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Welcome to our Spring issue

Infection control became a national issue in Australia when the Spanish flu hit the country in early 1919, infecting around 40% of the population and causing around 15,000 deaths.

A hundred years later, COVID-19 — which represents the worst public health crisis since 1919–20 — was found to be the third leading cause of death in 2022, accounting for more than one in 20 deaths (9859 of 190,939 deaths). This is according to latest figures by the Australian Bureau of Statistics (ABS). It's the first time since 1970 that an infectious disease has featured in the top five leading causes.

Infection prevention and control (IPC) practices have evolved significantly over the last century, but surgical site infections — one of the most preventable hospital-associated infections (HAIs) — continues to be a serious problem globally.

This issue's lead article features Lilian Chiwera, a leading international infection control practitioner and Founder of the Surgical Site Infection Prevention Society, a global surgical site infection (SSI) prevention group. She is passionately working towards improving SSI awareness and patient safety around the world.

Chiwera is one of the key international speakers at the Australasian College of Infection Prevention and Control's (ACIPC) conference 'Driving Forward: Embracing Fundamentals & Charting a Path Forward For The Future' to be held from 12–15 November 2023 in Adelaide, South Australia. She provides insights on how SSI prevention and management has evolved over the years and reflects on her mission to eradicate these infections. Her campaign is garnering high engagement, but she emphasises that she won't stop until she has achieved the very best outcomes for each person that uses the healthcare system.

There is also an interview with Claire Rickard, Professor of Infection Prevention and Vascular Access, School of Nursing, Midwifery and Social Work, Faculty of Health and Behavioural Sciences, University of Queensland, on the ongoing IV Care Platform Trial for catheter-associated bloodstream infections.

Other topics featured in the issue include generative AI in health care, the updated hip fracture standard, using VR to tackle patient aggression, the future of pharmacy, eliminating the gender wage gap, design that promotes healing and celebrates seasonal shifts, and more.

Mansi Gandhi

Editor, H+H

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Lumary's Innovative Allied Health Software Streamlines Waitlist Management

In today's fast-paced world, the demand for allied health services continues to surge, leading to a significant growth in waitlists.

For allied health providers, attracting potential clients is only half the battle. The real challenge lies in ensuring smooth service delivery, precise data management, and well-informed decision-making. That's where Lumary AH steps in, the all-in-one practice management software that's redefining how allied health practices handle waitlists.

The Rising Importance of Waitlist Management

With the ever-growing demand for allied health services, it's no surprise that waitlists have become longer and more complex. NDIS participants seeking these specialised services often find themselves waiting for weeks or even months to receive the care they need. For allied health providers, a poorly managed waitlist can lead to missed opportunities, dissatisfied clients, and potential revenue loss.

An integrated waitlist management system, like Lumary AH, is becoming indispensable for managing this high demand efficiently. It offers several benefits that directly impact the success of an allied health practice:

1. Streamlined Administrative Processes: An integrated system mitigates double-data handling, reducing administrative burden and saving valuable time. The waitlist and client data are consolidated in one location, eliminating the need to toggle between multiple systems.
2. Enhanced Service Delivery: Lumary's clear visibility of participant requests ensures that service providers are aware of their clients' needs. This empowers them to offer prompt and personalised care, leading to not only higher patient satisfaction but also better clinical outcomes as their clinical needs are met in a more efficient way.
3. Informed Decision Making: Executives and managers heavily rely on data to make crucial business decisions. Lumary's waitlist management feature provides valuable insights into allocated service resourcing and revenue forecasting, enabling well-informed choices for business growth.

Challenges in the Allied Health Industry

Despite the evident benefits of waitlist management, the allied health industry faces several challenges when it comes to efficiently handling waitlists.

Some of these challenges include:

1. Lack of Integrated Waitlist Management: Many client management systems lack built-in waitlist management capabilities. As a result, providers often struggle to seamlessly transition participants from the waitlist to active clients, leading to delays and confusion.
2. Managing Multiple Services for One Participant: Participants may request multiple services simultaneously, such as occupational therapy (OT) and physiotherapy. Without an integrated system, scheduling and managing overlapping services become complex and prone to errors.
3. Double Handling and Data Inaccuracy: Without a centralised waitlist management system, data may be duplicated across different platforms. This leads to inefficiencies, inaccuracies, and a reliance on management to maintain data integrity.

Lumary AH: A Solution for Efficient Waitlist Management

Lumary's integrated waitlist management addresses the challenges faced by allied health providers in handling waitlists effectively. By providing a holistic approach to client management, Lumary streamlines the entire process, from waitlisting to service provision:

1. Automated Workflow: With Lumary, transitioning participants from the waitlist to active clients becomes seamless. Automated workflows ensure that relevant information is shared across all levels of care, eliminating the need for manual intervention.
2. Centralised Data Management: Lumary's integrated system keeps all waitlist and client data in one location. This prevents data duplication, reduces errors, and ensures a single source of truth for accurate decision-making.
3. Comprehensive Service Allocation: Managing multiple services for one participant becomes hassle-free with Lumary. Service providers can easily schedule appointments for overlapping services, ensuring a smooth service delivery process.

Ultimately, Lumary AH transforms waitlist management into a gateway for enhanced care. Reduced waiting times mean that participants receive timely access to the essential services they require, resulting in improved health outcomes and increased patient satisfaction. With participants accessing care sooner, early intervention can prevent conditions from worsening and ease the strain on the current pressured health care system. With Lumary's integrated allied health software, providers can focus on what truly matters — delivering high-quality, personalised care to clients promptly and effectively, fostering a healthier and happier community.

With a digitally integrated waitlist management process into client management systems, allied health practices can enhance their operational efficiency and secure a thriving future in the competitive healthcare landscape.

Lumary has been trusted by over 200 Australian healthcare providers as a digital software leader since 2012. Learn more about Lumary AH — the all-in-one practice management software purpose-built for allied health professionals. Book your free consultation with the Lumary team today!

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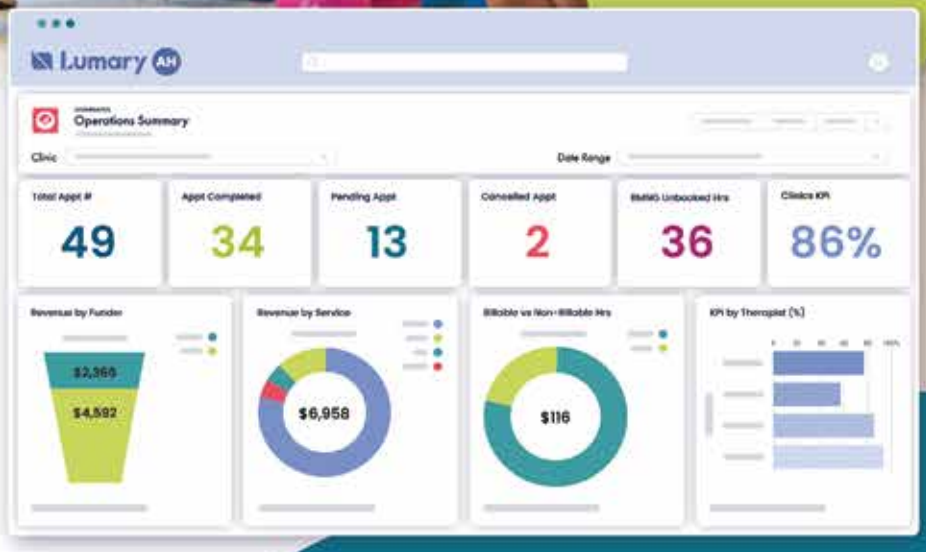

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Surgical site infections — where are we at and where to next?

Amy Sarcevic

Leading surgical site infection (SSI) prevention specialist Lilian Chiwera* is passionately working on improving patient safety globally. Here, she reflects on the progress so far and the path forward.

A lot has changed for the better since Lilian Chiwera, founder of the Surgical Site Infection (SSI) Prevention Society, began her career in infection prevention and control (IPC) in 2009.

Back then, Chiwera watched IPC practitioners work in back-office silos and felt recommendations handed down to frontline staff were sometimes unrealistic.

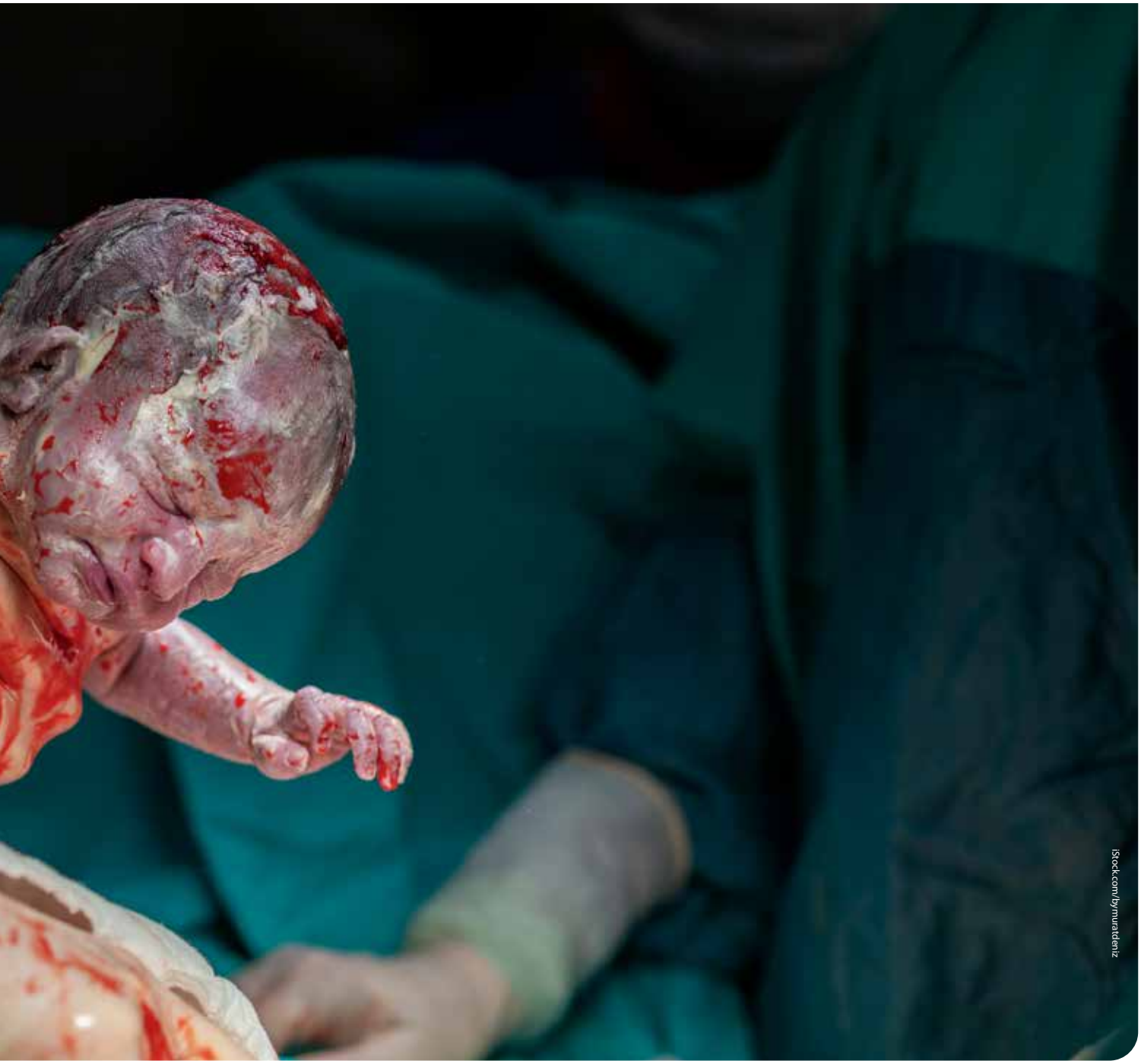
"I remember being told to isolate infected patients at any cost, but sometimes this was just not practical. Also, research tells us that isolated patients are often tended to less than regular patients, so there were concerns about their wellbeing," she said.

Since then, Chiwera has seen IPC culture improve and rates of infection plummet, thanks to greater collaboration, mandates and SSI guidelines from the World Health Organisation (WHO), introduced in 2016.

But despite the progress she has witnessed, Chiwera says she will not relent on her tireless mission to eradicate SSIs, not just from her own workplace, but in hospitals around the world.

"In the UK, mandates meant anyone who exceeded certain targets was 'penalised'. But really, who wants to see any SSIs? I'd rather see them disappear altogether," she said.

This zero tolerance approach was her motivation for founding the SSI Prevention Society — a group dedicated to driving down SSIs, globally.



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Her inspiration was the memories of infected patients she saw forced back into surgery for the second time around and burned out colleagues who should have been scaling back, not ramping up, their workloads. There is also a more personal flavour to Chiwera's mission. "I feel great empathy towards postpartum mothers who ought to be cherishing the time with their newborns, not healing from the trauma of a post-caesarean SSI," she said.

Starting from scratch

To garner support for her initiative, Chiwera initially took to social media. She campaigned extensively, highlighting how impactful the WHO's annual hand hygiene day had been.

"I wanted to demonstrate that if we could see such radical improvements in hand hygiene, just from an awareness raising campaign, then we could achieve similar results with our own work," she said.

After several months, Chiwera amassed substantial interest and blew her initial expectations.

"I was amazed by how many practitioners seemed to want this as much as I did. There is this myth that surgeons aren't interested in surveillance, but that couldn't be further from the truth," she said.

Soliciting advice from her professional network, Chiwera then created an abstract, which she presented at the UK Infection Prevention Society conference last year. Delegates loved her proposal and from there the project picked up momentum.

With international interest behind her, she then got in touch with key people from the NHS's senior leadership. In January this year, she organised the inaugural SSI prevention group meeting. "You said you wanted this, how can we make it work?" she told attendees.

"Even though we already had guidelines and data around IPC, things aren't being translated fully on the ground. I wanted to get to the heart of why that was and find better solutions," she said.

Global mission

Among the ideas put forward was an SSI prevention inspection tool that could be used by clinicians all over the world, to ensure IPC best practice.

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Additionally, some international project champions that could help drive outcomes in their respective countries and surgical domains.

"Project champions — ie, people on the ground at specific locations or sites — can help us raise awareness on SSI prevention, in ways we have not seen before. This approach was critical to my success in previous endeavours," Chiwera said.

In pursuit of these project champions, Chiwera and team have been contacting societies from around the globe. They now have an established network of supporters, including the Surgical Infection Society Europe and the Infection Control African Network. "Essentially, every infection control society around the world is now on board with our mission," she said.

This support, said Chiwera, has been a "game changer".

"It means we will see difference, not just here in the UK, but in many other countries. It's a real opportunity for us to raise the profile of SSI prevention and make those tangible changes for patients, everywhere. We already have many SSI guidelines and data, so it's now time for practical action on the ground," she said.

Too big to handle

With a year of campaigning now under her belt, Chiwera is still amazed by the level of engagement. In fact, with more than 200 people registering their interest, she has had to pause new intakes, with demand for the project exceeding her current capabilities.

"For me, SSI prevention has never been about box ticking, it's about bringing on the changes our patients and staff need for their wellbeing."

"I'm at the point of having to slow things down and garner additional resources, as my targets have been blown out of the water. It's fantastic to see so many people passionate about changing the status quo when it comes to SSIs. I now just need a formal, measured approach to taking on the next stage," she said.

Aside from her tireless campaign work, Chiwera believes the key to amassing this level of support has been her passion and determination.

"I never forget my 'why'," she said. "For me, SSI prevention has never been about box ticking, it's about bringing on the changes our patients and staff need for their wellbeing. I won't stop until I have achieved the very best outcomes for each and every person that uses the healthcare system."

*Lilian Chiwera played a key role in setting up and coordinating a successful SSI surveillance service at Guy's & St Thomas' NHS Foundation Trust (GSTT) (UK) from 2009–2022. Lilian, a holder of an MSc in Infection Prevention and Control, Diploma of Higher Education in Nursing studies, BSc, has held various roles for the Infection Prevention Society (IPS) society and is a member of Hospital Infection Society (HIS) Guidelines Development Committee.

She is presenting at the upcoming ACIPC (Australian Conference for Infection Prevention and Control) International Conference 2023 — 'Driving Forward: Embracing Fundamentals and Charting A Path For The Future' — to be held at the Adelaide Convention Centre and online from 12–15 November 2023.

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Improving safety of IV catheters

Amy Sarcevic

A new type of research method is helping to identify best practice around intravascular (IV) catheter usage, in a bid to drive down the 3500 cases of bloodstream infection (BSI) that occur annually in Australia.

Each year, more than two billion central and peripheral IV catheters are used around the world, with the devices accounting for 35% of all healthcare-associated BSIs.

While a large volume of research has already explored the issue, much of the literature has focused on single aspects of catheter usage, such as product type or method of insertion.

In contrast, this new research method, known as a platform trial, can measure multiple variables at speed and provide a more holistic picture, explained lead researcher Professor Claire Rickard, Professor of Infection Prevention and Vascular Access, School of Nursing, Midwifery and Social Work, Faculty of Health and Behavioural Sciences, University of Queensland.

"Studies that look at isolated aspects of catheter usage can generate really good-quality data, but the problem is there are just so many things that need testing: antimicrobial products, nursing and medical procedures, etc. It can take years to amass enough data and, by that time, more questions have likely arisen, so we are never getting the full, current picture of best practice.

"With a platform trial, we can answer multiple questions at once and get the guidance we need more efficiently," she told *Hospital + Healthcare*.

How does it work?

The platform trial method involves ongoing data collection, using the same dataset, but with different research questions. "Essentially, we are just swapping in and out the different experimental interventions," Rickard said.

The method proved particularly useful throughout COVID-19, during which time there were lots of rapidly changing treatment questions. "We didn't have 20 years to work out the answers — we needed them asap; and a platform trial enabled researchers to do that."

While it is an efficient method, Rickard admitted it can be challenging to execute.

"Platform trials are quite ambitious and complex. They require us to step up new statistical methods and work with other groups who have worked in this space before" she said.

Product evaluation is especially important

Rickard's IV Care Platform Trial will be particularly beneficial in the realm of product evaluation, given that the Therapeutic Goods Administration (TGA) has already approved more than 3500 IV products for use in Australia.

"Unlike pharmaceutical products, health device manufacturers are not required to provide efficacy data for their products; and there is no formal R&D section within the health system that evaluates products in use.

“Studies that look at isolated aspects of catheter usage can generate really good-quality data, but the problem is there are just so many things that need testing: antimicrobial products, nursing and medical procedures, etc.”

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“There is a huge economic imperative to figure out which work best — and it is largely up to collaborative research groups to do that,” Rickard said.

While Rickard admitted clinicians often have their own preferences for products, she said statistical data remains crucial.

“Clinicians are only working with what they have got access to — and their workplace will have purchased those products based on their own criteria. Oftentimes, decisions are made on a cost basis.

“It’s really important to test the full breadth of products available and see which deliver the statistically best outcomes for patients. Moreover, you need that real-world testing in the hospital environment that includes patients with multiple drugs and disease processes.”

Unexpected results

Rickard and team have already uncovered some surprising results, with certain, less expensive, brands sometimes outperforming those at the higher end of the market.

“It is certainly not always the case that expensive products are best. Some we find are, but in our recent study, a simple design of catheter securement was just as effective as some of the complex varieties out there.”

Sustainability has also emerged as an important factor in product selection, with single-use devices taking a financial toll on hospitals.

“Ten years ago, sustainability didn’t raise a mention, but now hospitals are taking more interest. It makes sense from a financial perspective: if you can reduce throw away items, it will save you money on purchase and disposal.

“Obviously the main aim is to prevent infection, but if two products work just as well than sustainability might be the deciding factor — so we need data around that.”

The IV Care Platform Trial is ongoing and funded by the Australian National Health and Medical Research Council until 2027.

Keeping the 'patient' at the centre in the age of interoperability

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Catherine Koetz, Director — Healthcare, GS1 Australia

Exciting times recently as we welcomed the release of the long-awaited National Healthcare Interoperability Plan from the Australian Digital Health Agency. What is the most exciting perhaps is that although it is focussed on technology and standards, the consumer of healthcare is very much at the heart of the priorities and actions that have been called out.

The statement that interoperability supports safe, secure, efficient and quality care by enabling a more connected digital health system and harnessing the power of health information to drive whole-of-person care, is powerful and ambitious. The detail of the plan is even more exciting for those who have been working to try to enable a connected health system for many years.

Building solid foundations

Healthcare often uses the word 'Interoperability' closely followed by the reference to 'Standards'. Given how many 'standards' there are that apply to health and care in Australia it is often incredibly confusing. People might become proficient with one type of standard and think it can solve all challenges but struggle to understand how the other standards fit into their work, projects, ICT infrastructure investment, workflows or elsewhere. Some of the priority areas from the new plan will help to build an understanding not only of the standards that should be used but also of how they knit together to create the interoperability we crave.

Bridging the digital and physical

When we start to chart the digital ecosystem surrounding the patient or consumer and the idea of interoperability, the focus has tended to be on data within systems and how it is shared once created. As previously sharing has largely been in the form of whole files (digital, digitised or paper) as we move to greater sharing of data the semantics become more important. So too, how data is captured during interactions with patients or by consumers themselves is now crucial. Layers of identity and terminology are critical to enabling data to be captured in a consistent way so that it can then be used in real-time where needed.

The semantic standards that are in focus for ensuring interoperability in Australian healthcare include SNOMED (Systemised Nomenclature of Medicine), LOINC (Logical Observation Identifiers and Codes), UNSPSC (United Nationals Standard Products and Services Code), ICCBBA (International Council for Commonality in Blood Banking Automation) and GS1.

Amongst the defined set of data standards from GS1 are unambiguous identifiers and data capture standards. Though most commonly used in the supply chain to identify products, shipments, supply locations and trading partners, additional sets of identifiers support the capturing of interactions with patients by identifying people, relationships, medical equipment, locations of care and products at point of care. The embedding of these identity standards helps to bridge the gaps between digital identity or terminological concepts and physical interactions or actions.

Clinically Integrated Supply Chain

Whilst typically the supply chain in health organisations has been seen as a back-room function, the ability to provide care relies upon an efficiently run value chain. Ensuring that the two are effectively linked at the relevant points in the care process is critical. This again is where standards play a central role, in ensuring that people have access to care when it is needed.

Viewing the clinical needs of the patient or consumer and the value chain as interdependent streams of activity or as concentric circles surrounding the patient with multiple linkages helps focus organisations and the wider health system on delivering the best experience for the patient. It also helps ensure that clinicians have what they need when they need it. Data standards and interoperability of data help build effective linkages and help the system work most effectively.

Staying focused on the patient

As we finally move beyond the questions of 'What is 'interoperability'' and debate around 'Why it is important' it is great to see the future of health and care focussing firmly on the patient and consumer. We have acknowledged that we need data to help ensure the best patient outcomes. We know that data is needed in order to measure the value of treatment, support analytics and underpin future technologies that will help manage increasingly complex requirements in a health system under pressure. We know we must have a system where the data must be accessible so it can be used throughout the care of a person not just at one point in time. All this means that data and information must be interoperable.

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Infect and forget

Tackling IBD with hookworms

The Malaghan Institute's Hookworm Therapy team says a dose of hookworms could provide a medication-free alternative to people with inflammatory bowel disease.

The 'Infect and forget' hookworm study, published in *Inflammatory Bowel Disease*, has found that hookworms were safe and long-lasting for participants with ulcerative colitis — paving the way for wider clinical studies.

The Malaghan Institute has been exploring the potential therapeutic benefits of human hookworms for patients suffering allergic and inflammatory disease for a number of years. This current study was the first of its kind to investigate whether hookworms could offer a medication-free alternative for patients living with ulcerative colitis to manage their disease.

