THE AUSTRALIAN
HOSPITAL HEALTHCARE
BULLETIN SPRING 2017

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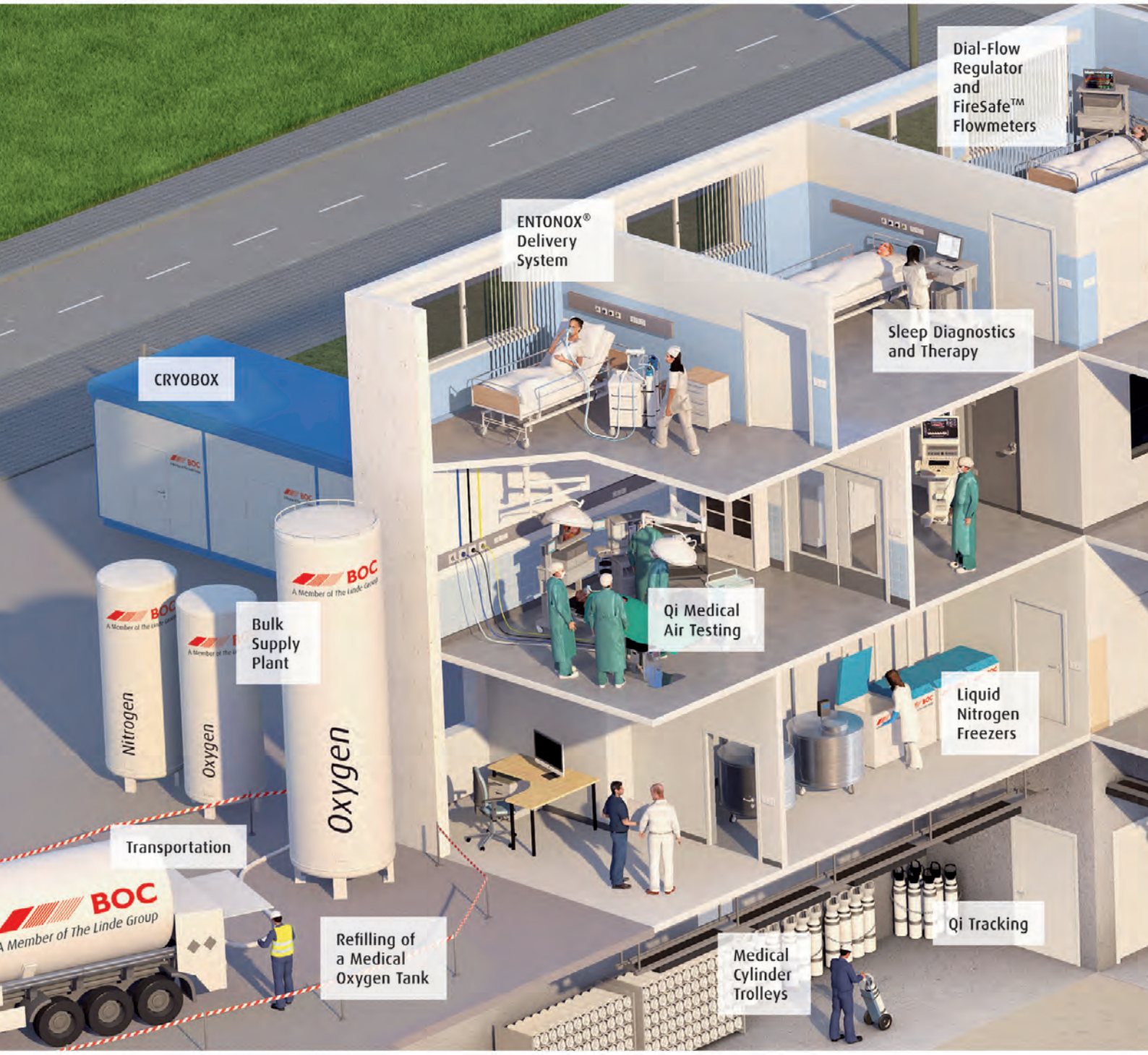

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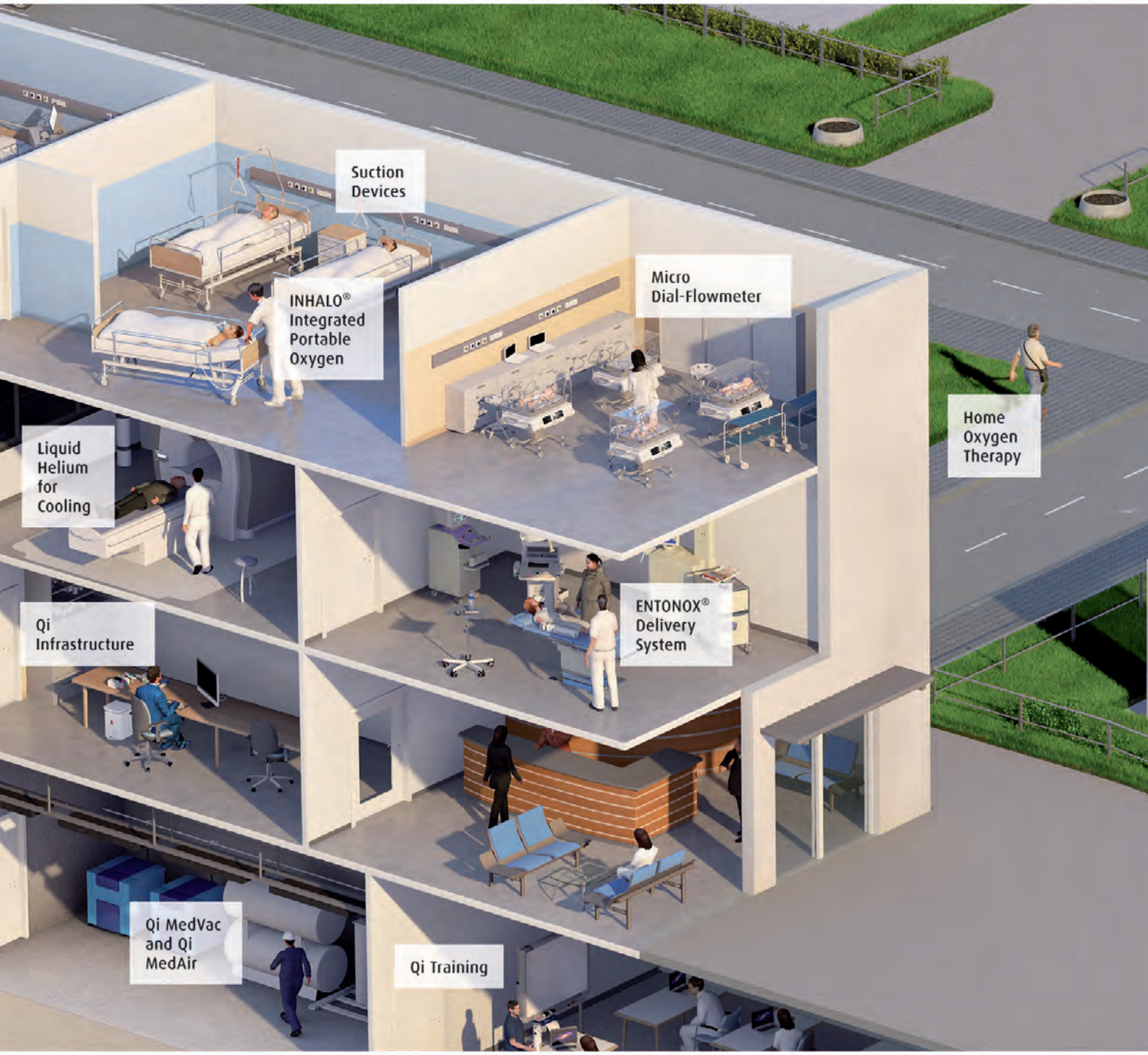

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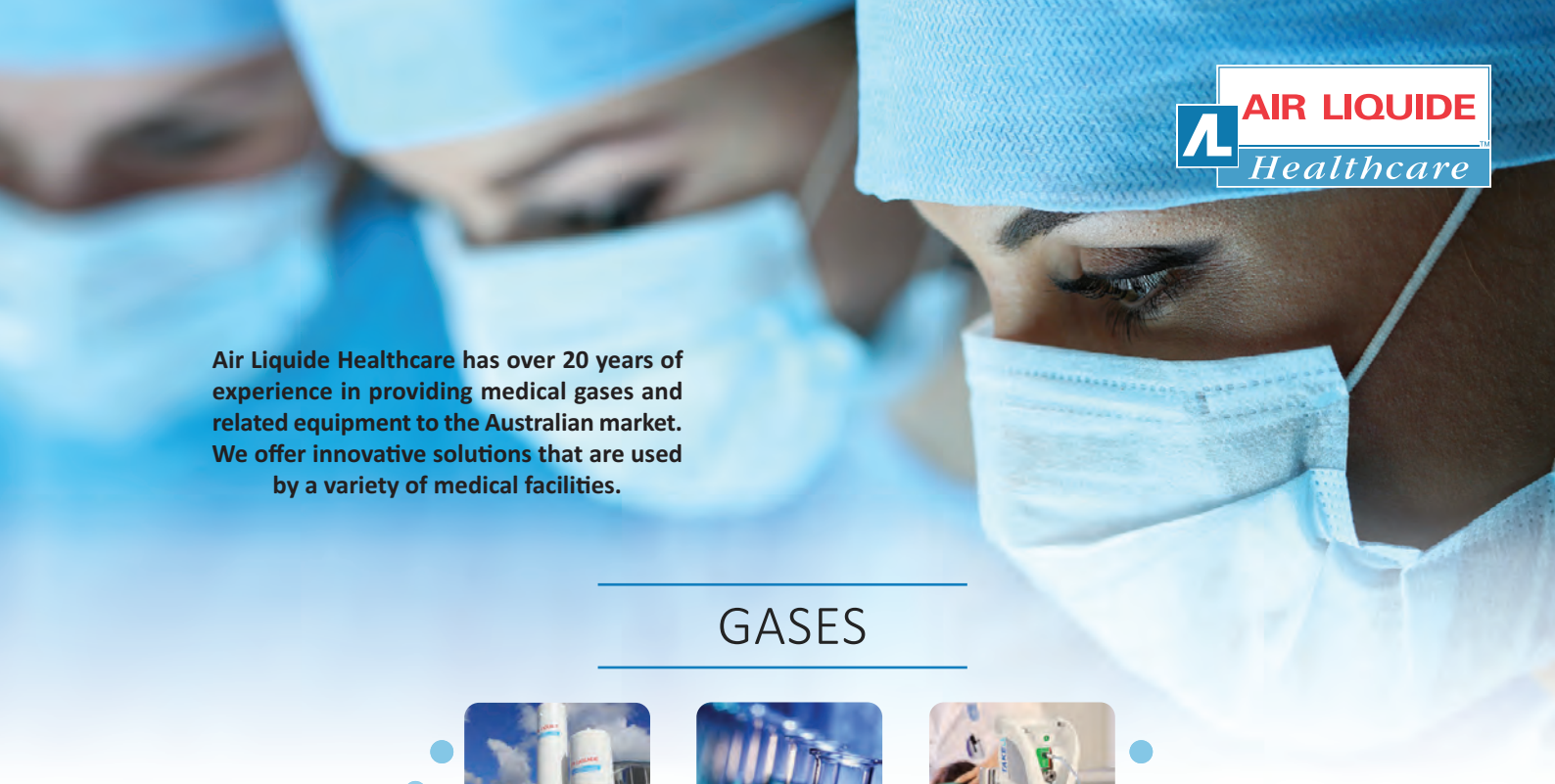
INFECTION CONTROL



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Welcome to your Spring issue

In June this year, I was delighted to become the editor of *The Australian Hospital & Healthcare Bulletin*. Pleased to 'meet' you. I'm really enjoying meeting the dynamic people who work in the healthcare sector. Your passion, dedication and innovation is inspiring!

Soon after I started, I sent out a reader survey, requesting feedback on our content. Thank you to those of you responded. I was pleased (and unsurprised) to find the feedback was very positive. Respondents told me they're reading the Bulletin to stay up to date with the latest developments in health care, but also because many articles strike a personal chord.

Some of you requested more content on people management and leadership challenges, so in this issue you'll see just that.

In the first of a series of women in leadership in health care, Children's Hospital Queensland CEO Fionnagh Dougan provides fascinating insights into the challenges of merging two hospitals into one, bringing together two different cultures and ways of working.

For women in health care wanting to climb the management ranks, management consultant Avril Henry outlines how women should stop sabotaging themselves.

We have three food-related articles, encompassing training at Glenelg Community Hospital, the importance of addressing malnutrition and a day in the life of dietician and exercise physiologist Gabrielle Maston.

Our theme for this issue is Infection Control, and we have a wealth of information for you.

- Australian nurse Beth Wozniak shares her new award-winning app Scrubit, designed to make surgery set-up more efficient and cost-effective.
- Following the worst flu season in years, our piece on managing influenza outbreaks in aged-care facilities is a must read.
- If you intend to work in health care overseas, Dr Neil Nerwich from International SOS provides a guide to enjoying working abroad, safely.
- We learn that Zika is still a threat to Australia, and not to be complacent.

We meet award-winning Associate Professor James Ward. Recognised for his research into infectious diseases in Aboriginal and Torres Strait Islander communities, A/Prof. Ward is a man who truly 'walks the walk'.

This issue we also learn how Blacktown Hospital has transformed from a mid-sized local facility into a major hospital for Western Sydney.

Happy Spring reading,

Laini

Laini Bennett
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WANT TO CONTRIBUTE?
We welcome articles and research reports from health professionals across Australia for review for the quarterly print publication and our daily web page. If you have a story you think would be of interest, please send an email to **ahhb@wfmedia.com.au**.

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Reference: 1. AOHP Journal, Spring 2014. Reducing Needlestick Injuries from Active Safety Devices: A Passive Safety-Engineered Device Trial.

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The Rounds
Updates in Healthcare

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Some acid reflux drugs raise death risk 25%

A new study into proton pump inhibitors (PPIs) suggests users may face a heightened risk of death and that medical professionals should reconsider their use.

PPIs are used to curb excess stomach acid production. Given how widely available these drugs are, and the accumulating evidence pointing to potentially serious side effects, it may be time to restrict their use, suggests the research published in the online journal *BMJ Open*.

The researchers base their findings on national US data obtained from a network of integrated healthcare systems involving more than 6 million people whose health was tracked for an average of almost six years — until 2013 or death, whichever came first.

They carried out three comparative analyses: those taking PPIs with those taking another type of drug used to dampen down acid production called histamine H2 receptor antagonists or H2 blockers for short; users and non-users of PPIs; and users of PPIs with people taking neither PPIs nor H2 blockers.

Compared with H2 blocker use, PPI use was associated with a 25% heightened risk of death from all causes, a risk that increased the longer PPIs were taken.

The other analyses revealed a similar level of risk between users and non-users of PPIs and between those taking PPIs and those taking no acid-suppressant drugs.

The risk of death was also heightened among those who were taking PPIs despite having no appropriate medical indication for their use, such as ulcers, *H. pylori* infection, Barrett's oesophagus (pre-cancerous changes to the food pipe) and gullet (oesophageal) cancer.

As this is an observational study, no firm conclusions can be drawn about cause and effect. Nor were the researchers able to obtain information on the causes of death.

Nevertheless, the researchers suggest that the consistency of their results and the growing body of evidence linking PPI use with a range of side effects is "compelling".

They wrote: "Although our results should not deter prescription and use of PPIs where medically indicated, they may be used to encourage and promote pharmacovigilance [monitoring the side-effects of licensed drugs] and [they] emphasise the need to exercise judicious use of PPIs and limit use and duration of therapy to instances where there is a clear medical indication and where benefit outweighs potential risk."

