* (VRE) increased from 2020 to 2021. We must all take steps to optimise VRE prevention and control, to respond effectively to resistance in *E. faecium* in Australia and to preserve antimicrobial treatment options for serious infections with this organism.

Urinary tract infection (UTI) remains the most common origin of bloodstream infections involving *Enterobacterales, Pseudomonas aeruginosa* and *E. faecalis*. For *Enterobacterales*, device-related UTIs remain more common for hospital-onset than community-onset bloodstream infections.

Strategies to reduce infection risk

We need to consistently reinforce standard precautions including hand hygiene, environmental cleaning and aseptic technique to reduce the risk of infections.

Other strategies that can reduce the risk of infections that may require antimicrobial treatment are consideration of ventilation, respiratory etiquette, appropriate face mask use, staying home when you are unwell and being fully vaccinated.

Minimising the use and often unnecessary extended use of invasive devices such as urinary and intravenous catheters will also reduce infections and the need for antibiotics. The Commission has developed the *Management of Peripheral Intravenous Catheters Clinical Care Standard* to assist with minimising this risk for this type of catheter. Device-related bloodstream infections accounted for about 10% of all bloodstream infections reported by the Australian Group on Antimicrobial Resistance.

AURA 2023 also showed that community-onset *Clostridioides difficile* infection (CDI) — which is often a complication following antimicrobial use — is a larger health concern in Australia than was previously recognised.

Hospital separations with a CDI diagnosis increased by 29% from 2020 to 2021. Community-onset CDI accounted for over 80% of hospitals separations with a CDI diagnosis. Promoting early detection and treatment of CDI is important to reduce the risk of it spreading in healthcare settings.

We know that infection prevention and control programs are essential to prevent and minimise the risk of infections — and therefore the need for antibiotics. The National Safety and Quality Health Service Standards and the *Australian Guidelines for the Prevention and Control of Infections in Healthcare* provide the framework for preventing and controlling infections in the health system.

By supporting healthcare professionals to reduce the gaps in infection prevention and control in our hospitals, we will help suppress the spread of these organisms as we fight this immense global health threat.

For more information on AURA 2023 findings, visit safetyandquality.gov.au/aura2023 and see the highlights fact sheet for infection prevention and control.

This article was developed with Kristin Xenos from the Commission's AURA team.

**Professor Peter Collignon AM is Senior Medical Advisor for the Commission and an infectious diseases physician and clinical microbiologist. He is a physician at Canberra Hospital, a Professor at the Australian National University (ANU) Medical School and has a particular interest in antibiotic resistance, infection prevention and control, and hospital acquired infections.*

***Conjoint Associate Professor Carolyn Hullick FACEM is Chief Medical Officer for the Commission and an emergency physician in Newcastle, NSW. She has geriatric leadership roles with the Australasian College and the International Federation for Emergency Medicine and has expertise in geriatric emergency medicine.*

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AI to predict serious health conditions — at speed

A breakthrough in artificial intelligence holds the promise of predicting a person's risk of developing serious health conditions later in life — at the press of a button.

Abdominal aortic calcification (AAC) is a calcification that can build up within the walls of the abdominal aorta; it predicts the risk of developing cardiovascular disease events such as heart attacks and stroke. It also predicts someone's risk of falls, fractures and late-life dementia.

AAC can be detected by the common bone density machine scans used to detect osteoporosis; however, highly trained expert readers are needed to analyse the images in a process that can take 5–15 minutes per image.

Now, a multidisciplinary team of researchers have developed software that can analyse scans much, much faster: roughly 60,000 images in a single day.

Researcher and Heart Foundation Future Leader Fellow Associate Professor Joshua Lewis, from Edith Cowan University's (ECU) School of Medical and Health Sciences, said this significant boost in efficiency will be crucial for the widespread use of AAC in research and helping people avoid developing health problems later in life.

"Since these images and automated scores can be rapidly and easily acquired at the time of bone density testing, this may lead to new approaches in the future for early cardiovascular disease detection and disease monitoring during routine clinical practice," he said.

The software was the result of an international collaboration between ECU, the University of WA, University of Minnesota, Southampton and University of Manitoba, Marcus Institute for Aging Research, and Hebrew SeniorLife Harvard Medical School.

While not the first algorithm developed to assess AAC from these images, the researchers said the study was the largest of its kind, was based on the most commonly used bone density machine models and is the first to be tested in a real-world setting using images taken as part of routine bone density testing.

It saw more than 5000 images analysed by experts and the team's software.

After comparing the results, the expert and software arrived at the same conclusion for the extent of AAC (low, moderate or high) 80% of the time — an impressive figure given this was the first version of the software.

3% of people deemed to have high AAC levels were incorrectly diagnosed as having low levels by the software. Lewis said this was notable, as these were the individuals with the greatest extent of disease and highest risk of fatal and nonfatal cardiovascular events and all-cause mortality.

"Whilst there is still to work to do to improve the software's accuracy compared to human readings, these results are from our version 1.0 algorithm, and we already have improved the results substantially with our more recent versions," he added.

"Automated assessment of the presence and extent of AAC with similar accuracies to imaging specialists provides the possibility of large-scale screening for cardiovascular disease and other conditions — even before someone has any symptoms.

"This will allow people at risk to make the necessary lifestyle changes far earlier and put them in a better place to be healthier in their later years," Lewis concluded.

The Heart Foundation contributed funding for the project, thanks to Lewis's 2019 Future Leadership Fellowship providing support for research over a three-year period.

The findings have been published in *eBioMedicine*.

The Connection Prescription:

The Transformative Power of Social Activities in Aged Care

In a study spanning nearly two decades, researchers unveiled compelling evidence that frequent socialising may significantly extend the lifespan of older individuals. The results, garnered from an extensive longitudinal study, revealed a remarkable delay in time to death — 110% for those who engaged in social activities at least weekly, compared to a less substantial 42% for those who only socialised occasionally.

While acknowledging that other factors may also contribute to life longevity, the data serves as a beacon of encouragement for those dedicated to promoting an active and social lifestyle among the elderly.

"It's encouraging because it's not always easy to get residents participating in activities. They may have limitations with their mobility, they may be introverts, or they may just believe they won't enjoy that day's activity," says TriCare Ashgrove Lifestyle Coordinator, Regalyeda Pearsall.

"But as the data shows, an engaging lifestyle program is just as important as medication management or doctor visits."

To address participation challenges, Regalyeda reveals she employs strategic approaches to engage residents, recognising the substantial benefits to overall health that participation brings.

Simple strategies, such as offering residents roles in managing or setting up activities, empower them to take an active role in their community. Additionally, involving loved ones in activities provides familiar faces, boosting confidence and enhancing the sense of connection for residents.

TriCare, a residential aged care provider, incorporates a variety of social activities into their homes, with programs unique to each residence based on preferences and feedback.

"Each one of our residences have a completely different lifestyle program," explains Pearsall.

"We gauge our residents' interests, and that can be greatly influenced by the cohort's social and cultural backgrounds. But across the board, we find our social events the most popular. The activities where residents get to enjoy each other's company in a relaxed, casual setting."

The importance of staying engaged and finding joy in everyday life for good mental health cannot be overstated. By participating in communal gatherings, celebrations, and sharing stories, residents forge bonds that nourish the spirit and foster a sense of connection.

TriCare incorporates an update on a resident's participation into their communications to family, finding it just as important as sharing clinical updates on their health.

And longevity of life isn't the only benefit of social engagement; a varied lifestyle program can also greatly improve quality of life. Similar studies carried out within ageing populations also noted that frequent social interactions, monthly or weekly, can greatly reduce the risk of dementia or other cognitive impairments.

For the elderly in residential aged care, a sense of belonging is particularly important. Having spent a lifetime maintaining their own home, family, and community, many struggle with the transition.

Creating an atmosphere of belonging through friendships within their new community is not only beneficial, but also, one could argue, essential to their health.

With dementia the second leading cause of death in Australia and an all-too-common illness for those 65 and over, it's important to look at all prevention pathways. Loneliness has been found to increase the risk of developing dementia by as much as 20%. Therefore, the opposite could be said of those with regular opportunities for interaction and even companionship.

Reflecting this awareness, Regalyeda emphasises, "TriCare's lifestyle program is more than just a 'nice-to-have'; it's seamlessly woven into our care program, an essential extension that enhances the overall well-being of our residents."

Let's care together

"My son looked around and found this place and said this is where you want to be mum. Everything's perfect. The place is lovely and everyone that I know that comes here likes it."

- Margaret

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Why disease management should mirror dentistry

Amy Sarcevic

After smoking and obesity, poor diet is the largest contributor to Australia's disease burden, yet it is uncommon for patients to be offered personalised, nutrition-related interventions when seeking health care.

For people with chronic disease management plans, only 1–2% of allied health services include referrals to Accredited Practising Dietitians (APDs); and for pregnant women there are no routine APD referrals.

One side effect of this is that intakes of discretionary (aka 'energy-dense, nutrient-poor') foods are twice that recommended by the Australian Guide to Healthy Eating, contributing half the burden of heart disease. The burden of conditions like bowel cancer, diabetes and stroke would also reduce by up to 25% if healthy eating habits were the default.

Laureate Professor Clare Collins, Director of the Food and Nutrition Research Program at the Hunter Medical Research Institute and the University of Newcastle, would like to see dietary check-ups introduced to our healthcare system in a model that more closely mirrors dentistry.

She believes several key events should trigger a nutrition intervention, particularly early pregnancy and the detection of a chronic disease risk.

"If I was in charge of the health department, I would introduce a Medicare item that would allow people to have dietary check-ups at these key life stages," she told *Hospital + Healthcare*.

"At present, the system only offers this to people who already live with chronic disease — and even then it can be an afterthought.

"Yes, we see dietitians central in management of kidney disease and diabetes, but so many other conditions are falling through the cracks.

"The role nutrition currently plays in disease management pales in comparison to its impact on disease burden."

Surprising findings

Collins believes more work is also needed to ensure medical colleagues are giving evidence-based messages surrounding dietary intake. She says nutrition is an ostensibly complex area, with many of the latest research findings unintuitive.

"It's possible that some of our medical colleagues are contributing to misinformation. Some may not know the answers but are having a crack at giving advice. Then there are those who were trained many years ago, who may not be abreast with the latest guidelines."

Among the most surprising of recent findings is that the under-consumption of legumes, like beans and chickpeas, poses the highest dietary risk factor to chronic disease. The second-highest dietary risk factor is a diet low in wholegrains or fibre.

"These findings are unintuitive — and a challenge to comprehend, particularly amid guidelines for carbohydrate consumption. Yes, people do need to watch their highly processed carb intake, but choosing bread that is so full of wholegrain that it tastes nutty is important. There is great benefit to come from working more closely with allied health teams and medical colleagues on this front."

While nutrition information leaflets can be useful, Collins believes they are only adequate for certain patient groups. She said referring doctors should be skilled at identifying who needs additional nutrition support.

"If someone is really interested in nutrition and appears to be good at finding information, a leaflet might work for them. If someone appears desperate for advice and their HBA1 is off the Richter scale, a referral to an APD is needed. Our medical colleagues will be best placed to judge that."

That said, many doctors may be overestimating their patients' knowledge in the realm of nutrition, Collins argued.

"It is common for people with obesity to be told to go off and lose weight. What we might not realise is that many of these patients have never been given adequate nutrition advice from a suitably qualified professional.

"A large portion of the public is unaware that we have moved on from the nutrition pyramid that was produced decades ago and that nutrition counselling includes support for realistic goal setting and support for change in food behaviours."

Huge potential for improvement

Collins says under-representing nutrition in chronic disease management is doing a disservice to patients, and that a greater emphasis on diet is a missing piece of the disease prevention jigsaw.

"If a miracle were to happen and the entire population were to suddenly start following the current recommended nutrition guidelines, then we would see a 50% reduction in disease burden related to heart disease and 25% drop in diabetes burden."

Collins would also like to see nutrition play a greater role in the management of mental health, given a recent finding that dietary improvements are effective in depression.

"This is a big missed opportunity. If you aren't eating healthily, a poorer sense of wellbeing is the first thing you will feel. You won't feel like you are running on all cylinders. We now know that improving people's diets can dramatically improve wellbeing, and we are under-serving people by withholding this evidence-based advice.

"I hope to see our future healthcare system giving nutrition the attention and funding it deserves," she concluded.

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Enhancing Patient Safety and Interoperability with GS1 Standards and Services

GS1 is a global partner in the healthcare industry that plays a pivotal role in enhancing patient safety and interoperability. As a global leader, GS1 supports organisations throughout the entirety of the clinical supply chain, from global and local manufacturers to healthcare providers. Our standards and services are instrumental in ensuring product identification, managing recalls, and facilitating a clinically integrated supply chain.

GS1 Standards: A Pillar of Patient Safety

At the heart of GS1's contribution to patient safety are Global Trade Item Numbers (GTINs). These unique identifiers ensure the right product is identified and used at the point of care. By digitising this process and integrating it into healthcare technology, the risk of sentinel or never events is drastically reduced. This digitisation not only ensures accurate product identification but also opens opportunities for enhanced patient safety.

GS1 Services: Ensuring Efficient Recall Management

In addition to GTINs, GS1's industry-based Recall Health platform is a service that enables efficient management of medical product recalls. This platform is a critical tool for healthcare providers, ensuring that any product recalls are handled swiftly and effectively, thereby safeguarding patient safety.

Facilitating Interoperability with GS1 Standards

GS1 standards are integral to various business processes in the clinically integrated supply chain. GTINs, Global Location Numbers (GLNs), and Global Service Relation Numbers (GSRNs) are used to identify products, physical locations, organisations, caregivers, and care receivers. The National Product Catalogue, acting as the source of truth for product master data, ensures up-to-date information is available at every point in the process. This interoperability creates opportunities for the right product to be easily located and issued to the right patient, further enhancing patient safety.

GS1 and Unique Device Identification (UDI)

Looking ahead, the TGA's upcoming Australian Unique Device Identification regulations to be introduced in 2024, will revolutionise the identification of medical devices in the clinical supply chain. As a recognised issuing agency, GS1 will play a key role in linking devices to patients for traceability.

Case Study: The Scan4Safety Project

The successful implementation of GS1 standards is evident in the UK's Scan4Safety project. This initiative demonstrates how effectively GS1 standards can be leveraged to enhance patient safety and supply chain efficiency. https://www.gs1uk.org/industries/healthcare

GS1's Role in Tackling Healthcare Challenges

GS1 has made significant strides in addressing challenges in the healthcare sector, particularly in the areas of master data management and preventing product misapplication. The National Product Catalogue serves as a single source of truth, ensuring accurate and reliable product data is always available. Additionally, scanning GTINs at the point of care prevents the wrong product from being applied, further enhancing patient safety.

With the upcoming UDI regulations and the continued use of GS1 standards, the foundation is set for enhanced patient safety, efficiency, and real-time informed decision-making in a complex, clinically integrated supply chain. GS1's commitment to improving patient safety and interoperability is clear, and our role in healthcare will be vital in the years to come.

Learn more about UDI standards in Healthcare https://bit.ly/48aVk1n

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GS1's global standards support improved patient safety, provide data interoperability and drive business efficiency

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Shifting the dial on obesity

Joanna Munro, Director Prevention Systems, Health and Wellbeing Queensland

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Australia's health system is facing unsustainable pressure, with preventable chronic disease a leading contributor to the overall disease burden. In 2021–22, it was estimated that almost half of the Australian population (47%) have one or more chronic conditions[1].