"This pilot study is the first controlled evidence in the use of hookworm as a therapy in ulcerative colitis," said Malaghan Institute clinician and gastroenterologist Dr Tom Mules, who led the study alongside Rutherford Clinic gastroenterologist Dr Stephen Inns.

"Our study has shown this kind of therapy is well tolerated, safe and feasible to take into a full-scale trial."

Pilot trial

In this pilot randomised controlled trial, patients currently in remission from ulcerative colitis were infected with a controlled dose of hookworm larvae or given placebo, and followed up over 12 months. Patients would provide regular feedback on any changes to their gut health or discomfort. Samples were collected throughout the year-long infection to test a range of scientific parameters such as gut inflammation, microbiome and immune cell composition.

"We deliberately chose to target patients with ulcerative colitis in remission," Mules said.

"We believe that the effect of hookworms may not be strong enough to push someone from an active disease state into disease remission. However, once someone is in remission hookworm could keep them there, prevent them from having disease flares and reduce the need to take medication, such as steroids, which supresses the immune system and has adverse effects."

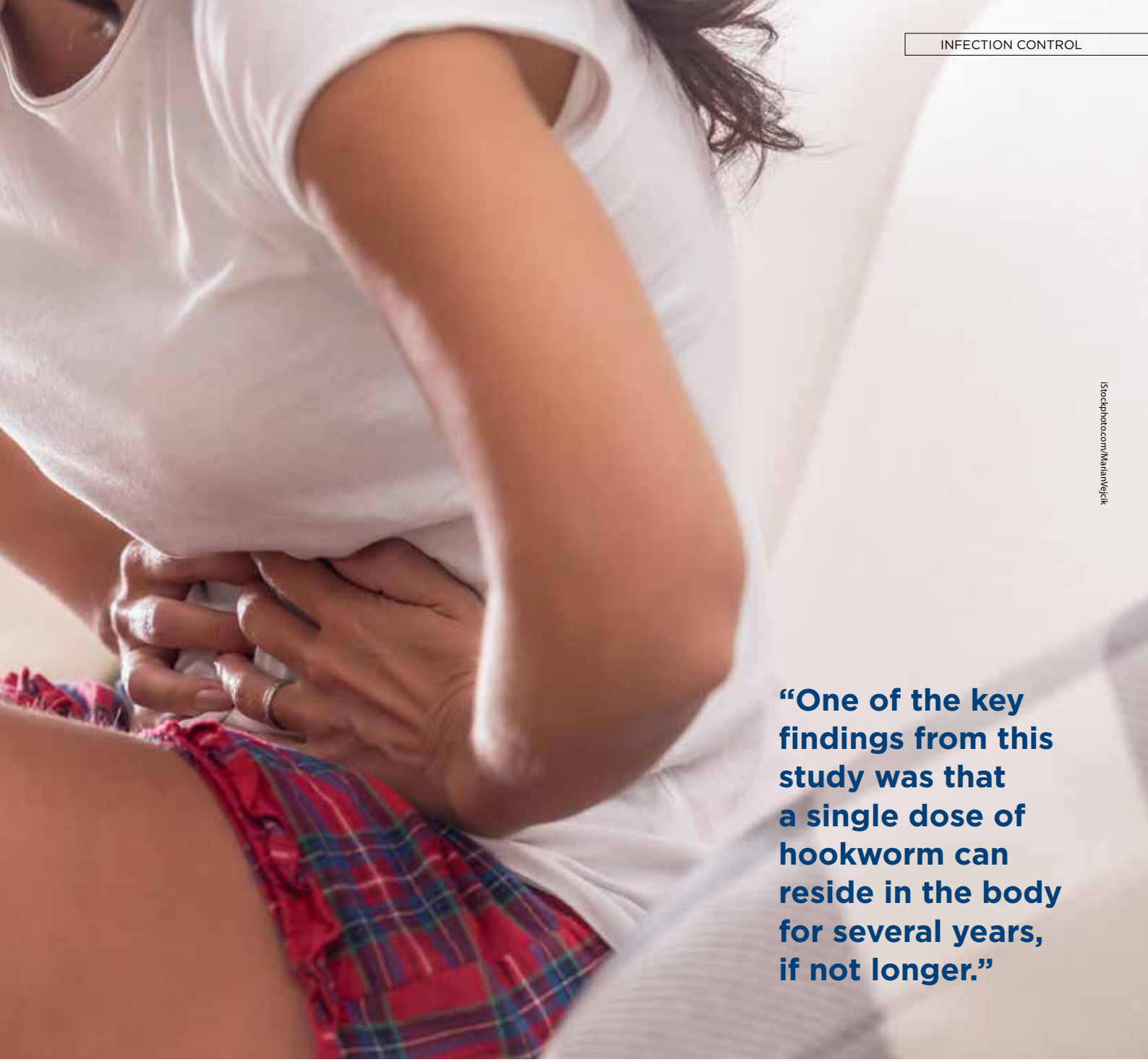
Living in remission from an inflammatory disease typically means that patients experience less pain and discomfort associated with active disease. In order to stay in remission patients generally have to take daily medications to prevent flare ups.

However, Dr Mules explained that there are significant barriers to taking daily medication, particularly when you do not have active symptoms to remind you to take pills morning and night. Importantly, not taking the medication increases the risk of having a flare. Disease flares impact quality of life and can lead to disease complications with need for strong medications to bring them under control.

Infect-and-forget approach

"One of the key findings from this study was that a single dose of hookworm can reside in the body for several years, if not longer," Mules said.

"This means that if hookworm is effective at preventing disease flares you can get infected and potentially no longer have to daily medicate. Infect and forget. The worms just sit there in the background and



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"One of the key findings from this study was that a single dose of hookworm can reside in the body for several years, if not longer."

do their thing. I think that's where the power of this therapy lies."

However, before the team could truly test this infect and forget theory in a full-scale trial, they had to confirm its safety. "We did see that around the 6- to 8-week mark participants reported mild tummy symptoms, but those had all resolved by week 10–12," Mules said. "Otherwise, compared to the placebo group there was no significant differences in adverse events.

"The fact that these worms are well tolerated and safe to give to people with inflammatory disease is really important. One of the big safety questions was if the immune response triggered by the hookworm in the early stages of the infection could trigger a flare of ulcerative colitis. We did not see this, again highlighting that this therapy is safe in these patients."

Scientific groundwork

With no effective cure for severe inflammatory and allergic diseases the idea of using hookworms to manage harmful and aggressive symptoms is something many people have latched onto. There exists a thriving 'underground' market of people self-medicating with hookworms, and significant anecdotal evidence indicating they are helpful in treating disease and managing symptoms, Mules said.

"We know that people with inflammatory bowel disease, including ulcerative colitis, already use medically unsupervised hookworms to manage their symptoms and regain some semblance of quality of life; however, the evidence needed to support this is lacking. The aim of this study was to provide some solid scientific groundwork, to hopefully one day make this a real, legitimate therapy to help people living with debilitating disease."

Larger trials

Moving forward, the team plans to progress to larger clinical trials and to apply their findings to other diseases.

"The power of our study's findings is that we can apply them to other diseases as well," Mules said. "We are in the process of deciding what the best disease target is. It could be ulcerative colitis but there are also early findings demonstrating hookworm therapy could be beneficial to a wide range of autoimmune, allergic and metabolic diseases.

"We're extremely grateful to the participants for taking part in this important study which will let us apply hookworm therapy where it will have the biggest impact."

STOP THE SPREAD OF AIRBORNE VIRUSES IN YOUR HEALTHCARE FACILITY

HEPA Filters: What you need to know.

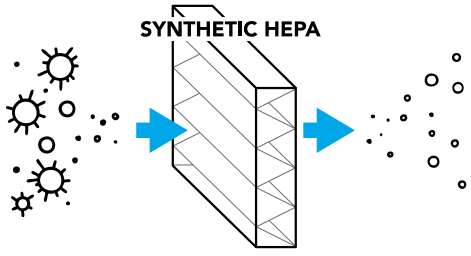
At its most basic level, an air purifier is only going to perform as well as the filters inside. When you are dealing with filtering viruses from the air, you need to select an air purifier with a medical-grade HEPA filter. Medical-grade refers to top-tier H13 or H14 efficiency-rated filters that will capture a minimum of 99.95-99.99% of particles @ 0.3 microns (PM 0.3) or larger. These are the same filters relied upon in infection control isolation rooms and operating theatres.

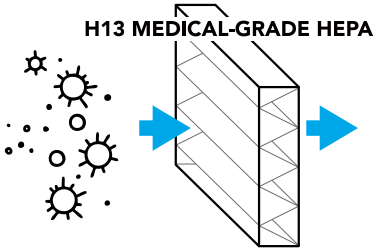
HEPA Filter Types

HEPA air purifiers commonly use either a synthetic pleated HEPA type filter or medical-grade, EN1822-rated HEPA paper.

HEPA 'type', commonly synthetic filters are made from polypropylene media with an electrostatic charge, the charge improves filter efficiency so the filter media will let through fewer particles. Synthetic filter media is used for 2 reasons; it's lower cost to manufacture and it creates less pressure drop, so the fan in the air purifier can be smaller.

The electrostatic charge on the filter media essentially magnetises the filter material to hold and capture more dust and particles, however, the caveat is the charge dissipates over time and causes the efficiency to reduce. In tests performed on synthetic filters we have seen a reduction from 99.95%, down to less than 75% during six months of use.





Synthetic filters usually cannot be certified as some ultrafine particles will penetrate the filter and therefore fail the stringent EN1822 efficiency tests. By contrast, HEPA paper, also known as glass paper, maintains the same very high efficiency for the life of the filter.

Key Points

- The majority of air purifiers are not medical-grade filters (H13/H14 efficiency) and contain synthetic filters with lower E11 - E12 efficiencies.
- Buyer Beware: synthetic HEPA-type filters using materials like polypropylene do not maintain the stated efficiency for the life of the filter, HEPA paper is the only material guaranteed to maintain efficiency for the life of the filter. Synthetic filters use an electrostatic charge on the filter material which assists efficiency but over time the charge is lost and so is the efficiency.
- Bigger is better: the larger the size of the filter surface area (usually measured in m^2) increases the efficiency of the filter due to a larger contact area. When comparing air purifiers look for the largest filter in size.
- Air purifiers that direct airflow in all directions tends to recirculate their air at lower speeds making them less effective.

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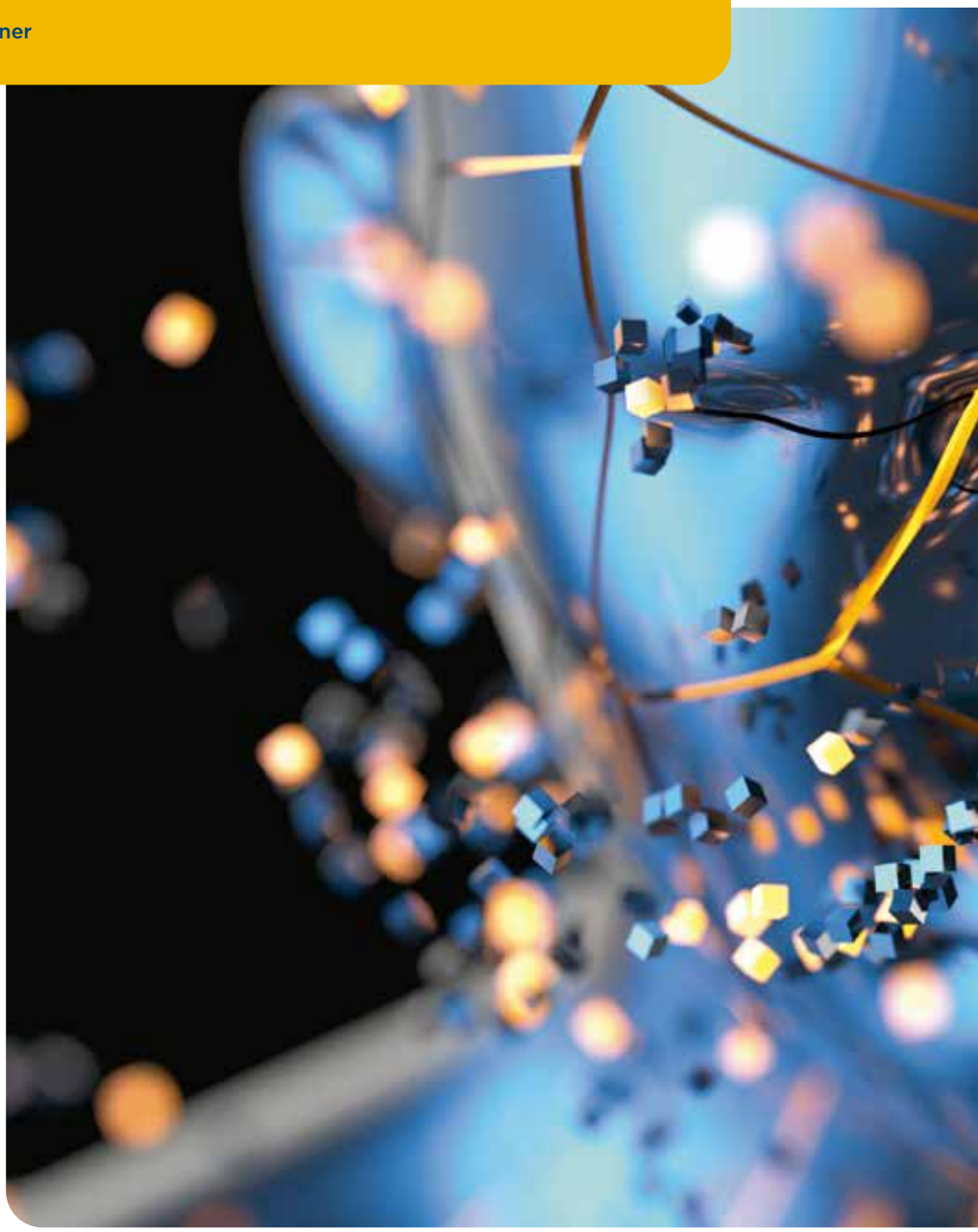
Generative AI in health care — how to support responsible deployment

Sharon Hakkennes*, VP analyst at Gartner



The level of interest and adoption of generative AI within the Australian healthcare sector is increasing at a rapid rate. This is a trend largely driven by the transformative capabilities of large language models (LLMs) such as ChatGPT in areas like patient engagement, medical research, clinician experience and workflow optimisation.

In general, applications of AI in health care have a critical impact on patient care and clinical outcomes and, as a result, must meet high standards for safety, efficacy, equity and usability. From a generative AI perspective, the most significant limitations and risks centre around privacy, bias, accuracy, explainability and recency.

However, regulation isn't keeping pace, so it's critical for healthcare organisations in Australia to put guardrails in place to ensure generative AI is used in a responsible manner. Responsible AI makes AI a positive force, rather than a threat to society and to itself. It covers many aspects of making the right business and ethical choices when adopting AI that organisations often address independently, such as business and societal value, risk, trust, transparency and accountability.

The value potential

Currently, the potential of generative AI spans patient care, research, clinical education and workflow optimisation. For example, it could be used to improve clinician efficiency with administrative tasks such as assisting with generation of clinical notes and letters, responding to patient queries and producing patient information and educational material. Generative AI could also be used to enable clinicians to more easily find patient information to offer specific summaries of their health information.

Another potential use is to enhance patient-facing chatbots and conversational assistants supporting activities such as triage, care navigation and answering administrative questions like billing. It could enable clinical decision support through answering questions specific to differential diagnoses and treatment options.

In addition, generative AI could be used to classify large volumes of unstructured text within electronic health records (EHRs) for multiple purposes, such as making it available for research and data analysis, enabling identification of patients for clinical trials and facilitating clinical coding for billing purposes. It could also be used for sentiment analysis of patient feedback and reviews.

A foundation for governance

To enable these developments, an appropriate governance framework is essential in ensuring the responsible deployment of generative AI. Data, algorithms and people can be biased — an absence of policies and procedures that guide ethical use and best practices can lead to significant clinical, financial and reputational risks.

Ensure protocols are in place to monitor the use and performance of any deployed generative AI solutions, as well as an action plan to appropriately respond to issues as they are identified.

Organisational readiness

A critical component of generative AI deployments is ensuring end users have the appropriate knowledge and skills to apply it in a manner that supports responsible use. Generative AI models are fallible — risks include bias, inappropriate recommendations, factual inaccuracies and fabricated outputs. The unexpected impacts of reduced human interaction that may result from adoption of generative AI are unclear at this stage and thus must be carefully monitored.

In addition, the sophistication and linguistic fluency of these models can give the illusion of comprehension and expertise. This increases the risk of automation bias — the tendency to favour the output of automated decisions, overlooking critical information or dismissing the user's own professional judgment, even when the system is incorrect. This has been demonstrated to have negative impacts on clinical decisions.

Going beyond the hype

The responsible deployment of generative AI requires a value proposition that is aligned to the strategic goals of your organisation, measured by its impact on intended outcomes and weighed against potential negative effects and risks.

Start by running an ideation workshop with broad stakeholder representation to discuss and identify how generative AI can support your organisation's strategic goals.

Prioritise use cases by scoring them according to their business value (for example, patient outcomes, experience, improved efficiency, revenue) and feasibility (which could be technical, change management, regulatory). They should deliver business value directly and also demonstrate the longer-term strategic potential that generative AI could have across your organisation.

Don't get caught up in the hype. The long-term financial costs of generative AI applications are currently opaque, so you need to have a clear understanding of the business or clinical value being delivered.

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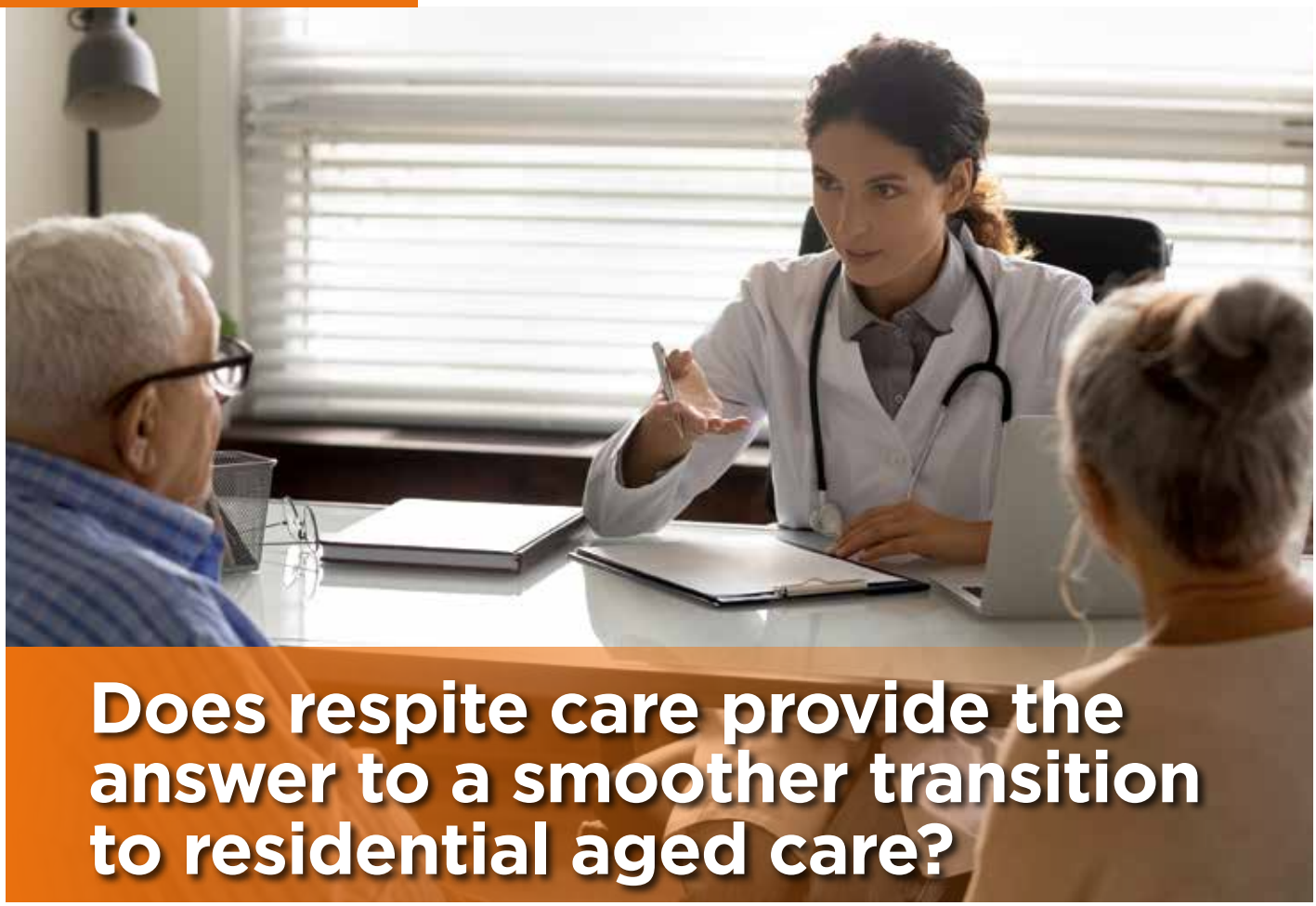
*Sharon Hakkennes is a VP analyst in health care at Gartner, focused on virtual care, EHR implementation and optimisation, clinical engagement, change management and strategy development.



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Does respite care provide the answer to a smoother transition to residential aged care?

It can be a difficult decision for families, when as their trusted healthcare practitioner, your recommendation is for their loved one to move into residential aged care to receive the best support moving forward.

Navigating a patient's reluctance for what they believe is a loss of independence can be a challenge when you must balance that with sound and honest advice.

Leading aged care provider TriCare says its respite care service is a great way of introducing the idea of residential aged care to those who want to experience what permanent care might be like before they make any longer-term commitments.

"We talk about it as an opportunity to 'try before you buy'," said TriCare Williams Landing Facility Manager Nithin Shetty, adding that it can take the pressure out of decision-making for both the person in need of care and their family and friends.

"It's an option we'd like to see more people taking advantage of because people can experience a taste of permanent residential care without the risk that they'll regret their decision. They can see how they adjust to the residence, staff and location, and if they have any misconceptions or concerns about what life in an aged care residence is like, they can have those addressed as well."

Centenarian Mary Micallef's family say they went on a lengthy 'journey of self-discovery' with a range of aged care providers. Mary had lived in a retirement village following the death of her husband, but eventually her needs became greater, and her family searched for appropriate aged care support.

"Over time, it was decided that Mum would spend two weeks of respite in various nursing homes that were being considered and for her to decide on her choice of homes," Mary's daughter, Melita Proebstl explained.

Giving her mother an active role in the decision-making process offered a smoother transition to permanent care for Melita and her family, "What a relief it was! Within three days of what was to be another two weeks respite, it was clear to Mum and to all of us we had finally found the perfect place for Mum to spend her twilight years," Melita said of finding TriCare's Williams Landing Aged Care Residence.

Martin Taylor, 83, also relished the chance to try a residence before making one of the biggest decisions of his life.

"Dad absolutely loved his respite stay at TriCare Williams Landing, and has since moved in full-time," Martin's son, Danny explained.

"From the moment he moved in, we noticed a positive change in his outlook and health—the staff have been absolutely fantastic and so considerate of his needs," Danny added.

Of course, respite care isn't always a 'try-before-you-buy' option; it can also be a welcome opportunity for carers to take a much-needed break from caring for their loved one—whether it's for planned holidays, a family emergency, health reasons, or just to take a break and recharge.