Parkinson's now diagnosed before symptoms appear

It is now possible to diagnose Parkinson's disease prior to physical symptoms appearing, thanks to a new tool developed by RMIT University.

The tool offers hope for more effective treatment of the condition.

There are currently no laboratory tests for Parkinson's and by the time people present to a neurologist with symptoms, nerve cells in their brains have already suffered irreversible damage.

The RMIT University research team behind the new diagnostic software — which works with readily available technologies and has an accuracy rate of 93% — hope it could one day be used as a standard screening test to spot the condition in its earliest stages.

Chief investigator Professor Dinesh Kumar said many treatment options for Parkinson's were effective only when the disease was diagnosed early.

"Pushing back the point at which treatment can start is critical because we know that by the time someone starts to experience tremors or rigidity, it may already be too late," Kumar said.

"We've long known that Parkinson's disease affects the writing and sketching abilities of patients, but efforts to translate that insight into a reliable assessment method have failed — until now.

"The customised software we've developed records how a person draws a spiral and analyses the data in real time. The only equipment you need to run the test is a pen, paper and a large drawing tablet.

"With this tool we can tell whether someone has Parkinson's disease and calculate the severity of their condition, with a 93% accuracy rate."

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Probiotics formula reduces risk of sepsis in infants

Researchers have found that giving newborn babies in India a special probiotics formula reduced the risk of of sepsis by 40%, at only US$1 per child.

The special mixture was developed by Dr Panigrahi of the Center for Global Health and Development, and colleagues at the University of Nebraska Medical Center College of Public Health. Their findings were recently published in the journal *Nature*.

The research team enrolled more than 4500 newborns from 149 villages in the Indian province of Odisha and followed them for their first 60 days.

The probiotic formula could be a "very cheap oral sepsis vaccine", he said. Given that sepsis infections result in around one million infant deaths worldwide each year, mostly in developing countries, this finding has serious implications for preventing sepsis-related infant mortality.

Violence against medical staff escalating

Violence against nurses and midwives is on the rise, according to research carried out by CQUniversity.

Around half of those who participated in the Queensland survey had experienced workplace violence in the previous three months, which was an increase from 40% in 2001.

"There should be concern about the rising exposure to occupational violence and the perceived lack of real action by managers to curb this rising problem," said Desley Hegney, CQUniversity Professorial Research Fellow.

"Patients, clients and residents were the most frequent perpetrators.

"Relatives were more frequently the perpetrators in the acute public sector than in other sectors — maybe reflecting the demographics of the patients. However, in aged care — public or private — there was very little difference.

"After patients and relatives, doctors and other nurses/midwives were more frequently the perpetrators in the acute private sector."

Strategies suggested to combat violence against nurses include limiting patients from leaving the ward, especially at night, in case they access drugs or alcohol.

As well as adequate staffing and better security equipment, facilities and procedures on the wards, it has also been suggested staff have appropriate resources to ensure safety when they are away from the clinic.

"The bottom line was that they wanted more education and training, face to face, and more security such as personal duress systems, cameras and people being charged who were behaving badly," said Hegney.

The study found violence against nurses and midwives was worse in aged-care facilities and in hospitals in outer regional, remote and very remote areas than in large regional centres and major cities.

New gold standard for invasive fungal infections

A new gold standard for identifying patients at risk of serious fungal infections has been identified by Australian and Brazilian researchers, potentially saving countless lives across both the developed and developing world.

Fungal infections invading the bloodstream, lungs or other organs can cause prolonged illness and in extreme cases can lead to permanent disability or even death. Thousands of patients suffering from invasive fungal infections in intensive care units or after organ transplantation will benefit from the latest insights into diagnostic and therapeutic interventions, published in *The Lancet Infectious Diseases*.

"These new insights into diagnosing and treating invasive fungal infections are significant because early and correct treatment clearly leads to better outcomes for the patient," said senior author Professor Tania Sorrell from the Westmead Institute for Medical Research and the Marie Bashir Institute for Infectious Diseases and Biosecurity.

"These infections are uncommon but potentially life-threatening. Blood infections such as candidaemia and lung infections such as aspergillosis have high mortality rates of up to 85% in critically ill and immune-compromised patients."

Professor Sorrell added that invasive fungal infections overall are a major problem in both developed and developing nations, killing more than 1.5 million people annually. The cost to the global healthcare system runs into billions of dollars each year.

The Rounds
Updates in Healthcare

Transforming skin cells into a diabetes cure

For diabetes sufferers, the pain and inconvenience of regular insulin shots and blood sugar measurements may soon be a thing of the past. Norwegian researchers are one step closer to curing diabetes by making insulin-producing cells from skin cells.

Researchers at the University of Bergen have used stem cell techniques to transform skin puncture cells from diabetes patients into insulin-producing cells. The researchers' aim is to transplant these cells under the skin of people with diabetes.

In the long run, the researchers' goal is to replace insulin shots and blood sugar measurements with insulin-secreting cells capable of automatically secreting insulin in response to the blood sugar level. This can become possible by implanting a capsule with tailor-made cells in each diabetes patient.

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Mediterranean-style diet eliminates reflux medications

A specialist who formerly was one of the largest prescribers of reflux medication in his region has found an alternative, healthier option for treating laryngopharyngeal reflux.

A plant-based, Mediterranean-style diet has been shown to provide the same medical benefits for treating laryngopharyngeal reflux as popular reflux medications.

This is according to a study published in *JAMA Otolaryngology Head Neck Surgery* by researchers from Northwell Health's The Feinstein Institute for Medical Research and New York Medical College.

The lead author of the study, Dr Craig Zalvan, FACS, chief of Otolaryngology and medical director of The Institute for Voice and Swallowing Disorders at Northwell Health's Phelps Hospital and researcher at the Feinstein Institute, said he was formerly one of the largest prescribers of proton pump inhibitors (PPIs) in the region. Feeling that there had to be a better approach to treating reflux conditions like laryngopharyngeal reflux, he started to research alternatives.

"Although effective in some patients, I felt medication couldn't be the only method to treat reflux and recent studies reporting increased rates of stroke and heart attack, dementia and kidney damage from prolonged PPI use made me more certain," said Dr Zalvan. "I did research and saw a lot of studies using plant-based diets to treat patients for many other chronic diseases, so I decided to develop a diet regimen to treat my laryngopharyngeal reflux patients. The results we found show we are heading in the right direction to treating reflux without medication."

The diet suggested by Dr Zalvan consists of mostly fruits, vegetables, grains and nuts with near complete cessation of dairy and meats including beef, chicken, fish, eggs and pork. This is in addition to standard reflux diet precautions like avoiding coffee, tea, chocolate, soda, greasy and fried food, spicy foods, fatty foods and alcohol.

Along with relieving reflux symptoms, Dr Zalvan noted that many of his patients who were treated with a plant-based diet also experienced some weight loss and a reduction of symptoms and medication use from other medical conditions like high blood pressure and high cholesterol. Dr Zalvan said that a plant-based diet approach with alkaline water and standard reflux precautions should either be attempted prior to the use of medication or with the short-term use of medication for more severe needs.

Saliva test key to fast Zika diagnosis

Researchers have found that saliva can used to accurately detect exposure to the Zika virus.

Blood tests only detect Zika several days after infection. However, using proteomics to examine proteins and peptides in saliva, researchers found they can successfully detect Zika. With 70 countries and territories reporting evidence of mosquito-borne Zika virus transmission, there is an increased need for a rapid and effective test for the virus. This study, published in the *Journal of Dental Research (JDR)*, offers a new, quick and cost-effective way to test for the virus.

Led by Walter Siqueira from Western University, Canada, the team of international researchers also discovered important clues about how the virus passes from mother to baby and its role in the development of microcephaly, a birth defect in which a baby's head and brain are smaller than expected.

Currently, the Centers for Disease Control and Prevention uses blood tests to look for changes to RNA in order to diagnose Zika. The drawback to this method is that it is only able to detect the virus up to five to seven days after exposure. Siqueira points out that because the proteins and the peptides that come directly from the virus are more stable than RNA, saliva proteomics can detect the virus far longer after exposure than with the traditional method. In this case, the window of detection was extended to nine months post-infection.

The findings also open new doors for the development of antibody-based diagnostic tests for point-of-care detection.

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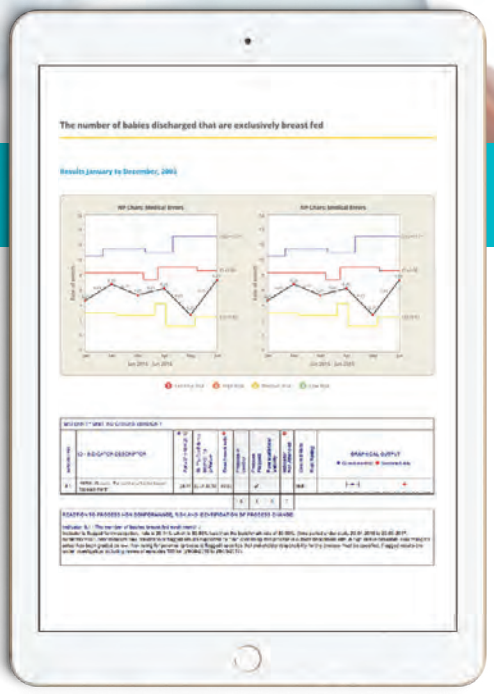

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The economics of chronic disease and hospital care

The increasing prevalence of chronic disease impacts significantly on all health care systems worldwide, with ongoing consequences for funders, service providers and the communities they serve. This is especially so for the hospital sector, where impacts are particularly high.

Despite the increasing prevalence of chronic disease, health systems are characterised by reactive management to the acute exacerbation of established disease. Funding models and the preference of individuals for 'a quick fix' promote acute hospital, medical care and pharmaceutical management, rather than primary and secondary disease prevention.

Improving efficiency in the acute management of chronic disease has been a focus of the research of Jenny Watts for the last 20 years, and on moving to Deakin Health Economics (DHE) in 2013, she started the research stream in the Economics of Chronic Disease and Hospital Care. The focus of this research has been about understanding where the disease burden lies for specific diseases (e.g. osteoporosis and Parkinson's disease); how efficiency in hospital care can be improved in areas of rehabilitation, cognitive impairment, medical emergency teams, diagnostic error and non-admitted patient services; technology-based interventions to find substitutes for hospitalisation (such as telehealth and remote patient monitoring); and exploring alternative funding models to improve efficiency through payment incentives.

Actively collaborating with researchers from other disciplines, hospital managers, policy-makers, and clinicians across many projects, Deakin's team of health economics researchers are expert in the analysis of case-level hospital data, including costing data, Medicare data and self-reported data. A recent evaluation of a remote tele-monitoring intervention provided insights into the value of ongoing support and self-managed care for people with diabetes and chronic obstructive pulmonary disease, including both savings in hospitalisation and improvement in health related quality of life.

In 2017, Deakin Health Economics will celebrate 10 years of excellence in teaching and research. Right from the start, the important linkage between research and teaching was part of DHE's mandate. The teaching program commenced with introductory units in health economics and economic evaluation that were offered as core, selective or optional units across the existing postgraduate health programs in the School of Health and Social Development.

The role and contribution of health economics to the teaching program was further recognised in 2014, with a significant upgrading of our offerings to include a Masters in Health Economics (MHE). Deakin's 16 unit MHE program was approved in 2014, with teaching commencing in 2015. The course now has an enrolment of 40 students from a wide range of countries and backgrounds.

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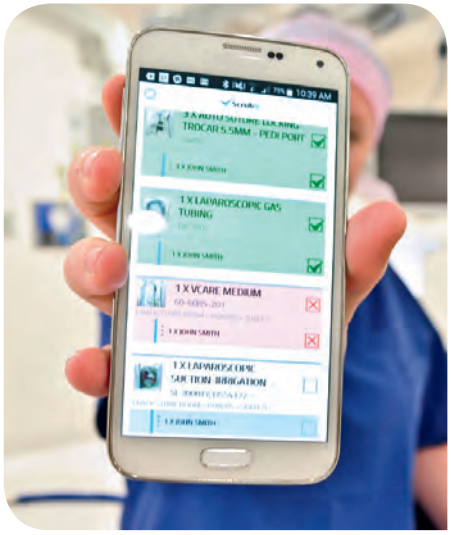
Australian nurse's new app makes surgery set-ups a breeze

Kristy Platt

Beth Wozniak accepting an award from Liz Day, National Quality Manager at Healthe Care.

Images courtesy of ©HESTA.

Hospital executives and nursing unit managers are constantly seeking to improve surgical efficiency and reduce costs in operating theatres; however, inefficiencies in the surgical set-up process have been overlooked — until now.



Mid-surgery, nurse Beth Wozniak was repeatedly astounded to find herself rushing out of the operating theatre to gather equipment that should have been there already. Equipment was missing in action, set-up was frequently incorrect; it just wasn't good enough.

"These errors can cost hospitals thousands in wasted theatre time and unnecessary disposal of unused sterile equipment, as well as adding risk to patient safety," said Wozniak. There had to be a better way. Certain she could improve on the old preference card system, the NSW-based nurse set about finding a solution.

Collaborating with a software designer and technical expert, the team produced the award-winning Scrubit app. Scrubit enables correct surgical set-up, reducing cost, waste and disposal of unnecessary surgical tools, while also minimising the need for nursing staff to leave the theatre to retrieve missing items. Overall, this translates to less operating theatre traffic, more efficient surgeries and improved outcomes for patients.

Streamlining the preference card system

Preference cards must be reviewed frequently and updated at least monthly, or as soon as an alteration is requested. Unfortunately, nurses rely on handwritten notes or their own memory to update preference cards, which often leads to incorrect updates. Scrubit electronically manages this process so nurses can instantly update preference cards.

Improving outdated surgical set-up procedures

To complete a surgical set-up, nursing staff must print a list of required items and take a trolley to storerooms throughout the operating theatre complex. The list can be riddled with errors, including missing information such as the correct name, reference number or location, resulting in staff spending excessive time completing this task. For younger staff, it is the added stress of not knowing the product and the manual reporting including out-of-stock equipment and repeating this process for every surgery throughout the day.

Registered nurse Michelle James explained: "Many hospitals allocate their most experienced nurses to complete set-ups as they can often do a couple at a time, which is faster than the newer employees. However, that takes them away from doing other important tasks — leaving the newer nurses to handle the bulk load of the other duties."

Scrubit manages the theatre set-up process by placing a surgeon's preference cards, set-ups, required equipment and item details, including the item location and a photo, in the hands of every staff member.

Users can perform numerous set-ups at a time, efficiently moving through the storage locations in a systematic manner.

Nurses electronically mark instruments as 'collected', 'out of stock' or 'not ready'. Items that are marked as out of stock are instantly reported to procurement and more expensive or less used items can have just-in-time purchasing, reducing excess inventory and storage requirements. It is estimated that Scrubit improvements can save approximately $160,000 per theatre per annum, not taking into account improved turnaround times or increase in patient throughput.

For more information on Scrubit, visit www.scrubit.com.

"These errors can cost hospitals thousands in wasted theatre time and unnecessary disposal of unused sterile equipment, as well as adding risk to patient safety"

Q&A

Scrubit end user

We sat down with Maitland Private Hospital Nurse Unit Manager Martine Mead, who has used the Scrubit app for almost a year, to learn about how she has benefited from the app.


©Matilda Ferguson

Q How are you finding the Scrubit app so far?

We have been working with it now for a while. It allows us to automatically order instruments not in stock anymore, which is fantastic for procurement as it saves time going around to each shelf. It also means that if the surgeon changes his mind about an instrument or a procedure and wants something different, we can update it in the app straight away.

Q Why did you decide to implement the Scrubit app at Maitland Private?