In 2018, 8.4% of the total burden of disease in Australia was due to overweight and obesity, making it the second leading risk factor contributing to disease burden after

>

tobacco use[2]. Additionally, overweight and obesity were attributed to the total burden of disease for:

- type 2 diabetes (55% of burden)
- hypertensive heart disease (51% of burden)
- chronic kidney disease (42% of burden)
- coronary heart disease (28% of burden)
- osteoarthritis (28% of burden)[3].

As the burden of obesity and associated health conditions continues to grow, it places increasing and untenable demand on the health system. Shifting the focus of healthcare service towards improving overall health and wellbeing, alongside treating established illness, is critical to the long-term sustainability of the health system.

Health expenditure is currently spent primarily on the treatment of illness and disease. Investment in prevention needs to be enhanced to achieve a better balance between treatment and prevention in Australia. There is significant division between healthcare sectors limited by fractured funding arrangements, lack of integrative data systems and a siloed approach to service planning.

What is the cause?

The onset and progression of chronic disease results from a complex interplay of factors associated with the determinants of health and requires a systems approach to address. It is imperative to acknowledge that the roots of chronic diseases often take hold in childhood and are further exacerbated by inequities and a multitude of non-medical factors that influence health.

Obesity affects some people more than others. Largely, this is due to unfair systems, barriers and circumstances that make achieving and maintaining a healthy weight especially difficult for some people. These inequities mean that Australians who are most disadvantaged are more likely to be impacted by obesity.

Such inequities are the result of a complex interplay of genetic, biological, environmental and social factors which can create barriers to access healthy foods, physical activity opportunities and healthcare services.

For example, for Aboriginal and Torres Strait Islander peoples and some refugee populations, the impacts of intergenerational trauma related to colonisation and forced displacement have significantly impacted health, wellbeing and weight[4].

What is the solution?

The solution is clinical prevention focused on identifying key prevention opportunities within the health and support systems to promote good health and timely and appropriate detection and early intervention of chronic disease. Clinical prevention takes a health and support system approach to health by facilitating care pathways to relevant community support services to address the underlying determinants of health and support healthy behaviours.

Clinical prevention is a holistic and systems approach to prevention reflecting the interdependence of stakeholders to effectively enable health and wellbeing.

The health system alone cannot prevent chronic diseases on a population level; however, it plays a critical role in connecting and collaborating with the social system to address the broader health determinants that contribute to poor health. Traditionally prevention services and programs receive inconsistent funding and are delivered by a range of health and social care providers, resulting in disparate and siloed approaches. To maximise impact and ensure continuity of care, a coordinated approach to preventative health care is imperative.

Every day, thousands of Australians connect with the healthcare system. Health professionals are well placed to discuss healthy behaviour changes with their patients and identify those at risk of unhealthy behaviours. Every connection is an opportunity to refer their patients to appropriate prevention programs and support.

A coordinated, integrated approach to health care is needed to deliver the right care, in the right setting at the right time; responsive to consumer needs informed by evidence. An approach that bridges the jurisdictional and healthcare sector divide to healthcare planning and delivery is required to leverage sector strengths and reduce service duplication.

What happens if we don't act?

Australia faces significant consequences if it fails to address the escalating challenges posed by obesity and chronic diseases. If we don't change the systems that hold obesity in place by changing policies, practices, networks and mindsets, the impact on the health system, workforce, economy and climate will be profound.

A lack of healthy, accessible and inclusive services and environments will mean Australians will not feel empowered or skilled to adopt healthy behaviours and maintain a healthy weight contributing to more Australians' health and wellbeing impacted by overweight and obesity.

If we neglect to tackle the underlying factors driving chronic disease, the environmental consequences will become increasingly evident. Recognising the interconnectedness between the drivers of chronic diseases and environmental impact emphasises the importance of addressing these root causes for a more sustainable and environmentally friendly future.

Investment in prevention needs to be enhanced to achieve a better balance between treatment and prevention in Australia.

Creating positive change requires comprehensive, collective and sustained action across multiple sectors to address the wider determinants of health. All parts of our community have a role to play in addressing obesity in Australia.

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Sustainable IPC solutions in healthcare: Balancing efficacy, economy, and environmental responsibility

Suzie Hammouche, CEO, GAMA Healthcare

Tackling the issue of sustainability in healthcare

In today's world, where environmental challenges loom large, the healthcare industry stands at a critical juncture. The use of consumables combined with the need to prevent infections in healthcare facilities has led to a surge in the use of infection prevention and control (IPC) products. However, there is a growing concern about the environmental impact of these indispensable measures.

IPC measures remain necessary in healthcare settings, where it saves and improves lives. Yet, as we endeavour to safeguard patients, aged care residents, healthcare workers and the community, striking a balance between efficacy, economic viability, and environmental responsibility is vital.

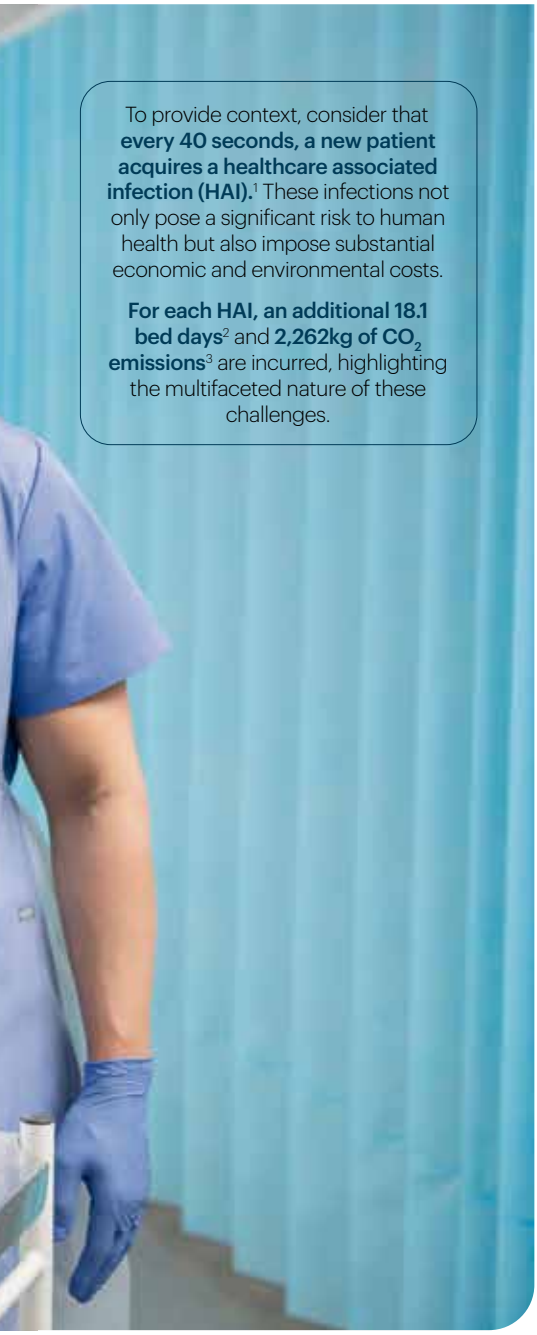
Achieving sustainability in business relies on a delicate balance between these three pillars:

- **Economic:** This involves the efficient and responsible utilisation of resources, ultimately leading to long-term profitability and business viability
- **Environmental:** The focus is on reducing waste, minimising carbon footprints, and maximising energy efficiency, all of which contribute to mitigating negative environmental impacts such as pollution and global warming
- **Social:** Initiatives related to employee safety, wellness, diversity, inclusion and equal access to healthcare play a pivotal role in creating healthier communities that can sustain themselves, aligning with the social dimension of sustainability

The shift towards sustainable disinfection

Chlorine-based disinfectants are often used in healthcare, which have raised environmental concerns due to the generation of harmful ecotoxic by-products (Parveen et al. 2022).[4] The adverse effects of these disinfectants have been extensively documented; dating back to 1999, where the **EPA recognised all forms of chlorine as highly corrosive and toxic.**[5]

Specifically, Parveen et al. (2022) found that **chlorine-based disinfectants have a detrimental impact on both human health and the environment.** These negative effects encompass respiratory problems, contamination of wastewater, disruption of soil and aquatic ecosystems, and bioaccumulation within the food chain. Consequently, the healthcare industry is increasingly exploring



To provide context, consider that **every 40 seconds, a new patient acquires a healthcare associated infection (HAI).**[1] These infections not only pose a significant risk to human health but also impose substantial economic and environmental costs.

For each HAI, an additional 18.1 bed days[2] and **2,262kg of CO_2 emissions**[3] are incurred, highlighting the multifaceted nature of these challenges.

environmentally sustainable alternatives such as those that breakdown to nonharmful by-products like peracetic acid.[4]

Balancing efficacy and environmental responsibility

Healthcare facilities encounter substantial challenges in striking the right balance between effective disinfection and environmental considerations. When evaluating a disinfectant wipe, it is essential to look at the organisms the wipe is effective against and the contact time.

The wipe should be effective against clinically relevant organisms found in the healthcare environment, such as MRSA, VRE, CRE and Norovirus, but it is important to ensure these claims have been approved by the TGA. TGA-approved claims are likely to be stated on the ARTG certificate and ensure the quality of the test method and the laboratory used.

It is also essential to assess the contact time used in the test method. Many disinfectant efficacy tests have a standard contact time of 60 minutes. For this to replicate real use, the surface would need to stay wet for 60 minutes, but a surface dries in minutes.

Efficacy tests should be evaluated to ensure:

- Testing has been conducted at **ISO 17025** or **GMP-accredited laboratories**
- Test methodologies utilise **realistic contact times** — shorter than it takes for the surface to dry
- Tests are **conducted in dirty conditions**; TGA requires disinfectants tested in clean conditions to have the surface cleaned prior to disinfecting
- Tests are **conducted using the liquid that is extracted from the wipes**
- A **standardised test method** is used, such as an EN, ASTM or TGO 54 method

It is also important to understand that when cleaning and disinfecting, the technique used is crucial to ensure the removal and killing of bioburden and harmful microorganisms.

Navigating regulatory and industry initiatives

Government regulations and industry initiatives play a pivotal role in promoting sustainable disinfection practices. In late 2023, the Australian Government introduced the National Health and Climate Strategy, which outlines key priorities aimed at guiding efforts to reduce greenhouse gas emissions within the Australian health system.[6]

Cost-benefit analysis of sustainability

The shift towards sustainable disinfection practices in healthcare facilities can bring about unexpected cost benefits while simultaneously reducing the carbon footprint linked to HAIs. For example, when contemplating the adoption of biodegradable detergent-and-disinfectant wipes, it's essential to examine factors like surface area coverage per wipe and coverage per pack. This analysis will help provide valuable insights into the economic feasibility of making the transition.

The future of sustainable disinfection

The escalating global awareness of economic, environmental, and social concerns in healthcare is likely to drive an increasing demand for sustainable practices in healthcare, pushing the industry towards continued improvement in this vital area of healthcare operations. Based on this, the outlook suggests that healthcare can play a pivotal role in reducing its environmental footprint, enhancing economic viability, and maintaining the highest standards of care, safety, and social well-being.

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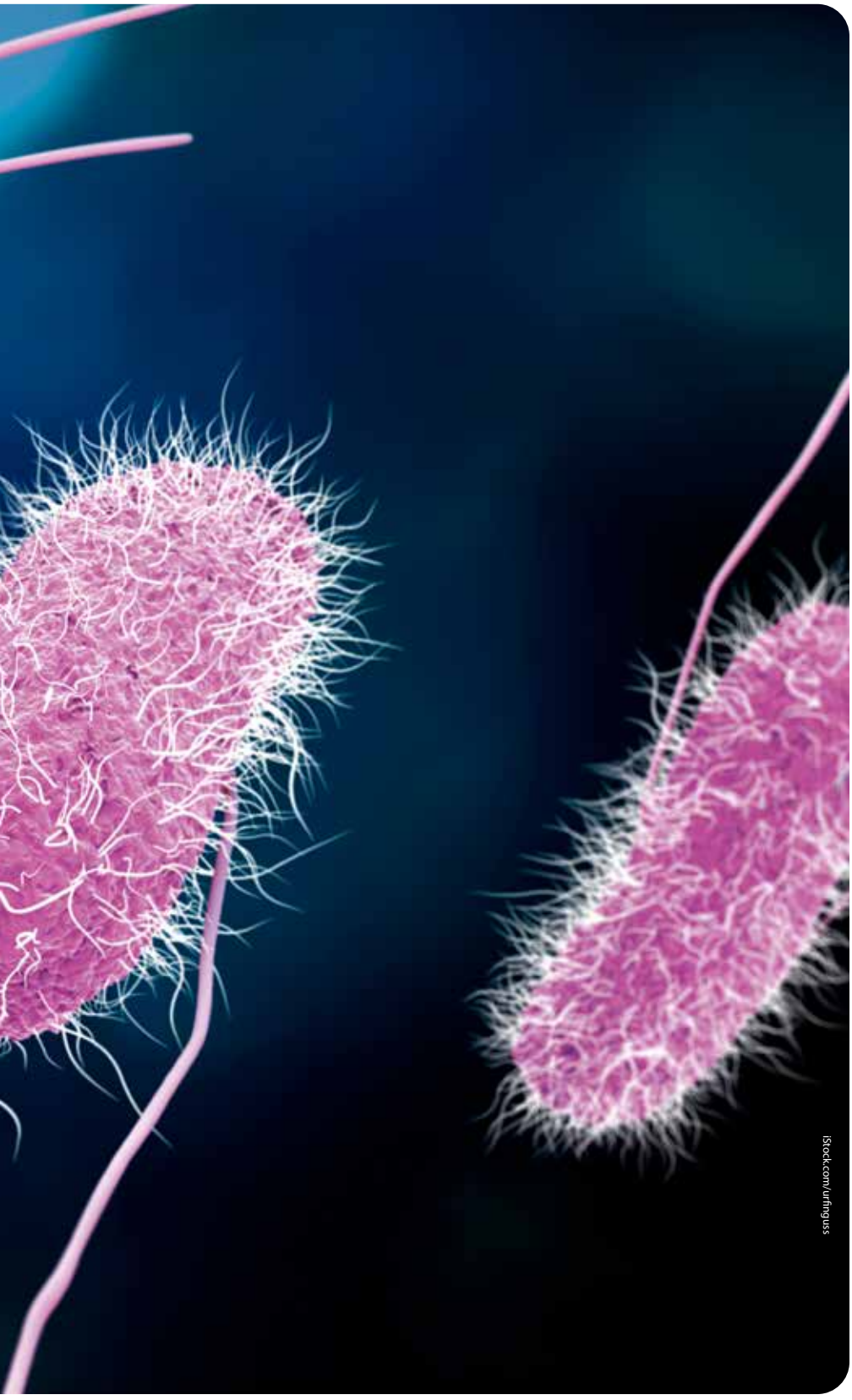
A new weapon against *C. diff* bacteria



In a phase-one human clinical trial, a US pharmacist researcher has demonstrated that a newer generation tetracycline antibiotic, called Omadacycline, may be a promising tool in combating the resilient bacteria *Clostridioides difficile* (*C. diff*), which causes an infection often picked up in hospitals. The bacteria brings on diarrhoea and colitis, an inflammation of the colon.

Clostridioides difficile infection (CDI) diagnosis in Australian public hospitals has increased year on year since 2014, according to the Australian Commission on Safety and Quality in Health Care. In 2014, the average number of all CDI diagnoses was 518 cases per month and the average number of CDI diagnoses went up to 677 cases per month in 2019.

The fight against *C. diff* takes its toll internally, including a significant disruption of gut microbiota, usually by broad-spectrum antibiotics, leading to loss of colonisation resistance to *C. difficile*. Omadacycline demonstrated a low likelihood of causing *C. diff* in clinical trials, but no one understood why.