But the popularity of respite care as a way to smooth the transition to permanent care is growing, with The Australian Institute of Health and Welfare reporting that 64% of those entering permanent care have tried a respite service first (from their most recent data from 2019–20). This is a significant increase from just 26% ten years earlier. And of those who tried respite care, over half (52%) went on to enter permanent care on the same day they exited respite care.

"Being able to experience a taste of permanent care first-hand, without the commitment, has made a world of difference for many people we've seen in our facilities," Mr Shetty said.

Let's care together

"We chose TriCare because we researched some aged care facilities and they were easily the best. The admission process was easy and with the help of the admission team made it run smoothly. My dad absolutely loved his respite stay and has since moved in full time he loved it so much."

- Danny

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TriCare

Design that promotes healing and celebrates seasonal shifts

The Tumut Hospital redevelopment has delivered a fully integrated, modern health service to meet the current and future needs of Tumut, Gundagai, Batlow and Adelong communities in New South Wales.

The redevelopment features 26 inpatient beds (including three maternity beds), a Level 3 Emergency Department, Community Health Services, Clinical and Non-Clinical Support Services, staff accommodation and a helipad.

Planned, designed and delivered by the Australian family-owned construction company Richard Crookes Constructions (RCC) in consultation with Health Infrastructure NSW (HI), Murrumbidgee Local Health District (MLHD) and Jacobs Group, the architectural expression of the hospital responds to both the design principles and the context — keeping the building simply articulated, while achieving a contemporary expression appropriate to a modern healthcare facility.

The building features a low-pitched profiled metal roof with a raised skylight over the main east-west public corridor.

It was decided that single level design should optimise functional flows, spatial efficiencies, capital cost, intuitive wayfinding and building services integration in a welcoming environment. A higher central roof form denotes the main entry and provides a larger volume in the public entry lobby.

All clinical and non-clinical services are now delivered under one roof in the purpose-designed building, with logical zoning that incorporates contemporary models of care.

The design team chose to keep the interiors simple, based on the principles of clarity and positivity. They took advantage of the site's orientation to bring natural elements into the hospital — creating a healing space for current and future patients to enjoy.

Four distinct space typologies were designed, inspired by the surrounding natural sites and foliage display during seasonal shifts that are celebrated by the Tumut community.

This framework informed each space in appearance, colour and character. Summer-based colours are used throughout patient areas to represent warmth and privacy, with timber accents and laminate finishes in bright and warm colours borrowed from the ever-changing foliage displays; transitional seasons such as spring and autumn reflect shared patient and family areas, staff areas and support areas; and aspects of warm and cool greys, with soft green and blue colours, are drawn on to connect the winter and summer colours throughout the hospital.

Images courtesy of Williams Images.

RCC's project team, led by Ross Williams, Project Manager, mitigated challenges related to COVID-19 throughout construction to deliver the state-of-the-art facility on time and to budget. As a result of the epidemic, many workers found themselves living away from home for long stretches of time. To overcome this, the entire team drew on their strong sense of camaraderie and genuine mateship — banding together to offer support and, in turn, be supported throughout.

"Working on this project really was like working with family. Although it was such a tough time for everyone during the pandemic, we were lucky to be able to socialise through our work together onsite. Some of the people there have become lifelong friends outside of the workplace," said Rhys Goodwin, Project Engineer.

Concurrently, the wider industry was facing large material shortages and escalation issues. Through thorough planning, early procurement and teamwork, the project team mitigated relevant challenges to ensure materials were sourced and delivered per the project's timeline.

The project was recognised at the recent Master Builder Association's 2023 Southern Regions Excellence in Building Awards, with the Tumut Hospital Redevelopment winning two accolades — Commercial Projects over $40 Million and Commercial Builder of the Year (Southern Regions).

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The S-Monovette is an innovative enclosed blood collection system that allows the user to draw blood from the patient using the syringe or vacuum method, uniting the advantages of both techniques in a single product.

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The S-Monovette needle is ready to use so that there is no need for assembly to a holder. The needle is of a compact, low profile design, which reduces the chance of haematoma by allowing for a reduced angle of puncture and eliminates the possibility of needle stick injury caused by assembly of the needle and holder. The compact design also results in approximately one sixth of the sharps volume caused by using a pre-evacuated system, giving significant cost savings.

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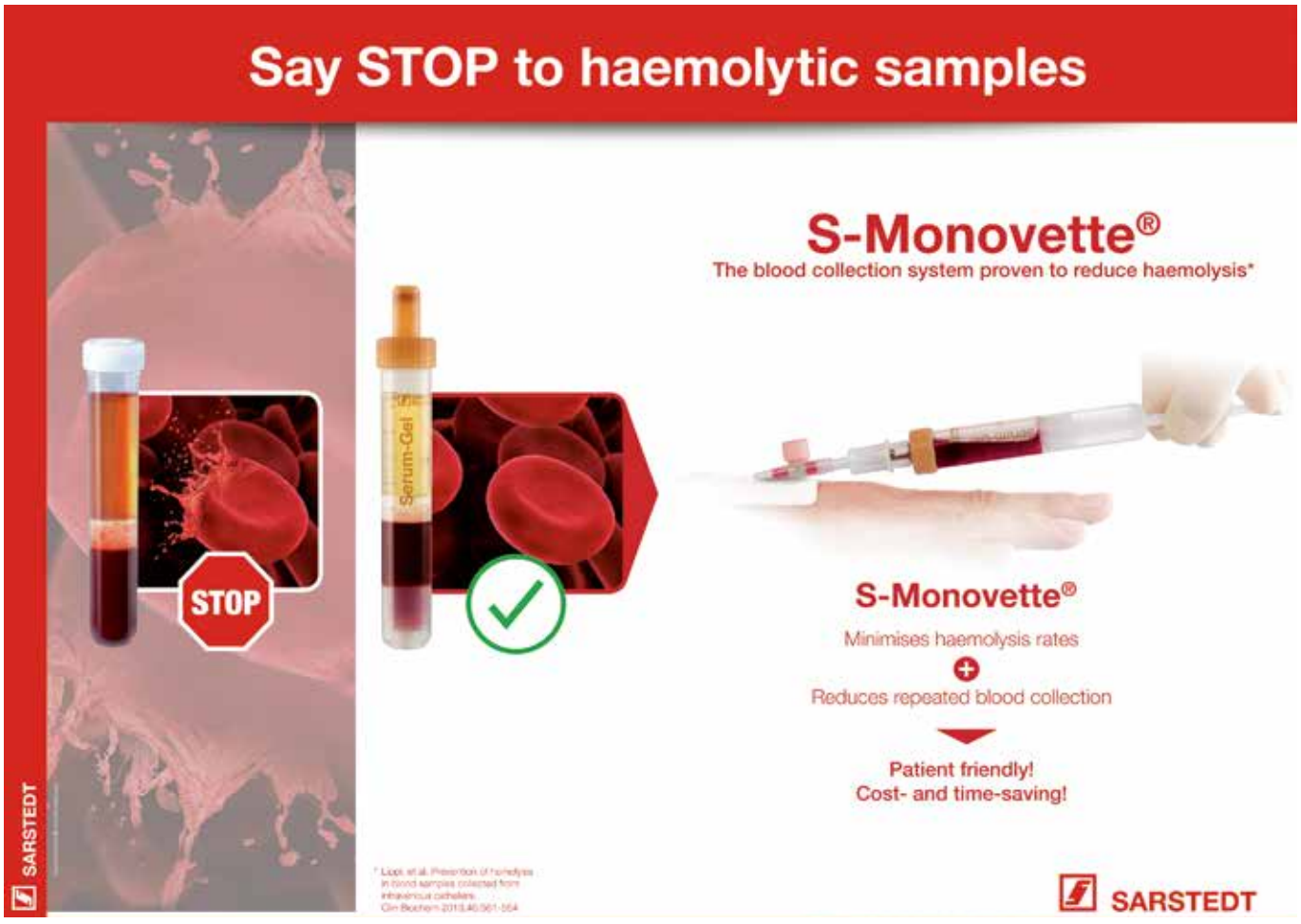

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A redevelopment that blends old and new

The Cairns and Hinterland Hospital Health Services' (CHHHS) $86.4 million redevelopment of the Atherton Hospital has been completed, with the aging hospital infrastructure now replaced with modern facilities.

The new facility for the Tablelands community features a new emergency department, maternity ward and birth suite, general medical wards, medical imaging (X-ray), operating and endoscopy theatres and a sterilising unit.

The Clinical Services Building is a key piece of the large-scale redevelopment at the Atherton Hospital by FKG Group, sitting alongside the Community, Allied and Mental Health Building, a new helipad and an engineering services building, according to CHHHS.

"This modern facility will improve clinical capability, patient care and support smoother transitions for patients," said Shannon Fentiman, Minister for Health, Mental Health, Ambulance Services and Minister for Women at the official opening of the facility.

"More than 80 jobs have been created in developing this large-scale project, while close to 20 full-time nurses, pharmacists, administration and operational staff have come on board to work at the new facility.

"We are now in the planning stages to finalise this project, with the refurbishment of inpatient wards in the existing hospital building creating further capacity for Tablelands residents."

The redevelopment is architecturally distinct, but is reminiscent of the deep history of the site, according to CHHHS. A prominent archway motif and brick plinth by the new facility's main entrance echo the original nurses' quarters, with the main entrance featuring bricks from the former building.

"A prominent archway motif is based on the original nurses' quarters design; a brick plinth by the main entrance also pays homage to the original nurses' quarters, created using bricks from the former building; and the colourful tiles on the exterior of the building tell the story of the Tablelands itself — with its rich reds, vibrant greens and deep blues. Adding to this are improved gardens, landscaping and sculptures that aim to ameliorate any visit to the hospital," CHHHS said in a statement highlighting key features of the new facility.

Leena Singh, Chief Executive, Cairns and Hinterland Hospital and Health Service said, "This new facility is about modern spaces designed to provide best-practice care.

"There are now designated patient pick-up and drop-off zones outside the new emergency department and the main entrance to the hospital via Louise St.

"The new ambulance bay entry delivers patients directly into the emergency department for greater patient privacy.

"There are designated spaces to enable private conversations with families and loved ones, spacious waiting areas and family-friendly zones.

"Our new birthing facilities and theatres with a day surgical unit increases opportunity for care closer to home."

Director of Medical Services Dr Liz Hawkins, Atherton Hospital, said, "A greater number of single rooms with ensuite bathrooms will be helpful in meeting the needs of people such as paediatric patients, those requiring isolation, and patients receiving care at the end of life."

Images courtesy of FKG Group

trophon2®: confidence without compromise

In Australia, patients will suffer from an estimated 165,000 healthcare-associated infections (HAIs) each year.[1] An extensive list of pathogens have been implicated in HAIs. High-level disinfection (HLD) of medical devices, including ultrasound probes, is an essential part of the fight against the wide range of pathogens that cause HAIs.

Developed by Australian infection prevention company Nanosonics, trophon technology has revolutionised high-level disinfection practice around the world with reliable efficacy, safety and reproducibility. The trophon2 device is the latest addition to the trophon family. It has an enhanced user experience and offers health professionals the confidence of the broadest microbial efficacy, plus digital traceability and consistent protection for every patient, every time.

The broadest microbial efficacy

The trophon device goes beyond mandatory requirements and delivers microbial efficacy against the broadest range of clinically relevant pathogens, compared with UV-C systems and ClO_2 wipes.[2] Nanosonics has conducted extensive testing with the trophon device, demonstrating proven efficacy against multi-drug resistant bacteria like MRSA, sexually transmitted pathogens like HPV, and *Clostridium difficile* spores.

The trophon device outperforms other methods of disinfection that have been tested in similar clinical settings, with low-level disinfection (LLD) wipes failing to systematically remove bacterial contamination from patient-used ultrasound probes.[3] UV-C disinfection also failed to remove bacterial contamination in a clinical setting, with no significant difference in performance to LLD wipes.[4]

Redefining chemistry for confidence

Ultrasound probes contain grooves, crevices and imperfections that can house pathogens. These areas must be disinfected to the same extent as smooth surfaces, but may be missed by some HLD technologies. UV-C light travels in a straight line and must have a direct path to an object to disinfect it, meaning pathogens in crevices or shadowed areas may be missed.[5]

trophon technology has redefined chemistry for HLD of ultrasound probes with its proprietary hydrogen peroxide disinfectant, which is 'sonically-activated' to create a very fine mist. This mist generates free radicals that are able to reach hard-to-disinfect shadowed areas of the probe.

Each trophon2 cycle consumes only a small amount of hydrogen peroxide (approximately 2 milliliters), which is broken down at cycle end to the environmentally friendly by-products of water and oxygen. Staff operating the trophon2 device do not handle the hydrogen peroxide, which is sealed in a disinfectant cartridge and emptied automatically once inserted into the device. The trophon2 device does not expose staff to harmful, toxic vapours.

Digitised traceability has never been easier

Australian and New Zealand AS/NZS standards require traceability for HLD of semi-critical and critical medical devices, and state that health service organisations should be working towards implementing digital systems.[6] Nanosonics AuditPro™ provides facilities with the opportunity to further improve and standardise infection control compliance across all ultrasound procedures. Now, with the new AuditPro digital logbook, trophon2 cycle data is automatically linked to patient procedure ID across every high-level disinfection cycle. The digital logbook eliminates the need for paper-based manual disinfection tracking, reducing human error and administrative burden and saving valuable time.

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1. Mitchell BG et al. Infect Dis Health 2017;22(3):117—128.
2. Nanosonics internal test data & Vickery K et al. J Infect Public Health 2014;7(2):153—160.
3. Buescher DL et al. Ultrasound Obstet Gynecol 2016; 47(5):646-651.
4. Schmitz J et al. Ultraschall in Med 2019; doi: 2010.1055/a-0874-1971.
5. Kowalski W et al. J Microbiol Methods 2022;200:106541.
6. Standards Australia (AS) and Standards New Zealand (NZS). AS NZS 4187 2014.

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AI to assist with fertility issues

SpermSearch, a new artificial intelligence (AI) tool, claims to identify sperm in severely infertile men in seconds.

The new algorithm brings hope to men who want a biological child but have no sperm in their semen, according to the study authors. The tool instantly identifies sperm, then leaves the embryologist to decide whether sperm is really present and if it is viable enough for Intracytoplasmic Sperm Injection (ICSI), according to the authors. Results claim the algorithm is also more accurate than an experienced clinician.

The authors of the research project, led by Dale Goss from the University of Technology Sydney, presented the results at the 39th annual meeting of the European Society of Human Reproduction and Embryology (ESHRE)[1].

Sperm identification

Lead author Dale Goss said, "This tool has the ability to give patients who have very little chance of fathering their own biological children an increased chance.

"The algorithm improves antiquated approaches that have not been updated in decades. It will ensure the rapid identification of sperm in samples, which will not only increase the chance of a couple conceiving their own biological children, but also reduce stress on sperm and increase efficiency in the laboratory."

Around 1% of all men have no sperm in their semen, which is the most severe form of infertility — known as non-obstructive azoospermia (NOA). The condition affects around 5% of couples seeking fertility treatment.

To identify sperm for ICSI, embryologists partially shred tissue samples and tease them apart with forceps or fine needles. Any sperm present is then released into a specially prepared liquid which is placed in a petri dish.

With a microscope, the clinician searches through droplets of this liquid, a tiny portion at a time. However, contamination from other cells and particles makes this challenging. If the embryologist misses the sperm, the patient has less opportunity to become a parent, and the longer this takes, the greater the chance the sperm is not viable.

Could AI speed up the process?

The aim of the study was to test if AI could speed up this process. The research was carried out at an IVF clinic in Sydney in two phases over five months using AI software installed on a computer. The researchers first trained the algorithm by showing it thousands of still microscope photographs. These images featured sperm and high levels of other cells and debris, but only the sperm was highlighted.

This coaching enabled the AI tool to eventually learn through image analysis what a sperm looked like using its own

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"Results showed that the AI found more sperm overall, although some were only spotted by the embryologist and some by AI alone."

evaluation system that checks and adjusts its performance.

Goss and his team used healthy sperm, and then samples of testicular tissue from seven patients aged from 36 to 55 years. All had been diagnosed with NOA and had already undergone surgical sperm retrieval at the clinic.

The men donated tissue left over after treatment that had been prepared for sperm retrieval but not needed.

Algorithms vs embryologists

A test was then carried out simultaneously between the algorithm and an embryologist whose precision was considered to be 100%. The researchers compared the time both took to identify sperm and their degree of accuracy.

Results showed that the AI found more sperm overall, although some were only spotted by the embryologist and some by AI alone. The embryologist found 560 sperm, the AI found 611, and between them they found a total of 688. The algorithm identified sperm for each area of droplet that it viewed in less than a 1000th of the time taken by an embryologist.

It was also more accurate and precise in identifying sperm — the AI tool found 60 more sperm, and it was 5% more accurate than the embryologist per viewable droplet area.

In their conference presentation, the authors highlight that the study is based on a proof-of-concept test and that a clinical trial is required. This is to prove the technique is useful and performs the task of sperm detection with the desired result.

They add that such research should be carried out among men with other forms of severe infertility and who are undergoing other surgical approaches, such as sperm collections from different parts of the testes.

The Chair of ESHRE, Professor Carlos Calhaz-Jorge from the Northern Lisbon Hospital Centre and the Hospital de Santa Maria in Lisbon (Portugal), was not involved in this research. He said, "For men diagnosed with non-obstructive azoospermia, ICSI with sperm retrieved from the testicles is the only realistic chance of having biological children. This is a preliminary study on the use of AI for finding healthy sperm in men experiencing this type of infertility.

"Finding healthy sperm under the microscope in fragments of testicular biopsies can be an arduous process. The prospect of using AI to make the process quicker and more accurate is very interesting. We need to see more research to build on these results."

1. Presentation no: O-136, "Artificial intelligence to assist in surgical sperm detection and isolation", presented by Dale Goss, Session 44: Focal or not Focal Spermatogenesis: That is the question!, Hall D4, 10.15 hrs CEST, Tuesday 27 June 2023.

The Unspoken Risks of Tourniquets,

and the New Choice for Infection Control

Tourniquets are classified as 'non-critical' medical devices and are one of the most widely used pieces of medical equipment across a number of settings. This includes spaces such as Emergency Departments (ED) and Intensive Care Units (ICU), theatres, vascular access clinics, pathology, cancer care services, and other routine and everyday areas such as wards.

However, the involvement of tourniquets in invasive procedures — such as blood collection, line insertion and other vascular access routines — as well as their ability to travel, means that a new or adequately cleaned/disinfected tourniquet is paramount for proper infection control procedures. Evidence — both anecdotal and published — suggests that this does not always occur.

Tourniquets are ordinarily mobile, multi-use and made from fabric. As a result, these are difficult and slow to disinfect due to the nature of their material and design, often resulting in inadequate disinfection. A recent review of existing studies found that the majority of published research showed >70% of tourniquets exhibited contamination[1]. The study also found that there are no standard practices, that tourniquets are shared and reused (sometimes for years) and patient safety may be jeopardised depending on material type and organisms found.

The introduction of disposable or single-use tourniquets can be more expensive and generate greater waste. Anecdotally, user satisfaction tends to be lower due to design and quality, as the item is manufactured for single use. Construction materials for both reusable and single-use tourniquets have been shown to both pick up and transfer micro-organisms in a number of settings[2].

A third option of single patient tourniquets (where one tourniquet is assigned to a patient) reduces some of the risk, but is reliant on proper hand hygiene and handling, disinfection of surrounding surfaces, as well as disinfection or disposal of the device post-discharge, due to the risk of microbial dissemination. Crucially, a device could still be contaminated and used on a patient multiple times.

In a real-life example, a New Zealand study completed in a secondary-level hospital found various levels of contamination of tourniquets, with the highest levels found on the phlebotomy trolley post-ward round[3]. The facility disinfects all tourniquets overnight. They suggested a move to cost-comparable disposable tourniquets, but these were not preferred by staff and were found to be less comfortable for patients. Issuing patient specific reusables was cost-prohibitive. How could this example be generalised to larger facilities; to those with known MDRO issues; to those with greater frequency of use of tourniquets?

While there is ongoing research into the risk of blood-stream infections due to tourniquet contamination, the issue of tourniquet contamination itself is known and documented. Conventional tourniquets are routinely subjected to improper processing, if at all — a practice that does not occur with most other medical devices. So why should we settle for less? And what is the solution?

Enter daisygrip — a reusable tourniquet that can be completely disinfected by the user.

The daisygrip is manufactured from a smooth silicone band, which is comfortable for the patient, as well as being documented to pick up less contamination and being easier to disinfect than conventional fabrics[4]. With daisygrip, you can simply wipe, observe the required contact time, then use again. The band is coupled with an innovative and unique self-finding magnetic buckle, making closure faster, easier and able to be completed with one hand. Each unit can be reused thousands of times, saving on inventory and replacement. The daisygrip's patented, Red Dot Award-winning design has a focus on frequency and ease of use, as well as the ability to be completely disinfected in realistic times and places.

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1. "Health professionals' practices related with tourniquet use during peripheral venipuncture: a scoping review" (de Sousa Salgueiro-Oliviera et al. Rev. Latino-AM. Enfermagem)
2. "Methicillin resistant Staphylococcus aureus contamination of phlebotomy tourniquets and faucets" (Abeywickrama et al. Ceylon Medical Journal)
3. "Quantifying patient bacterial exposure risk from reusable phlebotomy tourniquets in a NZ secondary level hospital" (Schauer and Hammer. Journal of Inf. Prevention)
4. "Reduced bacterial contamination rates detected on silicone tourniquets compared to conventional tourniquets" (Grohamn et al. BMC Infectious Diseases)

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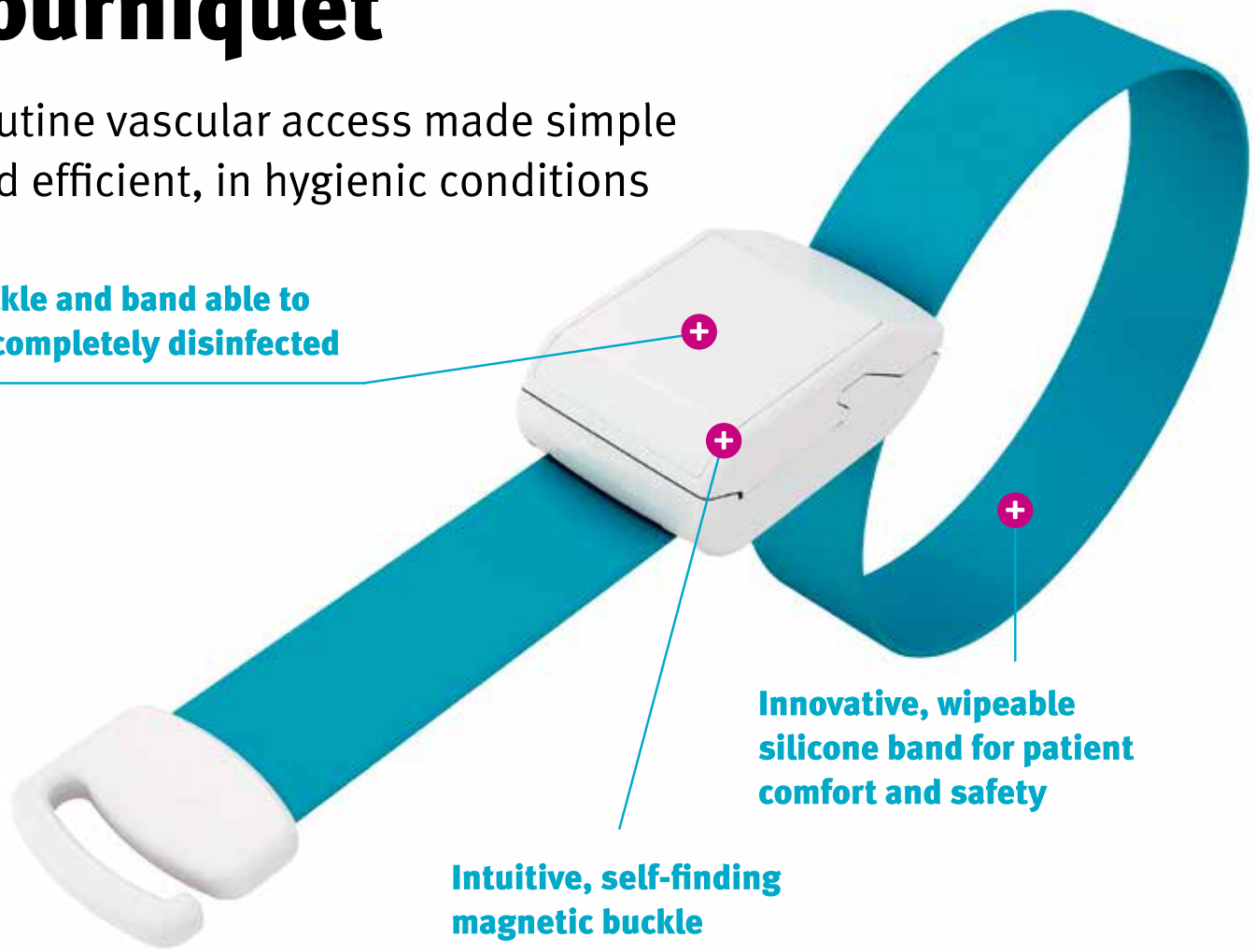

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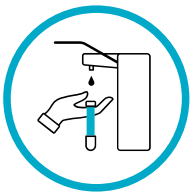

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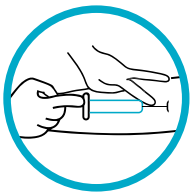

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Mkt-Adv-1675-1
01 Sep 2021

WAAPA students were used to act out IVADE's virtual reality scenarios.