Beth [Wozniak] is a nurse at Maitland Private, and when she came to see me years ago with the idea, I thought 'this is the way to go in theatres'. I wanted to support Beth in her vision. I think we've done that and have helped her along the way, and she has certainly helped us — it's saved us money, time and skills.

Q How has the Scrubit app helped with infection control?

Infection control is obviously important in operating theatres, as everything needs to be sterile. The less time people are out of theatres when a procedure is going on, the better. If we didn't have the app, you'd see people running around in and out of theatres — and there are obviously many air changes when doors open — so it is helping in that respect. We are allowing those who should be in theatre to stay in theatre.

Q Have you measured how much time the app has saved your staff?

It varies depending on the procedure, but for, say, a knee replacement, it'd take the person doing the set-up around an hour and a half by the time they've gone around and collected everything. Now, with the Scrubit app, it takes half the time or less.

And the other difference is we're not just setting up for one procedure, we're doing the whole theatre list at once. So nurses can now set up four or five procedures in that same hour and a half it used to take for one set-up. The app allows us to go into each individual room and, instead of collecting one item, we'll collect the five items we need for each of the surgeries and put them in the correct baskets for each procedure and for each surgeon. It's streamlined the process.

Q Which hospital staff benefit most from the Scrubit app?

The app works for us (nurses), procurement [and] our stores person, because all they need to do when they receive an item is pop the product code in and the code will tell you exactly where it goes and in which room, what shelf, etc. The Scrubit app makes it so easy now — you just put your code in and it tells you where each instrument is.

BD™ safety hypodermic solutions

The economic and emotional burden of needlestick injuries (NSIs)

Up to 18,730
NSIs occur in
Australia every year[1]

Injection procedures
account for

sharps injuries[3]

Extensive, lingering
emotional effects[4]

Testing and
associated staff
time can cost
up to
$256 per NSI[5]

The cost of staff absence is up to
$4,032 per NSI[6]

Counselling is often sought
following a NSI, each session can
cost up to **$105**[7]

BD safety hypodermic solutions, along with training and education, have been proven to reduce the risk of needlestick injuries

70% reduction in NSIs
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93% reduction in NSIs
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BD offers customised
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Together
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*Compared to when healthcare professionals were using conventional devices

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GAMA Healthcare Ltd.

acquire their Australian distributor AMCLA Pty Ltd.

GAMA Healthcare, manufacturers of Clinell and Carell, are pleased to announce their acquisition of AMCLA Pty Ltd. GAMA are world leaders in infection prevention technology and are excited to develop and enhance current service in Australia. Not only will GAMA be retaining all AMCLA personnel, they will be making significant investment: increasing support and after sales service through dedicated clinical nurse trainers and area managers.

Since 2007, AMCLA – a family owned specialist import and distribution company – have brought you world class healthcare delivery solutions through their two key sales divisions: medical and pharmaceutical. AMCLA have built a reputation for supplying innovative, high quality products to healthcare markets. GAMA Healthcare has now acquired the Clinell division of AMCLA, including the entire workforce. GAMA aim to further enhance the medical division by bringing access to a wider range of infection prevention solutions and improved after sales service and clinical support.

Formed in 2004, GAMA Healthcare is a world leading developer and manufacturer of infection prevention products for the healthcare sector.

Our focus remains on quality, innovation and continual improvement. We work closely with our customers, identifying their needs and providing solutions to real problems. Our new and continually evolving product lines – specialising in surface care, hygiene monitoring, patient skin care and easyclean computer accessories – offer market leading solutions to infection control problems found throughout healthcare provision.

Although you may not be familiar with the name 'GAMA Healthcare', our products – marketed under the brands **Clinell, Carell and Cleanall** – are widely used in many hospitals in Australia and worldwide. In the last 13 years, we have become the largest supplier of wet and dry wipes in the United Kingdom, with at least one of our products used in every National Health Service hospital.

We distribute to over 60 countries around the world and the list continues to grow.

We are very proud to add our new office in Mornington, Victoria to the group; meaning we now have offices in six cities across three continents, with our main headquarters residing in Watford, England.

Founded by two medical doctors, we are committed to infection prevention – with an ethos of making it easy for healthcare professionals to do the right thing.

We believe that after sales service and clinical support is just as important as our products and will be investing heavily in staff growth – building on existing relationships and increasing the educational support we provide.

All existing AMCLA staff will remain with the company to ensure a seamless transition and, over the next 12 months, the team will grow considerably. To support our commitment to education, we will be doubling the current workforce. We will continue to follow the highly valued UK model of appointing experienced infection prevention nurses to help you provide education and training specifically tailored to your organisation's needs.

We want to optimise every opportunity for healthcare professionals to do the right thing on every occasion; we provide effective solutions and support the training and education that underpins best practice. We look forward to working with you in the future to help you strengthen and improve your infection prevention practice.

The company name will remain as AMCLA Pty Ltd. for the next 3 months and will then change to GAMA Healthcare Australia Pty Ltd. and the head office will remain in its current location in Mornington, Victoria.

If you have any queries please contact your local sales representative:

John Panuccio - Sales Manager
VICTORIA, SOUTH AUSTRALIA AND TASMANIA:
j.panuccio@gamahealthcare.com.au

Joe Labban - Sales Manager
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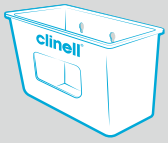

Our experienced engineers will visit, assess and discuss dispenser installation

2. Implement

- Provide face-to-face training in groups or at ward level
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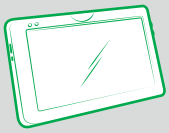

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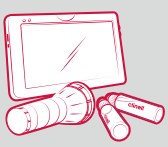

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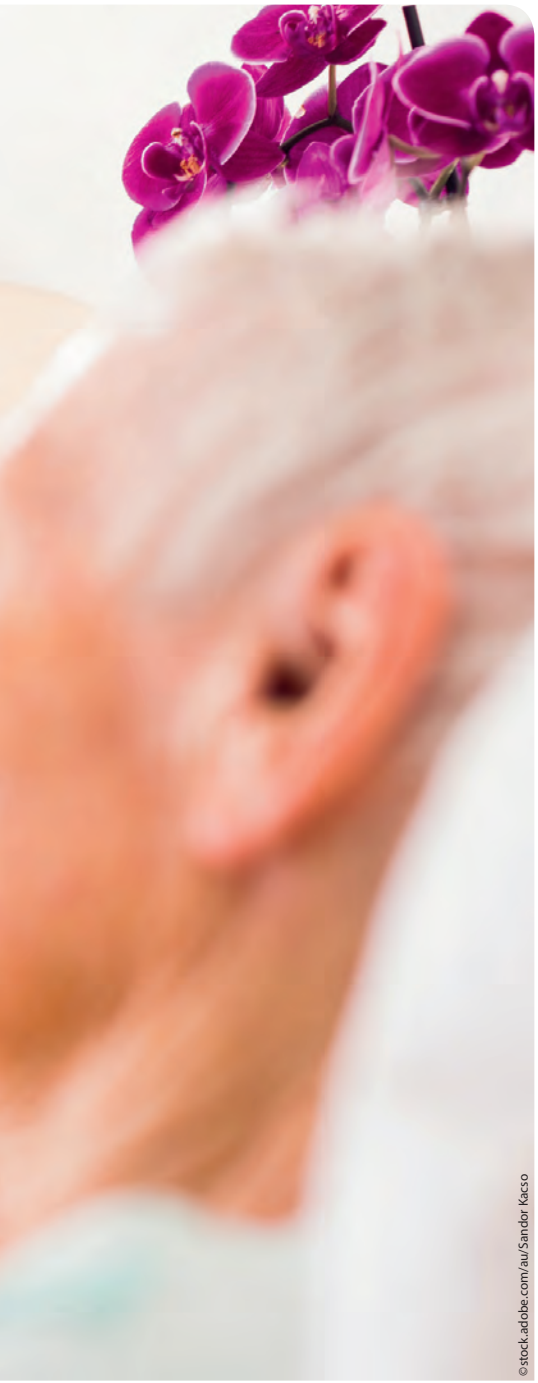
JBN17302

Managing influenza outbreaks in aged-care facilities

Leng Boonwaat*

The flu season begins in May and ends around October with a peak occurring from July to September. Residents of aged-care facilities (ACF) are particularly vulnerable to influenza. Their closed communal environment makes it easy for flu to spread, and underlying diseases such as congestive heart failure, obstructive lung disease or kidney disease put them at risk of serious complications. Public Health Units play a key role in assisting ACFs in reducing the impact of flu outbreaks.



"Residents of aged-care facilities are particularly vulnerable to influenza."

In 2014, in response to concerns related to delays in outbreak recognition, influenza testing and administration of antivirals, the South Western Sydney Public Health Unit commenced annual influenza outbreak preparedness surveys among South Western Sydney-based ACFs. According to the surveys, data flu vaccination rates tend to be high among residents (90%) but much lower among staff (<30%). The surveys also found that the majority of ACFs were well informed about outbreak management and most facilities had processes in place such as signage restricting access, adequate stocks of personal protective equipment and environmental cleaning protocols. However, the surveys also found there was some uncertainty relating to antiviral prescription for flu and more education was required to improve staff's ability to determine the start and end of outbreaks.

The 2017 flu season has been a particularly large one and has highlighted the fact that the following challenges to outbreak management remain:

- Flu symptoms can be difficult to recognise in the elderly and delays in testing, treatment and prophylaxis may still occur.
- Aged-care staff may carry infection from one facility to another, if they work in different facilities.
- Isolation measures can be hindered by relatives who wish to continue visiting during an outbreak.
- Pharmacies may not always carry adequate stocks of Tamiflu.
- ACFs may have to deal with an outbreak of viral gastroenteritis within the same period.

Advice on managing an outbreak

The following advice was recently issued to ACF directors by NSW Health:

- Ensure all residents and staff are vaccinated with this year's influenza vaccine.
- Use influenza signage at key locations (such as posters at entrances, waiting areas and wards), and posters to promote respiratory and hand hygiene.
- Isolate residents with influenza-like illness by placing beds more than two metres apart, or use between-bed curtains and space beds at least 1 metre apart, or use single rooms if available.
- Ensure staff use protective equipment such as gowns and gloves when caring for infected residents, change to clean equipment and undertake hand hygiene before caring for other residents.
- Promote hand and respiratory hygiene, and cough etiquette.
- Encourage the use of surgical masks by residents with influenza-like illness.
- Promptly investigate and control respiratory illness outbreaks.
- Report suspected influenza outbreaks to your local public health unit.

During outbreaks:

- Treat residents with influenza early. Early treatment — ideally within 48 hours — with influenza antiviral medicines (eg, oseltamivir, zanamivir) helps to protect people at most risk of severe outcomes.
- Patients who have recovered after hospitalisation from influenza are likely to be immune to the strain circulating in your facility and should be discharged back to your facility as soon as clinically indicated.
- If an outbreak of influenza is declared in your facility, giving preventative medication to all residents not yet infected can help control the outbreak. However, to be effective the preventative treatment needs to commence as soon as possible, and should be given to all unaffected residents.
- Increase hygiene measures — especially hand hygiene, personal protective equipment and environmental cleaning.
- Isolate or cohort affected residents.
- Limit staff and visitor movement into affected areas.
- Suspend all group activities.

See: A Practical Guide to assist in the Prevention and Management of Influenza Outbreaks in Residential Care Facilities in Australia at: http://www.health.gov.au/internet/main/publishing.nsf/Content/cdna-flu-guidelines.htm.

For further information on flu epidemics, visit http://www.flutracking.net/.

*Leng Boonwaat is currently the Communicable Diseases Coordinator for the South Western Sydney Local Health District, Public Health Unit. His role is to coordinate surveillance of and public health response to notifiable communicable diseases including outbreak management. An additional role is to ensure data entered into the Notifiable Conditions Information System is accurate and complete. Leng has a background in research and project management related to bloodborne viruses, sexual health and other communicable diseases. He holds a Master of Public Health and has also recently completed a Master of Environmental Management.

Material compatibility and communication remains crucial in the fight to prevent healthcare associated infections

The surface environment presents an important route of transmission for microorganisms; when cleaning is suboptimal, it can place patients, staff and visitors at risk[1]. Use of disinfectant wet wipes for surface decontamination is the industry standard for infection prevention and control professionals worldwide.

Evidence shows that this decontamination process, available at the point of care, is more streamlined and potentially increases compliance[2-5]. The use of pre-impregnated, combination detergent/disinfectant wet wipes has advantages over the use of solutions and sprays. Dry wipes can interfere with the action of common hospital disinfectants, chlorine solutions can be inactivated by organic matter and daily mixing of solutions is associated with user error[6-7]. Wet wipes deliver a consistent, stable dose of biocides that can be tested in situations that reflect healthcare practices. It is for this reason that the use of wet wipes within healthcare settings is more common than ever before. For the removal or reduction of microorganisms, three categories of wipes exist: detergent wipes, disinfectant-only wipes and combination disinfectant/detergent wipes. Evidence shows that combination detergent/disinfectant wipes are more effective at reducing bacterial burden than detergent-only products, which have also been demonstrated to transfer organisms to multiple surfaces[8]. Cleaning compliance, efficiency of cleaning and cost savings in terms of staff time are increased with use of ready-to-use disinfectant wipes[9].

However, despite the wealth of evidence on the use of wipes as part of an IPC strategy, material compatibility between wipes and their surface environment remains a concern within Australia. The Victoria Managed Insurance Authority (VMIA) continue to receive reports of cracking and breakages in a number of medical devices, electrical outlets

and plastic fittings used in the hospital environment. In addition, the Australian Therapeutic Goods Administration (TGA) have issued medical device safety updates highlighting that certain disinfectant wipes and detergents can damage medical devices if the cleaning agent is incompatible with the device's plastic surfaces[10,11].

This situation is not unique to Australia, in the United Kingdom the Medicines and Healthcare Regulatory Authority (MHRA) issued an alert highlighting damage to tympanic thermometers, patient monitors, infusion pumps and other equipment. They stated that both detergent and disinfectant wipes can cause damage if incompatible with polycarbonates and blends (thermoplastics) used for device enclosures or components of many healthcare items[12]. Other electronic items such as diagnostic devices may be repeatedly exposed to cleaning agents and disinfectants to render them safe for the next user. While these materials are generally tough, some chemical interactions may contribute to brittle fractures at relatively low stress levels. Cracked polymer housings, also known as environmental stress cracking, may occur after only three to four months of use in healthcare environments[13]. Damaged surfaces compromise the ability to decontaminate adequately and may affect functionality. The UK Medicines and Healthcare Regulatory Authority (MHRA) has taken a stance that failure to follow a manufacturer's decontamination instructions should be considered 'off-label' use and that only products sanctioned by manufacturers and supplied by employers should be used[14].

The TGA first issued a Medical Devices Safety Update in May 2017 which raised huge concerns and confusion regarding the use of widely used disinfectant wipes containing Quaternary Ammonium Compound (QAC) based disinfectants on plastic surfaces within the healthcare environment[11]. However, QACs are a popular choice for healthcare disinfectants because of their ability to also act as detergents; this allows manufacturers to formulate products that clean and disinfect in one step — vital for improving staff compliance and ensuring infection prevention and control policies are carried out. This update also highlighted that healthcare staff were not following the instructions for use by the manufacturer. Similar issues regarding compatibility and practice were also reported in the UK in 2013 by the Medicines and Healthcare Regulatory Authority (MHRA)[15]. Following further investigations, the TGA have subsequently re-issued their update with several clarifications:

1. Certain disinfectant wipes and detergents can damage medical devices if the cleaning agent is incompatible with the device's plastic surface[1].
2. Detergent wipes used by the hospital to clean the pumps contained the ingredient 'benzalkonium chloride'. This is classed as a quaternary ammonium compound which is a corrosive ingredient and therefore should not be used[2].
3. Health facilities should review all decontamination processes that use a disinfectant wipe or detergent containing quaternary ammonium compounds on a plastic surface[3].