Kevin Garey, Robert L. Boblitt Endowed Professor of Drug Discovery at the UH College of Pharmacy, assessed the pharmacokinetics and gut microbiome effects of oral Omadacycline in comparison to Vancomycin, another possible *C. diff* drug.

Vancomycin is used to treat *C. diff* but is said to be not good at eliminating it over the long term. Garey's team investigated whether Omadacycline, given orally, achieves high concentration in the gut and the effect on the gut microbiome, the healthy bacteria that live in the colon.

"Our research shows off the coolness of the microbiome. Omadacycline caused a distinctly different effect on the microbiome than Vancomycin. This could explain why Omadacycline is a safe drug to give to patients at high risk for *C. diff* infection. This could become a new method in drug development to see if antibiotics are not only killing the bacteria causing infections (the bad bugs) but not causing harm to the beneficial microbes that live in our body (the good bugs)," said Garey, whose results were published in *The Journal of Infectious Diseases*. "I would hope that this becomes a normal part of the antibiotic drug development process."

In the study, 16 healthy volunteers tolerated Omadacycline with no safety differences compared to the other antibiotic. A rapid initial increase in faecal concentration of Omadacycline was observed compared to Vancomycin, with maximum concentrations achieved within 48 hours. Rapid increase is a good thing — it means the active drug is getting to the site of the infection faster.

"Both the Omadacycline and Vancomycin groups showed significant changes in their microbiomes when we looked at how diverse they were internally (alpha diversity). However, when we compared the changes between the two groups (beta diversity), they were noticeably different from each other," Garey reported.

Garey's team includes Jinhee Jo, assistant professor, University of Houston College of Pharmacy; and Blake M Hanson and Hossaena Ayele, The University of Texas Health Science Center at Houston School of Public Health.

Cosmetic surgery standards

to mitigate safety, quality risks

The new set of standards for cosmetic surgery, released by the Australian Commission on Safety and Quality in Health Care as a part or broader sector reforms, aims to mitigate safety and quality risks specific to the industry and reduce the chance of patient harm.

The National Safety and Quality Cosmetic Surgery Standards (Cosmetic Surgery Standards) emphasise the importance of informed decision-making by patients — including understanding the risks of surgery and possible complications — and assessing patient suitability.

The new standards bring the cosmetic surgery industry into line with all other day procedure services nationwide. The Commission anticipates most services will be accredited to the new standards by 2025.

The Australian Health Practitioner Regulation Agency (Ahpra) and the Medical Board of Australia are also implementing important changes that are aligned with the standards.

These safety and quality standards will be mandated for every service where cosmetic surgery is performed, including small day procedure clinics through to large health organisations.

Cosmetic surgery industry revenue has grown over the past five years to reach an estimated $1.4 billion in 2023. Of this, an estimated $473 million (34%) is spent on cosmetic surgical procedures, while almost half (47%) is on cosmetic non-surgical procedures, and the balance is on reconstructive surgical procedures. An increase in the number of procedures represents an increased number of people at risk.

Reducing the risk of harm

Clinical Director for the Commission Associate Professor Liz Marles said the standards provide a clear framework for all facilities offering cosmetic surgery in Australia.

"The introduction of Cosmetic Surgery Standards is a critical turning point for the sector. These standards build on sector-wide reforms and will help to address patient safety concerns, and reduce the chance of people being harmed," she said.

"Whenever surgery is performed, there are inherent risks that medical practitioners must carefully consider with their patients. To keep people safe, services that perform cosmetic surgery procedures must assess the individual needs and circumstances of the patient.

"Before performing any cosmetic surgery, services will now need a referral to ensure a person is suitable for surgery, which will include a general health and psychological assessment.

"If proceeding, services must ensure their patient understands the risks and has provided informed consent, that the clinicians are appropriately qualified and that there is post-operative guidance for the patient after a procedure," Marles said.

"By bringing rigour to the cosmetic surgery sector with these tailored standards, Australians will gain confidence that when they visit a cosmetic surgery service accredited to the standards, they are receiving safe and high-quality care — no matter where they access the service."

Marles said, "Anyone undergoing an invasive surgical procedure should be able to expect that the treatment they receive is safe, appropriate and respectful. By implementing these standards, cosmetic surgery services will be able to demonstrate the scrupulous care of their patients.

"There are too many cases where cosmetic surgery procedures have had poor or tragic outcomes for vulnerable people who were unaware of the risks. These standards are a powerful lever for change."

Gold standard clinical practice

Specialist plastic surgeon Dr Garry Buckland, a Director of the Australasian Foundation for Plastic Surgery, said the standards provide a framework for "gold standard clinical practice in a field that has lacked direction for too long".

"The Cosmetic Surgery Standards will benefit people choosing to have cosmetic surgery in an accredited facility as they will be able to distinguish a good-quality practice from a poor-quality practice," he said.

"The reputation of cosmetic surgery and the integrity of those who practise it has reached an all-time low. These standards, combined with reforms from Ahpra and the Medical Board of Australia, are necessary to restore patient and community confidence in cosmetic surgery and the medical practitioners who provide these services.

"Compliance to the Cosmetic Surgery Standards is a win-win for patients, practitioners and the broader community. Facilities that prioritise patient safety will be keen to implement these standards as soon as practicable, so we should see a positive impact on the industry very quickly."

Buckland added: "It is important that people who choose to have cosmetic surgery can trust that the services and medical practitioners they use are accountable, qualified and will provide safe care.

"In a field that has lacked regulatory rigour, patients can be reassured by these standards that they will be able to receive the best possible care, in a safe environment, by trained medical professionals."

Transforming on-premise laundry with venturi-powered dosing

It's no secret that on-premise laundries within healthcare facilities such as hospitals and care homes have a need for high-precision detergent dosing systems capable of handling heavy load demand.

A major name in this field is global chemical dosing expert SEKO, which has been active in the sector for decades with a comprehensive portfolio of cutting-edge on-premise laundry systems ranging from single-pump units to multi-machine solutions.

Until now, SEKO's laundry systems have been built with traditional pumps such as peristaltic, solenoid and pneumatic devices. Now, the company has once again pushed the envelope on chemical dosing with the introduction of LS100 — its first venturi-powered laundry system.

A venturi is a device that uses water pressure to control chemical dosing and therefore contains no moving parts. For LS100 users, this means less wear compared to mechanical systems and hundreds of thousands of doses before they even need to consider venturi cartridge replacement.

Meanwhile, LS100 doses up to 10 chemicals — from detergent and fabric softener to additives — in as many as four washers, making it perfect for on-premise laundries of every size. It's modular, too, so operators can easily add additional units to their original system as demand increases and their laundry grows.

LS100 can be operated via the newly launched SekoBlue app, which uses Bluetooth connectivity for remote dosing management and data on demand rather than relying on internet connection as is the case with Wi-Fi-embedded systems.

This feature makes LS100 ideal for sites that limit or block access to Wi-Fi — a common challenge faced within the healthcare sector and especially in hospital settings where security is high.

SekoBlue offers operators a portal from which they can access live and historical data on wash cycle status, chemical consumption and equipment performance via their smart device, PC or laptop.

With vital information such as cost per kilo of laundry at their fingertips, managers can gain a detailed understanding of the true cost of their operation and identify and reduce chemical and water wastage as part of a sustainable operation.

Meanwhile, SekoBlue provides access to downloadable manuals, intelligent auto-tuning sensors and online step-by-step technical support which can facilitate installation, setup and commissioning and reduce associated time and costs.

Having documents available in digital form is not only convenient but, because they can be revised and reuploaded remotely, also ensures that engineers and end users always have access to the latest versions which can prevent errors and save time during installation and operation.

LS100's user-focused design includes an intuitive 4.5" touchscreen display plus an ergonomic colour-coded formula selector, making the system accessible for every user — essential when staff turnover is high and new recruits must learn on the job.

As intelligent pump equipment is increasingly specified for on-premise laundry machines within hospitals, care homes and other healthcare sites, SEKO's dedicated systems such as LS100 provide discerning operators with the ability to save time, reduce spending and take command of their processes.

A leap forward

A new multi-million dollar imagng facility hopes to transform patient care and drive advancements in cancer studies, neurological disorders, cardiovascular disease and drug development, as well as reduce scanning time and radiation doses.

The Australian National Total Body PET Facility — a collaborative venture between the University of Sydney, the National Imaging Facility (NIF) and Northern Sydney Local Health District — has officially opened a new AU$15 million medical imaging facility.

Delivering the first Total Body Positron Emission Tomography (TB-PET) scanner for Australia-wide open access research, as well as clinical use, the facility at Royal North Shore Hospital, the Siemens Biograph Vision Quadra device is said to enable comprehensive whole-body imaging in a single scan, reducing radiation exposure and cutting down scanning time from 20 minutes to as little as three, all while delivering higher-quality images.

The ability to scan all tissues and organs simultaneously offers insights into whole-body physiology and interactions between organs that no other clinical imaging technology can provide. It presents research opportunities across a wide range of medical applications, such as oncology, neuroscience, cardiology, infectious diseases and drug discovery — including exploring complex human biology and the way multiple organs interact, such as the brain–gut axis.

The facility claims to be Australia's most sensitive PET scanner dedicated to research, and will be a critical tool for clinical trials and industry collaborations. The ability to image the entire human body allows researchers to observe drug absorption, accumulation and elimination processes in all organs simultaneously.

Reduced radiation and scanning times expand PET imaging options for vulnerable groups such as children in impactful research and clinical studies. This also encourages the participation of healthy individuals in clinical trials and enables repeated scanning of patients to better understand disease progression and treatment effects, broadening medical research insights.

"The collaboration between the University of Sydney, the National Imaging Facility and Northern Sydney Local Health District demonstrates the power of partnerships in driving innovation," said Professor Mark Scott, Vice-Chancellor and President of the University of Sydney.

"This facility shows what can be achieved when leading institutions join forces to advance healthcare and research capabilities. We are not only improving the health of patients today, but

The ability to image the entire human body allows researchers to observe drug absorption, accumulation and elimination processes in all organs simultaneously.

also utilising this technology to fast-track new discoveries for the future."

One such study is examining how the molecule oxytocin impacts the brain and body when delivered to humans. Oxytocin is one of the most important natural chemicals in the brain that guides social behaviour. When administered, research shows it can improve social understanding and may have benefits to support people with schizophrenia and autism. However, it is a mystery about where oxytocin is absorbed and the circuits it impacts in the brain and body to cause its effects in humans.

Using the TB PET Scanner, a team led by the University of Sydney's Professor Adam Guastella will observe in real-time the brain and body circuits impacted by oxytocin after its delivery intranasally or by intravenous injection. This has the potential to change fundamental knowledge of the biology of human social behaviour and could lead to a range of new therapies.

The new facility forms part of Sydney Imaging, the University of Sydney's Core Research Facility for biomedical imaging. As a nationally significant research platform, it is also a flagship of the National Imaging Facility (NIF), through the Australian Government Department of Education's National Collaborative Research Infrastructure Strategy (NCRIS).

Governing Board Chair of the National Imaging Facility Professor Margaret Harding said the NIF's investment of $8m in the Australian National Total Body PET Facility was its largest to date, and represented Australia's largest single investment in molecular imaging, underpinning research that is of high priority in reducing Australia's burden of disease.

"The facility is a unique national asset which will revolutionise Australia's capacity to attract and support research and industry undertaking clinical trials for the development of new pharmaceuticals and medical products to improve health outcomes for Australia," Harding said.

The Australian National Total Body PET Facility will operate under an equal time-share arrangement between clinical use and research, ensuring five-day-per-week open access for all researchers throughout Australia.

Speaking to patient benefits, Chief Executive of the Northern Sydney Local Health District, Adjunct Professor Anthony Schembri, said: "Royal North Shore Hospital and Northern Sydney Local Health District have a proud history of delivering world-class imaging and care to improve patient outcomes.

"We are extremely honoured to be hosting this Australian-first where patients can receive world-class care, and researchers can use the scanner for clinical research which may translate into improving patient care in the future."

The University's contribution to the new facility is underpinned by a bequest made by William Chapman, who left the majority of his estate as a gift dedicated to cancer research at the University of Sydney. His legacy is set to have an enormous impact on cancer research and on the survival and quality of life of patients.

The University of Sydney's Professor Emma Johnston, Deputy Vice-Chancellor (Research), said: "The combined clinical and research arrangements for this amazing medical imaging technology and its location in a bustling hub of activity at Royal North Shore Hospital will foster collaboration among researchers, healthcare providers, policymakers and industry leaders to fast-track innovation in research translation."

The University of Sydney.

O_2matic PRO: automated closed-loop oxygen therapy

The O_2matic 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[1,2].

The O_2matic 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_2) as measured by pulse oximetry. The O_2matic PRO controls the dose of oxygen administered to the patient to maintain the SpO_2 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_2matic 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[1]. It shows that the O_2matic 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[1]. Another study conducted on admitted patients of the 2020 global pandemic demonstrated similar results. Using the O_2matic PRO, medical staff were able to maintain patient oxygen saturation within the prescribed bracket 83% of the time[2].

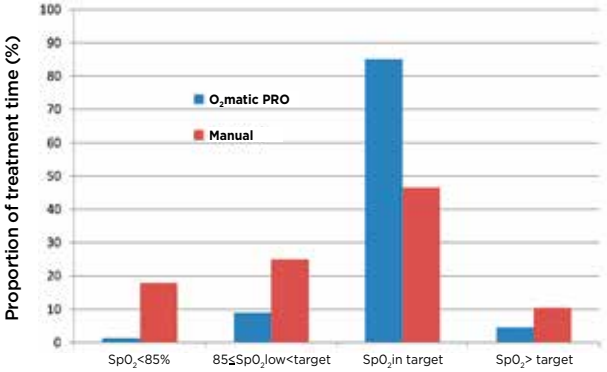
Key benefits of closed-loop oxygen therapy:

- Improving patients' time within the target SpO_2 levels[1,2] hence reducing mortality rates[3].
- Reducing oxygen consumption by up to 50% [4].
- Faster weaning from oxygen and reducing length of stay [5].
- Reduction in costs of care [6] 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.

The O_2matic PRO device easily connects to existing oxygen wall outlets or oxygen cylinders.

Patient arterial oxygen saturation levels during oxygen treatment



The O_2matic 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[1].

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Providing better access and more choice for cancer care

Cancer patients undergoing treatment on Brisbane's northside are set to benefit from a new, multimillion-dollar onsite radiation therapy service.

Located onsite at St Vincent's Private Hospital Northside (at Chermside), the new service will provide a fully integrated end-to-end cancer service, eliminating the need for patients to travel away from the hospital campus for radiation therapy.

The service by St Vincent's and Icon Cancer Centre (Icon) features an experienced team of radiation oncologists, radiation therapists, nurses and support staff. The centre will deliver care using the latest in radiation therapy technology and techniques.

St Vincent's Private Hospital Northside CEO Oli Steele said, "Increasingly for cancer patients, it's not just one modality of treatment — like surgery, chemotherapy or radiation. It's usually a combination of therapies."

"Around 50% of all patients diagnosed with cancer require radiation oncology treatment and, to date, those needing that treatment haven't been able to be treated here at St Vincent's Northside.

18,000 treatments a year

Icon Group CEO Mark Middleton said his team would partner with St Vincent's to provide the latest in radiation therapy treatment including Varian's HyperArc — the latest treatment for advanced brain cancer, and IDENTIFY technology — Surface Guided Radiation Therapy (SGRT), tattoo-free advanced radiation therapy.

"The centre will be equipped with a Varian TrueBeam linear accelerator, the latest in radiation therapy technology with the capacity to deliver 18,000 radiation therapy treatments annually, including the latest techniques to treat a wide range of cancers for Brisbane's inner north," Middleton said.