Image credit: Edith Cowan University.

VR to tackle patient aggression

Researchers from Edith Cowan University (ECU) have developed IVADE, an immersive computer simulation program which helps nurses and nursing students practise making decisions when faced with a hostile patient.

The tool puts them right in the middle of these situations to learn how to negotiate such an experience, without actually being in harm's way.

It was named winner of the Innovating Government category at the Incite Awards, Western Australia's longest running tech awards program.

Participants can either wear virtual reality goggles or play via a desktop computer, where they are faced with an agitated patient named Derek.

They are given a number of options of how to respond, with their choices leading to six different outcomes ranging from Derek calming down, or his anger escalating to using explicit language and becoming physically violent.

Students from the Western Australian Academy of Performing Arts (WAAPA) brought the immersive virtual experience to life through use of motion capture technology.

PhD candidate Josh Johnson from ECU's Simulation and Immersive Digital Technology Group said IVADE used best practice guidelines and was an effective, easily accessible tool for teaching aggression and violence de-escalation.

"IVADE combines the theory with practical demonstration," he said.

"Being immersive through a virtual reality platform, it really is an engaging way to deliver de-escalation training; during trials, people were so immersed that when Derek would physically lash out, people would instinctively move to avoid the blow.

"So it really is a realistic experience and the feedback we've received from both working clinicians and students has been extremely positive; nine out of 10 people we showed this to suggested they would like to complete more aggression de-escalation training in virtual reality."

After being presented in select conferences and events, IVADE has not only won an INCITE Award, but also received widespread praise from those in the workforce.

While IVADE is currently tailored towards healthcare settings, the researchers said the tool's flexibility means it can easily be transferred to other industries which may also involve difficult interactions with the public, such as hospitality, retail, social work and more.

"Simulations such as these aren't just more engaging than traditional training methods, such as workshops or role-playing, they are also more easily adapted across other industries," Johnson said.

"Now the foundations of IVADE are in place, we can create different scenarios and move it from a hospital to a hotel, retail store, classroom or other locations relevant to the industry in question."

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A new model of care for diabetic pregnant mums

Image credit: Renae Droop.

Brisbane mum and Mater researcher Maria Oliveri.

Mater Mothers' Hospital's new Obstetric Midwifery Group Practice (OMGP) will support diabetic women through a hybrid care model that combines a traditional midwifery group practice with an extra layer of obstetric care. The model has been jointly developed by clinicians and researchers.

Mothers-to-be with Type 1 and Type 2 diabetes have typically been unable to participate in Midwifery Group Practices (MGP) to receive antenatal care because their pregnancies are deemed to face a higher risk than those of non-diabetic women.

Mater Mother's new Obstetric Midwifery Group Practice (OMGP) will support diabetic women through a hybrid care model that combines a traditional midwifery group practice with an extra layer of obstetric care.

Mater Associate Professor Shelley Wilkinson said traditional Midwifery Group Practices accept women with low-risk pregnancies and provide excellent outcomes and continuity of care for women and babies.

"Midwifery Group Practices are a brilliant, evidence-based model of care in which low-risk women are allocated a primary midwife who provides their care throughout their pregnancy, labour, birth and postnatal period," Wilkinson said.

"Unfortunately, many women are unable to participate due to pre-existing illnesses and conditions like Type 1 and Type 2 diabetes, and cardiac and renal complications."

"We have been looking at things like how many of these babies spent time in the special care nursery," Wilkinson said.

"We will also survey these women six weeks after they give birth to get their full reflection on the model."

Mater Mothers' Hospital Director of Obstetric Medicine Dr Jo Laurie said eligible women will be offered a place in the program when they book their antenatal care.

"The early days of pregnancy are absolutely critical for women with diabetes, as high blood glucose levels during the embryonic stage can lead to problems with the baby," Laurie said.

"Obstetric Midwifery Group Practice midwives will help navigate the care journey for these higher risk pregnancies, as too often women fall the through the cracks when they're going to a range of different services.

"In the Obstetric Midwifery Group Practice, a midwife will provide full wraparound care by attending appointments with women when they see members of the treating team, such as the obstetrician and obstetric medicine physician.

"We believe that this will create a better journey for women. And by having the same skilled midwives caring for these more complex women during labour, it will hopefully keep these babies out of the special care nursery and with their mums for that precious early bonding time."

Researcher Maria Oliveri was diagnosed with Type 1 diabetes after her first child was born and said the clinic would improve the health of women managing their pregnancy and symptoms associated with the disease.

Oliveri, 33, of Morningside, developed Type 1 diabetes after the arrival of her eldest son, Joshua, now six, and is due to give birth to her third baby in October.

"When I gave birth to Joshua, I went through a traditional Midwifery Group Practice and loved it," Oliveri said.

"When I had my second baby, William, three years ago, I had developed Type 1 diabetes and was referred to a high-risk, obstetrician-led model of care, which is what I am doing for my third baby.

"My first pregnancy was low risk and I felt so empowered as the care focused on my pregnancy and my baby.

"My second pregnancy was very different. I felt my Type 1 diabetes was the focus of my pregnancy. I had to explain my situation to a different doctor each and every time.

"It was somewhat frustrating, and I didn't feel all of the joy I had felt in my first pregnancy."

Oliveri, who previously worked as a midwife in an MGP, said Mater's new practice would give mums a consistency of care they deserved.

"Expectant mums will find comfort in knowing midwives will be part of their journey during pregnancy and birth, as well as follow-up appointments," she said.

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Acting now on hip fractures will pay off later

Graphics and image courtesy of ACSQHC.

Conjoint Associate Professor Carolyn Hullick* FACEM, Emergency Physician and Chief Medical Officer at the Australian Commission on Safety and Quality in Health Care, explains what needs to change to improve patient outcomes after a hip fracture injury.

It is a startling truth that one in four people in Australia die within 12 months of having a hip fracture. Even to those of us who work on the frontline, this fact is staggering. The question is, what can our health system do to turn this around?

The Hip Fracture Clinical Care Standard has already shown itself to be a key lever to motivate systemic changes in hospitals across Australia. The recent update, released by the Australian Commission on Safety and Quality in Health Care (the Commission) on 11 September 2023 aims to further improve the care for this potentially life-changing injury.

Each year in Australia 19,000 people fracture their hip, and that figure is expected to climb with our aging population. Of those who survive, many cannot return to their former lives or level of independence — with about 15% entering residential aged care after the injury.

We know that hip fractures are associated with high mortality, morbidity and disability. Apart from the high personal cost, hip fractures are an increasing burden on our health system, costing almost $600 million each year.[1]

Given the numerous issues facing older people and the aged care sector, it's important we tackle this problem now.

Building on achievements

Firstly, we should recognise the concerted efforts to address this serious and complex problem over the past seven years, which have led to significant changes in hip fracture care. The first Hip Fracture Clinical Care Standard introduced in 2016 set national expectations for the evidence-based care that people with this injury should receive. We have come a long way since then to improve care for people with a hip fracture.

The updated standard comprises seven evidence-based quality statements to ensure that a patient with a hip fracture receives optimal treatment from presentation to hospital to the completion of treatment in hospital (see Box 1). The new standard:

- Reduces the recommended maximum time to surgery from 48 to 36 hours.
- Emphasises a coordinated multidisciplinary approach to identify and address malnutrition, frailty and delirium.
- Renews the focus on the early initiation of a tailored care plan aimed at restoring movement and function, and minimising the risk of another fracture when patients are discharged.

This last point is crucial — the Commission is aware that transitions of care are often a weak link in the system, even when high-quality care has been provided in the acute phase. Effective communication of ongoing care needs with patients, their families and ongoing service providers is so important to ensure the patient's recovery is optimised after the acute phase of care.

Box 1

Hip Fracture Clinical Care Standard — Quality statements

- Care at presentation
- Pain management
- Orthogeriatric model of care
- Timing of surgery
- Mobilisation and weight bearing
- Minimising risk of another fracture
- Transition from hospital care

Read the full quality statements at safetyandquality.gov.au/hipfracture-ccs.

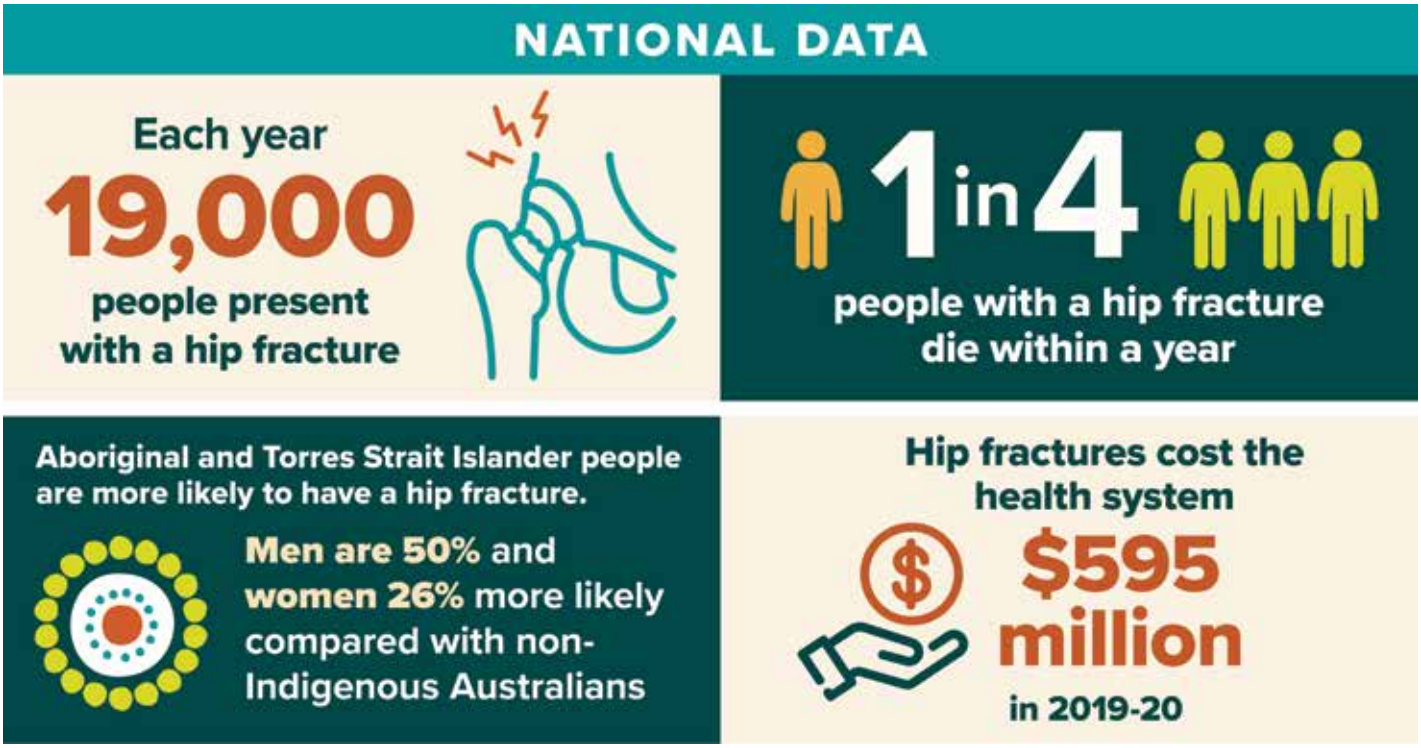
Registry data tracks performance

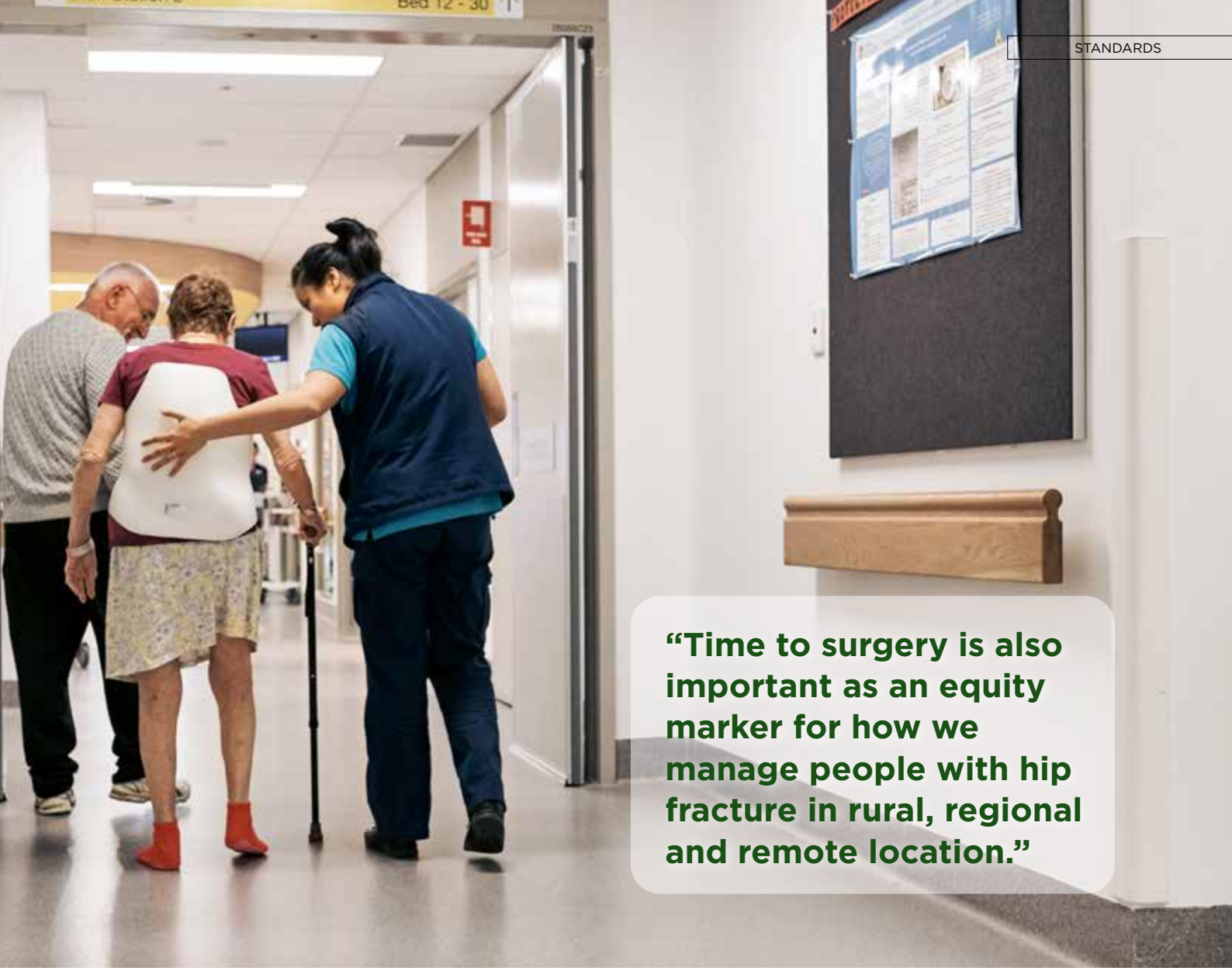
Outcomes over the past eight years have been tracked by the Australian and New Zealand Hip Fracture Registry (ANZHFR), based at Neuroscience Research Australia, which reports facility and patient level data against the standard and its indicators each year.

Since its inception in 2015, the number of Australian public hospitals participating in the ANZHFR has increased from 20 to 76 in 2022. This represents 84% of hospitals performing hip fracture surgery in Australia who participate to help improve their hip fracture care.

With data on more than 90,000 hip fractures collected over the past eight years, the registry is critically important for healthcare services delivering hip fracture care, as well as for

Graphics and image courtesy of ACSQHC.





"Time to surgery is also important as an equity marker for how we manage people with hip fracture in rural, regional and remote location."

policymakers, and has been instrumental in informing the updated version of the standard.

In 2022[ii], 89% of participating hospitals in Australia and New Zealand had a hip fracture pathway in place. Preoperative assessment of cognition, delirium and pain continue to improve. Last year in Australia, 77% of patients ≥65 years had their preoperative cognition assessed and 40% were found to be impaired. Surgery within 48 hours was achieved for 78% of patients. Pain management has improved overall, with 66% of patients in 2022 having a pain assessment within 30 mins of presentation — up from 54% in 2017.

Nerve blocks as part of pain management are now common before people arrive at the operating theatre, more older people are being seen by a geriatrician during their acute hospital stay and a growing proportion of patients are leaving hospital on bone protection medication.

These are all remarkable achievements — but it's time to do more.

While there had been little change in average time to surgery in the three years prior to 2022 — with an average wait time of 34 hours — the ANZHFR Annual Report 2023 shows an increase to 37 hours last year, reflecting the ongoing challenges relating to the impact of COVID-19. The report also highlights ongoing wide variation in hospitals' average time to surgery, ranging from 16 to 92 hours.

Also, first day walking remains low, with just 45% of patients taking a step the day after surgery, despite most people (91%) being offered the opportunity. We need to focus on actually getting people on their feet, since the evidence tells us the sooner people get out of bed, the better their functional recovery.

Adjusting to reduced time to surgery

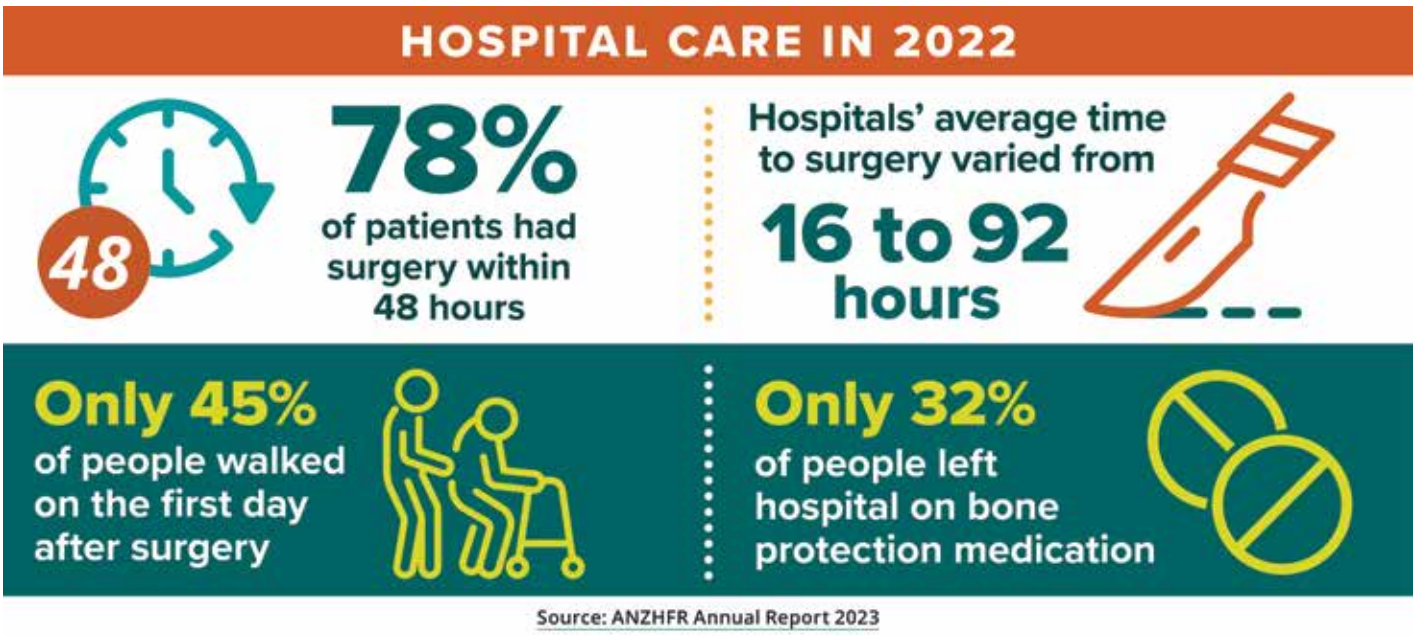
Prompt hip fracture surgery reduces morbidity, hastens functional recovery and reduces length of stay. These reasons underlie the reduced maximum time to surgery of 36 hours for all patients, regardless of whether they first present at a hospital able to conduct the surgery or not.

While this further reduction will require adjustments on the part of health services, it is widely supported given the evidence that surgery within this timeframe leads to better outcomes for patients and reduces hospital length of stay.

This is clearly explained by ANZHFR Co-Chair Associate Professor Catherine McDougall, who is an Orthopaedic Surgeon in Brisbane and Chief Medical Officer of Queensland Health. "The challenge is that time to surgery is a systems-level issue," she said. "The shift to reduce time to surgery to 36 hours requires facilities and organisations to re-think how hip fracture patients are managed and to identify ways they can get access to theatres which may be occupied with elective surgery as well as other emergencies."

McDougall added: "We know that setting 48 hours in the 2016 standard has already resulted in huge improvements simply by setting a timeframe — although progress has been slow in the last few years. While it may be challenging to achieve 36 hours for every patient, we need to strive for this. Having this benchmark in the standard means that we need to consider as a system how we can achieve this."

Time to surgery is also important as an equity marker for how we manage people with hip fracture in rural, regional and remote locations, McDougall emphasised. "Often the first hospital presentation is not where people are able to get their surgical



management, so we will need to overcome some challenges to be able to meet the target in some areas."

Equity of access to health care wherever people live is a priority for the Commission. I agree with McDougall that it won't be easy for every hospital to achieve this immediately, although we are both confident it can be done.

As an ED physician in a small NSW hospital, I know first-hand that it's possible in many instances to transfer a patient to a larger hospital and do hip fracture surgery within 36 hours — when the system is set up the right way. Much of it is about building relationships between our smaller and larger hospitals to expedite the process.

The question is how we work together to meet this challenge.

Addressing the whole patient

We know that many people who break their hip are older and often have complex care needs. Older patients tend to be, on average, frail, may have poor nutrition and are at risk of delirium by virtue of their older age and complexity, particularly if they have existing cognitive impairment.