These clarifications should provide reassurance to those using disinfectant wipes with QACs. They also follow the guidance of the UK model that both manufacturers of wipes and healthcare equipment need to work collaboratively to ensure material compatibility.

Selection of equipment constructed from polymers tolerant of agents required for effective decontamination and selection of wipes with greatest compatibility, backed up by compatibility data, are of equal and high importance. Infection prevention efforts and patient safety may be compromised if both are not considered in conjunction. Ultimately, both manufacturers of wipes and healthcare equipment should have a shared vision to protect patients. When buying equipment that will need to be decontaminated between uses, the mantra should continue to be "if you can't clean it, don't buy it".

[1] The TGA considers cleaning agents that contain levels of benzalkonium chloride below 5–10% are safe to use on medical devices. Disinfectants generally use about 0.5% benzalkonium chloride, which is considered noncorrosive at these levels.

[2] Benzalkonium chloride is unsafe at a concentration above 10% and therefore should not be used without being diluted.

[3] Particularly if the surface is made of polycarbonate material.

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Zika still a threat to Australia

Dr Julie Mudd*

Zika appeared suddenly on the world stage in February 2016. The World Health Organisation (WHO) declared a Public Health Emergency of International Concern (PHEIC) in response to claims that an outbreak in Brazil led to birth defects. After an initial flurry of activity, it was widely reported in November 2016 that WHO had declared the emergency over and interest in Zika quickly waned. But Zika has not gone away and the threat to Australia remains.

Zika is a mosquito-borne virus, similar to dengue fever. Since the PHEIC was declared, Zika transmission has been discovered in 79 countries. There are now few remaining areas that have the right mosquito vectors that have not had detected Zika transmission. One such area is north Queensland.

Zika: a problem for Australia

There are many indications that Zika is a problem for north Queensland: the vector mosquito, *Aedes aegypti* (plus *Aedes albopictus* in the Torres Strait islands); a non-immune population of about half a million, including 5000 pregnant at any one time; regular outbreaks of the related dengue virus triggered by infected travellers; and Zika detections in the Pacific islands and Australian tourist destinations such as Bali, Papua New Guinea and Thailand.

Twelve tourists or returned travellers have been detected with Zika infection in the risk area so far. These are only the infections that are known about; more infected individuals may have passed through the area.

To complicate the control of this virus, Zika can also be sexually transmitted and be passed from an infected mother to her unborn baby.

The dangers of Zika

Ongoing international research confirmed that Zika causes microcephaly, a condition where a baby's brain does not develop properly, leading to a small head. Zika also causes a range of other serious adverse birth outcomes. But it's not only pregnant women who are at risk. Anyone with Zika can get serious neurological conditions, including Guillain-Barre syndrome, a potentially life-threatening paralysis. However, most Zika infections are mild; some individuals are

Aedes aegypti **mosquito bites during the day.**

"Zika virus and associated consequences remain a significant enduring public health challenge...The EC recommended that this should be escalated into a sustained programme of work with dedicated resources to address the long-term nature of the disease and its associated consequences."

— WHO Emergency Committee, 18 November 2016

unaware that they have the virus. People who are not very sick will not seek medical attention, nor get tested, but can spread Zika. In many areas, the first indication that Zika was spreading was babies being born with microcephaly or pregnant women testing positive.

But surely the threat is passed now? Didn't the WHO declare the emergency over? That is not what happened. By November the WHO had confirmed that Zika was the cause of congenital disabilities and neurological complications. They now knew the extent of the spread of Zika. Affected regions were facing a serious long-term public health threat. Faced with these facts, WHO escalated the PHEIC into a sustained international program of research, health services and public health responses. They did this because it was worse than they first thought, not because things had got better.

"Zika virus and associated consequences remain a significant enduring public health challenge...The EC recommended that this should be escalated into a sustained programme of work with dedicated resources to address the long-term nature of the disease and its associated consequences." — WHO Emergency Committee, 18 November 2016

Public health units in Cairns and Townsville have worked tirelessly over the past year to keep Zika out of north Queensland. Local efforts to prevent a disastrous Zika outbreak need to expand further: better warnings to travellers, detection and testing of potential cases, specific mosquito surveillance and control programs, and expanding current research on releasing virus-resistant mosquitoes (the Eliminate Dengue® program). Zika is still present in many countries. It remains a potential threat to north Queensland, now and into the future.

*Dr Julie Mudd BSc(Hons), MBBS, MPH&TM, MPH(ATOD) is a Senior Lecturer at the College of Medicine and Dentistry at James Cook University teaching Prevention, Addiction Medicine and Global Health. Since February 2016, she has also been working as a Public Health Registrar at Townsville Public Health Unit, with the communicable disease control team, focusing on the regional Zika preparedness and response plan.

nora rubber flooring for use in high-risk areas

For many years, hygiene departments in hospitals and nursing facilities have strongly focused on the control of infections caused by multi-resistant microbes. In addition to MRSA bacteria infecting wounds, the increase in Gram-negative bacteria such as *Klebsiella pneumoniae* and *Escherichia coli* have been a recent cause of problems for many institutes. The fight against multi-resistant pathogens includes extensive prophylactic and hygiene measures for patients and medical staff, and also extends to building materials due to their considerable effects on hygiene standards. After all, surfaces can be a veritable hotbed of bacteria.

As well as being easy to clean, nora rubber floor coverings can also be completely disinfected and are therefore suitable for use in high-risk areas that require regular disinfection. These findings were confirmed in a recent study at the Institute for Medical Microbiology and Hospital Hygiene at the University of Marburg, Germany. Professor Reinier Mutters, Director of Hospital Hygiene at the Institute, described the background to these tests:

"The especially high risks associated with infectious diseases, for instance in OTs and ICUs, must be countered by reliable disinfection of surfaces if all dangers to patients are to be eliminated. In OTs, for example, there must be no more than four microbes per cubic meter of air. Consequently, the floors must be easy to clean and disinfect. In general, all areas catering to patients should allow for disinfection. This also applies to the surfaces of floor coverings. Infections can break out at any time, so effective containment measures must be possible at short notice. Under simulated hospital conditions, we tested the full disinfectability of four rubber floorings with differing surface structures. This involved fixing samples of nora rubber floorings to a hardboard substrate, and arranging them edge to edge or sealing them with a nora compound. Then we contaminated the samples with four different microbes, and disinfected them with commercial agents after one to two hours. Following this, the samples were wiped, likewise with commercial microfiber cloths, once only from left to right. Each test was repeated five times.

The analyses of all four rubber floorings tested after surface disinfection showed a high log10 reduction in the applied microbes of 5.1 to 6.5. This applied to all installation types, both joint-sealed and edge-to-edge. All nora rubber floor coverings tested therefore comply with very high hygiene standards, making them suitable for use in high-risk areas. This also applies expressly to the rubber floorings with hammerblow and structured surfaces.

As a hygienist, I have a very high assessment of the edge-to-edge installation. This variant retains a high hygiene standard even after a very long period of time. Floorings that are not dimensionally stable may tear at the joints. The consequences are unhygienic cracks and greater contamination in the joints than on the flooring itself. These microbial hot-beds can be prevented with tight edge-to-edge installation."

Thanks to their extremely dense surface, nora rubber floor coverings do not need any coatings, varnishes, or joint sealing, eliminating additional sources of pathogens. As they do not contain plasticisers (phthalates), the material is immune to shrinkage, so the floor coverings retain their dimensions for decades. As well as minimizing the risk of microbial invasion, gap-free installation and the absence of coatings also saves time and costs associated with recoating and resealing, so all areas remain accessible around the clock, seven days a week. This means that nora floor coverings also present the most cost-effective solution for clinics over the long term.

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Laini Bennett


Dr Neil Nerwich

Working abroad can be a very rewarding experience, but for health practitioners, it can mean greater exposure to diseases than they would encounter in Australia, through an environment where health and safety practices are limited or not always abided by. So how do you protect yourself and your team? We talk to Dr Neil Nerwich from International SOS, a medical and travel security risk services company providing 24-hour support to mobile workers, including medical and security assistance, telehealth, medical intervention and evacuation/repatriation.

In his role as Group Medical Director – Assistance, Dr Nerwich has seen it all. From the Ebola pandemic in Sub-Saharan Africa and the Zika outbreak in Brazil, to repatriation from natural disaster zones or mass casualty events. On a quiet day, an infectious disease, a car accident or a woman giving birth on a plane. Dr Nerwich is responsible for 26 medical and security Assistance Centres and International SOS's air evacuation and repatriation services, leveraging a global staff of several thousand doctors, nurses, medical transport and operational personnel globally. Peers manage their Medical Services division of clinics in 92 countries, and between them and their teams, they provide an integrated service protecting and supporting thousands of mobile workers every day.

Dr Nerwich outlines a 10-step guide to protecting yourself and your team from illness when working overseas.

Prevention is the best medicine

1. **Do your pre-travel research** and understand the country you're going to, its security and health risks. Visit www.smartraveller.gov.au or if your organisation is a member of International SOS, read their online country guides.

2. **Make sure your organisation knows exactly where you will be travelling**, and has an alternative means of reaching you should disaster strike. Register with the government's Smart Traveller site or, if you are an International SOS client, subscribe to its Travel Tracker program, which enables travellers to be located and immediately communicated with if there is an incident.

3. **Educate yourself on infectious diseases you might encounter.** Refresh your memory on prevention methodologies, the signs and symptoms, and treatments. International SOS offers e-learning on Zika, malaria and other dangers to mitigate the risks deploying travellers might encounter. "It's all about prevention in the first place," Dr Nerwich said. But he cautions that travellers must also be aware of physical risk. "Many incidents happen from motor vehicle and pedestrian accidents and other risk behaviours that cause injury rather than sickness."

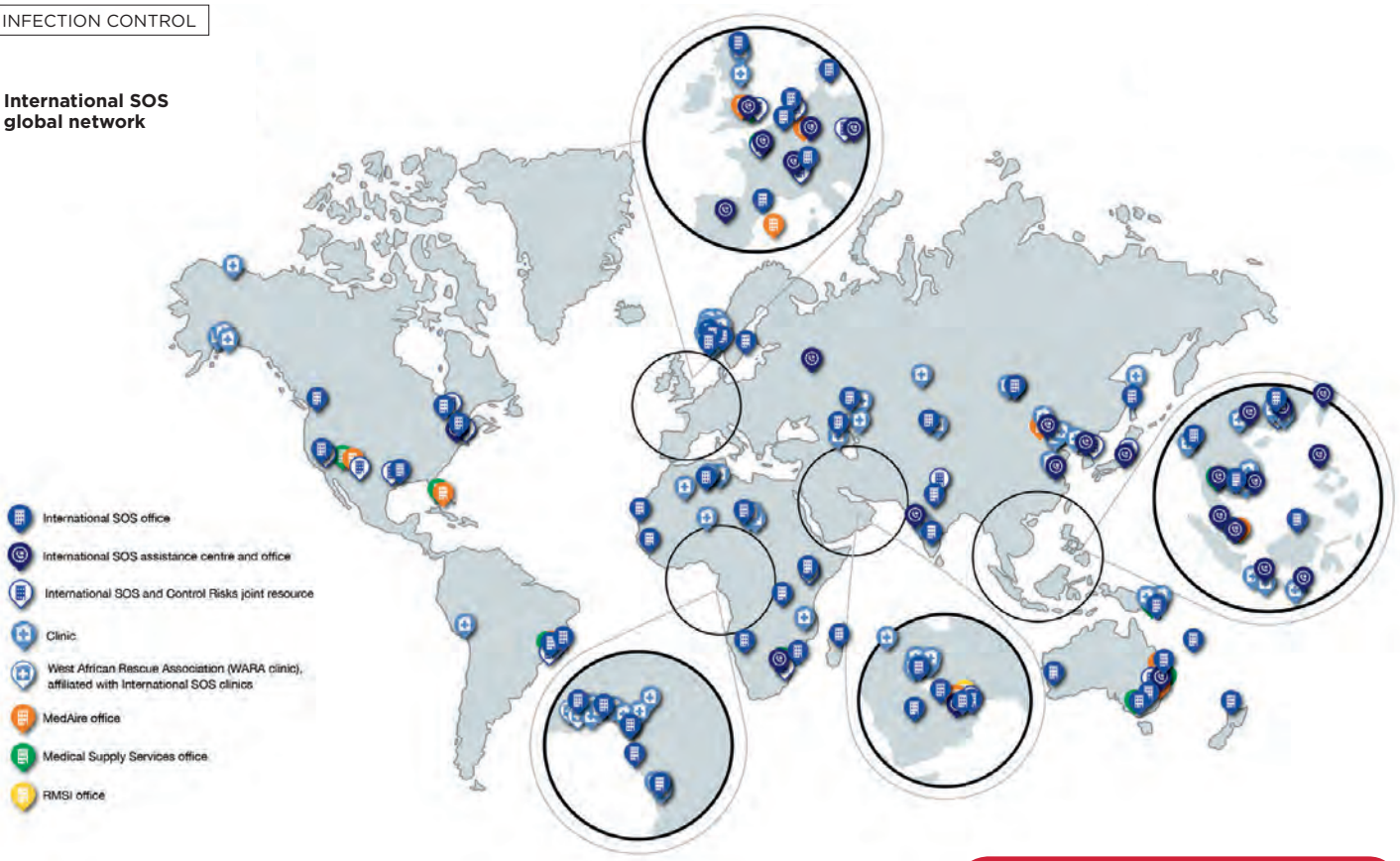
4. **Understand the level of medical support in the countries you're travelling to**. "If you're a 55-year-old with heart disease travelling to New York and London, from a medical perspective there are very good facilities which can arrange your care. But if you're that same person travelling to Afghanistan or Somalia, you're at significantly higher risk," Dr Nerwich said.

5. **Undertake a physical screening.** This will help ascertain if you have any medical conditions that will impact your fitness to travel to your particular destination, and whether local medical facilities will meet your needs. For instance, you may need to pack extra medication for an existing condition; it may not be available in your overseas destination, and counterfeit medicine is a hazard in some countries. Ensure your insurance cover is broad enough, particularly for existing conditions. Clients of International SOS can subscribe to their travel prescreening program.

6. **Vaccinate against known risks.** "Look at specific exposures you might have, and consult a clinic for appropriate prophylaxis," Dr Nerwich said. You may need vaccination against cholera, typhoid, tuberculosis, malaria or a host of other diseases rarely seen in Australia. "Diseases like tuberculosis may be prevalent and can be multidrug resistant, which is difficult to treat. If a traveller has a chronic disease like diabetes or a disease that lowers immunity, the risk of contracting an infectious disease can be significantly higher," he said. There are also vector-borne diseases — mosquito-borne illnesses such as malaria, which in many countries is resistant to certain antimalarials. In this instance, selecting the correct preventative medication is very important. Also consider the impact existing medications can have when taking prophylactic medications.

7. **Take preventative actions.** For example, avoiding gastroenteritis in South East Asia. "There are risks particularly related to food and water. Precautions such as safe bottled water, well-cooked food, avoiding salads and fruit rinsed in local water, not bathing or swimming in stagnant water and personal hygiene. They're all essential, in

International SOS global network



addition to mosquito nets and repellants, long sleeve clothing and other measures," Dr Nerwich said.

8. **Be aware of occupational hazards.** As a health professional working abroad, you are exposed to the local population, national patients who have illness and disease that may be endemic and not frequently encountered in Australia, increasing your risk of contracting infectious disease. "In an austere environment, limited resources may mean that medical equipment may not be sterilised to the standards seen in Australia, disposables may be re-used, needles may be non-retractable etc. These add to the risk, and may result in a higher chance of exposure," Dr Nerwich said. Be sensible — wear appropriate personal protective equipment, avoid body fluid contact and take precautions to avoid needle-stick injuries.