Patient-focused, clinical collaboration

Dr Rick Abraham, a medical oncologist at St Vincent's Northside and with Icon, said establishing an onsite radiation facility was a vital part of providing better choice and access for patients.

"Many patients going through chemotherapy are quite unwell and with those patients that also require radiation treatment it's extremely beneficial to provide onsite, integrated cancer care," Abraham said.

From L to R - Dr Michelle Grogan (Radiation Oncologist); Nadine Gowen (St Vincent's Executive Manager); Mark Middleton OAM (Icon Group CEO); Oli Steele (St Vincent's Private Hospital Northside CEO); Dr Rick Abraham (Medical Oncologist); Ross Koscharsky (Icon Group Global Director); A/Prof Jim Jackson and Dr Minjae Lah (Radiation Oncologists).

"We can now offer something that's special through this partnership with a great multidisciplinary team, great facilities and strong collaboration. I'm confident we can build a service that's going to make a difference to patients on Brisbane's northside."

Radiation therapy is a highly targeted, safe and effective treatment used to treat a wide range of cancers including, but not limited to, breast, prostate, skin, lung and brain cancer and is often used in combination with other treatments, like chemotherapy. Radiation therapy treatment is usually given in daily intervals over several weeks with every course unique to each patient's condition.

Subject to regulatory approvals, the new radiation therapy service is expected to be up and running at St Vincent's Private Hospital Northside by late 2024.

Improving care for people with cancer cachexia

Vanessa Vaughan*

Cancer cachexia affects 50–80% of people, but the condition often goes unrecognised, leaving patients and even healthcare providers grappling with its elusive nature.

Often confused or conflated with the side effects of treatments such as chemotherapy, cachexia is usually associated with unintentional weight loss, loss of muscle strength and fatigue.

Reduced appetite, changes to taste, and nausea are also common symptoms.

Unlike starvation, where feeding more calories leads to weight regain, cancer cachexia is a complex web of factors — including inflammation, changes in the way the body produces or maintains energy, and the body's response to the presence of cancer cells — all of which contribute to muscle breakdown.

This complexity has made finding treatments difficult, with no 'silver bullet' in the form of a single medication. The silent progression of cachexia can be particularly insidious, reducing the effectiveness of anti-cancer treatment and the overall wellbeing and quality of life of people with cancer.

Recognising cachexia as a separate condition allows healthcare professionals to tailor interventions that aim not just to treat the cancer but also to mitigate the debilitating effects of cachexia on a person's overall health.

While a definitive cure remains elusive, effective management strategies can significantly reduce its impact and improve patient wellbeing.

A multidisciplinary approach is proving to be a crucial component in addressing this multifaceted condition. It involves healthcare professionals such as palliative care specialists, oncologists, nurses, dietitians, physiotherapists and mental health specialists, as well as patients themselves,

The approach usually includes four main elements:

Nutritional support

Ensuring adequate nutritional intake is a cornerstone of managing cancer cachexia.

Dietitians may work closely with patients to tailor nutrition plans that not only meet their caloric needs but also address the specific nutritional challenges posed by cancer and its treatments.

Often this includes high-protein and high-calorie food. Nutritional supplements may be recommended to bridge nutritional gaps and support overall wellbeing.

Exercise programs

Physical activity has shown promise in countering muscle wasting and improving overall strength and functionality, and providing a sense of regaining control.

Tailored exercise programs developed with a physiotherapist or exercise physiologist can be adapted to a patient's capabilities and can contribute significantly to the management of cancer cachexia.

Pharmacological interventions

Several drugs are being investigated for their potential in mitigating cancer cachexia, though their wide use has not yet been approved in any country except Japan.

These include appetite stimulants, anti-inflammatory agents and drugs targeting specific pathways involved in muscle wasting.

Rather than curing cachexia, the focus of these drugs is more often on controlling symptoms such as nausea, lack of appetite and pain. While no single medication has emerged as a definitive solution, ongoing research holds promise for future breakthroughs.

Psychosocial support

Mental health and wellbeing play a vital role in managing cancer cachexia, both for patients and those who care for them.

Doctors, nurses and mental health professionals assist patients in coping with the emotional toll of their condition, addressing anxiety, depression and the psychological impact of significant weight loss.

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They may also help families and loved ones with the stress and conflict that may come up during this time. This holistic approach recognises that managing cachexia extends beyond the physical realm, encompassing mental and emotional wellbeing.

Research has underscored the benefits of adopting a multidisciplinary and shared decision-making approach in tackling cancer cachexia. A collaborative effort ensures that healthcare professionals pool their expertise to tailor interventions to each patient's unique needs.

Shared decision-making involves patients actively participating in their care, providing them with a sense of agency and encouraging them to take control of their treatment plans. The benefits of taking a multidisciplinary and shared decision-making approach extend beyond mere symptom management.

Studies have indicated that such collaborative efforts result in improved treatment tolerance, reduced hospitalisation rates and an overall enhancement in the patient's ability to withstand the challenges of cancer therapies.

Studies show that patients engaged in shared decision-making processes are more likely to stick with nutritional and exercise recommendations, leading to improved outcomes.

Moreover, a collaborative approach enables early identification of cachexia, allowing for timely intervention and a more effective management strategy.

Future research endeavours must focus not only on unravelling the intricate mechanisms underlying cachexia development, such as identifying biomarkers and therapeutic targets, but also on ways to make supportive cancer care accessible for people with cancer.

Clinical trials exploring novel interventions, such as pharmacological agents and targeted therapies, are vital for expanding the toolbox for cachexia management.

Large-scale community-based studies can provide valuable insights into the prevalence and risk factors associated with cachexia, guiding the development of preventive strategies.

The future of cachexia research hinges on collaborative efforts between clinicians, researchers, patients and the broader community.

Increasing awareness, fostering a commitment to continued research and advocating for shared decision-making will contribute to more effective interventions.

By empowering patients to actively participate in their care, the gap between scientific knowledge and the human experience can be bridged, ultimately improving the lives of those affected by cancer and cachexia.

*Dr Vanessa Vaughan is Sub-Dean for Global Medicine at the University of Western Australia. Their research focuses on the way that people interact with and experience health services, particularly improving outcomes for people with cancer cachexia by applying evidence-based interventions in person-centred care.

Australian Healthcare Week 2024

What:
AHW 2024

When:
March 20-21, 2024

Where:
ICC Sydney, Darling Harbour, Sydney

With more than 150 leading health sector speakers, over 100 sessions and two deep-dive master classes, the Australian Healthcare Week 2024 (AHW 2024) has something for everyone.

To be held from 20–21 March at the ICC Sydney, Darling Harbour, the event will feature seven free-to-attend stages: Healthcare 2040; Digital Healthcare; Healthcare Transformation; Patient Experience; Nursing and Midwifery; AI in Healthcare; and Startups.

Interoperability, integrated care models, the scaling of digital health solutions, funding models and workforce dynamics are some of the key topics to be discussed at the AHW's 2024 edition aimed at uniting the health and aged care system through the theme of "Creating A Design Driven Healthcare System".

This year, AHW will host three international headline speakers from USA and UK to help attendees learn about strategies and methodologies that are helping drive the patient-centred, digital-first and integrated healthcare revolution. International speakers include: global health futurist Ed Marx, Ex-CIO, Cleveland Clinic; Josie Rudman MBE, Chief Nurse And Transformation Director, New Hospitals Programme, NHS England; and March Paradis, Vice President Data Strategy, Northwell Health.

Some of the other headline speakers at the event include Susan Pearce, Secretary, NSW Ministry of Health; Rob Tassie, General Manager, Digital Health and Innovation, Wesfarmers Health; Jacui Cross, Chief Nursing and Midwifery Office, NSW Health; Dr Nirvana Luckraj, Chief Medical Officer, Healthdirect Australia; Deidre McGill, Chief Operating Officer, Home and Community Support, Bolton Clarke.

Visitors can also enhance the event experience with a premium pass, which allows them to attend 90-minute masterclasses delving into healthcare transformation and innovation. For more information, visit the AHW website.

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Updated toolkit for managing menopause

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Monash University has led the development of a toolkit aimed at guiding health professionals around the world in assessing and treating women with menopausal health issues.

Endorsed by the International, Australasian and British Menopause Societies, the Endocrine Society of Australia and Jean Hailes for Women's Health, the 2023 Practitioner's Toolkit for Managing the Menopause is designed to be used anywhere in the world.

The latest Toolkit, published in *Climacteric*, has been updated and enhanced from the original 2014 Toolkit for practitioners with new advice and therapies based on a systematic review of the latest menopause research and best practice.

Bone health guidance

As well as outlining the latest general treatment guidelines, it offers bone health guidance as part of a menopause health assessment. For example, clear guidelines about when menopause hormone therapies (MHT) might be needed to prevent bone loss and osteoporosis in asymptomatic women were lacking in 2014.

The update also incorporates new medications including fezolinetant (hot flushes), ospemifene (painful sex) and vaginal DHEA (vaginal dryness), with some soon to be available in Australia. First author and Monash University Women's Health Research Program head Professor Susan Davis, who also led development of the 2014 Toolkit, said the update included some new therapies but did not support MHT for cognitive symptoms or clinical depression.

Cognitive function

"For cognitive symptoms, clinical trials have not shown a benefit of MHT for cognitive function," Davis said. "The most robust studies have shown it to be no better than placebo.

"Regarding depression, menopause may cause symptoms such as low mood, anxiety, irritability and mood swings, but clinical depression needs to be assessed and managed in its own right. Menopause might exacerbate underlying depression but should not be assumed to be the cause of clinical depression."

Hormone therapy

Davis said the advice was now much clearer around preventing bone loss and fracture.

"To our knowledge this is the only document that provides guidance for using hormone therapy to prevent fracture," she said. "Other recommendations have been vague such as 'can be used to prevent bone loss/fracture' or 'use to treat osteopenia'."

Senior author Dr Rakib Islam, from the Monash University School of Public Health and Preventive Medicine Women's Health Research Program, said the updates would make a difference for many.

"The 2023 Practitioner's Toolkit is the most up-to-date, evidence-based practical guidance for healthcare providers to menopause care globally," he said.

Davis said it was important for women to see their GP if they experienced troubling physical or mental health symptoms, and the update aimed to ensure GPs were well equipped.

Patient-informed care

"We have updated this as part of an NHMRC Grant to upskill GPs and to embed the care algorithms into GP practice software in the MenoPROMPT study program, which aims to improve care for women who need it," she said.

"This is a very important feature of this update."

The paper's authors suggested the recommendations needed to be applied in the context of local availability and the cost of investigations and drug therapies. "Most importantly, the Toolkit provides the full spectrum of available options and therefore can be used to support shared decision making, and patient-informed care," they wrote.

Examining the impact of zero alcohol drinks

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An AU$40,000 South Australian project is set to investigate the impact of promoting and using zero-alcohol drinks on young people's perceptions and behaviour.

Zero alcohol drinks (<0.5% alcohol) resemble alcohol in appearance and taste and are often closely linked to a parent alcohol brand, but there are currently no age, marketing or regulatory restrictions on these drinks, and they are freely promoted to all age groups, including young people.

Researchers from Flinders University are analysing the impact of this rapidly growing market to determine if it needs tighter regulation. Alcohol is a Class 1 carcinogen, and any amount of alcohol increases the risk of seven types of cancer with risk increasing with higher levels of use. It is also one of the leading individual risk factors for death and disability among 15- to 24-year-olds in Australia, contributing 14% of the disease burden among males and 6% among females, according to the university.

It is a public health imperative to delay or stop the use of alcohol among adolescents and sustain reductions in risky consumption, said lead researcher Dr Ashlea Bartram from the College of Medicine and Public Health, Flinders University.

"Parents, policymakers, businesses and researchers are concerned that zero alcohol drinks — particularly those that share a brand and packaging look and feel with alcoholic drinks — may work as alcohol advertising in disguise, undermining regulations aimed at limiting children's exposure to alcohol products and promotions, and potentially acting as a gateway to alcohol and its associated harms.

Promotions and perceptions

"We want to know the extent to which exposure to zero alcohol products and promotions affects adolescent children's perceptions of alcoholic drinks. Whether these effects differ between zero alcohol drinks featuring brands used on alcoholic drinks ('brand extension') and those featuring brands that are unique to zero alcohol drinks ('unique brands')," Bartram said.

"There is a well-established association between frequency of alcohol advertisement exposure and alcohol consumption among adolescents and the effects of exposure to alcohol advertising are cumulative: the more alcohol advertising a young person is exposed to, the more alcohol they consume," she said.

Drinks with less than 0.5% alcohol

There are multiple regulations that reduce children's exposure to alcohol and the advertising of alcohol-containing drinks in South Australia but drinks that have less than 0.5% alcohol by volume are not currently covered by existing alcohol regulations and instead are regulated as soft drinks under Food Standards Australia New Zealand Code 2.6.2.

"The rise of zero alcohol drinks presents a pressing challenge for health professionals and policymakers. Whilst they may encourage substitution from alcoholic drinks to zero alcohol drinks among adults and young people who already drink, evidence suggests that these drinks and their promotions are likely to influence attitudes and consumption intentions towards the parent alcohol brand, as well as to alcohol products more generally.

Public health consequences

"There have been calls to extend regulations on alcohol advertising and availability to cover zero alcohol drinks, particularly those using brand extensions. However, there is currently a lack of research into the public health consequences of increasing the availability and promotion of zero alcohol drinks, which is hampering policymakers' capacity to act," Bartram said.

Bartram said that it is critical to investigate the impacts of exposure to these zero alcohol products and promotions on adolescents now, while the market is in an early phase of rapid growth, so that policymakers have the evidence to regulate these products appropriately.

"How to regulate these drinks is one of the most critical emerging issues in alcohol policy both locally and globally. Our project will provide an initial answer to policymakers to guide the regulation of zero alcohol products to protect children from alcohol-related harms," she said.

The project is being supported by funding from the Channel 7 Children's Research Foundation.

Curbing violence against health workers

Clete Bordeaux*

There has been a disturbing surge in violence against healthcare workers and professionals in social assistance roles in recent years. Reports indicate that individuals in these sectors in Australia are up to 2.5 times more likely to experience workplace injuries compared to workers in other fields, with healthcare workers ranking as the highest risk profession for violence-related injury.

This unsettling trend not only poses immediate risks to the physical and psychological wellbeing of these workers but also has far-reaching consequences for organisations, including increased absenteeism and work incapacity claims, and additional expenditures aimed at enhancing safety measures. The gravity of the situation is further underscored by the fact that a substantial percentage of assaults on healthcare professionals go unreported, as revealed by a World Health Organization survey which found that only 30% of such incidents are officially documented.

Need for a multifaceted approach

Addressing this escalating crisis requires a multifaceted approach, with a focus on implementing stringent measures to ensure the safety of healthcare workers and those in social assistance roles. In Australia, occupational health and safety regulations provide voluntary guidelines that empower organisations to create a workplace free from recognised serious hazards.

Advocates are urging employers, particularly in healthcare facilities, to proactively develop violence prevention programs as a crucial step towards safeguarding their employees. The Australian College of Nursing, for example, requested that 24/7 security guards be mandated across all facilities in Australia. Below are some recommendations for violence prevention.

The role of access control

One pivotal aspect of violence prevention is controlling access to healthcare facilities. Implementing sign-in procedures and issuing visitor passes can help in monitoring and regulating entry. By keeping track of individuals entering the premises, hospitals can identify potential threats early on and take necessary precautions. This not only provides a sense of security to the staff but also acts as a deterrent to those with malicious intentions.