Awareness and assessment of frailty, delirium and nutritional needs are significant components of multidisciplinary care under an orthogeriatric model of care, and are a stronger focus in this standard.

Frailty is associated with a longer length of stay and complications, and using a validated assessment tool can help to optimise treatment before and after surgery, remembering that frailty is not just about body weight and that people who are overweight can also be frail.

Malnutrition may be present on admission, and if so, it's important to address this and to ensure optimal nutrition during hospital admission for all patients. The standard recommends addressing individual nutritional needs for all hip fracture patients in line with international dietary guidance and includes a new indicator to capture provision of oral nutritional supplements.

I encourage health services to look at the revised standard and the guidance provided in the quality statements for clinicians and healthcare services. The indicators have also been revised, and those that are new will be included in the ANZHFR for ongoing quality assurance by health services.

We have made great strides with hip fracture care, and just as we have improved care for stroke and acute coronary syndromes, it's about setting the standards and building the right systems to meet those standards. How services do that may differ state to state and region to region, but we all belong to a much bigger system, and everyone has their part to play.

I'm confident this updated Hip Fracture Clinical Care Standard will raise the bar on how we work together to look after people with this life-changing injury.

Find out more: safetyandquality.gov.au/hipfracture-ccs.

This article was developed with Christina Lane and Alice Bhasale from the Commission's Clinical Care Standards team.

*Conjoint Associate Professor Carolyn Hullick FACEM is Chief Medical Officer at the Australian Commission on Safety and Quality in Health Care and has geriatric leadership roles with the Australasian College and the International Federation for Emergency Medicine. At the Commission, she is also associated with projects focused on aged care, transitions of care and the appropriate use of anti-psychotics. In addition, Hullick is an Emergency Physician in Newcastle, New South Wales, and has expertise in geriatric emergency medicine.

i. Australian Institute of Health and Welfare. Disease expenditure in Australia 2019–20, AIHW, Australian Government, accessed 02 December 2022.

ii. Australian and New Zealand Hip Fracture Registry. ANZHFR Annual Report 2023

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How SEKO's smartphone-connected systems are revolutionising on-premise laundry dosing

Over the last three decades, pump specialist SEKO has responded to the healthcare sector's need for high-precision chemical dosing systems capable of handling high load demand within on-site laundries.

SEKO's range includes dedicated peristaltic, solenoid and pneumatic dosing pumps, long known for their superior dosing precision and chemical compatibility which enable operators to enjoy accurate, consistent performance over the long term with minimal maintenance requirement.

Nowhere is this more important than the healthcare sector, where a constant flow of bedding, towels, uniforms and more must be washed to the highest standards of cleanliness and disinfection in a fast-paced environment where opportunities to service equipment may be limited.

That's why SEKO's chemical injection systems have been a mainstay of the healthcare industry for three decades, with premium-grade components and microprocessor-driven dosing delivering precise injection of detergent, fabric softener, chlorine bleach and other additives.

These dedicated laundry systems have also become well known for their intuitive control interfaces and ease of operation as SEKO, mindful of high staff turnover rates and a shortage of training time in hospitals and care facilities, ensures a smooth user experience is built into its product designs.

Now, having accumulated almost 30 years' experience in both the healthcare and laundry sectors, SEKO is revolutionising the way on-premise laundry managers monitor and manage their installations with a dedicated range of smartphone-accessible chemical injection systems.

SEKO operates under the Kaizen principle of continuous improvement, with its R&D team constantly looking to push the envelope on product innovation and bring customers next-generation solutions to their daily challenges.

This approach has seen the company introduce the power of the Internet of Things (IoT) and remote connectivity to an ever-increasing range of systems — including the award-nominated Wash Series — to help managers achieve a new standard of operational efficiency.

During operation, these pump systems harvest data on wash cycle status, chemical consumption and equipment performance. This information can then be accessed historically or in real time via the SekoWeb app and online platform thanks to each system's built-in web server.

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 programme and adjust wash formulas to optimise performance and minimise chemical consumption.

Reducing chemical and energy consumption this way means managers benefit from immediate efficiency improvements while being able to budget more accurately and streamline stored chemical volume — especially useful on smaller sites where space is at a premium.

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

These systems' value is already well proven, with the devices having been installed in hospital and care home OPLs the world over where their minimal footprint is ideal for tight plant rooms. Plus, because one unit can serve as many as 10 washers, there is no need for an individual dosing system per machine.

With smartphone-connected pump equipment increasingly specified for on-premise laundry machines within healthcare settings, SEKO's dedicated systems provide operators today with the ability to take control of costs over both the short and long term.

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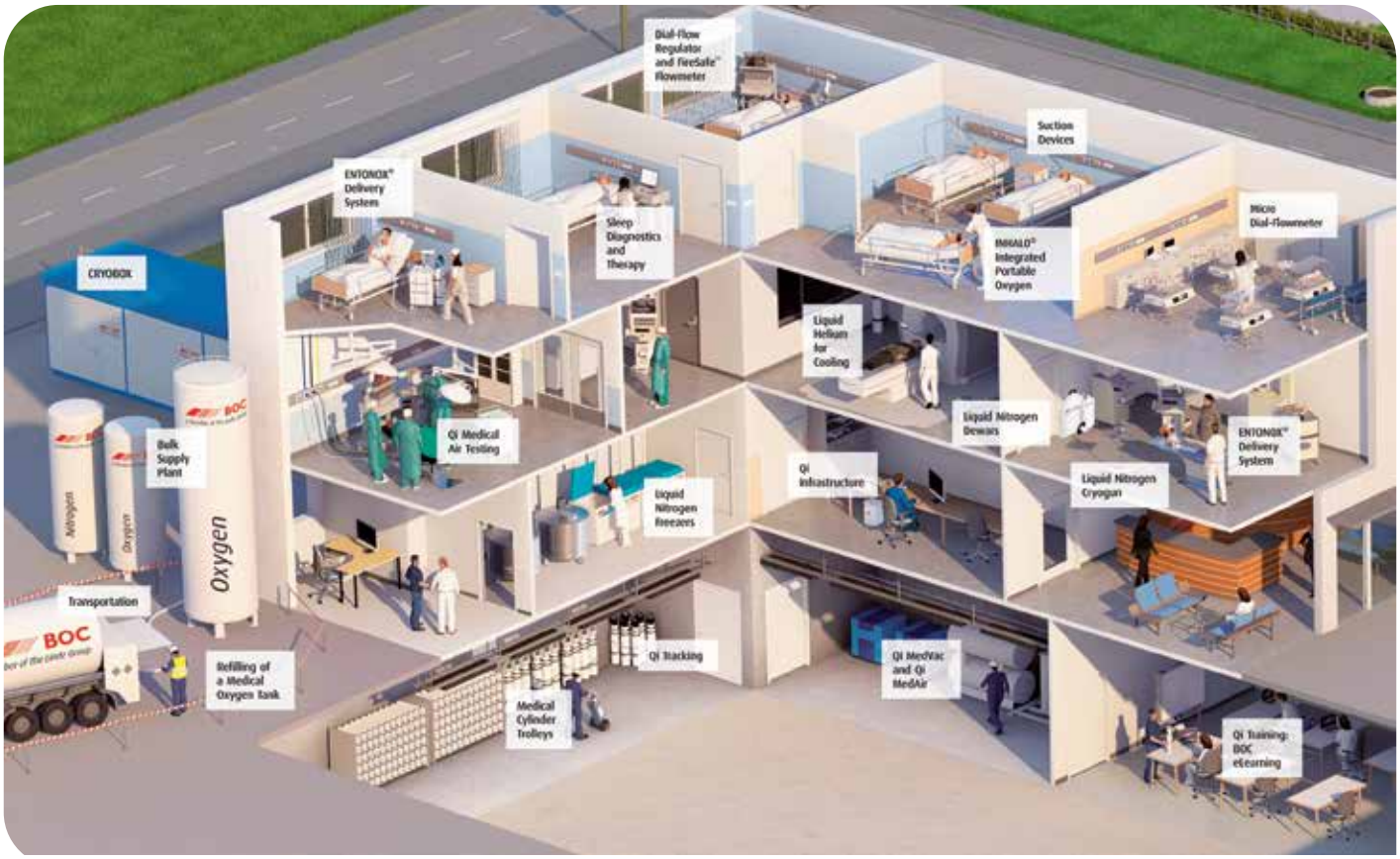

QI Risk Medical gas pipeline system and operational assessment

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:

- Outdated gas cylinder manifolds that no longer comply with safety design standards.
- Unmaintained or non-compliant medical air plants, compromising reliability of supply and delivering poor-quality medical air.
- 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:

- Liquid oxygen supply.
- 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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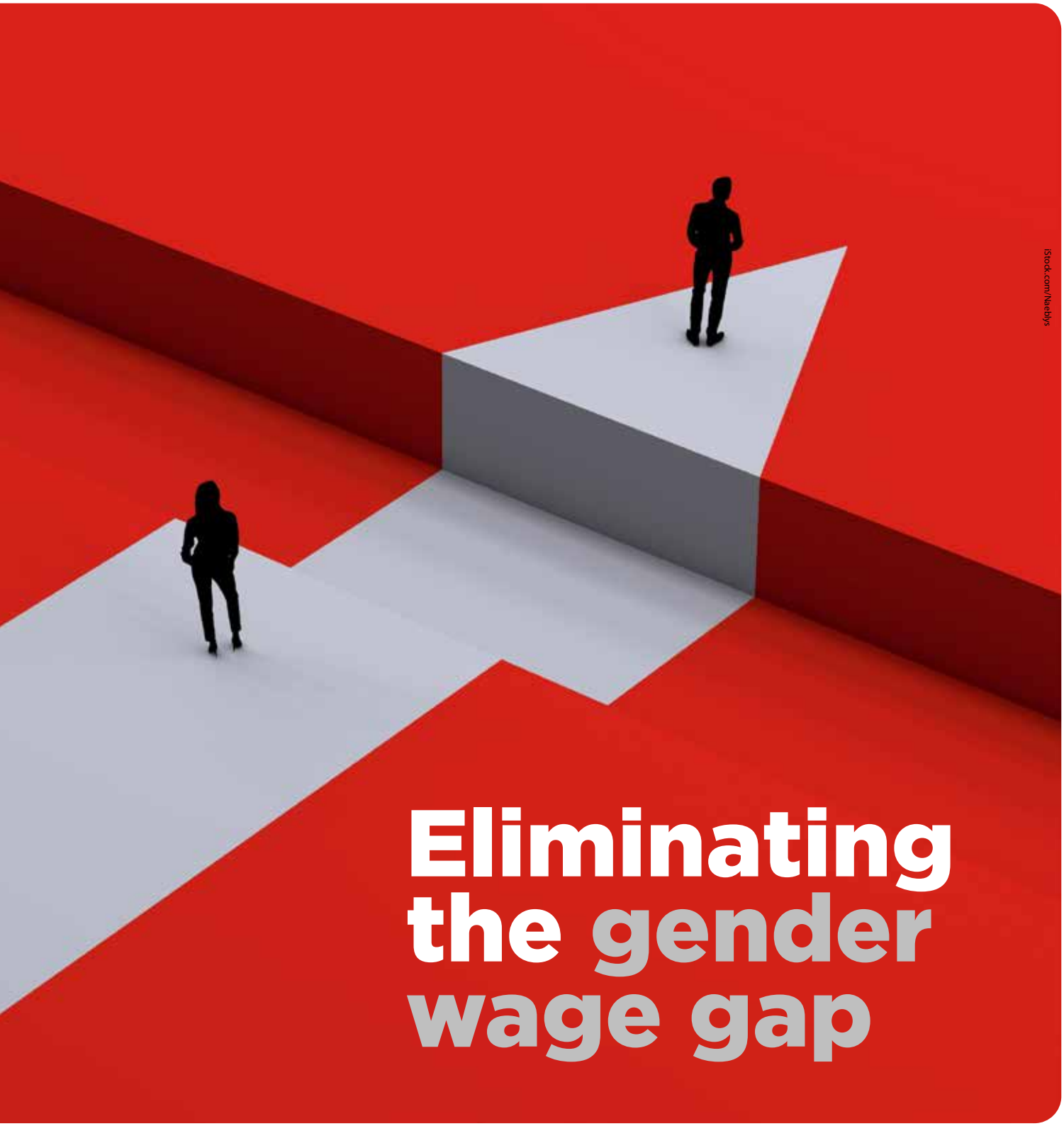

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Eliminating the gender wage gap

Australian women working in the healthcare sector still earn on average around $18,000 less than men each year, and employers must put action behind the rhetoric on equal pay and close this huge gap, writes Kris Grant*.

Women comprise around 76% of the Australian healthcare workforce, yet they are still earning much less than men working in the same sector.[1]

While equal pay has been a right since 1969, many women who are performing the same work as men are often missing out on the extra dollars paid to their male colleagues. It is a little-known fact that health care is one of three Australian industries with the highest gender pay gaps — despite females making up the majority of the workforce.[2]

For example, females make up the majority of people employed as registered nurses (88%) and aged and disabled carers (77%), but they earn much less than males in the same roles.

The median weekly income for full-time male registered nurses in 2021 was $1802, compared to $1631 for females. For aged and disabled carers, the median weekly income for full-time males was $1254 and $1114 for females.[3] Yet around 83% of the aged care residential services workforce in Australia is female.[4]

"Public policy too should support healthcare organisations to close the gap by providing concrete 'how-to' guides to achieve greater equality"

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Across the healthcare workforce more generally, average male weekly total cash earnings per week were $2012 in May 2021 — well above $1670 for women — the most recent data from the Australian Bureau of Statistics (ABS) indicates.[5] That represents a difference of $340/week, or almost $18,000 a year. That is an entirely unacceptable gap and legislation needs to be strengthened to reduce it in healthcare organisations.

The gender wage gap reflects long-held biases and inequality in workplace cultures and recruitment practices, which need to be removed from remuneration processes, even if employers are forced to act by governments. If they don't already, all healthcare employers, large and small, should start with a pay audit and publish the results to employees and the public more generally.

Pay transparency enables organisations to identify and address gender pay gaps. A pay audit can also deliver valuable information to women that can be used in their negotiations for fair and equal pay with men.

Employers may also need to re-examine payment rates carefully. Many women work part-time, so the choice of full-time, part-time or casual employment shouldn't affect the rate of pay women get. Yet casual workers, most of whom are women, are often penalised with lower payment rates or reduced benefits, which contributes to the gender payment gap. Such discrimination needs to be removed from remuneration processes.

Existing laws don't go far enough either. Currently, only employers with more than 500 employees must have a policy or strategy in certain areas to support gender equality. Employers must have policies or strategies in place to support one or more of the following indicators:

- Gender composition of the workforce
- Equal remuneration between women and men
- Flexible working arrangements
- Sex-based harassment and discrimination.

This is not strict enough to drive change in Australian workplaces and does not require any employer to demonstrate what progress they have made. The *Workplace Gender Equality Act 2012* separately requires Commonwealth public sector employers that employ 100 or more employees in total to register for the Public Sector Reporting program and submit data annually.

However, these laws do not apply to smaller employers. Minimum standards need to be strengthened to apply to all employers of women working in health care as a mechanism for accelerating the rate of change towards gender equality. Employers should be mandated by government to create timelines to redress pay gaps, setting out clear and measurable goals against which organisations can measure themselves.

Public policy too should support healthcare organisations to close the gap by providing concrete 'how-to' guides to achieve greater equality. Proactive communication about the eliminating the gender pay gap is important to achieving equality of opportunity for all. Apart from pay, there are several other employment conditions women may value, such as greater flexibility in working hours and working from home (WFH) options, which enable women to better balance their working and domestic lives.

There is some good news on the gender wages gap in Australia more generally. It is closing, with female wages growing faster than male wages as full-time jobs growth in female-dominated industries such as health care outstrips jobs growth for men. According to data from the ABS, full-time adult average weekly total earnings for women jumped 4.6% over the year to May 2023, well above growth in male average weekly earnings of 3.6%, helping to narrow the national gender pay gap to the lowest level on record in May 2023 to 13%. So, as a nation, we are moving in the right direction.

Organisations that take action to improve workplace gender equality now stand to benefit from equalising pay; policies and strategies they implement help to improve recruitment, and better working conditions for women could help improve retention of female workers and boost productivity. Gender bias plays a big role in how we pay men and women, so challenging these processes is very important as the UN reminds us.

*For the past nine years, Kris Grant has been leading ASPL Group as CEO, overseeing its management consulting, training and recruitment divisions to deliver major transformational projects, strategic leadership training, and personnel resourcing to improve business functions and increase productivity across Australian workplaces.

1. https://oia.pmc.gov.au/sites/default/files/posts/2023/02/Impact%20Analysis%20-%20WGEA.pdf
2. https://oia.pmc.gov.au/sites/default/files/posts/2023/02/Impact%20Analysis%20-%20WGEA.pdf
3. https://www.abs.gov.au/media-centre/media-releases/caring-nation-15-cent-australias-workforce-health-care-and-social-assistance-industry
4. https://agedcare.royalcommission.gov.au/system/files/2020-06/CTH.0001.7300.0314.pdf
5. Australian Bureau of Statistics, Employee Earnings and Hours, Australia May 2021

Ensuring clean, conditioned power for hospitals and healthcare

It comes as no surprise that few healthcare facilities can afford the negative impact of power anomalies. That's why they need to make sure they've chosen the best preventative tools.

Before digitalisation and the advent of artificial intelligence, when a facility suffered a power cut, it was often more of an inconvenience than a major disaster: a few frustrating hours waiting for a fault to be repaired before activities resumed as usual.

Hospitals, just like data centers, airports, telecommunication hubs, industrial plants, and a range of essential services, had emergency generators that would shudder into life as soon as the electricity failed.

But today, for critical power applications, an outage of even milliseconds can have wide-ranging and devastating effects, at the same time as compromising the safety of individuals.

Uninterrupted power

As IoT applications, AI, automation and cloud computing gain momentum, the issue of critical power supply has become of vital importance to healthcare operations.

"Hospitals need to have absolute confidence they'll have uninterrupted access to power, and a reliable solution to outages or system failures," said Shun Mizuta, ABB's Product Marketing Manager.

"Preventing these from occurring requires technology that meets varying power load requirements, can withstand a sudden surge in demand and copes with the many power anomalies we experience today."

Selecting the right equipment for continuous, conditioned power supply is crucial, but not straightforward given that every company has its own unique requirements.

ABB is a global leader in innovative electrification solutions and offers a range of low and medium voltage products to monitor and maintain clean, conditioned power for all critical applications.

"I often speak to businesses who tell me they have a system in place to cope with an electrical failure, but don't realise it may not be the right product and could let them down when they need it," Mizuta said.

"Our technology not only maintains continuous conditioned supply using ABB Ability's predicative maintenance platform, it works out the optimum time for any repairs to be carried out in the most cost-effective way."

Monitoring and diagnostics

Converting the vast volumes of data surrounding the flow of power into diagnostic intelligence is critical in detecting potential problems and instigating preventative solutions. ABB's Medium Voltage Switchgear Monitoring is a unit that provides day-to-day updates on the health of circuits and records the temperature at critical points so asset owners can understand any problems, and how to correct them.

Meanwhile, the uninterruptible power supply (UPS) protects auxiliary power supply if the primary source is lost.

"Our DPA modular UPS design delivers the highest availability and efficiency in the market, and eliminates maintenance downtime," Mizuta said.

In such circumstances, the speed of the switch to a second power source is vitally important. A recent industry breakthrough is ABB's TruONE ATS, the world's first all-in-one automatic transfer switch, engineered with the controller and switching part integrated into one unit. TruONE can be connected to ABB Ability Energy and Asset Manager, and helps predictive maintenance minimise downtime and prevent unpredicted system failures.

Smart energy

Continuous electricity supply goes beyond dealing with system malfunctions or building-wide outages. The energy and load management improves productivity by optimising usage and delivering real-time data through integrated web servers.

"Our smart monitoring system, InSite, measures what's going on in the sub distribution board and helps identify abnormalities to protect against faults," said Mizuta.

"Its control unit gathers data from field devices through Modbus RTU or TCP/IP, and visualises them at a single access point in a web server."

The resulting efficiencies can also reduce energy bills by up to a fifth, and CO_2 emissions by 15 per cent.

Predictive maintenance

One of the biggest advantages of ABB's suite of critical energy products is that they can be integrated seamlessly through the cloud-based EMS, ABB Ability, with all the data centralised to make predictive maintenance much easier.

"The effects of a disruption to the electrical supply can be severe for hospitals, corporations, public infrastructure, communities and the environment," Mizuta said. "It can bring a business to a standstill, interrupt public services and put people in danger. Luckily, ABB's high-quality solutions bring reassurance that any inconvenience is kept to an absolute minimum."

Download ABB's whitepaper on Supporting Mission Critical Power Applications *to learn about the products and solutions that ensure reliable and efficient operation of mission critical power applications.*

Is vaginal seeding beneficial to C-section babies?

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Transferring the mother's vaginal bacteria onto newborns delivered via caesarean section appears to be beneficial to infants' early development, according to findings from a recent triple-blind experiment.

Infants born by C-sections tend to have very different gut bacteria composition compared with those born vaginally, according to previous research.

Vaginally born babies receive their early gut bacteria from the mother's birth canal, while C-section babies' microbiota are dominated by bacteria found on the mother's skin, in breastmilk and in the environment.

While the difference tends to disappear as they age, researchers suggest early gut microbiota is associated with the development of an infant's immune system and could affect their disease risk, including for diabetes, later in life.

This has led to practices like vaginal seeding where mothers would rub C-section newborns with their vaginal fluids. There is, however, limited clinical evidence that vaginal seeding is safe and effective, said Yan He, the paper's corresponding author at Southern Medical University in Guangzhou, China. He worked with researchers from Icahn School of Medicine at Mount Sinai, USA on the project.

"When we talk about effectiveness, we not only mean whether this intervention might affect the infants' microbiota but are also interested to see if this intervention could actually improve the infants' phenotypes, like their neurodevelopment," He said.

Microbial transfer and mature bacteria

To investigate whether vaginal microbiota seeding works, He and his team rubbed the lips, skin and hands of 32 newborns delivered via C-section with a gauze soaked with their mothers' vaginal fluids and another 36 newborns with a gauze soaked with saline as blind controls. The mothers were tested in advance to make sure they were free of infections such as sexually transmitted diseases and group *B streptococcus*.

The team found that newborns who received the microbiota had more gut bacteria found in maternal vaginal fluid 6 weeks after birth, suggesting that maternal vaginal bacteria successfully reached and colonised babies' guts. Compared with C-section newborns who received saline gauze, babies with microbial transfer had more mature bacteria in their guts at 6 weeks old, similar to babies born vaginally. No infants experienced severe adverse events during the experiment.

Neurodevelopmental benefits

The team also evaluated the babies' neurodevelopment at 3 months and 6 months after birth using a questionnaire. For example, the researchers would ask the mothers if their babies were able to make simple sounds or perform movements like crawling on their hands and knees. The team found infants who received the seeding scored significantly higher in neurodevelopment at both 3 months and 6 months, and their scores were comparable to those of vaginally born babies.

"We don't know exactly how early gut bacteria affect their neurodevelopment, but there is some indirect evidence that shows some microbial metabolites are related to conditions," He said. For example, the team found that babies who received vaginal microbiota seeding had more indolelactic acid, a type of metabolite of several *Clostridium* bacteria species, in their faeces. Previous research has discovered that indolelactic acid levels are low in people with Parkinson's disease and Alzheimer's disease.