9. **If you feel unwell, or are worried about exposure, act immediately**. "Fever today can be life-threatening malaria tomorrow," Dr Nerwich pointed out. "For someone in Paris it might be flu, while for someone in Nigeria it could be malaria — they need to be managed very differently." Call your travel insurer, or if your organisation is a member of International SOS, a call to their Assistance Centres will put you in direct contact with a medical team that understands the symptoms, and the environmental and personal health risks. They will refer you, or your team member, to appropriate care to mitigate the problem before it becomes more serious, or will treat it if it has already progressed.

10. **Undergo a medical check on your return home.** It is good practice to have a medical review after your return home. If you start to feel unwell after you've returned, see a medical practitioner as soon as possible and tell them where you have travelled. It may be more than a cold. "Some serious diseases can present weeks or even months later," Dr Nerwich said, "so have a healthy suspicion." If you're treating a patient who was hospitalised overseas, be aware that there may be a risk of potential disease exposures. Be cognisant that they may transfer multiresistant organisms from the hospital they have originated from, so take the necessary precautions.

For more information visit www.smartraveller.gov.au and www.internationalsos.com.au.

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Doffing just as important as donning when it comes to PPE

When it comes to respirators used for protection in the healthcare industry, safe use does not end with putting on, or donning. The proper removal, or doffing technique, is just as important.

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Correct donning of filtering facepiece respirators protects workers against inhaling infectious particles such as viruses and bacteria. And the correct doffing technique protects workers from exposure to infectious materials that may have settled on the respirator itself. Once on the hands, viruses or bacteria pose a risk of infecting the worker if they are re-released in the air and inhaled or if the worker touches any of his or her mucous membranes.

Recommended by the Centers for Disease Control and Prevention (CDC) in the US, the proper doffing technique involves pulling the respirator straps at the back of the head. The problem, according to some reports, is that healthcare workers may not know or remember to follow these recommendations due to difficulty with locating and pulling these straps.

Addressing this issue, researchers at the National Institute for Occupational Safety and Health (NIOSH) designed and tested an intervention for NIOSH-certified N95 filtering facepiece respirators, they report in the Journal of Occupational and Environmental Hygiene.

The researchers attached four red foam tabs to the straps on the respirators to act as an easy-to-find handle to grasp during removal. They then used a harmless, fluorescent substance as a tracer to track possible "contamination" from the straps to the hands and heads of 20 volunteer study participants.

Comparing the tabbed straps to the regular straps, they found that the doffing technique was comparable between both types. However, the tabbed straps resulted in significantly less spread of the fluorescent tracer substance. In addition, the modified models were easier to use than the non-tabbed models.

Seven of the 20 participants found the tabbed straps easier to remove, compared with two of the 20 who found that doffing was easier with the non-tabbed models. Neither type of strap caused discomfort among the participants.

The findings suggest that tabs may be able to promote ease of use and protection from contamination for workers who properly remove personal protective equipment, such as a respirator. The investigators have recommended repeating this study with a larger sample of the general population.

Further information about the proper donning and doffing procedure recommended by the CDC for personal protective equipment is available on the CDC website.

Extract from the NIOSH Research Rounds Volume 2, Number 5 (November 2016).

"Once on the hands, viruses or bacteria pose a risk of infecting the worker if they are re-released in the air..."

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1. Reliance Clinical Testing Services, Inc. (RCTS), 14 Day Cumulative Irritation, Study Number 3218, 24 February 2014.

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Today, the Tristel range of products no longer only comprises the Tristel Trio Wipes System.

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Stella

Stella is a TGA-approved automated disinfection system, designed specifically for the fast and effective reprocessing of heat-sensitive, non-lumened and single-lumened medical devices such as nasendoscopes and cystoscopes. Stella combines the simplicity of manual soaking with the sophistication of a fully automated washer disinfector. It increases patient throughput and instrument rotation through a short high-level disinfection cycle time of five minutes. Because Stella can be placed anywhere in the facility, the need to send instruments to central sterilisation services for reprocessing is eliminated, saving valuable time.

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Tristel Rinse Assure is a three-in-one system that delivers bacteria-free water to Automated Endoscope Reprocessors (AER). It doses low levels of Tristel's proprietary chlorine dioxide chemistry into the water used during a washer disinfector's decontamination process, ensuring that all water is of the highest quality. Chlorine dioxide has been proven effective at removing biofilm, and preventing reformation. Tristel Rinse Assure removes larger particles by filtration, passes rinse water through a Reverse Osmosis membrane and doses water with low levels of chlorine dioxide at 1–2 parts per million. Tristel Rinse Assure is compliant with Australian, American, European and UK industry guidelines.

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Ideas required

Antimicrobial resistance in aged-care facilities requires a novel approach

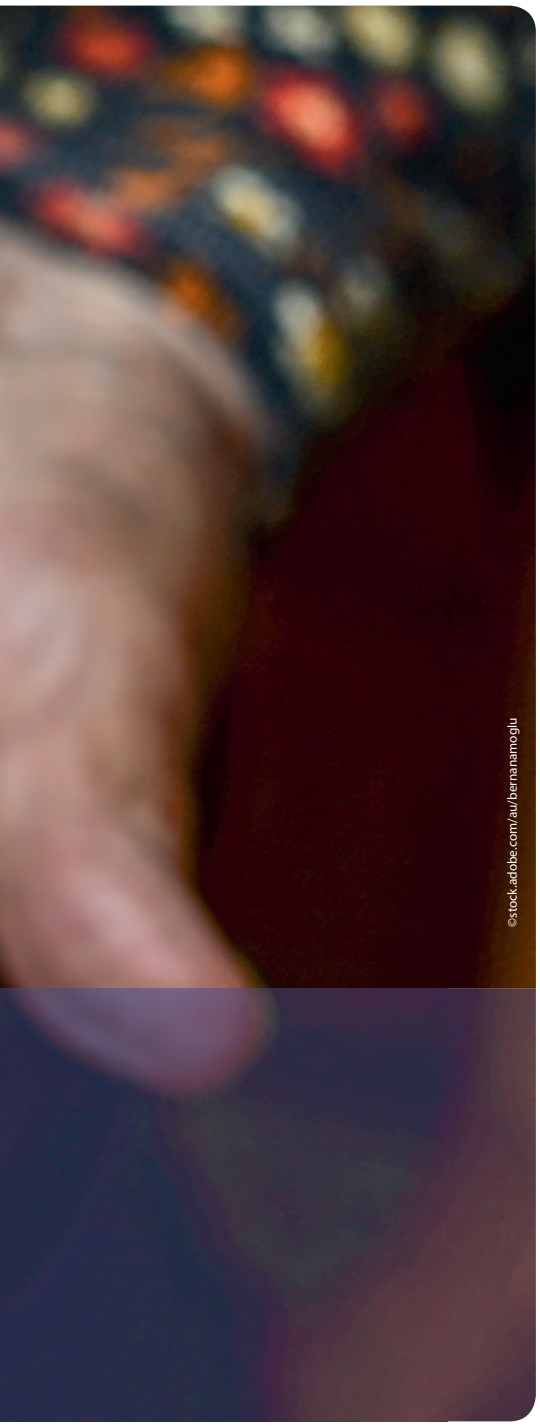
Prof. Ramon Shaban, Prof. Brett Mitchell, Dr Philip Russo, Dr Deborough Macbeth*

The volume of antimicrobials used in aged-care facilities is startling and needs to be addressed. The call for research grants in this space provides hope for the future.

We are ageing. More and more of us are planning for, and accessing, care in residential aged-care facilities (RACFs). In Australia, the number of people aged 80 and over — the group most likely to require RACFs — is expected to double from 3% of the population in 1998 to 6% in 2031.[1,2]

Recent research[3,4,5] sheds light on the extraordinary and startling use of antimicrobials in RACF settings and the complex factors contributing to this, for which there are few original, ready solutions. AURA 20166 and AURA 20177, the first and second reports on antimicrobial use in human health respectively, document the extent of the AMR problem Australia faces and the significant challenges we all face. The extent of these issues was brought into sharp focus[8] in the 2015 Aged Care National Antimicrobial Prescribing Survey (acNAPS), which called for improvements in three main areas:

1. **Better antimicrobial use documentation**; 36% of prescriptions did not have an indication recorded as to why they were being used and 65.0% of prescriptions did not have a review or stop date.
2. **Less use of antimicrobials for unspecified infections**; 17.5% of antimicrobials were being used for unspecified skin infections.
3. **The need to review and reduce prolonged prescription duration;** 31.4% of prescriptions were prescribed six months or longer, only 51% had an



indication documented, and only 2% had a review or stop date recorded.

Delivery care in RACFs is complex due to:

- the presenting conditions and infections being chronic;
- delayed diagnosis and poorer clinical outcomes[3];
- the lack of or limited access to diagnostics;
- client placement in shared accommodation, close living proximity and frequent transfer in and out of acute care settings.[3,4,5]

These data paint a bleak picture, demonstrating how complex and challenging it is to achieve quality use of antimicrobials in RACF settings.

"31.4% of prescriptions were prescribed six months or longer, only 51% had an indication documented, and only 2% had a review or stop date recorded."

Responding to the challenges of AMR and antimicrobial use in RACFs requires novel and original solutions. This need is highlighted by the lack of RACF-specific AMR surveillance and AMS programs to address the high levels of inappropriate antimicrobial use.

News of the Australian Government's recent commitment to address these challenges through the Medical Research Future Fund Antimicrobial Resistance Targeted Call for Research Grants is very encouraging.

These grants focus squarely on the development of novel and innovative approaches to containing and preventing of AMR in residential and aged-care facilities to the tune of $5.9 million.[2] They seek to stimulate research on novel and innovative methodologies, such as genomics, to determine antimicrobial resistance profiles and transmission within and to/from RACFs. The ultimate goal is to promote and develop optimal and appropriate antimicrobial use in RACFs.

We, and our colleagues within the Australasian College for Infection Prevention and Control, welcome this new commitment of the Australian Government. We look forward to future opportunities for targeted research that focuses specifically on other non-antimicrobial solutions, specifically infection prevention and control practices, education and surveillance of infection in RACFs more generally. These are inseparable from the challenges of, and solutions to, antimicrobial use and AMR.

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Surgical masks provide insufficient protection

A new study turns upside down some long-held beliefs on infection control.

New research has found that surgical masks may provide inferior protection against infection spread by droplets, and that respirators should be used instead.

Surgical masks are loose-fitting, disposable masks that cover the mouth and nose, while respirators are designed to fit closer to the face and to filter 95% of airborne particles.

Worldwide, hospital infection control guidelines recommend surgical masks for infections spread by droplets, such as influenza, which currently has Australia's health system under huge pressure.

But the research, conducted by Professor Raina MacIntyre and team from the University of NSW, tested the evidence for such guidelines. Worryingly, the study failed to show protection by surgical masks.

"No efficacy was demonstrated for medical masks alone," the authors wrote. They found some degree of protection from medical masks, but that larger studies were required to measure their efficacy.

"We showed that even for infections spread by droplets, respirators protect better," Professor MacIntyre said.

"This turns upside down the long-held beliefs on infection control. It suggests that transmission of infection cannot be neatly classified as large droplets versus airborne particles.

"Probably infections we believe to be spread by large droplets also have some airborne transmission."

Infections spread by the respiratory route are classified by their mode of transmission.

Airborne infections are transmitted via small, microscopic airborne infectious particles, which hover in the air for long periods of time. Droplet transmission involves large, visible particles, which do not remain suspended in the air, like those expelled during coughing or sneezing.

Guidelines for prevention of influenza are based on the belief that influenza is mainly spread by droplets.

However, many studies also show airborne transmission of influenza, and this study adds to the evidence.

The belief that a surgical mask is good enough for infection prevention and that the more purpose-designed respirators are not necessary came to the fore globally during the 2009 pandemic, and again during the Ebola epidemic of 2014, where many guidelines recommended surgical masks.

During serious epidemics, often drugs or vaccines are unavailable, and frontline health workers require protection from masks, respirators and other personal protective equipment (PPE).

During the Ebola epidemic of 2014, PPE was the mainstay of protection for doctors and nurses. It is also important during influenza pandemics, as vaccine development can take six months from the onset of the pandemic.

"Our research has challenged entrenched practices in infection control from the outset," Professor MacIntyre said.

"This study confirms and reinforces that respirators should be used to ensure health workers are protected at the frontline.

"It is time that guidelines reflect the available evidence, and that safety of health workers is prioritised."

The study by Professor MacIntyre is the largest body of work internationally on masks and respirators and it used data from two large randomised controlled trials involving 3591 subjects in Beijing, China. Published in *Influenza and Other Respiratory Viruses* and available online, it was a finalist for the 2017 Eureka Prize in Infectious Diseases.

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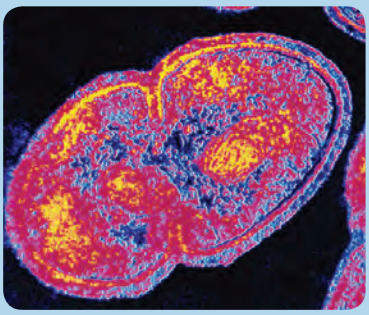

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Response to public health warnings key to **preventing epidemics**

Dr Katherine Faull*

Heeding public health warnings and observing appropriate guidelines will help prevent infectious disease epidemics in Australia.

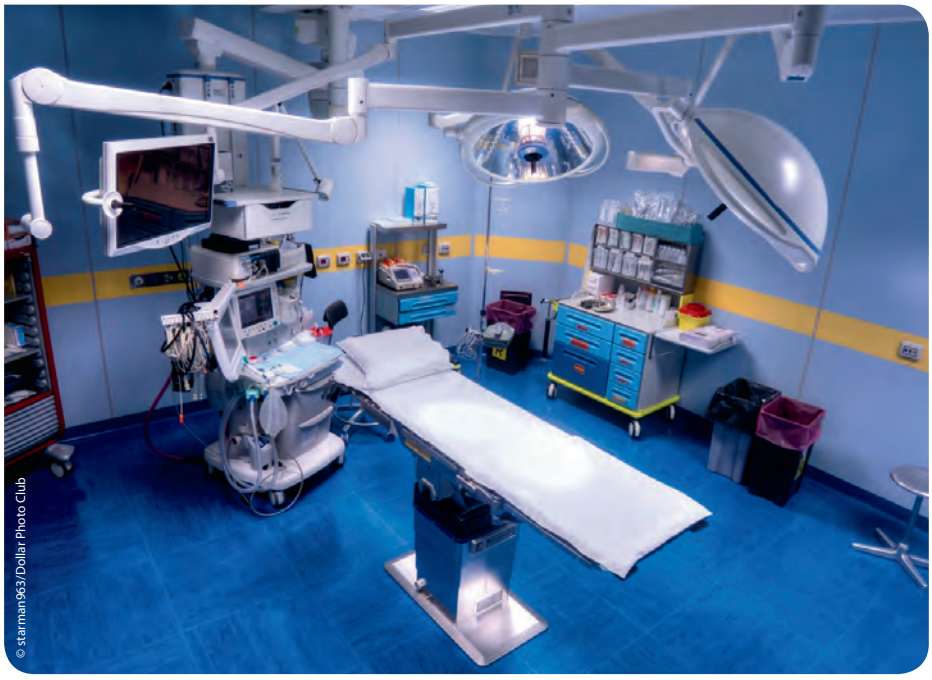
Urbanisation in the developed world, such as Australia, is fairly well established. In the developing world, however, particularly Asia and Africa, accelerated urbanisation is creating megacities which can become incubators for disease and can alter the epidemiology of zoonotic diseases, bringing animal hosts closer to humans and increasing the likelihood of human-to-human transmission. As a result, we are seeing the emergence and re-emergence of diseases and this is likely to continue. In Australia, we may see the importation of such diseases, through travellers landing on, or returning to, our shores, as we did with Zika in 2016. While these diseases are unlikely to cause epidemics within Australia, we should still be aware and vigilant in our behaviours and responses to public health warnings and guidelines.