Setting clear visitor hours and outlining specific procedures for being inside the hospital premises can contribute significantly to reducing the risk of violence. By enforcing these guidelines, healthcare facilities can minimise the chances of unauthorised individuals wandering around, thereby mitigating potential threats. Educating visitors about the importance of adhering to these rules enhances overall awareness and promotes a safer environment for both patients and staff.

A proactive approach involves identifying patients with a history of violence or gang activity and maintaining a 'restricted visitors' list. This list should be accessible to security personnel, nurses and sign-in clerks to ensure that everyone involved in the safety

of the facility is informed. By having this information readily available, health workers can be better prepared to handle potentially volatile situations and take appropriate measures to protect themselves and others.

This can be further enhanced by advanced technologies such as biometric scanning and facial recognition, which can detect specific individuals once enrolled on a blacklist even if they happen to have changed features such as growing a beard or wearing a hat and sunglasses.

Technology solutions

In the quest for safer healthcare environments, modern technology plays a crucial role. The implementation of a robust visitor management suite can revolutionise security measures in hospitals and other healthcare facilities. These suites offer a range of accommodations, innovations and automation designed to elevate operational excellence and enhance safety protocols. Some key features of these solutions include:

Visitor management suites provide precise control over access to different areas within a health facility. By assigning specific access levels to individuals based on their roles and permissions, the risk of unauthorised entry to a specific area is significantly reduced.

In an era where minimising physical contact is crucial, contactless check-in and check-out processes are paramount. These features not only streamline the visitor registration process but also contribute to infection control efforts by reducing points of contact.

Centralised access

Centralised access control allows for a unified approach to security management. This ensures that security measures are consistent across the entire facility, leaving no room for vulnerabilities in different areas. More and more these days, this can include mobile devices for access control, which lends more convenience and efficiency to a facility's employees.

Perhaps one of the most powerful features is the integration of watchlists. By incorporating databases of individuals with a history of violence or criminal activity, healthcare facilities can proactively identify potential threats and take pre-emptive actions to safeguard their staff and patients. Again, taking measures to counter this by integrating systems such as CCTV cameras and two-way audio with access control measures via a visitor management suite can make a big difference.

Comprehensive reporting tools provide valuable insights into visitor patterns and potential security risks. By analysing this data, healthcare organisations can continually refine and improve their violence prevention strategies.

Providing employees with duress alarms in the form of easily wearable and accessible duress buttons can further enhance employee safety, and again these can be integrated with a central security and access control solution. Employees can press their alert button anywhere in the healthcare facility and security or administration officers can instantly know their whereabouts and respond to the fact they are in apparent danger.

Collective action

The surge in violence against health workers is a pressing issue that demands urgent attention. Organisations, especially those in the healthcare sector, must adopt proactive measures to create a safe working environment for their staff. By implementing recommendations such as sign-in procedures and restricted visitor lists, and leveraging modern visitor management suites, healthcare facilities can significantly enhance their security measures. The collective effort to address this crisis requires a commitment from all stakeholders, including policymakers, employers and technology providers, to ensure the wellbeing of those dedicated to preserving public health.

**Clete Bordeaux, Healthcare Business Development Director, IAM Solutions, HID*

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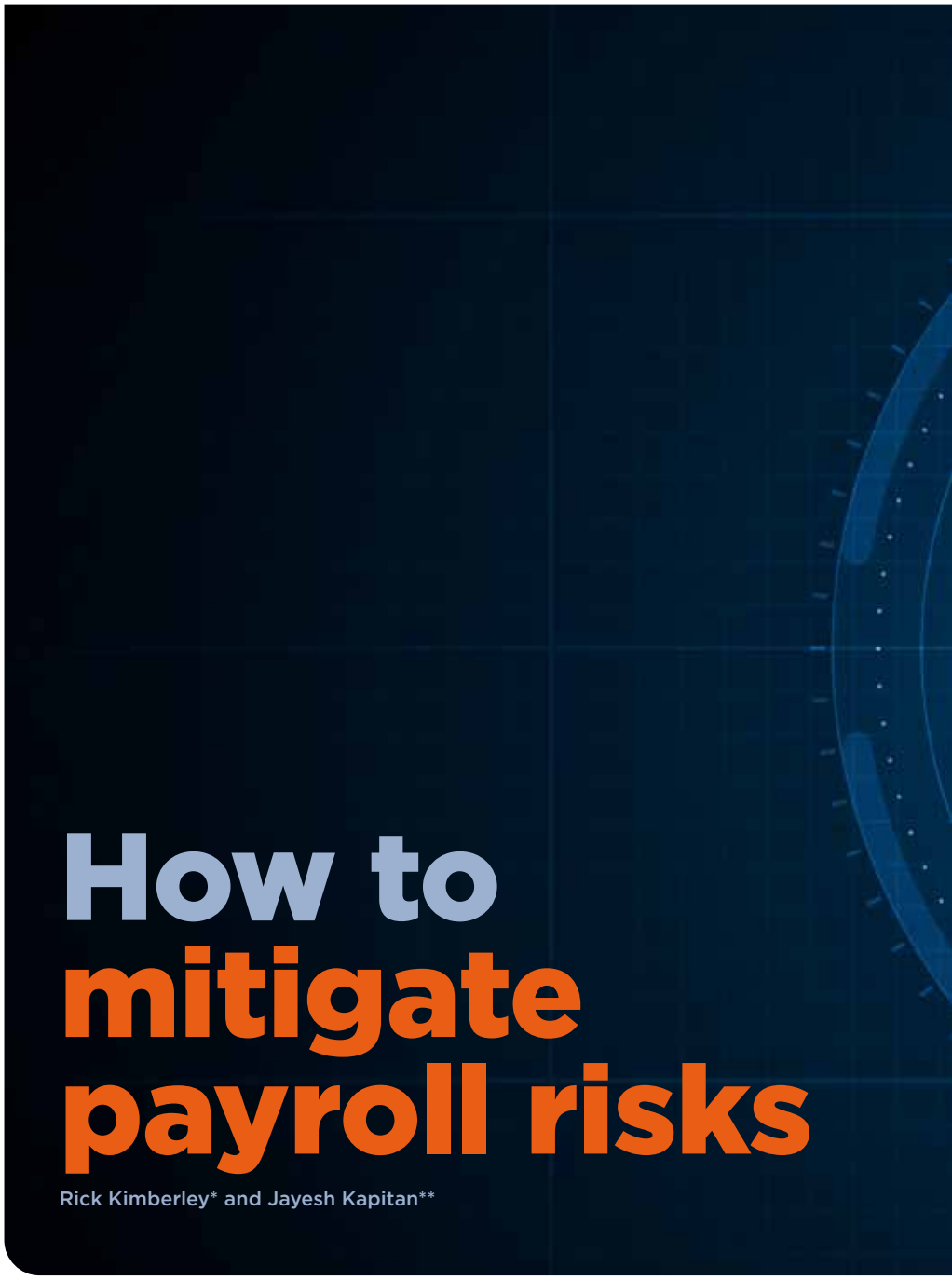


How to mitigate payroll risks

Rick Kimberley* and Jayesh Kapitan**

Large healthcare organisations' complex payroll practices make them more vulnerable to falling foul of a government crackdown on payroll and superannuation errors.

There has been a significant uptick in superannuation audits in the healthcare sector, driven primarily by the introduction of single touch payroll 2 (STP 2), as well as employee complaints.

The health sector's generally complex payroll environment means payroll administrators have to deal with several enterprise bargaining agreements (EBAs) and different awards, allowances and rates for shift workers. Not to mention split shifts, callbacks, standby, very different employee types and often very large employee numbers.

Combining this complex pay environment with STP 2, we would expect the ATO audit activity to continue — so it is critical that healthcare organisations have the right processes and controls in place to ensure they comply.

Below are some common pain points for healthcare organisations.

- The complexity of their industrial agreements, given the volume of employees and large number of classifications applicable in the industry.
- Under-resourced payroll teams, who may not be provided sufficient guidance on the legal application of certain pay elements.
- There are a significant number of manual adjustments within the payroll function for the health sector.
- Too often there is a lack of formal approvals around overtime and time capture.

Recently the Federal Court of Australia ruled in favour of a class action for junior doctors in respect of unpaid overtime. A key element of this ruling was how overtime was authorised.

The evidence showed that while the employer had not specifically requested these employees to work overtime, it was effectively implied because of the need to commence shifts before the rostered time, as well as the need to work past the rostered time for other duties.

We have seen similar issues for higher duties which are not captured in a roster, particularly where it is on a short-term basis (for example, prior to a formal variation), resulting in employees not being paid sufficiently.

There's also evidence of organisations making back payments following identification of underpayments.

However, a common pitfall is not appreciating what the back payment relates to — this results in other issues, such as superannuation shortfalls. For example, if an employee is back paid amounts relating to overtime, it is reasonable that superannuation wouldn't apply. But if an employee was paid back their normal hours, or a particular allowance, it may be the case that superannuation is required.

An essential step in mitigating broader wage compliance risks is to put wage compliance as a management agenda item.

We recommend clients in all sectors, but especially in health care, reflect on the following questions:

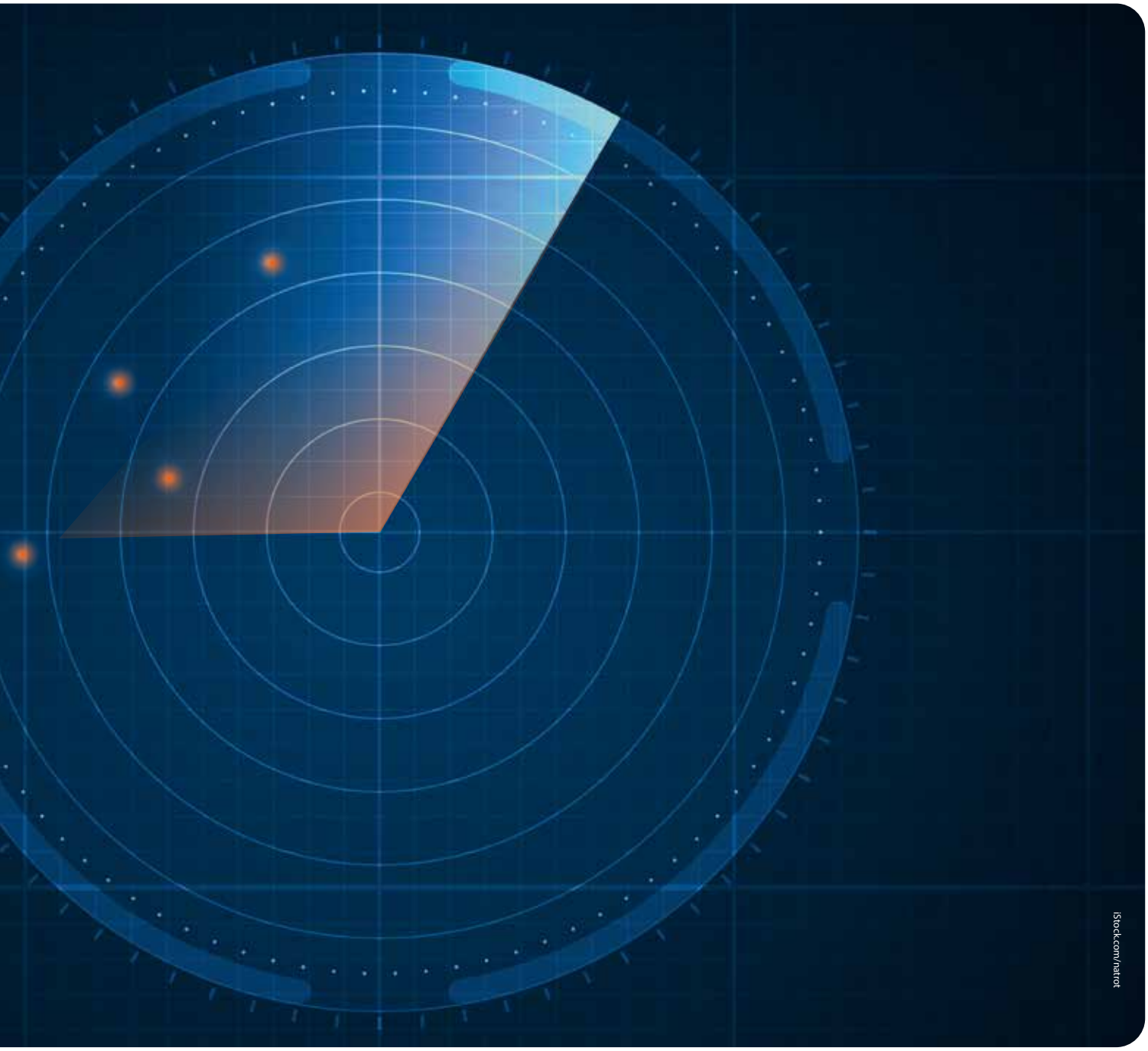
- What do we think are our greatest areas of risk in relation to wage compliance?
- What work or reviews have actually been completed?
- What work or reviews have not been completed?
- What level of assurance should we therefore have on our compliance and how does this compare to the level of assurance we require?
- Finally, how do we close the gap between assurance required and assurance we currently have?

In undertaking this process with healthcare clients, RSM has identified that a number of organisations had trouble paying their staff the correct entitlements. It's not just small, less sophisticated businesses who are tripping up — a quick scan of the newspapers over the past few years brings up many examples of some of Australia's best-known and well-resourced employers making significant errors.

This is an inherent risk when we are operating in a time where it is so much easier for the ATO to detect non-compliance, given better data analytics and real-time pay information.

Super guarantee non-compliance

The Australian National Audit Office ANAO report, Addressing Superannuation



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Guarantee Non-Compliance, made three recommendations to the ATO:

- To implement a preventative approach to Superannuation Guarantee compliance activity.
- To assess its performance against public accountability standards, introduce assessment targets (including against the super guarantee gap) and explanations for performance results.
- To maximise benefit to employees' superannuation funds, making more use of their enforcement (and debt recovery) powers, including developing performance measures and prioritisations.

The ATO agreed with the first and third recommendations, and agreed, with qualifications, to the second. The ATO also noted it will continue to investigate every complaint received about non-payment of super guarantee.

At the same time, the federal government is proposing an investment of $27 million in 2023–24 for the ATO to improve data capabilities, including data matching both employers and super fund data at scale.

In this environment, ensuring your health organisation reduces its risk by undertaking a detailed wage code configuration review, including STP 2, is a great first step, followed by a transactional review to ensure a high level of assurance.

As a final thought around audits, where an employer finds an error and makes a voluntary disclosure, they are much more likely to receive a lesser financial penalty. Implementing this process also shows employees and other stakeholders that the organisation has proactively investigated whether or not they were paying staff correctly. Beyond investigating, it shows they have addressed the issue.

This is far more likely to gain a positive reception than being pushed into an audit that detects significant underpayments.

Rick Kimberley is RSM Australia's national employment tax leader, specialising in taxation compliance and, in particular, wage compliance.

**Jayesh Kapitan is RSM's national health services leader, national director of the firm's hospitals practice and a director of the risk advisory division. RSM is a professional services firm with a history of more than 100 years.*

Featured Products

NDIS software

Lumary has developed an innovative software solution designed for NDIS providers seeking to enhance efficiency and precision in care delivery. The purpose-built NDIS care management software, tailored for enterprise-level disability providers, prioritises compliance in the evolving landscape of the NDIS.

With the introduction of PACE and many other sector changes, the complex administration of the NDIS continues. Lumary understands the importance of maintaining compliance and that disability providers are supported with the right partner to help navigate its evolution, especially in uncertain times. Lumary's NDIS care management software combines all facets of care delivery into one solution to optimise disability organisations.