Future research

"We're hoping this study can provide some leads to future research in this field. We want to know if vaginal microbiota seeding has the potential to reduce the risk of neurodevelopmental disorders in children, such as ADHD, ASD and intellectual disabilities," He said, adding that he and his team plan to carry out long-term clinical trials with larger sample sizes.

"It is somewhat like faecal microbiota transplantation. We need more data to understand this intervention and make it more precise. We may eventually uncover what exactly is beneficial in maternal vaginal microbiota, which could enable us to design therapeutics for all infants born via C-section in the future," He said.

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Pregnancy: oral vs IV iron

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A new study has found that a single iron infusion can significantly reduce iron deficiency in pregnant women when compared with daily tablets.

The World Health Organization (WHO) currently recommends oral iron taken twice daily as the standard of care in developing nations, but adherence to this treatment is poor. The new finding, driven by a collaboration between Australian and Malawian researchers, paves the way for more effective health policies to reduce the global health burden of anaemia, which remains one of the most avoidable causes of illness and death in resource-poor nations.

The research is published in *The Lancet*.

Iron deficiency is a major public health burden in resource-poor countries and a key precursor to anaemia — a condition affecting nearly half of all pregnancies in Africa. While the WHO recommends oral iron tablets taken twice daily for pregnant women in sub-Saharan Africa, less than 30% of the population consumes this recommended dose.

Ferric carboxymaltose (FCM) is a 15-minute iron infusion treatment widely given to iron-deficient pregnant mothers in developed countries. In an effort to find more effective ways of treating iron-deficient patients, WEHI researchers worked with Malawian scientists at the Training Research Unit of Excellence and Kamuzu University of Health Sciences to compare FCM to standard-of-care oral iron.

Half of the Malawian women (431) in their second trimester received FCM, while the other half took standard-of-care oral iron. Professor Sant-Rayn Pasricha — haematologist, leading anaemia expert and Head of WEHI's Population Health and Immunity Division — said the trial was four times larger than the one conducted to bring FCM onto the market.

"When we first set out to do this trial, people thought we were trying to achieve the impossible," Pasricha said.

"We proved that FCM can not only be safely administered in a complex resource-limited setting like Malawi, but can also reduce the iron deficiency component of anaemia by around 60% — a significantly better result than the oral iron currently recommended in these populations.

"The results show women who received FCM throughout the trial had a substantial reduction in iron deficiency and iron deficiency anaemia during their third trimester, at delivery and four weeks post-partum.

"This will open a whole new field of research that was previously thought impossible and could help transform health policies in vulnerable communities.

"I'm tremendously excited that a medicine widely used in high-income nations might have an application to help women in sub-Saharan Africa and other resource-poor settings. Our next task is to identify those women who have the best chance of benefiting from the IV treatment."

Unique health challenges

Pregnant women with anaemia are at elevated risk of complications, including post-partum haemorrhage, stillbirth and low birth weight.

Despite the substantial improvements in iron levels, the trial found FCM was not superior to oral iron in reducing the overall burden of anaemia in pregnant women and did not reduce incidences of low birth weight or anaemia in women at the time of delivery. The researchers say this is because anaemia can be driven by more than iron deficiency in developing nations.

"For example, conditions like malaria and HIV, which are common in parts of sub-Saharan Africa, can drive up inflammation in the body and prevent access to stored iron," said Professor Kamija Phiri, a leading epidemiologist and Director of the Training and Research Unit of Excellence.

"Additionally, haemoglobinopathies — a group of inherited blood disorders predominantly affecting red blood cells — are common in the region and cause anaemia."

Pasricha said the results emphasise the urgent need for new mechanisms to address these unique health challenges.

"Over half of participants had inflammation in their bodies, despite testing negative for malaria," he said.

"With some parasites able to hide in the placenta during pregnancies, it is likely that current tests are not sensitive enough to help us understand a mother's complete health status and flow-on risks to her unborn child.

"While you can do a blood test to detect determinants of anaemia, like ferritin, in developed nations, there is no such tool in place for these parts of the world to measure iron status.

"Our study shows there is an urgent need for field-friendly testing capabilities for iron status and causes of anaemia, which will provide critical insight into how and where medicines like FCM should be used."

With FCM remaining an expensive treatment option, the researchers hope the promising results of the trial can encourage philanthropic efforts to further research the intervention and make it more accessible to women in low-income settings.

The research team is currently tracking the mothers involved in this study and their babies to assess whether the intervention will impact on anaemia prevalence, post-partum depression and child neurodevelopment.

Wireless devices of today have very different power needs to that of the past, technology has advanced and so have the power requirements.

Duracell's professional battery brand, Procell, has developed a new range of professional batteries with higher capacity and longevity, resulting in less frequent battery replacements and savings on associated operating costs and environmental impacts. Batteries can be a costly outlay for medical companies, having to replace them more often, increases the cost of purchasing more batteries, but also the cost and time of having to replace them. So how can Procell help?

Leading Technology

Through intensive device testing in its labs and working closely with manufacturers, Procell discovered a way to extend battery life, by focusing on the device power needs they were able to develop a dual portfolio of batteries with unique power profiles. All Procell batteries are tested to guarantee the highest quality and reliable performance. Environmental testing is also conducted to ensure dependable and consistent use.

Batteries can last significantly longer

Increase your battery life and performance with Procell's dual portfolio. Procell Intense for high-drain devices and Procell Constant for low-drain devices. The difference between the two is how they operate, a high-drain device will normally have moving parts and require frequent bursts of high power to function, whereas a low-drain device has less frequent use and no moving parts.

Powering the medical industry

Batteries play an important role in the overall safety, performance, and reliability of many medical devices. Medical devices are increasingly technology focused and the number of battery-powered devices will continue to grow. While there are many advantages to using batteries in medical device applications, such as backup power or portability, having reliable devices is paramount and having long-lasting batteries is essential. Procell batteries have been specifically designed for the professional end-user, including medical practitioners. Procell batteries can be used in a number of medical devices including glucometers, blood pressure monitors, spirometers and pulse oximeters.

Calculate your savings

Procell uses a cost calculator to help you see what you can save on your battery costs, not only the cost to purchase them, but also the cost it takes to replace them. Through market research they have built an online tool that tracks the increased battery life their batteries can deliver against other brands of batteries. This is through the use of device testing with manufacturers.

Latest innovation

Procell have an extensive range of professional batteries, recently they have launched Procell Intense high-power lithium batteries, which have extended battery life and longer end of life notification — CR123 and CR2. Also recently launched are their new Process Intense Lithium coin batteries that have the very best in child safety, a bitterant coating on the coin itself that helps to combat the problems with accidental swallowing, child safe packing and engraved warning symbols.

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Image credit: RMIT University

Cotsaftis designed a suite of portable, modular, cost-effective and sustainable 3D printed furniture.

Design to tackle mental injury in health care

A new initiative from RMIT's School of Design aims to improve the comfort and workplace mental health of healthcare workers through 3D-knitted bespoke hospital scrubs and 3D printed chill-out pods.

The Safety Sensescaping project, funded by WorkSafe's WorkWell Mental Health Improvement Fund, is part of Peninsula Health's Thriving in Health program and is focused on creating safe and mentally healthy environments for healthcare workers to thrive in.

Project lead and RMIT Senior Lecturer Dr Olivier Cotsaftis worked with doctors, nurses and non-clinicians at Peninsula Health for three years to understand the psychosocial hazards in their workplace and find design-led solutions to prevent mental injury.

Cotsaftis said hospital scrubs were an unconscious source of stress for many healthcare workers, as they do not typically accommodate a wide range of body shapes and sizes. They are also often made from scratchy synthetic materials that can cause the wearer to overheat quickly.

"Many workers don't realise how being uncomfortable in scrubs can add extra stress to an already stressful job," Cotsaftis said.

"Some workers we spoke to said their scrubs felt suffocating during highly stressful situations."

In order to find a more comfortable solution, Cotsaftis started with body scanning technology to map out the body's measurements, then used 3D-knitting technology to create the scrubs.

Using yarn made from a blend of organic cotton and Seacell, an algae-based cellulose material, the final prototype was a breathable, comfortable and well-fitted set of scrubs, which were a hit with staff at Peninsula Health, Cotsaftis said.

Nurse Erin Colgan, who tested Cotsaftis's prototypes, said she was not aware of how negatively her generic navy scrubs impacted her mental health until she was involved in the Safety Sensescaping project.

"This project has made me understand the impact scrubs and uniforms have on mental health and I have decided to change how my scrubs make me feel," she said.

Cotsaftis is hoping to work with tech companies to fine-tune the 3D knitting and make the process more streamlined. He is also hoping to source new yarns made from organic waste to make the scrubs more sustainable.

Somewhere quiet to rest

Cotsaftis has also designed a suite of portable, modular, cost-effective and sustainable 3D-printed furniture, to tackle the lack of private, quiet resting spaces in healthcare facilities.

"Many healthcare workers take breaks wherever they can, but there may not be any seats to sit on or they might lack privacy," he said.

"They're also subjected to lots of noise pollution, which makes it difficult for them to de-stress."

The furniture could be printed on demand when needed by the hospital, and industrially composted at the end of its life. Most importantly, the furniture is sound-absorbing.

The prototypes are made from corn polylactic acid (PLA), a compostable and carbon-neutral natural plastic, and recycled paper for its sound-absorbent properties.

Cotsaftis's furniture design includes the use of rounded patterns, allowing sound to travel through the furniture rather than bounce off the surface.

More than aesthetics

Cotsaftis said his research with Safety Sensescaping highlighted how human-centred design can change our approach to creating products, services, strategies and policies to tackle the growing issue of mental wellbeing in the workplace.

"Design is often misunderstood as form and aesthetic, but it also includes the broader systems we sometimes interact with, such as health care," he said.

"What we've designed is not just innovative scrubs or furniture, but a design strategy that can be used to tackle any work-related factors contributing to poor staff mental wellbeing in health care."

2023 Safety Sensescaping Research and Engagement Report and Thriving in Health: Safety Sensescaping — A design approach to workplace mental health were prepared for and published by Peninsula Health's Thriving in Health program.

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A Day in the Life

Caitlin Clayer from Ti Tree Health Clinic in the Northern Territory is a remote area nurse providing compassionate and culturally safe care to First Nations communities.

As a nurse in a remote community, Caitlin supports patients with a range of health issues, reducing barriers to accessing services such as cervical screening and sexual health, and also works on call to manage emergency issues. She was recently awarded the Nurse of the Year at the 2023 HESTA Australian Nursing & Midwifery Awards and hopes that this award will shed some light on remote nursing and the work nurses do, and, hopefully, encourage other nurses to consider remote nursing.

08:00 My first job when I get in to work in the morning is review our inbox messages. We receive messages through our online patient system. It outlines patients that present to either Tennant Creek or Alice Springs Hospital. It also provides discharge summaries, admission details and upcoming outpatient appointments. It is also a useful portal for other staff to send emails regarding necessary patient follow-up.

We start our morning with a staff meeting. This involves nursing staff, Aboriginal Health Practitioners (AHPs) and our local GP. We use this time to review all patients on our recall list and triage who needs to be seen and who is currently in community.

There is a lot of transience, so it takes a bit of coordination between clinics if a patient needs to be urgently recalled. We then allocate staffing for the day. Thursday is my outpatient day so we organise which local AHP wants to go to the outstation, a remote community, with me and generate a recall list specific to that outstation.

08:00 09:00 10:00

09:00 I head out to my allocated outstation with a couple of local AHPs. For the first part of the morning, we hand out a lot of medications to patients and see general primary health concerns. However, mid-morning, we have a sick patient come into the clinic. It's evident that the patient requires transfer to hospital.

I cannulate the patient, take point-of-care bloods, document my findings and notify our main clinic that we will be returning, giving our local GP the heads up so they can review the notes prior to our arrival.

10:00 We return to the clinic and our GP contacts the Medical Retrieval Team (MRACC) to coordinate a flight for the patient with the Royal Flying Doctors Service (RFDS). Whilst we are waiting on a flight for the patient, we commence some IV antibiotics and pain relief.

The amount of time it takes to transfer a patient via plane is always dependent on a number of factors, such as priority or severity of the presentation, capability to transfer the patient via road and staffing capabilities of the clinic. In some cases, the clinic can be allocated an anticipated flight time but a more crucial patient may take priority. Luckily in this situation, we were able to get this patient on a flight before the evening.

14:00 After lunch I head to the local aged care facility. We are making preparations for NAIDOC celebrations at the local school.

The clinic is partnering up with the aged care ladies — women in community who provide aged care support — to make bush medicine at the school. The aim is to produce a large amount of bush medicine that we can then go on to supply through the clinic for patients. It's a really great way to meld traditional medicine with western medicine. A local AHP and I spend the afternoon at a local site approximately 110 km from community with the aged care team and aged care ladies. We collect a bunch of native plants and leaves to use for bush medicine the following week. We have a great time, with the aged care ladies scaling rocks to make sure we collect the right plants.

14:00

17:00

17:00 The clinic finishes for the day and I head home to relax with my dogs. I'm on call tonight, so I have the ambulance and clinic phone with me for the evening and hope there are no calls overnight!

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**.

Featured Products

Keep up with the latest industry innovations

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Care management software

The Lumary NDIS care management software is an all-in-one comprehensive platform designed to help providers deliver streamlined and efficient care to participants.

The end-to-end care management software aims to remove administrative and paperwork complications to patient care using a single interface that provides the ability to onboard new clients, access participant information, update care plans, manage billings, schedule appointments and generate invoices. Routine tasks are managed by the software to allow users to focus on offering quality patient care.

Real-time data tracking and reporting enables users to receive insights into NDIS participant progress and outcomes to support informed decisions and provide personalised care. With claiming and data-syncing integration to the NDIA PRODA platform, the software automation simplifies workflow and focuses on efficiency.

Cloud-based storage allows users to access participant information from anywhere at any time, making the product flexible for remote care delivery by eliminating the need for physical paperwork. The software also assists with tracking and calculating travel and transport.

Lumary
www.lumary.com

Featured Products

Cleaning equipment

The health system is facing several challenges, including rising costs, aging population, increasing demand for healthcare services, and a shortage of healthcare workers. Tennant services needs of the healthcare industry with floor cleaning solutions that protect the health, safety of the operating environment with optimal cleaning performance.

The company offers a full range of machines for every cleaning need, including equipment specifically designed to have low noise and odour levels for reduced patient disruption.

Tennant's T681 rider scrubber is designed to enable users to perform high-performance cleaning with minimal effort. Features and benefits include: minimise operator training with intuitive controls; improve productivity with a wide scrub path and large tank capacity; comes with an integrated chem-dose cleaning system; suitable for cleaning medium to large spaces like hospitals.

Tennant equipment is specifically designed to boost staff productivity and labour efficiency. Features like easy-to-use ergonomic controls and easy-to-locate maintenance touchpoints are designed to help staff to do more in less time.

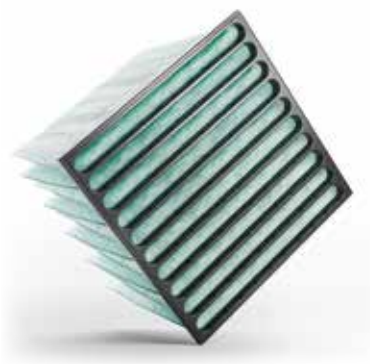
Users can manage small to medium-sized spaces with the T291 walk-behind scrubber, larger spaces with the T681 rider scrubber and mechanise the small spaces with the CS5 micro scrubber making it a suitable cleaning tool for tight spaces.

Tennant is developing the next generation of autonomous cleaning machines with an aim to transform healthcare cleaning. The company's certified cleaning equipment is designed to leave surfaces clean, safe and dry, helping reduce the risk of slip and fall accidents — as well as sustainability efforts by limiting chemical use.

Tennant equipment is designed to help healthcare facilities reduce their cost to clean, improve health and safety and operate more sustainably.

Tennant Australia Pty Ltd
www.tennantco.com.au

Bag filters



For over 50 years, Camfil's Hi-Flo bag filter has been a well-known air filter brand used in various buildings, including pharmaceutical production facilities, hospitals, office buildings and commercial centres, to safeguard people, processes and the environment.

The bag filter is recognised for its dependable performance and energy-saving capabilities. Compared to the previous Hi-Flo series products, the latest product has been designed to offer a 12% reduction in energy consumption and up to 30% lower energy consumption than the industry standard. The bag filter features conical pockets and a developed seam design and stitching technique that distributes air over the entire filter surface, maximising the use of the filter media.

The Hi-Flo bag filter series is tested according to ISO 16890 standards and certified by Eurovent for optimal filter and system performance. For more information: www.camfil.com/en-au/hi-flo.

Camfil Australia Pty Limited
www.camfil.com/en-au

Featured Products

Hemodynamic monitoring solution

The life of a critically ill patient depends on making the right therapeutic decision. To achieve this, trusted information is required, for example a broad set of reliable hemodynamic parameters, to determine the best individual treatment for that patient.

Getinge's advanced hemodynamic monitoring solution PiCCO is designed to provide a minimally invasive measurement of cardiac output and its determinants (preload, afterload, contractility) as well as the quantification of pulmonary oedema through the measuring of the extravascular lung water index (ELWI)[1]. By indexing the ELWI to the patient's predicted body weight, underestimation of lung water, particularly in obese patients, can be avoided.[1]

PiCCO is a clinically proven tool for hemodynamic assessment and management in a broad range of critically ill patients.[1,2] With the combination of intermittent transpulmonary thermodilution and continuous pulse contour analysis, the PiCCO technology provides a complete picture of the hemodynamic situation.[1,2,3,4]

To allow easy integration into the user's existing product portfolio, Getinge is partnering with various monitoring companies like GE, Philips, Dräger and Mindray to enable PiCCO haemodynamic monitoring to be implemented seamlessly with the bedside user interface in the hospital.

Visit this link for reference list — https://anz.getinge.com/picco-reference-list.

Getinge Australia Pty Ltd
www.getinge.com/anz

Featured Products

Corrosion-resistant air filter

Camfil's CamCarb XG is a versatile, ergonomic and corrosion-resistant filter suitable for supply, recirculation and exhaust air systems in commercial, industrial and process applications. Its conical shape enables high removal efficiency while maintaining low-pressure drop.

The filter's patented design maximises adsorbent media utilisation, resulting in an overall lighter-weight filter with a longer lifetime compared to the previous-generation cylinder. This lowers the total cost of ownership (TCO).

Along with improved filter performance, the product features robust construction and is incinerable, with no adhesive used in construction, no degradation of media and negligible outgassing. It is fillable with a wide range of molecular filtration media for various applications.

CamCarb XG can be installed in supply, recirculation and exhaust air systems. When mounted in the holding frame, all internal leaks are eliminated for high-efficiency operation. The product can also be supplied in Camfil's air cleaners with a molecular module or in a CamCube/GlidePack housing.

Two-stage filtration is available as an option, with a mounting rail for 48 mm particle pre- or after-filters. Housings are used in comfort and industrial applications.

For more information, contact 1300 886 353.

Camfil Australia Pty Limited
www.camfil.com/en-au

Rare cancers and the collective health impact

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New research has highlighted the immense collective health impact of rare cancers on the Australian population.

The research revealed that rare cancers collectively account for 22% of all invasive cancer diagnoses and 27% of all cancer-related deaths in Australia from 2007–2016. That is, more than one in five cancers diagnosed was a rare cancer type, and survival was relatively low at around 53%.

Cancer Council Queensland researchers, in collaboration with experts from Queensland University of Technology (QUT) and Western Australia Cancer Registry, utilised data from eight population-based cancer registries in Australia over the period of 2007 to 2016.

These findings, published in the *International Journal of Cancer*, show that the incidence and survival of rare cancers varied markedly between small geographical areas across Australia — remote and disadvantaged areas had higher incidence and lower survival.

Cancer Council Queensland researcher and senior author Professor Peter Baade said, "Since treatment for rare cancer types requires specialist care found in major cities, the logistical challenges to more effective diagnosis and treatment for people living in rural and disadvantaged areas need to be addressed."

Distinguished Professor Kerrie Mengersen, Director of the QUT Centre for Data Science, and co-lead on the Australian Cancer Atlas, explained the need for further research to address these disparities.

"These results provide motivation to better understand why these geographical patterns exist, and thus inform the development of strategies to achieve improved outcomes for all Australians diagnosed with a rare cancer type."

Wayne Reynolds.

Images: Supplied

Duodenal cancer survivor and Cairns local Wayne Reynolds is all too familiar with the daunting reality of receiving a rare cancer diagnosis. Reynolds was feeling fit and healthy at 50, with a half marathon under his belt while training for a half ironman triathlon when he was diagnosed.

"It was kind of weird the way it first came about, I got really itchy and my wife noticed that I was starting to go yellow in my eyes and across my skin. I felt fine, apart from the incessant itching, and got myself off to the doctors, who sent me straight to the emergency department with painless jaundice," Reynolds said.

Reynolds was presented with a potential pancreatic cancer diagnosis, and a 5% survival rate.

"It was pretty grim at that point in time. From there I had a number of tests and ended up getting transferred to Townsville base hospital."

Reynolds explained the test results came back to show that he had duodenal cancer: "It was about 10 mm away from my pancreas, thankfully. Certainly, a lot better outcome than pancreatic cancer. But from there it was a rollercoaster, emotionally, still dealing with the fact that I had cancer."

It was an incredibly harrowing time for Reynolds and his family, with his GP at the time sharing he'd never seen a case of this rare cancer in his 30 years of experience. With a lack of information and many unknowns ahead of him, Reynolds turned to his own research where he found Cancer Council's rare cancer resources. These outlined information on rare cancers, what he could expect and who to go to for more information.

This helped calm Reynolds' nerves during a very challenging time, but he continues to stress the need for further information, resources and support for rare cancer patients, especially once they're out of the hospital and healthcare system.

"Travelling away from home and leaving the kids in Cairns added to the stress of the situation but I am grateful that I could access the lifesaving treatment. I know that not everyone is so lucky, especially patients that are in rural and regional communities," Reynolds said.

"It's important that the challenges standing in the way of effective diagnosis and treatment for people living in rural and disadvantaged areas is addressed so that everyone can have their best chance of surviving like I did."

Baade explained, "These results hopefully provide motivation to better understand why these geographical patterns exist, and thus inform the development of strategies to achieve improved outcomes for all Australians diagnosed with a rare cancer type, regardless of where they live."

Deputy Chair of Cancer Council's Supportive Care Committee Danielle Spence emphasised the imminent need for more funding within this space.

"Wayne's cancer journey, and continued experience with long-term effects of his cancer, and this new research serve as a reminder that our work isn't done in ensuring equal access to cancer care and support for rural and remote Australians.

"By investing in research and enhanced support for people with cancer, together we can help reduce the impact of cancer for more Australians. Cancer Council provides vital information and support services to people with cancer, and we know that those in regional, rural and remote areas really rely on our services. Investing in research and supportive care would make a difference to people living with cancer and save more Australian lives."

National action plan for paediatric palliative care

A new national action plan aims to improve the quality and availability of palliative care for infants, children and young people with a life-limiting illness.

Close to 9000 children and young people (0–21 years) in Australia were estimated to be living with life-limiting conditions in 2021, with the proportion of children with these conditions who have complex needs estimated to be around 38%. This is according to data from Palliative Care Australia (PCA) and Paediatric Palliative Care Australia and New Zealand (PaPCANZ).

"When an infant or child is diagnosed with a life-limiting illness, it is an enormously tough time for the child and their families and loved ones," said Assistant Minister for Health and Aged Care Ged Kearney.

"Specialist paediatric palliative care services give professional, timely and compassionate care, which provides great support for everyone involved.

"The national action plan will help people to understand that paediatric palliative care isn't all about dying, it's about making each precious moment of life as good as it can be."