The Coalition for Epidemic Preparedness Innovations (CEPI) recently announced a plan to fund vaccination research into three viruses: Middle Eastern Respiratory Syndrome (MERS), Lassa virus (LASV) and Nipah virus (NiV). This decision was not based on any immediate threat of epidemic. However, as a result of the West Ebola epidemic in 2014, and the current Zika situation in the Americas, the epidemic potential of 37 viral species was determined, including the likelihood of emergence and public health risk. From these 37 species, MERS, LASV and NiV were chosen by the CEPI for vaccine development, a process that can often take more than five years from the initial exploratory phase, through preclinical and clinical development, regulatory review and approval, before reaching the manufacturing and quality control stage. The decision by the CEPI to proactively develop vaccines will increase our preparedness in the event of an outbreak while also building on research, development and deployment of vaccines, further preparing us for future disease emergence.

For an outbreak to occur within a population, most viruses rely on a host which is often condition-dependent. For example, mosquito-borne disease caused by a viral species relies on optimal environmental conditions for the mosquito host, and in some cases an intermediate host such as a kangaroo or wallaby. When we know the host, and any intermediate hosts, and are aware of their preferred or required conditions, monitoring and surveillance can provide accurate predictions of the risk of exposure for individuals in a given community.

Appropriate public health warnings, messages and guidelines can then be communicated. While the prevention of the cause is not always achievable, such communications seek to prevent public health emergencies by reducing the risks for individuals. It is, therefore, important to stress that response, on an individual level, is also crucial. In the event of an increased risk or likely outbreak, if individuals respond to public health messages by adhering to appropriate guidelines, they can reduce their risk of exposure.

*Dr Katherine Faull is Program Director, Public Health, Torrens University Australia.



Hospital Disinfection: Reducing HAI rates

Ivan Obreza, Senior Clinical Advisor, Diversey Australia & New Zealand

Environmental cleaning and disinfection is a unique challenge. Environmental Services Managers operationalise the strategies set by Infection Prevention professionals. They are responsible for workers who have a varied skillset. But there exists no specific standard that has kept pace with the scientific evidence, and Clinical Governance departments do not monitor cleaners. There is great variability in cleaning practice from hospital to hospital and even greater variability from region to region.

One reason for that variability is that the science of cleaning hospitals is evolving. New approaches include new disinfectants, UV light, microfibre and disposable wipes. These methods are difficult to evaluate for cost-effectiveness because the results are not usually modelled against patient outcomes.

However when cross-referenced with hospital-acquired infection (HAI) rates, there is a clear correlation. Selecting the right product, then cleaning with the right process, reduces nosocomial *C. difficile* infection rates significantly (Alfa, AJIC 2015).

Emerging multidrug-resistant organisms like *Candida auris* may exacerbate our HAI threat in the next decade. It follows that a discussion on product selection is warranted. Which disinfectant will work best against soil, stains, bacteriae, viruses and fungi?

The Australian Guidelines for the Prevention and Control of Infection in Healthcare (NHMRC, 2010, p74) state that hypochlorite inactivates intractable pathogens but its use should be mitigated according to environmental risk and potential hazards.

Australian hospitals should use a TGA registered disinfectant with claims against the organism of concern (NHMRC, 2010, p74). Accelerated hydrogen peroxide (AHP)-based disinfectants may be a good choice as they are compatible with valuable surfaces like stethoscopes, ultrasound probes and monitors.

Boyce (AJIC, 2017) recently published the world's first prospective, cluster-controlled, crossover study to directly compare disinfectant classes. Boyce suggests that AHP is ideal for reducing bacterial contamination on high-touch surfaces. "The proportion of surfaces that yielded zero pathogenic growth after cleaning was significantly greater with AHP," Boyce contends.

Implementing the right process is equally important. Nurses have adopted or taken on a range of duties originally performed by doctors, including catheter manipulation. The increasing complexity of nursing care increases the potential for fragmented equipment cleaning responsibility between Environmental Services and Nursing.

Cleaners are expected to comply with policies that often lack detailed guidance for each and every item found in a hospital. Furthermore, they are not usually trained to decontaminate electrical items or clinical equipment. Thus there is a risk that frequently used equipment and so-called forgotten sites will accumulate soil, including opportunistic pathogens.

Kundrapu (ICHE, 2012) found that most cleaners do not clean the bedrails or areas adjacent to the patient. They either want to avoid bothering the patient, or they assume that such close-quarter equipment cleaning is a Nursing function.

If the fallback position is to rely on the cleaners, then those cleaners need to be included in the education process. An engaged workforce is an accountable one. They will benefit from access to a product that is compatible with surfaces and safe for them. The following approach may be of value:

1. Oxivir Tb® (AHP) for high-touch surfaces at the point of care
2. Sporicide Plus™ (high-dose AHP) if there is a high index of suspicion of *C. difficile* spores
3. A bundle approach (microfibre, UV light, steam) for other areas (Weber, AJIC, 2010)

There is no single magic bullet however, and one chemical cannot do all things. There is no easy way to clean a hospital or keep it clean, regardless of how we define "clean." Consequently, there is a place for a range of cleaning products in hospitals. AHP is suggested as one proven, user-friendly option to reduce variability in high-level cleaning and disinfection.

References:

1. Boyce JM et al, Prospective Cluster Controlled Crossover Trial to Compare the Impact of an Improved Hydrogen Peroxide Disinfectant and a Quaternary Ammonium-Based Disinfectant on Surface Contamination and Healthcare Outcomes. American Journal of Infection Control, 2017.
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Ivan Obreza is an Infection Prevention Consultant and the Senior Clinical Advisor for Diversey, ANZ. He has previously worked as a Cardiac Intensive Care Nurse, Intensive Care Ambulance Paramedic and Editor of the Institute of Ambulance Officers Journal.

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*In clean conditions
[1] C. *diff* claim is for Sporicide Plus

Business success

with employee training at Glenelg Community Hospital

Andrew Thomson*

On-site training has had a positive impact on this South Australian hospital.

Deanna Stojanovic and Sue Carpenter in the Glenelg Community Hospital kitchen.

Image courtesy of Glenelg Community Hospital.

Doing business better often means taking a different approach to your competitors.

Well-performing health and aged-care foodservice operations know what they want and they have a clear vision for achieving this; they share this vision with their employees. Their business displays a high level of consistency, reliability, accuracy and standards with their processes. They engage with their employees and provide focused training sessions to ensure they have the right skill mix to meet business, customer expectations and regulatory requirements. Employees know how to identify and resolve problems.

Approach to training

Glenelg Community Hospital is a not-for-profit, small surgical facility providing a range of high-quality services and care. The hospital has been part of the local community since its first opening in 1950. It certainly has a warm family feel about it.

In her roles of health & safety coordinator, return to work officer and staff educator at the hospital, Sue Carpenter juggles several responsibilities, including employee education and professional development. Carpenter has tertiary qualifications and a background in nursing, work health and safety, infection control and risk management.

When it comes to training, Carpenter takes a hands-on approach to ensure all hospital employees understand their responsibilities and can demonstrate the relevant competencies on the job. In the kitchen, employees undergo regular training to improve performance and there is a sound process used to identify, assess and manage all risk — not just food safety risk.

Carpenter, along with General Services Manager Kathy Manning, has adopted an inclusive approach and employees are encouraged to report and document risk.

Undertaking a process review

Recently, the managers reviewed the processes for producing one specific food line. This review included ergonomics and manual task management, cold storage compliance, infection control and cross-contamination, and dietary needs.

The review included training employees to understand not only the process, but the reasons why it had been implemented. This high-performing hospital utilises on-the-job training to teach not only workplace skills, but also workplace culture and performance expectations.

"In training, there can be a divide between what you think is happening and what is actually happening," said Carpenter. "Contributing factors to this may be the lack of training, understanding why a certain process is implemented or has been recommended, or working in 'silos'."

She said the silo mentality is evident when:

- a person makes a decision or changes a practice without correct consultation
- there is lack of consideration for the impact the change could make
- no subsequent training or communication is implemented to ensure appropriate staff are informed and capable of implementing the change.

"Through training, we identified a number of areas that should be addressed to ensure best practice is achieved," Carpenter explained. "Reducing risk is the aim of training, and providing key messages around why tasks are practised in a consistent way ensure that food law requirements, organisational policies and procedures, and consistency with budget restraints are adhered to, thus resulting in high levels customer and organisational satisfaction.

"Training provides an opportunity to remind staff of current knowledge and lapses in practice as necessary."

For example:

- Personal preference in the way a food handling task is performed is an issue if there is non-compliance with standards.
- Staff are reminded of current tasks and procedures to ensure correct food handling, which is also inherently a cost benefit.
- There is the necessity for staff to display fundamental attributes, eg, respect when managing difficult situations or patients in relation to menus and dietary requirements, to achieve a positive outcome.

"A reporting and mindful culture encourages staff to contribute and provide options or ideas that will improve practices," Carpenter said. "This not only empowers staff but culminates in encouraging organisational support and openness to ongoing processes and to change as well."

When individuals work as a team, each member brings a variety of perspectives. But consultation does not mean consensus, and unnecessary discussion can be laborious and ineffective. "Robust management of these forums or meetings is essential," said Carpenter. "However, when individuals feel their voice is heard, it encourages buy in to new ideas and practices, thus enhancing best practice in the domain of general services."

In these technologically advanced times, when many health and aged-care operations are turning to technology for employee training, questions remain around training effectiveness and improvement to employee and business performance, including managing all aspects of business risk. Is your operation a high-performing business?

*Andrew Thomson is Director of Think ST Solutions, a training and consultancy business offering practical solutions to the food industry, specialising in aged-care and healthcare facilities. www.thinkstsolutions.com.au

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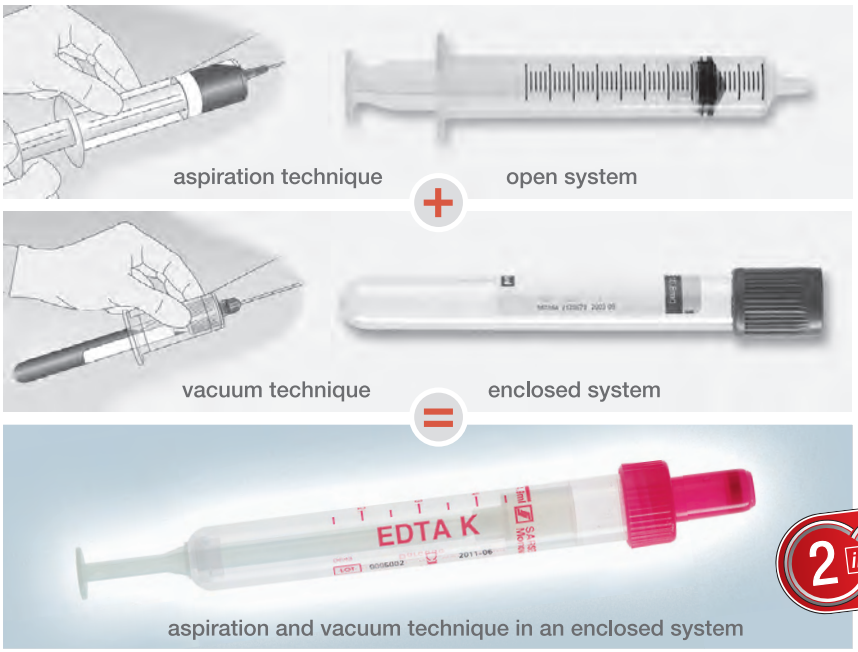

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At the award-winning Blacktown Hospital, a quiet revolution in healthcare design has transformed a mid-sized local facility into a major hospital for Western Sydney, and a showcase for Australian innovation.

Blacktown Hospital — a quiet revolution in healthcare design

The $700 million Blacktown and Mount Druitt Hospitals Expansion Project (BMDH Project) is delivering new services and facilities to meet the growing healthcare needs of the local community — including Blacktown's clinical services building, completed in 2016, and a new acute services building now under construction.

Award-winning design

The project has won 13 local and international awards for its architectural design, co-design approach and use of art to enhance wellbeing. In July, the project won three Academy for Design & Health 12th World Congress Academy Awards for best international hospital project (under 40,000 m^2), best use of art in public spaces and best hospital design.

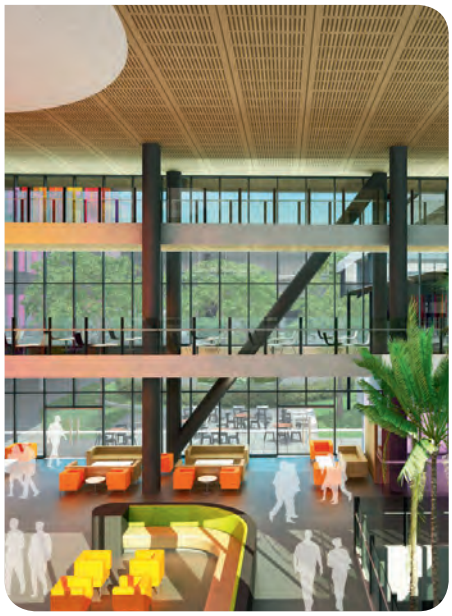
"Blacktown's new clinical services building has been a catalyst for positive change in hospital design, challenging traditional ideas by delivering new carer zones, see-and-be-seen ward designs and a range of other innovations developed in consultation with staff, patients, carers and consumers," said Leena Singh, Western Sydney Local Health District executive director, strategic business development & commercial services.

"We are thrilled to be recognised at this international level. It validates our approach to design and the importance of great partnerships, great design and great consumer engagement."

Transformation journey

Blacktown's transformation began in 2012, with Stage One of the project delivering new services and facilities for cancer care, cardiology, respiratory care, aged care and rehabilitation, imaging and theatres.

The colourful clinical services building at Blacktown Hospital has become a local icon, embraced by the community for its unique, instantly recognisable facade which reflects the diverse multicultural local community



and literally challenged the stereotype that a hospital needs to be white.

"The recent awards are a welcome recognition of the importance of creating salutogenic environments — an approach focusing on factors that support human health and wellbeing," said Health Infrastructure Chief Executive Sam Sangster.

"The Blacktown Hospital clinical services building embraces arts and culture to create a sense of place which contributes positively to the wellbeing of patients, carers and staff," he said.

What the future holds

At Blacktown Hospital, Stage Two will create a new acute services building in front of the existing buildings with facilities for emergency (including short stay and psychiatric emergency care), intensive care, women's health and operating theatres.

Expanded birthing, maternity and newborn care, and new paediatric emergency, inpatient and ambulatory care facilities, will help meet

L-R: Matt Vizard from Health Infrastructure, Robyn Campbell from BMDH Project, Sue-Anne Redmond from Blacktown and Mount Druitt Hospitals, Leena Singh from Western Sydney Local Health District and Matthew Tadorian from BMDH Project pictured in the one of the distinctive courtyards at Blacktown Hospital.

Images courtesy of BHDH Project and Richard Glover.

the growing demand for services, as the Blacktown LGA consistently tops the state in birth rates. The Blacktown projects will be completed in 2020.

At Mount Druitt Hospital, expansion projects include a new MRI, a community dialysis centre and a drug health expansion due for completion in 2017.

Overall, the project is expected to generate about 7000 direct and indirect jobs in health and construction, with a major expansion of the hospital workforce as well as its research and education capacity.