Lumary streamlines routine tasks, from client intake and onboarding to scheduling, incident management, claiming and invoicing, freeing up resources for quality care delivery. Real-time data tracking and reporting provide valuable insights into participant progress, supporting employees in making data-driven decisions for personalised care. Lumary's integration with the NDIA PRODA platform automates claims and data synchronisation, saving up to 50 hours monthly on billing and claiming. Lumary's cloud-based solution offers secure, remote access to participant information, eliminating paperwork hassles and supporting providers through compliance audits.

A Lumary tech partnership is designed to provide a seamless and secure solution, built to scale with the sector and used by over 200 leading Australian healthcare providers.

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How health leaders can foster a truly inclusive workplace culture

Lauren Anderson*

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In an era where diversity and inclusion have rightfully taken centre stage in workplaces around the world, it's alarming to see that many Australian workers still feel the need to hide their true selves at work.

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According to recent data from Indeed, a staggering 65% of Australian employees report concealing aspects of their identity in the workplace, a figure that has risen by 17% since 2020. This issue is particularly pronounced among marginalised groups, with 71% of LGBTIQA+ individuals, 76% of First Nations peoples and 69% of migrants admitting to being unable to express their true selves at work.

The data serves as a stark reminder that fostering a truly inclusive workplace culture is an ongoing challenge for many leaders. Inclusive workplace cultures are essential for the success and wellbeing of hospitals and healthcare organisations.

The consequences of failing to create an inclusive environment can be profound, impacting performance efficiency, patient outcomes, staff engagement and, ultimately, the overall healthcare experience. It can also negatively influence teamwork, staff morale and staff retention.

The journey towards an inclusive workplace culture begins at the most senior level, where leaders must take a proactive and visible role in promoting diversity and inclusion, and in clearly communicating their commitment to ensuring these values run throughout the organisation. When leaders demonstrate a genuine commitment to diversity and inclusion, and show they are willing to listen to concerns and feedback, it sends a powerful message throughout the organisation.

This commitment also should be embedded in recruitment and hiring policies and processes. Healthcare organisations should strive for a workforce that reflects the diversity of the communities they serve.

When individuals from diverse backgrounds hold leadership positions, it sends a message that diversity is valued and that different perspectives are essential for success. When recruitment processes are designed to reduce bias and to be accessible to people of all backgrounds, identities and abilities, diversity within the workforce will likely follow.

The use of inclusive language in the workplace is also a clear indication of a commitment to diversity and inclusion. This includes avoiding gendered language or terminology that may be exclusionary. For example, encouraging employees to personalise their emails or name badges by adding pronouns or symbols of cultural significance is one way to support employees in being their true selves and to position your organisation as an ally to all.

Implementing recognition and rewards systems that celebrate and acknowledge contributions from diverse individuals and teams is another way to establish a culture of inclusion.

This not only fosters a sense of belonging but also encourages individuals from underrepresented groups to excel and take on leadership roles within the organisation. It sends a clear message that diversity is not just valued but actively promoted and recognised as a source of strength and innovation.

Creating an inclusive workplace culture involves recognising and celebrating the differences that make each individual unique. This goes beyond mere tolerance — it's about embracing the lived experience of each individual and the value they bring to the organisation. The celebration of cultural events and traditions, ensuring each colleague has equal access to the resources required to do their job, recognising that individuals have commitments outside of the workplace, and offering flexible leave policies will all help foster greater respect for all colleagues across the organisation.

It's important to remember that not all organisations will be starting in the same place and that some will be further along in their diversity and inclusion journey than others. Leaders who are starting from scratch should consider first assessing their existing cultural norms before attempting to shift the dial. Conducting cultural audits can help identify areas where inclusivity is lacking or where certain groups may feel marginalised.

Cultural audits often consist of a combination of surveys, interviews, focus groups and document analysis. These methods should be chosen based on the organisation's size, culture and specific objectives, with the end goal being to provide an objective assessment of an organisation's culture, identify areas for improvement, and outline meaningful steps leaders and staff can take towards creating a more inclusive workplace.

Once the data is collected and analysed, a comprehensive action plan that outlines specific strategies, policies and initiatives to be addressed or improved should be drawn up. It's important to remember that cultural audits are not one-time events but are part of an ongoing commitment to diversity and inclusion. Regular follow-up audits should be conducted to track progress, further refine strategies and adapt policies in response to shifts in wider society.

Inclusive workplace cultures are built on the foundation of respect and safety for all. Healthcare leaders must demonstrate zero tolerance for harassment, discrimination and bullying, and offer clear and confidential reporting mechanisms, with reports taken seriously and promptly investigated. Alarmingly, Indeed's data reveals 45% of all working-age Australians have either witnessed or personally experienced an act of discrimination at work.

Holding individuals who engage in discriminatory or harassing behaviour accountable for their actions is paramount, as is providing support and resources such as counselling or legal support for individuals who have experienced harassment or discrimination.

Changing the culture of an organisation is a complex and ongoing process. It involves a thorough examination of existing norms, values and behaviour, and an unwavering commitment to changing these over time. It requires leadership, cultural change and the active participation of every employee.

The consequences of failing to foster inclusivity are far-reaching, affecting not only staff but also patient outcomes and the overall effectiveness of healthcare organisations. By setting the tone for inclusivity, acknowledging differences and taking immediate action against discrimination, healthcare leaders can pave the way for a more diverse, equitable and inclusive future in health care.

**Lauren Anderson is a Talent Strategy Advisor and Diversity, Equity, Inclusion and Belonging (DEIB) Specialist, Indeed.*

Improving Patient Comfort, Care and Connection

Improving the patient's experience means addressing the integration of technology at the bedside; using design to bring the patient and caregiver together. Striking the right balance promotes increased interaction, satisfaction, safety and efficiency, creating an environment where both patient and caregiver needs are met; something Ergotron calls Patientricity.

Patientricity, built from the words "patient" and "centric," means moving the patient, caregiver and technology into a Triangle of Care. The goal of the Triangle of Care is to support better interaction with the patient while caregivers gather critical information.

Equipment used during this process should be flexible, allowing the caregiver to respond to patient preferences during each interaction. It should also be easily accessible, so data can always be at hand but never in the way.

Caregivers need the ability to sit next to, side-by-side, or face-to-face with patients during discussion and data input. In some circumstances, equipment should be flexible enough to enable the caregiver to share electronic information and images with the patient or loved ones.

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products enhance the caregiver experience and promote work that is more productive and comfortable, without the aches and pains commonly associated with poorly designed equipment. Flexible, adaptable computer mounts and mobility solutions allow caregivers to easily interact with patients, and personalize the location of the display, keyboard, laptop, or tablet for increased visibility and comfort. Ergotron offers a wide range of solutions to facilitate the Triangle of Care.

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The rise of invasive fungal infections

Invasive fungal infections are a growing risk to human health worldwide, with the World Health Organization releasing its first-ever watchlist of fungal priority pathogens — species of highest concern that require serious attention.

"Fungi have historically been overlooked in infectious disease research," said Dr Megan Lenardon, a microbiologist and a senior lecturer in UNSW's School of Biotechnology and Biomolecular Sciences. "There are many pathogens with different transmission routes and many challenges with therapies and diagnostics."

An emerging threat

Lenardon has been studying the cell and molecular biology of *Candida albicans*, which was identified as one of the four fungi of critical priority. Candida species cause non-serious infections like thrush in tens of millions of people per year. But of more concern are the 700,000 invasive infections that can kill people, about half of which are caused by *C. albicans*.

"We call them 'opportunistic invasive' fungal pathogens because they don't kill healthy people," Lenardon said. "But if they find themselves in a host who is susceptible, then they can kill."

Some fungi, like *Aspergillus* and *Cryptococcus*, are breathed in through spores that exist everywhere in the environment but are usually no match for our immune systems. Others, like *C. albicans*, colonise the gut of healthy individuals, but the physical barrier between the bloodstream, gut microbiota and a firing immune system is generally enough to prevent infections.

But when these defences are compromised, it can leave us vulnerable to infection. In immunocompromised people, *C. albicans* can escape the gut, circulate throughout the blood and invade organs.

"Serious fungal infections are more of a risk for people with underlying health conditions," Lenardon said. "People with cancer or HIV/AIDS, organ transplant recipients and intensive care patients are among those who are more vulnerable to infection."

While the likelihood of acquiring a severe fungal infection is rare, infection is often deadly. At least 40% of systemic *C. albicans* infections are fatal despite the availability of antifungals. By comparison, a nasty bacterial infection like *Staphylococcus aureus* (golden staph) kills in around 25% of cases.

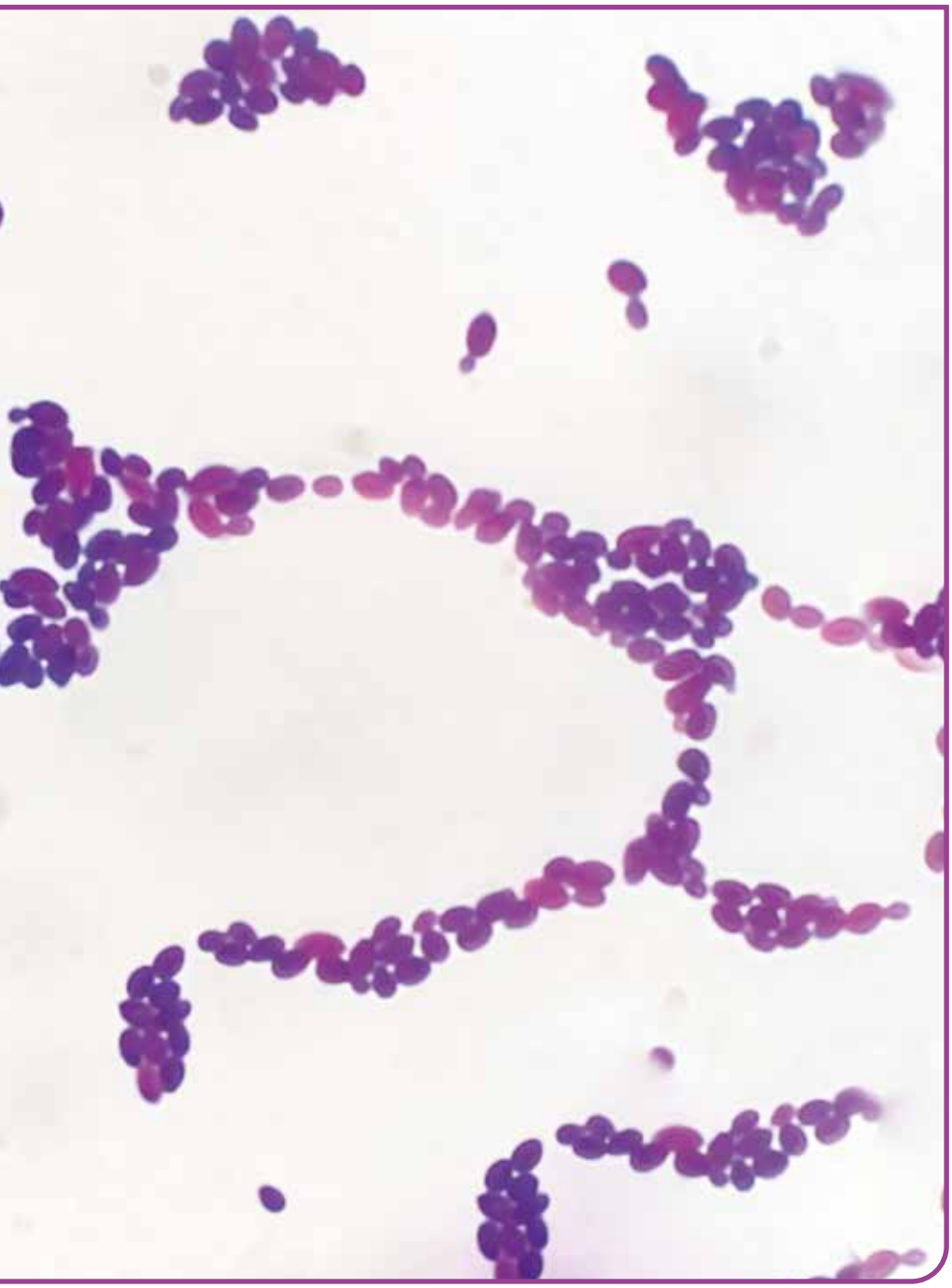
According to new estimates, there are 6.5 million invasive infections and 3.8 million deaths globally each year associated with severe fungal disease.

"The number of deaths from fungal infections is also likely underreported," Lenardon said. "Usually, an existing health condition is recorded as the cause of death when the fungal infection was responsible."

Resistance to antifungal treatment

Like antibiotic resistance, there is also increasing worry over antifungal resistance. Overusing and misusing antifungal medications in agriculture and healthcare settings can develop resistant strains, making infections harder to treat.

"When *Candida auris* first emerged in healthcare settings in the late 2000s, it was already drug-resistant," Lenardon said. "We're seeing more and more resistance in the clinic to existing antifungal treatments, so antifungal stewardship is crucial."



"Strengthening surveillance networks is critical to identifying any potential fungal threats before they arise."

Serious fungal infections can also be difficult for medical practitioners to diagnose. Symptoms can vary drastically between fungus types and often present just like bacterial infections.

"So, time to diagnosis is a problem, and there aren't a lot of specialist clinical mycologists," Lenardon said.

Another problem is the few drugs available to treat serious fungal infections. There are only five classes of antifungal medications for use in clinical settings — that's compared to at least 38 classes of antibiotics to treat bacterial infections. Some of these antifungal treatments also inadvertently target human cells, while others aren't very effective.

"Fungi are biologically very similar to us, so there are very few differences between fungal cells and human cells that we can exploit in therapy," Lenardon said. "The things that we do exploit are sometimes quite toxic to us because they target not only fungal cell membranes but human cell membranes too."

Developing new fungal treatments remains a challenge. Among infectious disease research, mycology is also a relatively small field and receives just a fraction of funding compared to bacteria, viruses and parasites. Few preventative treatments are in the drug pipeline, and no vaccines are imminent.

Fungal pandemics?

Despite this, Lenardon said we're unlikely to see a fungi outbreak sweep through humans at this stage. One reason is because most serious (life-threatening) fungal pathogens that affect people are generally not transmissible from human to human.

However, some contagious fungal infections occur in other animal species, such as white-nose syndrome caused by the fungus *Pseudogymnoascus destructans*, which decimates bat populations. Still, no deadly fungal pathogens have been known to jump the species barrier from animals to humans.

"Even though no fungi right now are likely to cause a pandemic like COVID-19, we shouldn't be complacent," Lenardon said. "Emerging fungal diseases still pose a significant risk, especially as the number of people at risk of infection is expected to grow."