The first Paediatric Palliative Care National Action Plan, developed by PCA and PaPCANZ, outlines a national approach to paediatric palliative care with four high-level priorities — quality; access; information sharing and collaboration; and data and research.

It aims to ensure the families and carers of infants and children with a life-limiting condition understand their palliative care options and receive the information and care they need.

Importantly, the action plan provides an outline to all governments, key stakeholder organisations, our health services and all health workers involved in the provision of paediatric palliative care to use this action plan to take steps to improve access to quality paediatric palliative care.

To support the implementation of the plan and raise community awareness of the benefits of paediatric palliative care, the Australian Government is providing $1.25 million over three years (from 2023–24) to Palliative Care Australia to progress this important work.

This funding will be used to raise awareness of the benefits of paediatric palliative care, develop and disseminate important educational resources, develop new training modules for our health workers providing paediatric palliative care and reviewing referral pathways, to further enhance timely access to this vitally important care for these children and their families. Consumers, health professionals, the palliative care sector and federal, state and territory governments were extensively consulted as the plan was drafted.

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Why every IPC moment matters

GAMA Healthcare is thrilled to announce the launch of the IPC 'Moments that Matter' campaign, inviting healthcare professionals to become part of an inspiring movement celebrating the fundamentals of infection prevention and control (IPC).

In healthcare, every action holds significance, and every moment has the potential to drive a positive change. This campaign coincides with International Infection Prevention Week (IIPW), running from 15th–21st October 2023, and aims to highlight the role IPC plays in creating safe healthcare environments. More than just an event, this campaign is a call to action that underscores the critical role of IPC in ensuring the safety of patients, residents, healthcare staff and visitors.

Valuable IPC resources at your fingertips

To empower healthcare facilities in prioritizing infection prevention and control, the campaign offers a comprehensive suite of resources:

Educational posters and screensaver

Access posters that focus on critical IPC 'Moments that Matter' to help prevent infections in healthcare facilities. These visual cues serve as constant reminders, reinforcing the essential steps for maintaining a safe healthcare setting.

Capture IPC 'Moments that Matter' competition

Unleash your creativity and showcase the impactful IPC moments in your healthcare facility. Share your photos, add a caption, and use the hashtags #MomentsThatMatter, #GAMAHealthcareAU, and #IIPW to enter the competition and inspire others.

Educational webinar

Join our webinar, 'IPC Moments that Matter: Fundamentals for Impact', on the 16th October 2023, at 7:00 PM (AEDT). In this session, Professor Brett Mitchell, an IPC expert, and Amy Cartwright, our Clinical Nurse Educator, will discuss surface decontamination, skin and air hygiene basics, attitudes toward cleaning practices, practical IPC tools and engage in an interactive Q&A session. Don't miss it!

Sneak peek into thought-provoking articles

As part of this campaign, we are offering a series of thought-provoking articles that delve into the fundaments of IPC 'Moments that Matter'. Our first article, 'Decontaminating Visibly Dirty Surfaces Matters', explores the often-overlooked role of visibly dirty surfaces in infection prevention. Recent evidence underscores that effectively decontaminating these surfaces is not just about aesthetics — it significantly impacts IPC outcomes.

Decontaminating surfaces and equipment before a procedure reduces the risk of infections occurring, even prior to common tasks or procedures like taking a blood pressure.

While decontaminating a surface before a procedure is crucial to reduce infection, doing so after a procedure is just as important in breaking the chain of infection. As contamination of surfaces and equipment can happen at any time during a procedure, following a postprocedure process reduces the risk of contamination.

As we embark on the IPC 'Moments that Matter' campaign, we invite you to be a part of this inspiring movement. Join us in celebrating and amplifying the critical IPC work you and your team does daily. Together, we can create safer healthcare environments that truly matter.

For more information about the IPC 'Moments that Matter' campaign and access to valuable resources, visit gamahealthcare.com.au/moments-that-matter

View the IPC Week 'Moments that Matter' campaign using the QR Code.

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» For more information visit **www.gamahealthcare.com.au**

New international guidelines for cystic fibrosis

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The European CF Society Exercise Working Group (ECFS) has developed recommendations and instructions for healthcare professionals carrying out exercise tests on individuals with cystic fibrosis (CF).

Dr Zoe Saynor from the University of Portsmouth in England led the project for this inherited condition caused by a faulty gene that affects the movement of salt and water across cell surfaces. It is a multisystem chronic condition, and the mutation in the gene results in the accumulation of sticky mucus in the lungs and digestive system, leading to a range of challenging symptoms.

While there is no cure, a wide range of treatments including physical activity and exercise are recommended to manage CF. International guidelines recommend regular exercise testing of people with the condition. These tests include establishing aerobic fitness, measuring performance and assessing muscle strength — they are also able to assist in evaluating health trends, response to treatment and health outlook.

The document, published in *European Respiratory Reviews*, was a collaboration between more than 60 experts, from countries including Australia, the UK, France, America, Switzerland, Germany and others.

Dr Saynor from the School of Sport, Health & Exercise Science at the University of Portsmouth said, "The big focus of the project was to change and improve clinical practice across the world, so we've been working together collectively over a number of years.

"We wanted to involve colleagues from areas with different medical care systems, and from both low- and middle-income countries, to ensure our recommendations had as much stakeholder involvement as possible.

"Our goal is that all people with CF of an appropriate age have access to regular exercise testing to better understand their health and be given individualised exercise advice."

The document also highlights previously used tests that are no longer recommended for individuals with CF, as well as areas that require further research. It represents the work of a multidisciplinary panel of physiotherapists, exercise scientists and clinicians, all members of the European CF Society Exercise Working Group.

The Deputy Coordinator of the ECFS Exercise Working Group, Dr Don Urquhart from the University of Edinburgh, said, "There is still a lot we don't yet know about people living with CF, but exercise is becoming increasingly important in the management of the condition. We hope that these guidelines will help improve confidence and understanding by having everyone undertake tests in a standardised manner."

CF Physio President Jenny Hauser added: "Global standardisation across many aspects of physiotherapy management in CF is a strong focus for clinicians in the rapidly developing and changing landscape of this chronic condition.

"Moving towards a consensus internationally on the choices of validated exercise tests, standardised protocols and objective measures in exercise testing will assist in developing robust multicentre research opportunities.

"The guidelines will improve equity in practice across CF centres and will help clinicians in appropriately supporting their patients to develop individualised exercise programs for improved health outcomes."

How healthy is your medical storage?

The off-the-shelf solution to improving infection control and staff efficiency

Over the past few years, the healthcare sector has faced serious challenges. Already struggling to keep up with increasing demands on their services, hospitals and medical facilities are now facing tighter rules and regulations around infection control — and those pressures are here to stay.

It's no easy feat to maintain quality control in the face of such a challenging landscape, but making smart choices in critical hospital areas — such as safer dispensary and medical storage — is an effective way to minimise risk, while making it easier for staff to do their jobs.

Innovators in storage, Flowsell medical solutions ensure that all medication and medical supplies are stored safely, protecting patients, medical staff and your organisation.

Flowsell is Australia's leading provider of hygienic shelving and storage systems for many major hospitals, aged care facilities and pharmacies nationwide. Their wide range of innovative storage solutions are designed to maximise day-to-day efficiency, saving staff precious time, and protecting patients.

Designed for the medical industry, Flowsell storage systems not only optimise storage space and accessibility of medications, they reduce contamination risks and improve infection control. Your hospital will comply with the most stringent of regulations while your team benefits from a more efficient workflow.

Is your hospital still using plastic tubs and solid shelves to store medical equipment?

With no ventilation, plastic tubs and solid shelves collect and retain dust, dirt and grime from airborne particles, and should not be used to store medical products. Flowsell products such as the popular SlipShelf are cleverly designed to provide superior airflow to minimise the build-up of potentially life-threatening contaminants.

Flowsell Best Sellers:

Flowsell SlipShelf

The ultimate for infection control, featuring lots of perforations to minimise the build-up of dust and contaminants.

Flowsell Medication Cabinet

The polycarbonate see-through doors allow for quicker medication identification and less handling. Closed doors minimise the build-up of contaminants like dust. These can also be retrofitted with a swipe card system for restricted medications.

Flowsell PullOut Basket Gondola

Featuring lots of perforations to ensure good air flow and minimise contaminant build-up. This vertical storage system also protects your nursing staff from lifting heavy cartons of IV bags.

Flowsell's wide range of products are considered the gold-standard of hospital and medical storage, and as a 100% Australian owned and operated company, they understand the unique challenges of the industry. All Flowsell products are modular and can be ordered off-the-shelf in the perfect configuration for any storage area.

More than just shelving — Flowsell is the healthier solution for the critical and high-traffic medical storage areas of your hospital, pharmacy or medical facility.

Flowsell®
GRAVITY FEED SOLUTIONS

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To explore the full Flowsell range of safer storage solutions for hospitals and aged care, visit
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www.flowsell.com.au

The future of pharmacy is now

Tom Simpson*

Earlier in the year I shared my views on the future of pharmacy noting pharmacist-led prescribing as one of the key areas of pharmacist specialisation that would help address the increasingly complex nature of health care.

In that short time, we have made significant inroads and are now closer than ever to having this proven model of patient-centred care realised across the national hospital pharmacy landscape. As Health Minister Mark Butler himself said at a recent pharmacy conference in July, "Change is coming. Because it must."

The role of pharmacists in delivering a strong and resilient healthcare model has never been more important than it is today. And at SHPA we have long championed for pharmacist-led prescribing to be central to a pharmacist's expanded scope of practice.

Pharmacist-led prescribing is made possible thanks to ongoing growth of specialty pharmacy practice. It is a model proven to reduce medication errors, length of stay and hospital costs.

In July this year, SHPA in partnership with The Alfred launched a National Credential recognising Partnered Pharmacist Medication Charting (PPMC) as an innovative pharmacist-led prescribing model.

Embedding PPMC in all hospitals is a fundamental recommendation of SHPA's Position Statement on Medication Safety, which has shown to deliver care 10 times safer for patients, who spend 10% less time in hospital as a result.

Soon after this launch, my colleagues and I were thrilled to host Minister Butler at the Lyell McEwin Hospital in South Australia — which will be taking part in a landmark trial of Partnered Pharmacist Medication Prescribing, where collaboratively prescribing is still the foundation, but pharmacists will be able to be the sole authoriser of medication charts.

As part of this tour, Minister Butler spoke with Sam, who is one of the pharmacists taking part in the trial. Sam had recently been credentialed in PPMC telling the Minister how incredibly fulfilling it is to be a central part of a clinical team working with newly admitted patients. It was not only pleasing to hear Sam talk so passionately about her expanded role but to also see her truly demonstrate the power of collaborative care, as each PPMC episode involves a discussion with the medical team and patient to establish the goals of treatment.

Like any health professional will tell you, there is nothing more rewarding than delivering results to patients. And that is exactly what pharmacist-led prescribing does. It's this type of collaborative model, where pharmacists and doctors work together to achieve better, safer care, that is already driving and will continue to drive the future of health care forward.

“Like any health professional will tell you, there is nothing more rewarding than delivering results to patients.”

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PPMC-credentialled Pharmacist Samantha Maycock in conversation with Minister Butler

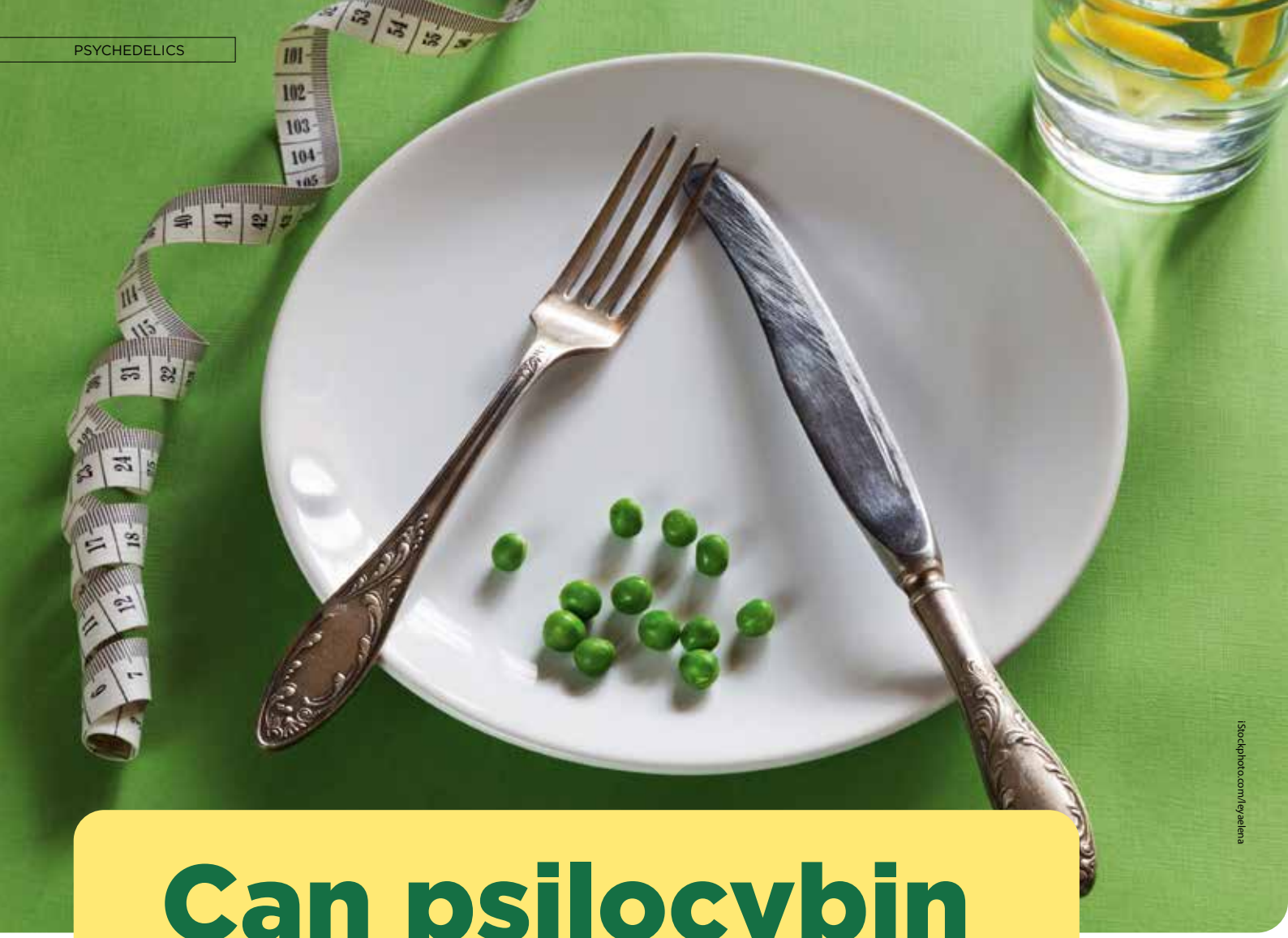
Images courtesy of SHPA.

Just last month, we welcomed the Albanese Labor Government’s Unleashing the Potential of our Health Workforce Review borne from the Strengthening Medicare Taskforce Report’s recommendations. This review champions multidisciplinary team-based care to build trust and collaboration between healthcare professions to expand scope of practice such as through programs like pharmacist-led prescribing.

Knowing the model works, and that it is already recognised and supported by various governments, we now look forward to seeing a nationally consistent approach to pharmacist-led prescribing programs to allow the benefits of this collaboration to reach more patients in more settings.

The future of pharmacy is indeed now.

*Tom Simpson is the President of the Society of Hospital Pharmacists of Australia. He was the 2018 Tasmanian Pharmacist of the Year and recipient of the 2019 SHPA Medal of Merit.



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Can psilocybin treat anorexia?

A single dose of psilocybin, administered alongside psychological support, is a safe and acceptable treatment for patients with anorexia nervosa, according to findings from a small phase 1 clinical trial published in *Nature Medicine*.

In this US trial involving 10 adult women with anorexia, most participants self-reported positive changes three months after their experience.

Four participants' eating disorder scores decreased substantially at three-month check-in, qualifying them for being in remission of an eating disorder.

The study, by researchers from the University of California - San Diego, and the University of Michigan Medical School, is said to be the first-ever data report of using psilocybin, the key psychoactive ingredient in magic mushrooms, in anorexia nervosa in a clinical research trial.

A promising finding

The researchers highlight that their study is preliminary and they call for more extensive research, but say it's a promising finding for a deadly and difficult-to-treat illness.

Stephanie Knatz Peck and colleagues' investigation generated qualitative, self-reported responses from the patients, revealing that 90% regarded the psilocybin treatment as meaningful and positive, endorsing additional treatments if available.

The authors note that the results were based on a small sample size and did not include a placebo group, so they should be interpreted with caution.

They conclude that although they found psilocybin therapy to be a safe and acceptable treatment, further randomised controlled trials are needed to validate the findings.

The next phase

Dr Trevor Steward, Senior Research Fellow in the School of Psychological Sciences at the University of Melbourne, said, "This study represents an important first step towards determining how safe and well tolerated psilocybin therapy is for adult patients with anorexia nervosa. It opens the door for the next phase of clinical trials to assess the effectiveness of psilocybin therapy in improving anorexia nervosa symptoms.

"Psilocybin therapy has provided glimmers of hope in other mental health disorders, notably by providing evidence that it can improve anxiety, cognitive flexibility and self-acceptance for some people. These are all features of anorexia nervosa, and the rationale for exploring psilocybin therapy as an option in the case of anorexia is strong.

"However, this study does not demonstrate that psilocybin therapy can be used to treat anorexia nervosa. Larger-scale clinical trials are a fundamental requirement to confirm whether psilocybin therapy can indeed be considered a viable treatment for anorexia nervosa. While these results show this psilocybin therapy is safe under controlled conditions, it's essential not to let the hype around psychedelics outpace the scientific evidence. Continued research and caution are of the utmost importance to ensure we make informed decisions

“The field is only beginning to scratch the surface in terms of understanding how psilocybin impacts the brain, and dedicated funding to exploring how it specifically acts to target anorexia nervosa symptoms is crucial to advancing this important avenue of research.”

about the potential of psilocybin therapy in tackling this deadly illness.

“The field is only beginning to scratch the surface in terms of understanding how psilocybin impacts the brain, and dedicated funding to exploring how it specifically acts to target anorexia nervosa symptoms is crucial to advancing this important avenue of research. As there are no approved medications available specifically for anorexia nervosa treatment, psilocybin therapy may prove to be a promising option, though additional research is needed to test this.”

Larger-scale research

Associate Professor Gemma Sharp, leader of the Body Image & Eating Disorders Research Group at Monash University and a Senior Clinical Psychologist at Alfred Health, highlighted that there are currently no approved pharmacological interventions for anorexia nervosa and these are very much needed to save lives.

“My own eating disorder patients have expressed interest in psilocybin therapy for a number of years and I am glad that there are gradually more opportunities for them to participate in research. Having said that, this published research is very preliminary. It involved only 10 women with anorexia nervosa, five in partial remission and an average BMI in the normal weight range rather than underweight.

“Nevertheless, the research suggested that a single dose of psilocybin together with psychological support was safe, tolerable and acceptable. The number of people involved in the research was too small to thoroughly examine the impacts on eating disorders and broader mental health symptoms. However, the women generally reported improvements in their quality of life, which is so important in eating disorder recovery.

“This research provides an important platform for larger-scale research. A crucial goal for future research is understanding exactly how psilocybin might assist people with anorexia nervosa (the biological mechanisms) as this will allow us as clinicians and researchers to optimise any treatment strategies.”

Improving Single Source Procurement in Healthcare

Imagine a healthcare procurement process that's as streamlined and efficient as working with a trusted mortgage broker or recruitment agency. One supplier could handle your diverse needs while providing ongoing support and advice, creating a lasting partnership. While no single supplier can cover everything, what if there was a company that operated like a broker or agency, capable of sourcing additional products and services while maintaining a single point of contact?

In healthcare, the unique requirements of each facility may vary, but the advantages of adopting a consolidated procurement approach remain consistently compelling. Whether you operate in the realms of theatres, wards, ICT, the biomedical department, or administration, the profound positive impact of partnering with a single company for procurement and services will be noticeable. Consider these scenarios:

Upgrading Operating Theatres:

When upgrading your operating theatres, you typically require capital equipment such as operating tables and theatre lights, pendants, digital integration, anaesthetic machines, patient monitors, and wall-mounted medical-grade computers. Partnering with a single supplier for all these products offers numerous advantages:

Enhanced Workforce Efficiency: Your entire team benefits from a coherent and integrated solution including subject matter & product experts, project facilitation, and change management.

Simplified Procurement: Your procurement team interacts with only one contact, simplifying the purchasing process.

Streamlined Invoicing: Accounts can centralise all invoices, reducing administrative overheads.

Efficient Support: All service and support requests can be conveniently logged through a single portal, improving issue resolution times and minimisation of downtime.

Digitising the Workforce to Support an EMR:

When transitioning to an Electronic Medical Records (EMR) system, you need hardware to support the software. This includes handheld computers, workstations on wheels, wall-mounted medical-grade computers, and EMR integration, including nurse call and duress systems. A unified supplier approach offers several benefits:

Seamless Integration: All components seamlessly integrate with each other, reducing compatibility issues.

Enhanced Mobility: Handheld computers and mobile workstations provide mobility and flexibility for healthcare professionals.

Centralised Support: Accessing support and assistance becomes more convenient via a single portal.

Hospital to Home Monitoring:

For hospital-to-home monitoring, you require a central monitoring system and unobtrusive wearable monitoring devices, all of which integrate with the EMR. Here's how a consolidated procurement approach can help:

Holistic Monitoring: A single supplier ensures compatibility and comprehensive monitoring across different devices, from when a patient first walks in to when they are given the all-clear whether it be in the hospital or the home.

Efficient Record Keeping: Centralised procurement simplifies record-keeping and reduces the risk of errors.

Unified Support: Managing support requests through one portal makes it easier to track and address issues promptly.

By embracing a single source procurement strategy in healthcare, you not only streamline your processes but also build stronger, long-term partnerships with suppliers who understand your unique needs. The result is a more efficient, cost-effective, and responsive healthcare system that benefits both patients and providers whilst providing an environment that is attractive to clinicians.

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Using shopping trolleys to detect atrial fibrillation

Supermarket shoppers in the UK were recently given the opportunity to be tested for a common heart rhythm disorder by holding the handlebar of a modified trolley for at least 60 seconds. The exercise was part of a study whose findings have been presented at ACNAP 2023, a scientific congress of the European Society of Cardiology (ESC).

More than 40 million people around the world have atrial fibrillation, the most common heart rhythm disorder.[1] Atrial fibrillation increases the risk of stroke fivefold. These strokes are often fatal or disabling. While anticoagulation substantially lowers risk, many people only discover they have atrial fibrillation after they have a stroke.[2] Screening programs are therefore needed to identify people with the condition so they can receive preventative medication.

The SHOPS-AF study investigated whether embedding electrocardiogram (ECG) sensors into the handles of supermarket trolleys could effectively identify shoppers with atrial fibrillation.[3,4] Ten trolleys had a sensor placed in the handle and were used across four supermarkets with pharmacies in Liverpool during the two-month study.

If the sensor did not detect an irregular heartbeat, it lit up green. These participants had a manual pulse check by a researcher to confirm there was no atrial fibrillation. If an irregular heartbeat was found, the sensor lit up red. The in-store pharmacist then did a manual pulse check and another sensor reading using a standalone bar not attached to a trolley with the participant standing still.

The study cardiologist reviewed the ECG recordings of participants with a red light and/or irregular pulse. Participants were informed of the results, which were: 1) no atrial fibrillation; 2) unclear ECG and an invitation to repeat the measurement; or 3) atrial fibrillation confirmed and a cardiologist appointment within two weeks.