An innovative skills legacy program during the construction phase will target specific groups, including women, youth, current workers who need to update their skills, long-term unemployed, Aboriginal and Torres Strait Islander peoples, and local workers. The skills legacy project aims to increase labour participation in the construction industry, giving people more qualifications and improving their skills for the future.

The BMDH Expansion Project is being delivered by the NSW government's Health Infrastructure and Western Sydney Local Health District.

For more information, visit bmdhproject.health.nsw.gov.au.

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Operating theatres are simultaneously the largest cost and revenue generator for any hospital.*

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Two hearts, one soul:
merging two hospitals into one

Laini Bennett

CHQ's vision:
Leading life-changing care for children and young people — for a healthier tomorrow.

CHQ's values:
- **Respect** 'We listen to others'
- **Integrity** 'We do the right thing'
- **Care** 'We look after each other'
- **Imagination** 'We dream big'

What happens when you merge two hospitals into one, bringing two passionate teams, two cultures and two different ways of working together? This is what took place when the Lady Cilento Children's Hospital opened in Brisbane. It wasn't easy, but their new chief executive officer was up for the challenge. Fionnagh Dougan talks to *AHHB* about managing change, and lessons learned.

Visitors to the Lady Cilento Children's Hospital in South Brisbane feel a positive energy as they walk through its expansive atriums and colourful floors. "It's a very vibrant organisation," said Children's Health Queensland (CHQ) CEO Fionnagh Dougan. "People remark on it when I talk to them."

Originally trained as a nurse in Scotland, Dougan said it is a privilege to see clinical services in action. She spends a lot of her time speaking to young patients, their parents, volunteers and staff, making a point of visiting all 12 floors of the hospital as often as possible. "One of my biggest pleasures every day is to see people, and to talk to them," she said. It's how Dougan stays on top of what's happening at CHQ. And it is how, when she started, she came to grips with challenges the new hospital was facing.

CHQ is a specialist statewide hospital and health service for children and young people from across Queensland and northern New South Wales, including the Lady Cilento Children's Hospital, the Child and Youth Community Health Service, and the Child and Youth Mental Health Service. Working with partner hospital, health services and non-government organisations, CHQ delivers an integrated network of paediatric healthcare services and support across the state.

The birth of a new hospital

The $1.5 billion hospital was built to replace the Royal Children's and Mater Children's Hospitals in Brisbane. But the launch in November 2014 was challenging, with the media reporting that the hospital wasn't ready; that the opening was rushed.

"It was reported in the media that the hospital had opened too soon and possibly was unsafe. That was not correct," she said. "A review was undertaken that found the transfer of patients was a safe process, and patient services were being delivered safely. There were no instances of unsafe care or failure to deliver care."

A major challenge, she explains, was not safety, but rather that the new hospital had two sets of staff who had not worked together, from two different cultures, each proud of their brand and their way of working, all in a new building and on a steep learning curve.

By means of example, Dougan said that in the early days of the new hospital, there was not a shared culture. "That was understandable, and it took teamwork, time and a huge amount of work to merge two very good but different clinical and operational teams. A defining moment of coming together was when we celebrated our first birthday in November 2015. Staff joined in a 'hands around the hospital' to celebrate how far we had come as one CHQ."

Helicopter view

Joining the hospital almost three months after it opened, Dougan was fresh from the Auckland District Health Board, where she had managed all operations for a service catering to 400,000 New Zealanders and a staff of 10,000. She was experienced in managing large health organisations and identified challenges that needed to be addressed at CHQ, including ensuring:

- transparent communication;
- optimal staff/patient ratios;
- operational excellence; and
- a common vision and culture.

Listening carefully

Wanting to build a relationship of transparency and trust with people, Dougan knew communication was critical. She instigated an open door policy, regularly inviting staff members to come and talk to her and the management team about the issues they were experiencing, so they could take on board feedback and resolve concerns.

"People openly expressed their concerns. We were trying to be really responsive to that," she said.

Monthly staff forums continue to be a venue for exchanging feedback and ideas, but issues can be raised at any time.

Supporting operational excellence

"The immediate plan was to ensure day-to-day operations were functioning as smoothly as possible, because the scale of clinical care had not been experienced by the staff of either organisation previously," Dougan said.

She established an innovation, change and redesign (iCARE) team to drive improvement, change and excellence across CHQ. Experienced in process enhancement and the Lean Six Sigma project management methodology, the iCARE team continue to work alongside busy clinicians to identify systems and processes that need streamlining, then manage the resultant enhancement projects. This way, CHQ team members can participate in the change without it impacting their number one priority — safe, family-centered care.

The improvement projects have been wide ranging — anything from streamlining billing systems, to the theatre scheduling system, to reducing patient wait times in the busy orthopedics clinic, to the redesign of the outpatient clinic model.

"The staff here are just amazing. Whenever I walk through the organisation and visit our community sites, I see the values at work. It makes me so proud."
— Fionnagh Dougan

Safety first

"Patient safety and quality is an absolute bedrock of this organisation," Dougan said. To reinforce this, all staff have been put through a quality and safety program, to empower everyone to speak up if they felt a situation was unsafe. They have also implemented a system used widely in Queensland hospitals, 'Ryan's Rule'*, a three-step escalation process that allows a family to raise concerns if their child's condition is worsening, or not improving as expected, while in hospital or under the hospital's care.

New vision, new values

No organisation can thrive with two different cultures and workflows. To unite people — from the workforce to patients and families — CHQ needed a common vision and values. Engaging with all stakeholders on their vision, they developed their values from there.

They even involved the children from their on-site school, Lady Cilento Children's Hospital School.

"We invited the children to participate in [developing] our values. Each value has a piece of art to go with it, and that art came from the children," Dougan said. The children were asked: 'What does imagination mean to them?' The answer, one of CHQ's new values: 'We Dream Big'.

One year on...

Just over a year has passed since CHQ launched its new Vision and Values, and Dougan is clearly delighted with the CHQ team's achievements since then. "The staff here are just amazing. Whenever I walk through the organisation and visit our community sites, I see the values at work. It makes me so proud."

Lessons learnt

What advice can you pass on to other CEOs going through change?

- Accept that the board is there to both support and challenge you. I constantly expect the board to challenge me and my executive team.
- Believe you can always be doing something better and be really focused on improving outcomes for the community that you serve, because that's the driver every day to get up and keep going, even when times are tough.

A lot has happened in a short time. Lady Cilento Children's Hospital has become the first children's hospital in Australasia to receive Level 1 Trauma accreditation status, and CHQ recently passed the rigorous Australian Council of Healthcare Standards survey accreditation process, receiving full accreditation for a further four years.

They also received positive results for the Working for Queensland staff survey, held annually by the Queensland Government. CHQ received the highest results in Queensland Health for staff engagement, organisational leadership and innovation.

Clearly Dougan's goal of bringing two disparate teams and cultures together has been achieved. The future is looking bright. "There's a positivity about the future," she said. "People commit very easily to driving change because they're focused on wanting to be the best, and seeing they have a role in getting us there. Our commitment is to work hand in hand with families, and we do that every day."

*Ryan's Rule. According to Queensland Health, Ryan was a 3-year-old Queensland child who tragically died from what was believed to be a preventable cause. Staff didn't know Ryan as well as his parents did, and they didn't feel their concerns were acted on in time. Ryan's Rule was developed to provide families and carers with an alternative process to get help for their child.

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Keep out, and stay out!

Anthony Smith*

Six cybersecurity treatments that healthcare organisations should prescribe to.

Cybercriminals today are armed with an arsenal that ranges from phishing schemes to ransomware. When deployed through well-planned targeted attacks, whether by breaching confidential systems or attacking websites, these can cause healthcare organisations to come to a standstill — and in the worst scenario, endanger the patient's wellbeing.

The worldwide healthcare cybersecurity attack that seriously impacted the UK National Health Service earlier this year confirmed just how quickly an entire healthcare system can be brought to a standstill as the result of a cybersecurity attack.

So how can you ensure that your healthcare organisation is safe from the hands of cybercriminals? Here are six cybersecurity treatments that healthcare organisations should prescribe to for safer practices — to ensure optimal operations and patients' peace of mind.

1. Know what connected devices are up to.

In an environment where patients use mobile devices and healthcare workers track medical processes, having IT know which devices are connected to the network, and what they are used for, helps to sieve out possible loopholes for hackers.

2. Separate Wi-Fi access for patients and families.

As the number of devices connecting to an unsecure network increases, it is important to introduce policies to segment guest traffic from hospital traffic to ensure that data can be accessed by the right people, at the same time exposure to threats is managed.

3. Educate employee digital hygiene.

With the increasing dependence on digital convenience, employees are becoming sloppy with cybersecurity to save a few extra seconds. Prevention is especially good medicine, so perform endpoint health checks to ensure that laptops are fully compliant with internal requirements, and always check for the latest software patches and updates before devices connect.

4. Have a comprehensive approach to cybersecurity.

Accessing patient information on personal or hospital-issued devices is becoming commonplace. Ensure these devices are configured with the appropriate permissions. Simple perimeters such as employee roles, devices, location, application usage and time of the day help manage these connections.

5. Strike partnerships with the experts.

Any outage in technology can potentially lead to fatal consequences. Having partnerships with the right technology companies will go a long way in building a secure, yet comprehensive ecosystem of medical devices and healthcare apps that are always ready for the needs of both patients and staff.

6. Establish a security culture.

With most attacks, a single employee can cause an entire organisational shutdown by giving the attacker access to the database. Make sure that employees are guided on how to recognise suspicious emails, corrupted files, unsecure websites and other red flags. Equipping everybody with best practices and know-how can eliminate many easy avenues of hacking from criminals.

Hospitals are often stressful environments for both patients and healthcare staff. As technology rapidly integrates to transform the healthcare experience into a positive one, the priority for all healthcare institutions will be to ensure the security of devices, critical care applications and patient data through these treatment tips.

*Anthony Smith is General Manager, South Pacific Aruba, a Hewlett Packard Enterprise company. Aruba is a leading provider of next-generation networking solutions for enterprises of all sizes worldwide.

Putting patients at ease with smart and effective technology

When thinking about hospitals and the day-to-day technology that staff use to look after patients, it is easy to focus on larger equipment like an MRI or CT Scanner. These are essential tools when it comes to diagnosis and finding the best course of treatment for a condition — but treatment is only half the battle. To help patients heal, medical professionals also need to consider their mental wellbeing and keeping a patient positive is essential on the road to recovery.

If you find yourself in the emergency room as a patient, things have probably not gone your way in recent times. Chances are you would prefer to be anywhere else and so when it comes time to be admitted, the more effortless that process is, the better. This is where the Brother TD-2000 series label printers can assist in patient care, by streamlining admissions - especially when it comes to Patient ID printing. In addition to speed, it also allows for higher reliability and can improve patient safety by utilising smarter and safer patient ID techniques and barcode medical administration system integration.

A brief prepared by the Centre for Health Systems and Safety Research in 2013 found that barcode point of care systems 'have the potential to reduce administration errors but are sometimes used incorrectly due to technology limitations and poor design e.g. faulty barcodes'. It is therefore essential that any barcode system be infallible, especially when relied upon for the wellbeing of a patient. The report conclusions stated that these systems rely on well-designed technology that is being used correctly by caregivers. The TD-2000 series is designed specifically to make the process simple and easy-to-use while maintaining high reliability and optimum functionality.

The TD-2000 series uses barcode point-of-care technology for real-time verification of crucial information like patient details, what medication they require and dosage as well as time and route. It is also compatible with TrustSense™ media from PDC Healthcare — a trusted leader in positive patient identification for more than 55 years, which adds an extra level of reliability. This technology used in the printer series can provide automated alerts to caregivers in order to eliminate potential harmful errors before they occur, helping to protect patients, provide peace of mind for clinicians, and maintain compliance with important patient safety regulations.

Brother TD-2120N

The Cerner Certified Brother TD-2120N is a perfect match for the healthcare industry as it is a robust and versatile solution that is highly customisable. It can be used as a desktop labeller, connected directly into a PC or configured to be portable using the optional lithium-ion battery attachment. Brother understands that every healthcare professional is different and that the needs of an environment can change over time. With the demands placed on the care professionals, versatile and mobile tools are essential in maintaining accuracy with maximum efficiency.

The TD-2120N prints at 15.24 centimetres per second at a maximum resolution of 203 dots per inch. It has 32MB of RAM and 16MB of onboard flash and can accommodate rolls of up to 15.7cm in diameter, meaning less time wasted reloading media. It provides healthcare workers with the option of wirelessly printing a variety of barcode labels quickly and whenever needed in the laboratory, pharmacy, front desk or even at the patient's bedside. With support for the most common barcode protocols, it is ideally suited to any labelling task in healthcare.

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Making a statement on mental health

Recognising and responding to deterioration in a person's mental state: a new guide

Australian Commission on Safety and Quality in Health Care

People can experience deterioration in their mental state in any healthcare setting. An acute deterioration in a person's mental state is an adverse outcome in itself. It can also be associated with other adverse outcomes, including self-harm, suicide and aggression. Early recognition can mean that the person experiencing deterioration in their mental state has the greatest capacity to participate in shared decision-making, and may minimise the use of restrictive interventions. To ensure early recognition and response to deterioration in a person's mental state, all members of the healthcare workforce need to be alert for its signs.

National Consensus Statement

The Australian Commission on Safety and Quality in Health Care (the Commission) has developed the 'National Consensus Statement: Essential elements for recognising and responding to deterioration in a person's mental state' (the Consensus Statement). It will support health service organisations as they implement new actions in the National Safety and Quality Health Service Standards (second edition).

The Consensus Statement is an adaptation of the successful model for recognising and responding to acute physiological deterioration. What makes that model successful is a systematic approach to recognising signs of physiological deterioration, documenting these and escalating care through agreed and available pathways. Standardised processes do not replace or dilute clinical judgement but support it, and the capacity to escalate care solely on the basis of clinical concern is built into the system.

Deterioration in a person's mental state is a process experienced by an individual person and the language of the new Consensus Statement reflects that. It is a complex phenomenon, and the signs may be different for different people, or different for the same person at different times. Because of this complexity, there is not a set list of objective observations that healthcare workers can rely on to identify deterioration in a person's mental state. This means that an effective response relies on collaboration with the person to identify what they are experiencing, and to develop a response that reduces their distress, and keeps them and other people safe.

The Consensus Statement describes the essential elements to ensure safe and effective recognition and response to deterioration in a person's mental state. These are divided into three parts:

- **Processes of Care**, which sets out the actions that members of the workforce take to safely and effectively recognise and respond to deterioration in a person's mental state.
- **Therapeutic practice**, which describes the collaborative approach members of the workforce adopt with consumers and carers, and with each other. This section includes the values that underpin the approach.
- **Organisational supports**, which sets out the structural and organisational factors that support the workforce to implement the approach.

While the guiding principles of the Consensus Statement apply in all healthcare settings, the ways in which they are implemented must be tailored to local resources, including the skills of members of the workforce. A frontline worker may not have the expertise or experience to manage all aspects of the response should a person for whom they are providing health care experience deterioration in their mental state. Under the Consensus Statement, every worker will be expected to be alert to the potential for deterioration, and know how to initiate response using their local escalation protocol.

The Consensus Statement is available on the commission's website: www.safetyandquality.gov.au/our-work/mental-health/.

*Efficacy demonstrated by statistically significant change from baseline vs placebo in PANSS total score at 6 weeks in two pivotal studies; in one, the 2 mg/day primary endpoint was not met. In a 52-week maintenance study, time to impending relapse was statistically significantly increased with REXULTI vs placebo[1]

PBS Information: Authority required (STREAMLINED) Schizophrenia

Please review the REXULTI Approved Product Information before prescribing.
Product Information is available by calling Lundbeck on 1300 721 277.