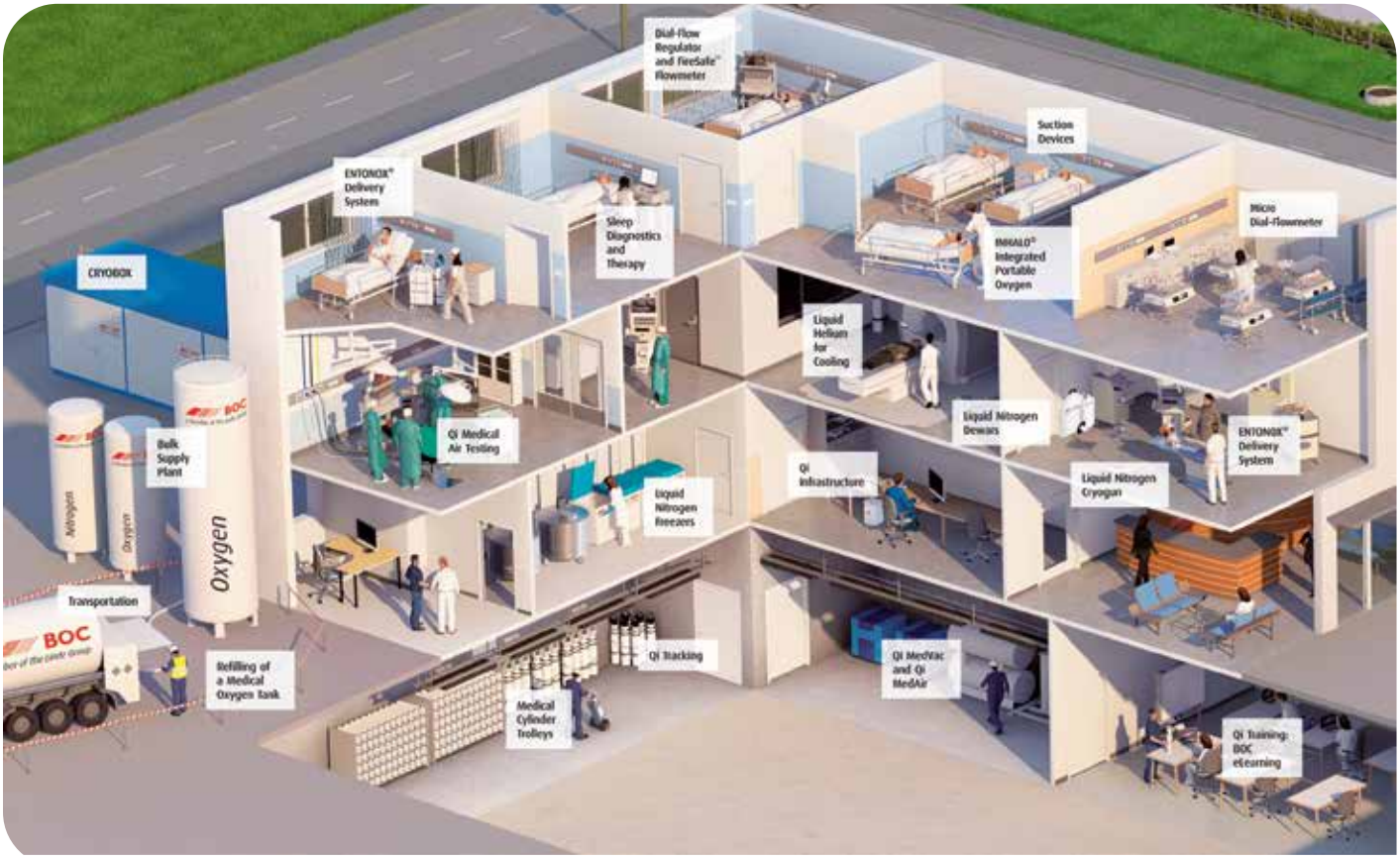
In other good news, most fungal species also can't survive at the temperature of the human body. However, there are some fears that as the world continues to heat up from climate change, some may be able to adapt to overcome the temperature barrier.

"Fungi may evolve to resist higher temperatures, which means we might see the emergence of a species that can survive in our bodies," Lenardon said. "The overall risk of a pandemic, though, is probably still relatively low, and these pathogens would still have to get past our immune systems."

But Lenardon said we're underprepared to deal with a fungal pandemic should one break out tomorrow. More coordinated research is needed to stay on top of emerging threats, which requires more investment.

"Strengthening surveillance networks is critical to identifying any potential fungal threats before they arise," Lenardon said.

"We also desperately need more funding to address the urgent clinical need for better diagnostics and new therapies."



QI Risk Medical gas pipeline system and operational assessment

A well maintained, fit-for-purpose medical gas reticulation system is critical to a healthcare facility's ability to deliver reliable and safe patient care. However, hazards in the system can be easily overlooked, potentially compromising reliable and safe operation of the facility.

Common medical gas system hazards within a healthcare facility can include:

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- Insufficient pipeline and instrumentation drawings, increasing the difficulty of troubleshooting and repair of the medical gas system.
- Non-compliant cylinder storage or cylinder segregation resulting in fire and asphyxiation hazards.

Drawing on over 60 years' experience of providing medical gas solutions and support, BOC has developed QI® Risk as a proactive approach to manage the safety, reliability and compliance of medical gas reticulation systems.

QI Risk is a comprehensive medical gas pipeline and operational assessment package involving a thorough inspection, risk assessment, detailed reporting and recommendations by one of BOC's medical gas reticulation experts; giving your healthcare facility the insight required to ensure safe and reliable operation of the complete medical gas reticulation system.

BOC will work closely with you to tailor the scope of the QI Risk assessment package to meet the specific requirements of your healthcare facility — this assessment can include all or part of the following areas:

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- Cylinder storage.
- Manifolds and manifold rooms.
- Medical gas alarm systems.
- Plant rooms, medical air and medical vacuum plants.
- Medical gas reticulation.
- Department, ward and theatre medical gas infrastructure.
- Medical gas training, policies and procedures.
- Safety regulatory requirements.

BOC can assist in the design, supply and fitting of medical gas infrastructure, equipment and maintenance; developing best practice solutions specific to a healthcare facility's needs and assisting in maintaining compliance and accreditation within current regulatory standards.

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Making cancer outcome equity a reality

Christine Cockburn, CEO, Rare Cancers Australia, reflects on care disparities across populations and the role of personalised medicine in improving outcomes.

Cancer Australia recently launched Australia's first comprehensive Cancer Plan.

The Plan broadly addresses six strategic areas highlighted to better coordinate the current infrastructure, modernise the frameworks underpinning the cancer sector and improve the patient experience and outcomes.

At Rare Cancers Australia (RCA), we have advocated for many years to recognise that although Australia has world-leading cancer survival outcomes, they are far from equitable, and we applaud the recognition in The Plan that there are great disparities across populations. What I would highlight, though, is that there are also significant disparities resulting from the type of cancer you're diagnosed with.

And that demands further attention.

There are few people who haven't heard of the concept of a rare cancer. Rare, unusual, not seen very often.

Rare cancers are defined by an incidence of fewer than six per 100,000 of the population, and less-common cancers are those with six to 12 cases per 100,000 of the population.

These cancers are characterised by an insidious profile of symptoms leading to late or misdiagnosis; few specialists who are experienced in treating them; few treatments provided on the Pharmaceutical Benefits Scheme (PBS); social isolation; staggering financial toxicity; and overall, much poorer outcomes than common cancers.

Most importantly, it must be recognised that all these rare and less common (RLC) cancers, when added together, represent 28% of all cancer diagnoses and 38% of all cancer deaths. Conversely, common cancers account for 73% of all diagnoses, and 62% of all cancer-related deaths. You don't have to be a statistician to see the RLC data equates to a serious public health issue.

Much of the improvement of outcomes in cancer in Australia is the result of screening programs. Breast cancer, cervical cancer, prostate cancer and bowel cancer are screened through population-based programs, and we know early detection means better outcomes. Australia has an ambitious strategy to be the first country to eliminate cervical cancer by 2035.

Screening in RLC cancers, however, is problematic in two main ways:

1. They are many and varied, making the aetiology like finding a needle in a haystack.
2. Much of the origin or predisposition of RLC cancers is genetic. To make things even more challenging, I am not referring only to inheritable disease, but also to somatic disease.

RCA has supported hundreds if not thousands of people who were diagnosed with RLC cancers and had no modifiable lifestyle factors, and no family history; they have been overwhelmingly young and otherwise healthy. Ultimately that means that Australians diagnosed with an RLC cancer live in a world where treatment is paramount.

Cancer therapies are available to Australians on the PBS, and for the most part, out-of-pocket cost is little or nothing at all.

As we know, compelling clinical trial data and superior efficacy result in new medicines being added to the PBS regularly.

However, with small patient populations, clinical trial design is challenging. When there are just a handful of people with a certain cancer, how can a robust phase three randomised controlled trial ever be a reality?

Those diagnosed with RLC cancer cannot wait for a perfect system. This often results in their having to pay for treatment out-of-pocket to the tune of tens of thousands of dollars, while sometimes the person sitting in the chair next to them in the treatment room is on the very same therapy and is paying $31.60.

We have crowdfunded over $5m for RLC families whose treating clinician had a promising therapy for them, but it wasn't reimbursed on the PBS for their cancer type.

The great promise in this RLC paradigm? Personalised medicine.

What we have learned over the last decade of research is that it isn't where in the body the cancer is that defines how it should be treated, but what the molecular profile is.

When patients receive genomic profiling to guide their treatment plan, they have a level of information that can create an otherwise unknown pathway.

Drug development is increasingly focused on this molecular layer of cancer and understanding the true drivers means we might skip systemic, toxic, sometimes ineffective chemo regimens and hit the cancer where it hurts, earlier.

If we offer genomic profiling as personalised medicine and discover that a rare connective tissue cancer has the same genomic markers as a bowel cancer, might our knowledge of a common cancer plausibly benefit the RLC patient?

What we know from this new frontier of understanding cancer is that increasingly all cancers will become rare, and as we get sharper focus, a person's cancer will be as unique as their fingerprint.

At RCA, we find that compelling food for thought for the way we support people with cancer, the way those people access cancer therapies and how an equity of outcomes could become a reality.

A Day in the Life of

Kylie Page

Registered Nurse, The Royal Melbourne Hospital

05:15 For an AM shift I tend to wake up around 5:15 am having prepared my bag and uniform the night before, shower, have coffee, maybe a small breakfast and make myself look presentable for work.

06:15 I leave for work and conveniently live about a 10–15 min walk from the hospital. Being a new RN and part of the NRTP rotation, I prefer to arrive a little earlier so I can ensure my ward allocation is confirmed and orientate myself in plenty of time for patient handover.

07:00 I then attend a huddle for a ward update to discuss vital information or patients who may have additional safety monitoring as well as our allocated patients. We then proceed to receive bedside handover from the previous bedside nurse to ensure a holistic, safe and informed approach to caring for up to four new patients and individually prepare their care appropriately. During this time I sight and introduce myself to each patient, which allows a brief assessment of their current wellbeing, request to inspect any drains, wounds, PCAs, IV lines and ask them if they have any immediate concerns such as new symptoms or pain.

07:30 Once care is taken over I commence the safety checks for each patient's equipment and ensure the emergency equipment is present and in optimal working order. I then revise each patients file, perform a set of observations to gain current information and commence their morning medications.

09:00 Rounds usually take place at this time and the patients are reviewed by the medical team, allied health, and may require preparation for medical imaging or theatre. Depending on the patient I will ensure they are comfortable and dressed appropriately for surgery or imaging, and complete observations, documentation and consult any new medical information for the patient. If they are coming back from theatre I will monitor them closely, perform necessary assessments and ensure pain remains minimal.

05:15 06:15 07:00 07:30 09:00

A career transition from an aerialist to a nurse may not seem obvious, but for Kylie Page — who always aspires to assist others during difficult times — a move to nursing was a well-planned action.

After working on board Royal Caribbean cruises as an aerial artist in the world-class entertainment shows for 16 years, Kylie recently commenced a career as a registered nurse with acceptance into the Royal Melbourne Hospital's graduate program 2024. A combined interest in anatomy and physiology throughout her performing career and a passion to help people, especially during COVID-19, inspired the timing of her decision to study nursing and make a career change to health care.

Kylie recently graduated with distinction from Charles Sturt University, receiving four Executive Dean's Awards for academic achievement and the ANMF's Student Nurse Award for 2023.

Experience volunteering for the State Emergency Service Victoria and a keen interest in trauma and emergency nursing has led to Kylie being allocated first rotation in the trauma surgical NRTP area.

This six-month rotation exposes her to a great variety of highly acute patients admitted from the emergency department where she works across four to five different ward areas including trauma, plastics, orthopaedics and surgical presentations.

The NRTP rotation can be confronting for a new nurse at first; however, Kylie is embracing the opportunity to rapidly expand her clinical knowledge and skill set.

Kylie's day varies depending on shift times, ward allocations and the patient's situation, for example, if they are pre- or post-surgery, require enhanced observation or need additional services. Here, she shares a typical day in her life.

10:00/10:30 Around this time I take a 15-minute break and get some fresh air.

10:45 The next part of the shift is quite individualised to the patient's needs — for example, personal cares and ensuring clean comfort, further individualised assessments depending on their situation.

13:30 Handover to the nurse taking over the next shift occurs to ensure a smooth continuity of care. Details on the admission, procedures, current status and goals of care.

14:00 Continue to assist, document and provide care until the shift ends at 15:30.

Once the shift is complete and depending on my upcoming schedule I like to relax, walk, discover Melbourne, catch up with friends or travel home to my family's country property."

Kylie says that working at the Royal Melbourne Hospital as a registered nurse has so far been a wonderful whirlwind of excitement, commitment, rewarding moments, finding her feet and meeting supportive and dedicated co-workers. "I have also met so many lovely patients who have helped to shape my positive journey as a registered nurse so far and reaffirm the reason I selected this career path."

10:00/10:30 10:45 13:30 14:00

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**.

How to boost healthcare cybersecurity

*Leon Poggioli**

The ongoing wave of digital transformation in the healthcare sector — driven by advancements in interconnected medical devices and clinical processes — has given rise to cybersecurity threats that often outweigh the benefits to patient care.

As adversaries grow more sophisticated in their attacks and the consequences of cyber incidents evolve, healthcare organisations are faced with a unique set of security challenges.

A contributing factor is the Extended Internet of Things (XIoT), a holistic umbrella term that encompasses all cyber-physical devices connected to the internet — including connected medical devices, or the Internet of Medical Things (IoMT).

Despite its undeniable benefits, the XIoT's escalating cyber-physical connectivity has brought a myriad of cybersecurity challenges by expanding the attack surface. Threat actors are not only targeting IT systems but have now set their sights on cyber-physical systems (CPS) — from IoMT devices to building management systems (BMS) such as elevators and HVAC systems — which are considered critical to maintaining a safe environment for patient care. Furthermore, the impact of an incident involving healthcare IoT is not just financial: downtime or disruptions to any of these devices or systems can negatively impact patient outcomes and, in the worst-case scenario, cause patient harm or death. This is a harsh reality for professionals in the healthcare sector charged with mitigating cyber risk.

A recent independent study of 1100 full-time professionals in cybersecurity, engineering, IT and network management within the healthcare industry revealed valuable insights into how healthcare institutions are currently addressing the cybersecurity challenges brought about by digital transformation.

Key highlights of the report include:

Cybersecurity incidents are causing serious issues with cyber-physical systems (CPS), with the research revealing a noticeable uptick in ransomware payments:

- Globally, at least 78% of respondents experienced a minimum of one cybersecurity incident over the last year.
- 47% cited at least one incident that affected cyber-physical systems including medical devices and/or building management system devices.
- Financial ramifications were mainly within the USD100,000–1,000,000 (or AUD160,000–1,600,000) range.
- 26% of respondents reported paying ransoms, despite the practice being largely discouraged by government authorities and many cybersecurity industry experts.

Promisingly, companies are showing a willingness to increase their cybersecurity budgets in order to address the growing threat landscape:

- Globally, 51% of respondents reported increased security budgets.
- Patching vulnerabilities in medical devices is a top priority, followed by asset inventory management, and segmentation of medical devices.

The recruitment of capable cybersecurity professionals has proven to be a challenge, making cost-saving measures imperative:

- More than 70% of organisations are looking to hire cybersecurity professionals; however, 80% of those say finding qualified candidates is difficult.
- Respondents reported that optimising device utilisation was the biggest opportunity to trim down their costs.

A growing emphasis placed by organisations on cybersecurity regulations and standards has been instrumental in advancing the field.