A total of 2155 adults used a shopping trolley. ECG data were available for 220 participants who either had a red light on the sensor and/or an irregular pulse, suggesting atrial fibrillation. After ECG review by the study cardiologist, there was no evidence of atrial fibrillation in 115 participants, 46 recordings were unclear, and atrial fibrillation was diagnosed in 59 participants. The average age of the 59 participants with atrial fibrillation was 74 years and 43% were women. Of those, 20 already knew they had atrial fibrillation and 39 were previously undiagnosed.

"This study shows the potential of taking health checks to the masses without disrupting daily routines," said study author Professor Ian Jones of Liverpool John Moores University, UK. "Over the course of two months, we identified 39 patients who were unaware that they had atrial fibrillation. That's 39 people at greater risk of stroke who received a cardiologist appointment."

To assess the accuracy of screening using this method, the researchers conducted three analyses: 1) excluding all 46 unclear ECGs; 2) assuming all unclear ECGs were atrial fibrillation; and 3) assuming all unclear ECGs were not atrial fibrillation. This showed that the sensor's sensitivity ranged from 0.70 to 0.93 and specificity ranged from 0.15 to 0.97. This resulted in a positive predictive value of 0.24 to 0.56, meaning that only one-quarter to one-half of those found to have atrial fibrillation according to the sensor and/or manual pulse check actually had the condition (ie, there were a high number of false positives). The negative predictive value was 0.55 to 1.00, meaning that around half of actual atrial fibrillation cases would be missed using this method (ie, false negatives).

"Nearly two-thirds of the shoppers we approached were happy to use a trolley, and the vast majority of those who declined were in a rush rather than wary of being monitored," Jones said. "This shows that the concept is acceptable to most people and worth testing in a larger study."

1. Hindricks G, Potpara T, Dagres N, et al. 2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association of Cardio-Thoracic Surgery (EACTS). Eur Heart J. 2021;42:373–498.
2. Alshehri AM. Stroke in atrial fibrillation: Review of risk stratification and preventive therapy. J Family Community Med. 2019;26:92–97.
3. Jones ID, Lane DA, Lotto RR, et al. Supermarket/hypermarket opportunistic screening for atrial fibrillation (SHOPS-AF): a mixed methods feasibility study protocol. J Pers Med. 2022;12:578.
4. The study used a MyDiagnostick single lead ECG sensor.

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Key benefits: minimizes downtime — a magnetic alignment connection supports quick battery swaps, while the power module's built-in battery keeps the system running continuously; longer battery life — claimed to recharge three to four times faster than a comparable SLA battery. Lithium iron phosphate (LiFe) battery technology is said to be safe and reliable, support about twice as many cycles as lithium-ion batteries and fit any workflow. Users can plug in the unit to charge the cart, even during use, or use the optional four-bay wall or desk battery charger to keep the cart moving with a hot swap.

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Health impacts of lead exposure

Cardiovascular disease deaths and IQ loss caused by lead exposure could be far higher than previous estimates.

Lead might have caused 5.5 million adult deaths from cardiovascular disease (CVD) and the loss of 765 million IQ points in children under the age of five worldwide in 2019, according to analysis published in *The Lancet Planetary Health*.

The global health effects of lead exposure could be similar to the estimated health effects of PM2.5 outdoor ambient and household air pollution combined, and three times greater than the health effects of unsafe drinking water, sanitation and handwashing, the study suggests.

Exposure to lead can seriously harm young children's health, including damage to the brain, slowed development and learning difficulties. In adults, lead exposure can increase people's risk of cardiovascular disease — which accounts for almost 95% of deaths linked to lead exposure — as well as chronic kidney disease and learning disabilities.

Exposure sources

Despite the fact that lead-containing petrol has been phased out around the world, exposure to the toxic metal still poses major global health risks, especially in low- and middle-income countries (LMICs).

Key sources of exposure include lead acid battery recycling, metal mining, food, soil and dust, leaded paint, cookware from recycled materials, lead-glazed pottery and ceramics, spices, toys, cosmetics, electronic waste, fertilisers and cultured fish feed. The presence of each of these sources varies greatly across countries, and each source's contribution to population blood lead levels (BLLs) needs to be better understood in most LMICs to develop effective exposure mitigation plans.

Lead author Bjorn Larsen said: "We know that lead exposure has continued to cause huge impacts on human health, despite most countries banning the use of leaded petrol more than 20 years ago. What is concerning about our study is that it indicates these damaging health effects are much greater than we previously thought and that they come at a very high economic cost, especially in low- and middle-income countries. Efforts to address the impacts of lead exposure must reflect that these are as significant as those posed by PM2.5 outdoor ambient and household air pollution."

The true number of deaths

The authors analysed the data using a health impact model that estimated lead exposure's effect on deaths from cardiovascular disease caused by factors other than high blood pressure, including damages to the heart and arteries (eg, atherosclerosis) and increased incidence of stroke. A model was also used to estimate global IQ loss from lead exposure in the entire child population aged 0–4 years and to estimate the cost of cardiovascular disease deaths and IQ loss due to lead exposure.

The analysis estimates that lead exposure contributed to 5.5 million deaths from cardiovascular disease globally in 2019, or 30% of all cardiovascular disease deaths. This is more than six times higher than the GBD 2019 estimate of 850,000 CVD deaths from lead exposure. Of the 5.5 million deaths from lead exposure, 90% were in LMICs. As the analysis did not include deaths from high blood pressure — and because lead exposure also increases the risk of dying from causes other than cardiovascular disease — the true number of deaths linked to lead exposure may be substantially higher.

Lead exposure caused the loss of 765 million IQ points in children under five years old in 2019, with 95% of the losses among children in LMICs, the analysis suggests. During their first five years of life, children in LMICs on average each lose 5.9 IQ points from lead exposure. The authors estimate this can reduce these children's total lifetime income by as much as 12%.

"Lead exposure caused the loss of 765 million IQ points in children under five years old in 2019, with 95% of the losses among children in LMICs, the analysis suggests."

Economic impact

Analysis of the economic impact of lead exposure indicates it might have cost US$6 trillion worldwide in 2019, equivalent to 7% of global GDP. The cost was more than 10% in LMICs compared to 5% in HICs, due to higher BLLs in LMICs. The World Bank estimated that the combined cost of PM2.5 outdoor ambient and household air pollution in 2019 was equivalent to 6% of global GDP. [1]

More than three-quarters of the estimated economic cost (77%) of lead exposure was associated with cardiovascular disease deaths, with around a quarter (23%) due to predictions of lower future income caused by IQ loss.

The authors acknowledge some limitations to their study. These mainly revolve around the accuracy of global estimates of BLLs, as nationwide measurements are not available for many countries, particularly LMICs. The authors of the new study used BLL estimates from the Global Burden of Disease (GBD) 2019 study to estimate the global health impacts and costs of lead exposure.[2] The BLL estimates in the GBD 2019 study are based on a combination of 554 studies in 84 countries from 1970 to 2017 and modelling of BLLs.

1. https://openknowledge.worldbank.org/server/api/core/bitstreams/550b7a9b-4d1f-5d2f-a439-40692d4eedf3/content
2. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30925-9/fulltext

The role of patient navigation in care outcomes

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A global study compared the experiences and outcomes of thousands of cancer patients who were supported by navigators with those that weren't. Below are the findings.

Roles for cancer patient programs, including navigators and associated digital tools, should be funded in the health system, with new global research at Flinders University demonstrating that such programs can improve medical outcomes by increasing screening rates and reducing waiting times for cancer diagnosis and treatment.

Cancer patient navigators are typically trained nurses, social workers or healthcare advocates who help guide and support cancer patients with personalised care by working with them to understand their diagnosis, treatment options and relevant medical information.

The global study published in the cancer journal *CA: A Cancer Journal for Clinicians* compared experiences and outcomes in regions including Australia, the US, the UK, the EU, Asia and Canada.

Gathering international evidence, the results show that patient navigation is strongly linked to increased and successful rates of screening, earlier medical diagnosis and cancer outcomes worldwide.

Overcoming barriers

"Navigating the healthcare system as a cancer patient can be an overwhelming experience, especially for those facing multiple barriers when accessing health care. Barriers include lack of health and system knowledge, lack of financial resources or health insurance coverage, geographic distances from care providers and lack of social support," said the study's lead author, Professor Raymond Chan, Director of the Caring Futures Institute and Dean of Research (Nursing and Health Sciences) at Flinders University.

"It's clear that First Nations people, and those from the culturally and linguistically diverse populations and rural and remote areas, have worse cancer outcomes and experiences and this must change."

"This challenge can begin at the time of diagnosis and continue throughout treatment, follow-up care, survivorship, and palliative care and end-of-life care. But navigation covers support required at the cancer screening and early detection, even before the cancer diagnosis. Our latest research looked at valuable data that supports the worldwide medical contribution of cancer patient navigators."

Head and neck cancer survivors advocate Julie McCrossin AM said support from a patient navigator to arrange and attend appointments can mean the difference between life and death.

"I remember the weeks of my intensive treatment for cancer and the follow-up as a busy time of multiple blood tests, scans and radiation and chemotherapy treatments. Each week I had appointments with several doctors, nurses and allied health practitioners."

Education and support

"Patient navigators can help vulnerable cancer patients by coordinating care, organising transport, providing information, overcoming cultural and language barriers, and offering emotional support to encourage people to complete treatment.

"I am especially excited by the role patient navigators can play in providing education about cancer screening and symptoms at community locations and events. Early diagnosis saves lives and navigators can reach out to multicultural and First Nations communities to improve the uptake of screening and early diagnosis, followed by support to get treatment quickly."

Chan said the study results show that effective navigation is strongly linked with patients successfully overcoming socio-economic barriers, difficulties accessing health care, and screening and treatment outcomes for Indigenous populations around the world.

"Our research shows that patient navigation is clearly improving participation in cancer screening for breast, cervical, colorectal and lung cancer, and reducing times from screening to diagnosis and diagnosis to starting treatment."

Reducing readmission

"The evidence also suggests patient navigation improves quality of life and patient satisfaction with care in the survivorship phase, and may reduce hospital readmission in the active treatment and survivorship care phases," said Chan.

"These significant findings provide data supporting the effectiveness of funding and employing navigators in healthcare systems around the world, when considering improved treatment outcomes and reduced costs to the healthcare system.

"There are also further opportunities to adopt artificial intelligence in conjunction to human navigators. Effective navigation is vital to providing appropriate services that support Indigenous people who are less likely to access screening in Australia and Canada and are diagnosed at a later stage."

The navigators can handle responsibilities often left to struggling family members and caregivers such as appointments and transportation, and also help connect patients with the resources and support they need to understand and manage their care. In Australia, they may work in hospitals or community clinics and other healthcare settings.

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"The navigators can handle responsibilities often left to struggling family members and caregivers such as appointments and transportation, and also help connect patients with the resources and support they need to understand and manage their care."

"In developed countries such as the UK, Australia, Canada, there may already be professional workforces that provide some level of navigation support for people with cancer during treatment, survivorship and palliative or end-of-life care phases," said Chan.

"These professional groups may be specialist cancer nurses, care coordinators, oncology social workers and general practitioners. While their day-to-day role may cover a range of patient navigation activities, their role is not dedicated to navigation support."

Recommendations

The study makes the following recommendations for policymakers and care providers:

- Policymakers and healthcare leaders can consider connectivity between workforce service delivery, financing, leadership and governance, technology and information.
- Establish sustainable funding models.
- Education and training for the navigation workforce requires the development of frameworks to enhance consistency and quality of patient navigation.
- Care providers can design navigation to prioritise areas where outcomes have been demonstrated.
- Incorporating emotional support, promotion of healing, caregiver support and facilitation of coping as a key feature of person-centred, navigation programs.
- Patient navigation is needed in underserved segments of the population who can benefit from culturally appropriate and relevant education and assistance.
- Indigenous people require navigation support that is delivered in a culturally safe, sensitive and competent manner.
- Researchers need to inform best-practice standards for cancer patient navigation and to explicitly define the work scope and training requirements of the workforce.
- Standardised data collection is likely helpful to support program sustainability and enable benchmarking at all levels (local, national and international).
- Development and evaluation of technology-based patient navigation solutions including the use of artificial intelligent systems can enhance the longer-term efficiency and sustainability of patient navigation.

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].

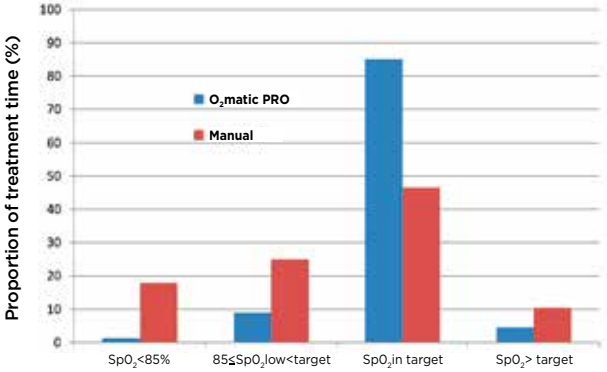
Key benefits of closed-loop oxygen therapy:

- 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].

References

1. Automated oxygen control with O2matic ® during admission with exacerbation of COPD. Hansen, Ejvind Frausing, et al. 13, s.l. : International Journal of Chronic Obstructive Pulmonary Disease, 2018, Vol. 14, pp. 3997-4003. **2.** Automatic oxygen titration with O2matic® to patients admitted with COVID-19 and hypoxemic respiratory failure. Hansen, Ejvind Frausing, et al. 1, s.l. : European Clinical Respiratory Journal, 2020, Vol. 7. **3.** Mortality and morbidity in acutely ill adults treated with liberal versus conservative oxygen therapy (IOTA): a systematic review and meta-analysis. Derek K, Chu, et al. 391(10131), s.l. : Lancet, 2018, Vol. 28, pp. 1693-1705. **4.** Autonomous control of inspired oxygen concentration during mechanical ventilation of the critically injured trauma patient. Jay A, Johannigman, et al. 2, s.l. : J Trauma, Feb 2009, Vol. 66, pp. 386-392. **5.** Automatic versus Manual Oxygen Titration in Patients Requiring Supplemental Oxygen in the Hospital: A Systematic Review and Meta-Analysis. MH, Denault, et al. 98, s.l. : Respiration; International Review of Thoracic Diseases, 2019, Vol. 19, pp. 178-188. **6.** Cost-effectiveness of FreeO2 in patients with chronic obstructive pulmonary disease hospitalised for acute exacerbations: analysis of a pilot study in Quebec. TG, Poder, et al. 1, s.l. : BMJ Open, Jan 2018, 8(1):e018835.

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In Conversation
with Lauren Barber

In Conversation provides a glimpse into the life of an 'outlier' — an exceptional person going above and beyond to improve outcomes in their field. This issue's guest is Lauren Barber, CEO and Founder of Needlecalm and the 2023 winner of the Health Minister's Award for Nursing Trailblazers for her contributions to the medical field with her medtech device aimed at reducing the fear and pain associated with needles.

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Tell us about the early days in your nursing career.

My first role was as an assistant in nursing at a nursing home. I worked one to two afternoons and one day on the weekend. I was in Year 10 when I started, so it was great to have hands-on experience and develop basic nursing skills. I used to ride my bike to the nursing home and stay there for a couple of hours to help with dinners and bedtime.

What were some of the key learnings in your early days?

Although aged care is sometimes seen to be a challenging area to work in, I realised during my early days as an assistant that patients become 'difficult' and unsettled when their basic needs aren't met. Whenever I have a patient in distress I always go through a little checklist in my head first to address basics like: are they in pain, are they hungry/thirsty, do they need to go to the bathroom?

Throughout my career I have always applied this checklist to every patient. It makes working out concerns and problems a lot easier when you know that you have sorted out the easy stuff first.

This has formed a good base for how I like to approach my work generally and why I started NeedleCalm. I realised that the root problem many patients faced was needle phobia and worked from there to solve it. In general, it's a great method that you can also use to work backwards when problem solving.

What was the inspiration and what is your long-term vision?

The inspiration for starting NeedleCalm was my needle stick injury and, as a result, being a patient on the receiving end of many needles and cannulas.

Prior to my needle stick injury I considered myself quite skilled at performing needle procedures. When I was a patient, I realised that something so small can impact the patient experience significantly.

I started connecting the dots and found that many patients who weren't in the best of health had a degree of needle phobia and healthcare avoidance that stemmed from a poor experience. It never seemed right to me that hospitals are places where you should feel safe, and yet many people are afraid to get medical help due to needle phobia.

I was at a point in my life with no significant responsibilities such as a mortgage or young children, and thought that if I didn't take the chance I wouldn't have the opportunity again.

My long-term vision is to eventually have every healthcare facility set up with clinical practice guidelines and training for clinicians on managing patients with needle phobia.

What is the easiest and hardest part of your role as a startup founder?

I would be lying if I said there was ever an easy part. There's a fun part, such as meeting new colleagues and attending networking events. The hardest part for me is doing everything for the business, all at once. There are a lot of things I have had to learn such as social media, making posts, learning the algorithms, managing cash flow forecasts and accounting. But once you get the hang of it, it can sometimes be enjoyable.

The most enjoyable part for me is speaking with patients and helping them take the next steps, however small or big. It's not an easy journey but this aspect makes up for all the frustration.

What would your advice be for someone wanting to start a health-related venture? What are some initial challenges they might face?

MedTech is notorious for being hard to crack. It often takes a lot longer than you ever anticipate, and costs more than you budget for. My advice would be to do as much user testing as you can before you start clinical trials and manufacturing. And save as much money as you can, and do as much of the grunt work as possible before engaging consultants.

For someone wanting to start a health-related venture, the initial challenges that can be difficult to overcome are typically related to finding finance, a suitable partner or co-founder, and constructing a business plan. Sometimes it's also quite difficult to discuss your idea to get end-user feedback or interest without giving away your secret sauce.

What's your parting advice?

I believe a lot of what we do in nursing is common sense. However, there is also a belief that we do things without ever questioning why, and do things because that is the way it has always been done.

This is how I have approached the whole process with NeedleCalm: working out the why and the long-term effects of it. Sometimes simple changes can make a tremendous difference.

For instance, we get taught as part of medication administration training to make sure we have the right medication and the right patient. However, if you are administering a needle, such as an anticoagulant injection, we don't routinely ask the patient how they are with needles and give them a choice for their preferred site of injection.

I learned this the hard way. I recall once very early in my training how a patient who had been in ICU for three days — who had been poked and prodded with needles to no end — grabbed this injection out of my hand and threw it across the room screaming "no more needles!".

Incorporating open dialogue would help prevent this, and improve the patient experience and medication compliance.

Out & About

Celebrating excellence and innovation

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From advances in patient experience to new dedicated Aboriginal health services for women, the Western Sydney Local Health District (WSLHD) annual Best of the West Quality Awards have honoured clinical excellence and innovation.

More than 100 submissions were put forward for this year's awards from a diverse range of staff and services in WSLHD, which comprises Blacktown, Mount Druitt, Auburn, Cumberland and Westmead hospitals. Awards winners were nominated by peers and management from a selection of finalists.

WSLHD Chief Executive Graeme Loy said, "Our people are not only delivering world-class care, but thinking critically about how we can make an even bigger impact on our western Sydney community.

"We are pursuing ideas which are impacting the quality of care that our patients receive and committing resources to the accessibility of our services for our diverse population.

Award winners include:

Excellence in Aboriginal Healthcare Award

Winner: Protecting our future Aboriginal population

The team implemented a new approach to care to enhance equity of access and reduction in the burden of disease for our current population. As a result, 100% of Aboriginal families at Westmead Hospital in 2023 are offered culturally sensitive perinatal care. Quit smoking rates during pregnancy increased from 28% to 43% and the inclusion of non-Aboriginal pregnant women with an Aboriginal baby increased the intergenerational impact by 20%.

Patient Safety First Award

Winner: Detecting Dental Disease in Children from Intra-Oral Photographs

Instead of a face-to-face dental assessment, intra-oral photographs captured on smartphones are used to make clinical diagnosis. Results show a good concordance between photographic assessment and visual examination. This is the first time Paediatric Dental trialled this method.

Protecting our future Aboriginal population

People and Culture Award

Winner: FLASH – Fostering Leadership Across Systems in Health

This program is a seven-month, evidence-based initiative built by clinical educators for clinicians. This includes a full-day interprofessional education (IPE) workshop on change management.

Detecting Dental Disease in Children from Intra-Oral Photographs

Education and Training Award

Winner: Educational Dementia Immersive Experience (EDIE)

This one-hour virtual reality experiential dementia training program helps staff feel more confident when caring for patients with dementia. Training was offered to 660 clinicians across WSLHD, with 334 attending the training. The VR component allows clinicians to virtually get out of bed and navigate to the toilet while experiencing sensory disturbance, disorientation and frustration.

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Educational Dementia Immersive Experience (EDIE)

Keeping People Healthy Award

Winner: Catch-up School Vaccination Project 2022

This project aimed to deliver 15,000 extra vaccines to high school children across 2022, restoring vaccination rates to pre-pandemic targets. A total of 13,145 vaccines were administered, which was an increase of 71% of HPV dose, 19% dTpa and 18% MecACWY vaccine update.

ACIPC
Australasian College for Infection Prevention and Control

JOIN US FOR THE 2023 ACIPC INTERNATIONAL CONFERENCE

Driving forward:

EMBRACING FUNDAMENTALS & CHARTING A PATH FOR THE FUTURE

Learn from leading experts
Gain insights from both national and international experts in the field of infection prevention and control (IPC).

Network with professionals
Connect with like-minded professionals who share your passion for IPC, fostering valuable relationships for the future.

Meet suppliers
Explore Australasia's largest collection of IPC industry suppliers, discovering cutting-edge solutions and technologies.

Don't miss this opportunity to be part of a transformative experience in the world of infection prevention and control. Embrace the fundamentals and chart the path to a brighter future! #ACIPC23

Program Highlights

Pre-conference workshops: Dive deep into specialised areas such as IPC in Aged Care, Construction and Renovation, and International Outbreak Response with GOARN and WHO.

Sustainability matters: Learn about reducing the carbon footprint of infection services from Rajeka Lazarus, Deputy Director, and Vaccine Research Lead at Bristol Clinical Research Facility.

Surgical site infection insights: Discover insights into surgical site infection surveillance from Lillian Chiwera, Independent Surgical Site Infection Surveillance & Prevention Consultant from the UK.

Office-based IPC: Explore a dedicated conference stream focused on infection prevention and control for office-based practices.

Post-pandemic leadership: Gain valuable perspectives on IPC leadership and its relevance in a post-pandemic world from Julie Storr, Director, and Co-founder of KS Healthcare Consulting.

For more information and to register visit the website
acipcconference.com.au

Adelaide Convention Centre & Online

12-15 NOV 23

moments that matter

Join the IPC campaign Moments that Matter

Scan here to view our resources and celebrate the moments that matter

We invite you to join our IPC 'Moments that Matter' campaign during International Infection Prevention Week (IIPW), 15th – 21st October 2023. In healthcare, every IPC moment matters, and every action we take has a significant impact on the well-being of our patients, residents, healthcare staff and visitors.

Together, let's celebrate the fundamentals of infection prevention.

Educational posters and screensaver
These visuals serve as constant reminders of the essential steps contributing to a safe healthcare environment.

IPC Webinar - 16th Oct 2023, 7pm AEDT
Join our webinar, 'IPC Moments that Matter: Fundamentals for Impact' with Professor Brett Mitchell, an IPC expert.

Capture IPC 'Moments that Matter' competition
Unleash your creativity and showcase key IPC moments that matter. Share your photos and captions on social media using **#MomentsThatMatter, #GAMAHealthcareAU** and **#IIPW** to enter the competition and inspire others.

clinell® celebrates the fundamentals of Infection Prevention

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