- Regulatory developments, such as mandatory incident reporting, are cited as the most important external factor that influences organisations' overall cybersecurity strategy.
- In Australia, all organisations are recommended to implement essential mitigation strategies from the Australian Cyber Security Centre, known as the Essential Eight.
- Globally, respondents found the NIST and HITRUST Cybersecurity Frameworks to be the most important to their organisations.

Three recommendations to bolster security

The survey highlights that healthcare institutions are increasingly focusing on cybersecurity compliance; however, given the prevalence, diversity and impact of cyber attacks, there is still room for enhancing security initiatives to bolster cyber and operational resilience.

Fortunately, as the study reveals, healthcare organisations are on an encouraging course correction towards maximising their

cybersecurity and operational resilience with effective leadership, comprehensive security initiatives, and compliance with guidelines and frameworks provided by regulatory authorities.

1. Gain full visibility into all connected devices in the clinical environment

It is impossible for healthcare organisations to protect their assets if they can't see or understand them. But gaining this visibility is one of the most fundamentally important yet challenging tasks, largely because new assets/devices are being connected to healthcare networks daily, many times without proper authorisation.

Thorough asset inventory management is crucial to spotting and reducing any potential threats. Given every healthcare environment is unique, and most contain complexities that render certain device discovery methods ineffective, it is critical to ensure security solutions offer multiple, highly flexible discovery methods that can be mixed and matched to deliver full visibility in the manner best suited to distinct needs.

2. Integrate existing IT tech stack and workflows

Healthcare organisations already use a number of solutions and tools in their cybersecurity program. Rather than expanding an already extensive tech stack, it is important to find CPS security solutions that integrate with them. By extending existing tools and workflows from IT to CPS, you can safely uncover risk blindspots without endangering patient outcomes.

3. Extend existing IT security controls and governance into the clinical environment

Unlike their IT counterparts, most XIoT environments lack essential cybersecurity controls and consistent governance. That's because many medical devices were designed for functionality over security and were not initially intended to be connected to the internet. The rise of interconnectedness has caused these previously "air-gapped" devices and systems to become converged with IT networks — which have not been designed to be connected and managed in the same way.

The rapid adoption of digital transformation, and remote and hybrid working environments, have left security teams with a lack of awareness and understanding about the unique challenges of these newly interconnected XIoT environments. Without a dedicated security team or help from a solution that specialises in securing CPS, healthcare organisations will suffer from a lack of consistent governance and controls.

**Leon Poggioli is ANZ Regional Director of Claroty.*

Do hospital coffee machines **transmit pathogens?**

Health workers will be relieved to know that hospital coffee machines are not responsible for spreading disease, suggests a new study published in *The BMJ.*

In a bid to eliminate hospital-acquired (nosocomial) infections, various objects have been investigated as breeding grounds for bacteria, including doctors' ties and even hospital Bibles. But despite being regularly touched by lots of bare hands, hospital coffee machines have missed the scrutiny.

To address this, researchers in Germany assessed the microbial population in healthcare-associated coffee machines, with a focus on the World Health Organization's high-priority 'ESKAPE' pathogens (*Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa* and *Enterobacter* species). These bacteria pose an increasing threat because they are resistant to many antibiotics and can lead to fatal bloodstream or catheter-associated infections.

The researchers swabbed a total of 25 coffee makers spanning a range of fully automatic, capsule (such as Nespresso) and espresso machines, from 31 October to 31 December 2022. 17 were from break rooms and offices at a university hospital's Department of Anaesthesiology and Intensive Care Medicine and at the Institute for Medical Microbiology, Immunology, and Hygiene, both in Cologne, Germany. A further eight were in staff members' homes.

All coffee makers had been in use for at least a year, and none was specially cleaned before sampling. There was no current disease outbreak at any of the locations at the time of sampling. Each of the coffee makers was swabbed at five specified sites on the machine: the drip tray, the outlet, the buttons, the handle of the water tank and the inside of the water tank.

Hand hygiene protocols

Species were identified from cultures using spectrometry. Typical pathogens were grouped into 'medically relevant' and commensals into 'atypical pathogens' and differentiated by Gram type: positive or negative (the latter have an outer membrane, which aids antibiotic resistance).

Unsurprisingly, microbial growth was detected on every coffee machine and hospital machines were about three times as heavily colonised (360 strains isolated from 72 positive swabs) as home machines (135 strains isolated from 34 positive swabs).

Most detected species were commensals (bacteria that live on the skin or in the gut and pose no threat to health). Only a few medically relevant and no antibiotic-resistant pathogens were identified. Among the eight types of medically relevant Gram-negative species detected, 81% were found in coffee makers at the hospital, mainly collected from drip trays, outlets and water tank handles, emphasising the need to follow hand hygiene protocols.

A ban not necessary

Staphylococcus aureus was the only possibly Gram-positive disease-causing species collected: once on the buttons of a home coffee maker and once on the inside of a water tank at the hospital, suggesting that users' hands touch even unlikely parts of the machines, the authors noted.

"To our great relief, despite their potential for pathogen origins in nosocomial outbreaks, a general ban on coffee makers doesn't seem necessary," they wrote. What's more, the study has reportedly resulted in extensive cleaning measures.

"Our thoughts now turn to tea drinking nations," the authors added. "Are teapots, kettles, and hot water spouts similar breeding grounds for bacteria? Are the high temperatures in the pots sufficient to kill all potential pathogens? And what about the handles?"

Transforming care for neurological disorders

iStock.com/Jorm Sangsorn

A New South Wales-first tertiary clinical program has significantly improved the quality of life of a young woman diagnosed with functional neurological disorder (FND).

21-year-old Grace Corkhill, from regional New South Wales, had a cerebral artery aneurysmal rupture in 2013 that caused a stroke. She was then diagnosed with epilepsy and developed FND in part related to the original trauma of her significant health issues.

Thought to develop due to a 'disconnect' in signalling between the brain and the rest of the body, FND can present with a variety of neurological symptoms that include seizure-like attacks, weakness, sensory disturbances, tremor, brain fog and issues with speech, walking and vision.

It is often accompanied by chronic pain, fatigue and various other distressing symptoms. One Australian study noted that approximately 1 in 6 people who see a neurologist will be diagnosed with FND, with many patients stigmatised for having a condition that is poorly understood.

Grace's disorder manifested in intermittent, involuntary attacks of shakes in her limbs and body, which left her housebound and terrified.

"I struggled significantly with the fact that I couldn't pinpoint a trigger to the shakes," she said. "I became very anxious about it happening in public.

"Pretty soon I stopped work and just stayed home, which in turn impacted my mental health."

The Mindgardens FND Clinic at Prince of Wales Hospital in Sydney brings together specialists from different disciplines, including neurology, rehabilitation medicine, physiotherapy, occupational therapy and psychology, to develop individual programs that respond to patients' own treatment priorities for FND.

Dr Adith Mohan, a neuropsychiatrist and Head of the clinic, said that "its success thus far has been extraordinary, with most patients treated through the clinic showing clinical and functional benefit".

"The loss of hope in FND patients is common," Mohan said.

"In Grace's situation and in the absence of intervention, her symptoms would likely have become persistent and made living her life more difficult.

"This is true of any FND patient, and although finding a cure is far too simplistic a way of looking at the disorder, FND is eminently treatable."

The clinic also encompasses a research component led by Mohan through UNSW Sydney's Centre for Healthy Brain Ageing (CHeBA), which is addressing the fundamental gap in information and education for patients and their clinicians around FND.

"What we have built into the clinical service is a robust data collection system which allows us to measure real-world outcomes of the clinic and capture patients' levels of illness and disability," Mohan said.

"Beyond improving the lives of these young patients, we are ultimately going to end up with a high-quality dataset that shows us the distinct needs of FND patients. The research will also inform us of the economic cost of FND on patients and their families, as well as society at large, which has great implications for decision-making by policymakers."

Demand for the clinic has already exceeded capacity with nearly 100 referrals received over its first year of operation, demonstrating a clear need for the intervention services — especially in rural and regional areas. Patients have reported their experiences as being overwhelmingly positive, with many commenting on the need for such services across NSW and nationally.

While Grace did not have high expectations at the start of the 6-week intervention, she was surprised to notice genuine improvement every week. "It was clear that everything they had put into place worked."

She is now back at work, has re-engaged socially and is exercising daily.

"I feel back in control of my life because of the treatment I received," she said.

The clinic is funded by Mindgardens Neuroscience Network: a translational research partnership between South Eastern Sydney Local Health District, the University of NSW, Black Dog Institute and Neuroscience Research Australia (NeuRA).

Findings from the Mindgardens FND Clinic will be showcased at the RANCZP Section of Neuropsychiatry 2023 Conference.

In Conversation

...with Sandy Gillies, CEO of the Western Qld PHN

Amy Sarcevic

Before Sandy Gillies became Chief Executive of the Western Queensland Primary Health Network (PHN), she knew from firsthand experience the challenges she might be confronted with.

As a First Nations woman "born and bred in the bush", Gillies already understood the plight of rural and remote Australians in accessing health care, long before she took on the role that would address it.

Her drive to enhance health equity began at a young age and was cemented numerous times following the premature deaths of multiple close contacts. Gillies believes these people may have seen a different fate had they resided in a different postcode.

"I was really born into the social justice and equity agenda, given my cultural background. But it's an agenda that has sadly been reinforced time and time again throughout my personal life and career," she told *Hospital + Healthcare*.

"In a city like Brisbane, you get sick, you get seen and have all the tests under the sun, often right away. Out here in the bush, it's sometimes a week and a 400 km round trip. There's this assumption that you have money, a motor vehicle and the literacy to understand what's going on, when that isn't the case for so many."

Changing the tide

Indeed, disadvantage is rife in Western Queensland, where First Nations people account for 17.2% of the population — significantly higher than the state average of 4%. In some

areas, particularly remote, this translates to high levels of health inequity.

While Gillies is committed to improving equity for these groups, she says legacy systems — like policy and funding — are so entrenched that it is like "trying to turn the Titanic".

"With policy and funding mechanisms baked into the enamel, progress sometimes feels much slower than I would like it to be. We are dealing with finite resources and policies that sadly don't cater for all postcodes equally," she said.

"But no matter how monumental the task, we won't stop our quest to increase services in the physical and mental health space and bring health outcomes for disadvantaged postcodes on par with that of metropolitan areas."

A value-based healthcare roadmap

To this end, Gillies and her team have worked hard to advocate for rural and remote Queenslanders and change the status quo when it comes to service delivery and funding.

"We want people to be funded according to the way they like to consume our services. That's why we are carving out a roadmap towards value-based health care. Here, our core focus will be on improving patient outcomes, but in a way that matches the needs and preferences of our residents," she said.

Gillies believes an outright shift to value-based health care will take time, but that it is ultimately achievable.

"It will take a generation, but we need to change the levers at the top and define what policy and funding might look like, when filling in the gaps of the current system.

"I'm confident that our work with communities is putting us on the right path. We are having conversations about how we can shift the dial from outputs to outcomes and it's informed by the very people we serve. That's the basis of the Healthy Outback Communities initiative we are currently trialling in remote Western Queensland."

While Gillies believes the environment in Western Queensland is right for value-based health care, she says work is still needed to lift systemic and cultural barriers.

"In remote communities, we all look after each other — and in that way, we have the groundwork to make value-based care a success. That said, we do have some challenges.

"In value-based care, you are treating the entire person, not just the disease. And that becomes incredibly difficult if people aren't connected to their wellbeing, or if they are treated unfairly by the system. When that happens, we tend to see poor compliance with medication and GP attendance."

Gillies is working to improve these issues through a range of initiatives. Among them is a program designed to destigmatise help-seeking behaviour in the realm of mental health.

"It's important to remind people that it's okay to not be okay and get help when they need it. Equally, to spend time on the ground and involve people in any decisions that will affect them. When individuals are considered and heard across all levels of government, we see greater participation."

While these tasks are not easy, Gillies appears to have the stamina to see them through.

"I don't see what I do as work. It's a passion for me and something I've lived and breathed from a young age."

"In bush culture, our word is our word — and I've given my word that we'll see change in my lifetime," she concluded.

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Childbirth and health problems

Every year, at least 40 million women are likely to experience a long-term health problem caused by childbirth, according to a new study published in *The Lancet Global Health*.

These include pain during sexual intercourse (dyspareunia), affecting more than a third (35%) of postpartum women; low back pain (32%); anal incontinence (19%); urinary incontinence (8–31%); anxiety (9–24%); depression (11–17%); perineal pain (11%); fear of childbirth (tokophobia) (6–15%); and secondary infertility (11%).

The authors of the paper, part of a special series titled 'Maternal health in the perinatal period and beyond', call for greater attention to the long-term health of women and girls — before and during pregnancy and in the months and years after childbirth. This is critical to detect risks and avert complications that can lead to lasting health issues after birth, they suggest.

"Many postpartum conditions cause considerable suffering in women's daily life long after birth, both emotionally and physically, and yet they are largely under-appreciated, under-recognised, and under-reported," said Dr Pascale Allotey, Director of Sexual and Reproductive Health and Research at WHO.

"Throughout their lives, and beyond motherhood, women need access to a range of services from health-care providers who listen to their concerns and meet their needs — so they not only survive childbirth but can enjoy good health and quality of life."

Burnet researchers led the third paper in the series — 'Neglected medium- and long-term consequences of labour and childbirth: a systematic analysis of the burden, recommended practices, and a way forward'.

One of the lead authors, Burnet Senior Principal Research Fellow Professor Joshua Vogel, said the research brought attention to the broad range of issues women could experience months or years after childbirth.

"We found that labour and childbirth are major contributors to many long-term health conditions that are often under-appreciated and overlooked," he said.

"These conditions can impair many aspects of women's lives, from social participation to employment opportunities and personal relationships."

The research highlights the need for greater recognition in the healthcare system of common health problems that can arise beyond the point where most women typically have access to postnatal care (usually around six weeks post-partum).

Vogel said while more research was needed, there were actions that could be taken now to improve care for women after the birth of a child.

"Ensuring women get respectful, evidence-based care during labour and childbirth is critical to preventing these complications from happening in the first place," he said.

"Women also need support from primary healthcare providers, linking them to diverse health services to identify and manage these longer-term complications after childbirth, which they can experience throughout their lives," he said.

"Managing long-term complications after childbirth can often involve lots of different healthcare specialties. We need to ensure health services are integrated and co-ordinated, so that women have access to good-quality care."

The research calls for a strong, multidisciplinary health system, which not only provides high-quality, respectful maternity services but also prevents ill health and mitigates the impact of broader inequities, including specific interventions that support the most vulnerable women and girls.

Co-author Professor Caroline Homer AO said women needed better continuity of care. "Many of these health issues are sadly common and often women feel too ashamed or embarrassed to raise these concerns," she said.

"We need to see health policies that reflect the needs of these women, and help them have a better quality of life."

Homer said many of these health concerns were treated in isolation but they needed to be looked at collectively.

"When you put all of these issues together, you are talking about a really substantial portion of the population who are living with illness, trauma or pain," she said.

"What we would like to come out of this series is further research into how healthcare providers can better recognise these problems, but also how they can prevent them happening in the first place," Homer concluded.

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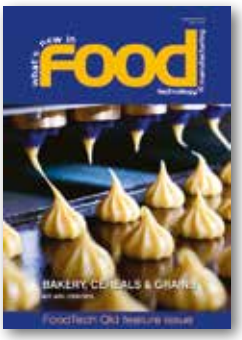

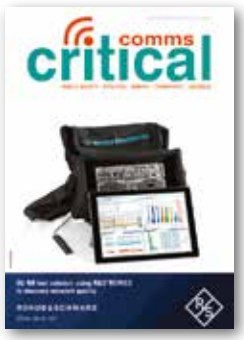

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