Minimum Product Information: REXULTI® (brexpiprazole). **Pharmacology:** REXULTI has pharmacological activity as a serotonin-dopamine activity modulator with antagonistic activity at specific noradrenergic receptors. **Indications:** Treatment of adult patients with schizophrenia. **Contraindications:** Hypersensitivity to brexpiprazole or any of the tablet excipients. **Precautions:** Elderly patients with dementia-related psychosis; suicidality; tardive dyskinesia; neuroleptic malignant syndrome; seizure; cerebrovascular events; hyperglycaemia; diabetes mellitus; orthostatic hypotension; cardiovascular disease, cerebrovascular disease or conditions predisposing to hypotension; venous thromboembolism; body temperature regulation; dysphagia; leucopenia, neutropenia, agranulocytosis; potential impairment of cognitive and motor skills; *impulse control disorders**; lactose containing, avoid in patients with galactose intolerance and glucose-galactose malabsorption; concomitant medical illness; pregnancy (Category C), congenital anomalies, neonatal effects; avoid breastfeeding; elderly and children <18 years. **Interactions:** Dosage adjustment is recommended for co-administered strong CYP2D6 or CYP3A4 inhibitors (e.g. quinidine or ketoconazole) strong CYP3A4 inducers (e.g. rifampicin) see Approved PI. **Adverse Effects:** There are no adverse events meeting the very common criteria from clinical trials. Common: diarrhoea; dyspepsia, toothache, weight increase, decreased appetite, blood creatine phosphokinase increase, back pain, pain in extremity, muscle spasm, muscle pain, akathisia, tremor, sedation, pruritus. For further details on all adverse events see Approved PI. **Dosage & Administration:** To be taken with or without food. Recommended starting dose is 1 mg once daily on Days 1 – 4. Recommended target dose is 2 mg to 4 mg once daily. Titrate to 2 mg on Day 5 and to 4 mg on Day 8. Consult Approved PI for dosage adjustments for patients with renal or hepatic impairment. **Date of TGA approval:** 17 May 2017. **Date of amendment:** 1 September 2017. **Date of Minimum PI:** 4 September 2017.

*Please note updated information in italics.

References: 1. REXULTI® Australian Approved Product Information. 2. Department of Health. Pharmaceutical Benefits Scheme. Available at: www.pbs.gov.au.

Otsuka

Lundbeck

A Day in the Life

Gabrielle Maston is an Accredited Practising Dietitian and Exercise Physiologist who works as an obesity therapist in a public hospital. She also runs the private practice Changing Shape, where she sees individuals for sports nutrition and various chronic health conditions. She is currently completing a PhD in nutrition, investigating non-surgical dietary interventions for people with super obesity.

Images courtesy Gabrielle Maston.

06:00 The alarm goes off. My dogs accompany me on the couch to eat breakfast.

06:30 Catch the train into work. On the train I read over research studies, get part of my PhD done, reply to patient emails and respond to journalists. When I get off I walk for 30 minutes to the hospital to keep my fitness levels up.

07:30 I grab a quick coffee with my team and review the patient list for the day. It's important that as a team we review the action plans for each patient before we see them and be prepared with necessary referrals and educational resources.

08:00 My first patient arrives. I see back-to-back patients right up until lunchtime. I might get the odd bathroom break if a person is running late and throw back a yoghurt and some muesli in between. It is really satisfying when I see one of my longstanding patients walk down the hallway with ease. Losing 40–50 kg can do marvellous things to a person, such as improve gait (increasing mobility), reduce the severity of pain and reduce so many cardiometabolic conditions. It is hard to lose weight, but with the right support and frame of mind people can achieve anything.

10:00 A phone call comes through from one of the endocrinologists on the ward — there's a person with a BMI of 80 kg/m^2. The doctors need him to lose weight quickly before they will perform surgery on him in two weeks. Extreme obesity increases the risk of death due to anaesthesia; it also increases the risk of complications during and after surgery. I schedule this into my timetable for later on this afternoon, when I have more time.

12:30 The team always has our lunch break at the same time. This way, we can schedule our patient time and also debrief with each other. Working with individuals in the public hospital system can be emotionally draining. I see my role as a counsellor, as well as a dietitian, as we talk about behaviours, thought processes, a person's social environment and emotions that lead to excess weight gain or lack of self-care.

13:30 Our lunch break is short-lived. As a team, we attend weekly research updates within the endocrinology department. This week we have an invited speaker from interstate that specialises in osteoporosis. I take notes to review the information later that night.

14:00 My manager and I meet up with my PhD superiors and other academics. Networking with researchers at the university and producing research within our department at the hospital is very important. Currently we are involved in multiple concurrent research projects. It's a great workplace to do a PhD.

06.00 07.00 08.00 09.00 10.00 11.00 12.00 13.00

"It is hard to lose weight, but with the right support and frame of mind people can achieve anything"

Gabrielle discusses with patients interesting ways to include nutritious foods, such as fruit and vegetables.

14:30 At this time of the afternoon I search for a cup of tea. It's a great opportunity to get started on addressing points raised during the meeting. I reply to patient emails and draft up the trial study design.

15:30 It's time to review the patient on the wards. I grab my notebook and calculator, and a bunch of educational resources I might need. The patient is in their bed. We discuss how I'm going to manipulate the food menu at the hospital to achieve 3–4 kg weight loss in a few weeks. I've also set up a review appointment in two weeks' time. When they're discharged, they can continue to access the service for further weight management support.

16:00 It's home time! On my 30-minute walk back to the train station, I call a journalist back who wants to know about the thermic effect of food. One wonders how they come up with these article ideas! Either way, I enjoy the challenge of answering their obscure questions regarding food. Who knew food could be that interesting?

17:00 I get home and load up the laptop. I get my dinner in just before I have to Skype one of my private clients. A lot of younger athletes enjoy the comfort of having a consultation online, as it takes the pressure off driving to a location. I see bodybuilders, triathletes and boxers in this way. I meticulously plan their training diet down to the gram of carbohydrates, protein and fat.

18:00 My dogs are going crazy and want some attention, so I spend 30 minutes chasing them around the front yard whilst playing with the ball. I get the feeling that I need to go back inside to do more work; my PhD won't write itself. I sit on the couch with the fireplace on and my laptop, with my dogs either side, and start typing away. It sounds like a lot of work, but I enjoy learning. Only a few hours to bedtime. My favourite part of the day!

14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00

A Day in the Life is a regular column opening the door into the life of a person working in their field of healthcare. If you would like to share a day in your working life, please write to: **ahhb@wfmedia.com.au**.

Working together for a better future in aged care

Sean Rooney*

Collaboration between stakeholders will help ensure that the results of current independent aged-care industry reviews are 'fit for purpose', and meet the needs of consumers, providers and government.

We know too well that we are experiencing significant shifts in demand for age services and the way to meet this demand is through expansion and innovation in Australia's aged-care industry.

Coinciding with an increase in demand, we are also seeing greater emphasis on consumer-centric aged service delivery models in the context of a dynamic regulatory environment influenced by Australia's aged-care reforms process.

The consumer interface of our industry includes not only the care recipient and their families, but also their local communities. The political landscape shaping aged-care policy is equally complex and includes local, state and federal governments and departments as well as opposition parties, unions, peak bodies and industry and consumer advocacy groups.

Building confidence and community support for Australia's age services industry requires ongoing focus and effort. This includes engaging all stakeholders at their respective interest levels. Not only do we need to ensure community support for our day-to-day activities but we need to futureproof these beneficial relationships to ensure our industry can grow and innovate to meet the needs of a rapidly ageing Australia.

The concept of Social Licence to Operate (SLO) has evolved fairly recently from the broader and more established notions of 'corporate social responsibility' and 'social acceptability'. It is based on the idea that businesses and companies need not only regulatory permission but also 'social permission' to conduct their operations. SLO does not refer to a formal agreement or document but to the real or current credibility, reliability and public acceptance of an industry.

If our industry does not actively value and manage its SLO, the results can be damaging and far-reaching. A loss of confidence and reputation can result in lost revenues, increased regulatory and compliance requirements, higher financial costs and imposts, increased difficulties in hiring a skilled workforce, costly delays of business operations, downturn in investor and stakeholder confidence, and ultimately the potential prospect of business closures.

In this context it is beholden on all players in the age services industry to ensure we maintain our industry's social licence to operate.

Enhancing our industry's profile necessitates that we build and support collaborative relationships with key players. So it is pleasing to note current collaborative activities underway across LASA, Aged and Community Services Australia, the Aged Care Guild and other peak bodies in initiating a range of strategic events aimed at increasing community understanding of, and confidence in, our industry.

To date already LASA, ACSA and the Guild have demonstrated solidarity by publicly reinforcing our industry's commitment to working collaboratively with consumers and government to ensure a regulatory system that supports continuous improvement and innovation in service delivery. Together, we also pressed key messages to government on the aged-care reform agenda and funding sustainability for industry while emphasising the need for ongoing bipartisan support for aged-care reform.

It is in this collective spirit that we are actively contributing to the current independent reviews examining the aged-care industry to ensure that it is 'fit for purpose' in meeting the needs and expectations of consumers, providers and government.

The visibility of our industry working together in the service of older Australians also augurs well for how we respond to the findings and recommendations of the soon-to-be-released Legislated Review of Aged Care Reforms. This review, conducted by Aged Care Sector Committee Chair David Tune, will have potentially far-reaching impacts into key issues in aged care such as access to services, funding, quality and workforce matters.

*Sean Rooney is the national CEO of LASA. He has held several Chief Executive/Senior roles in public, private and not-for-profit sector organisations including the CSIRO, Medicare Local Alliance and in the ACT Government.

TAKEO$_2$™ The Innovative Solution for enhanced Patient Safety and Cost Savings in Healthcare Facilities

Air Liquide *Healthcare* is proud to introduce TAKEO$_2$™, one of the world's first digital integrated cylinders. Australia is one of the first countries outside of Europe to implement this new technology.

About Air Liquide *Healthcare*

Air Liquide *Healthcare* is a world leader in medical gases, home healthcare, hygiene products and healthcare specialty ingredients. Air Liquide *Healthcare* aims to provide customers in the continuum of care from hospital to home with medical products, specialty ingredients and services that contribute to protecting vulnerable lives.

TAKEO$_2$™ is a major innovation in the Medical Oxygen field. This new generation cylinder combines a built-in pressure regulator, an ergonomic cap and a patented digital gauge, to provide healthcare professionals with the industry's safest and most cost-effective medical oxygen delivery system.

This new technology allows caregivers to better manage the administration of medical oxygen, by viewing the remaining time and volume available at a glance.

What does TAKEO$_2$™ mean for me?

This solution provides major benefits to healthcare providers:

Greater patient safety by reducing the risk of oxygen supply interruption:

- Staff can safely plan oxygen dependent transfers having immediate and accurate cylinder duration time.
- The permanent display of the remaining time and available volume as well as the safety alerts indicate when the cylinder needs to be replaced.
- The integrated valve with built-in pressure regulator provides a higher level of safety as it reduces the possibility of adiabatic compression associated with detachable pressure regulators.

Improved ease of use and faster oxygen set ups:

- With an ergonomic cap, a comfortable handle and a straightforward flow selector, patient care is significantly facilitated.
- The time-related data provides an unprecedented comfort level to caregivers who can better focus on their primary responsibility, the patient.

Cost efficiency through an effective use of the cylinder content and reduced equipment cost:

- With direct and exact information on remaining time, staff members are more confident to use most of the cylinder contents as they have a better control of the autonomy of the cylinder.
- Featuring an integrated valve, **TAKEO$_2$™** does not require a separate regulator to be attached. This eliminates the need to purchase regulators for medical oxygen cylinders, or to manage their maintenance and repair.

The use of the integrated **TAKEO$_2$™** cylinders reduces redundant and inefficient activities, enables caregivers to reallocate their time on the patients and delivers significant cost savings for the healthcare facilities.

How does it work?

When the cylinder is in use, the patented digital pressure gauge calculates and displays the time remaining in hours and minutes. No more estimations or calculations of the remaining content are required as **TAKEO$_2$™** cylinder provides direct intelligible information to medical staff with the remaining treatment time at the selected flow.

When the cylinder is not in use, it displays the available volume in litres. The device also features visual and audible warning alerts which indicate when critical levels are reached.

Safety messages are triggered:
- **When oxygen pressure is under 50 bars (¼ content)**
- **When the remaining contents fall below 15 minutes**

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Why do we need to address malnutrition?

Aurora Ottaway*

Malnutrition is an under-recognised and underdiagnosed healthcare issue in Australia. It can result from poor oral intake, increased nutritional needs as a consequence of disease and or poor absorption, or excess nutrient losses associated with disease.

Many contributing factors can increase the risk of developing malnutrition, including: age, mental state, presence of disease, poor food access, reduced mobility or difficulty swallowing, as well as side effects of treatment.

Malnutrition results in negative health outcomes. It impairs the body's immune response, making it more susceptible to infection and more difficult to treat infection. Malnutrition also increases the risk of developing pressure injuries and delays wound healing. It contributes to weight loss, weakness, greater susceptibility to falls and reduced endurance as a consequence of reduced muscle strength and size.

Thus, patients in hospital diagnosed with malnutrition will be at a higher risk of infectious and non-infectious complications, and tend to have longer lengths of stay than well-nourished patients[1].

Incidence of malnutrition and cost to the healthcare system

Surprisingly, malnutrition is not limited to developing countries during times of famine. It is a relatively common problem in the hospital environment in developed countries such as the US, Europe and Australia, with incidence rates between 20 and 50%[1].

The Australian Nutrition Care Survey completed in 2010 identified 30% of hospitalised patients as malnourished, with 6% of patients being severely malnourished.

Australian studies have estimated the additional annual cost to individual hospitals to be between $1.6 and 1.8 million[1].

Prevention and treatment of malnutrition

Western Health in Melbourne has implemented an inpatient malnutrition strategy that incorporates a combination of nutrition screening, assessment and treatment for those identified as malnourished or at high risk of malnutrition.

Nutrition support initiatives introduced to facilitate increased oral intake of patients include communal dining, volunteer meal assistance to help with meal-time socialisation and set-up, and the use of Red-Domes placed over patients' meals to identify patients requiring full feeding assistance from nursing staff.

As a component of this rollout, in 2010 Western Health introduced the 'Dining with Friends' program, a supportive communal dining environment in the aged-care, subacute setting, where patients were invited to consume their lunch in the dining room three days per week. The dietitians at Western Health then audited the impact this program had on the patient's intake of energy and protein and found that patients were happier to eat in the dining room when compared to their bedside[2].

Also, those who attended the group consumed on average 20% more energy and protein in the dining room compared to the bedside. When the group was subdivided into high risk categories for malnutrition, the impact of the dining program remained evident with:

- Patients screening as at risk of malnutrition (MST > 2) consuming 42% more energy and 27% more protein in the dining room.
- Patients underweight for their age (BMI < 22 — as mean age was 79 y (BMI 22–27)) consuming 30% more energy and protein in the dining room.
- Patients with a cognitive impairment (MMSE ≤ 25) consuming 30% more energy and protein in the dining room.
- Patients reporting a poor appetite consuming 25% more energy and 31% more protein in the dining room.
- The program has now been successfully extended to a 5-day-per-week service.

It is important to note further research is still required to analyse the impact of the nutrition programs on outcomes — including complication rates such as hospital acquired malnutrition, progression of identified malnutrition/malnutrition risk, infection rates, incidence of pressure injuries and length of stay.

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*Aurora Ottaway (B App.Sc, Grad Cert Nutrition, MND, APD) is a clinical dietitian. She works at Western Health in the areas of stroke/neurology, general medicine, TPN and ICU. She has been an active member of the Western Health Dietetics Malnutrition portfolio — and has a keen interest in combating malnutrition in the hospital environment. She would like to acknowledge her colleagues Karon Markovski, Aranka Nenov and Vanessa Carter for their contributions to this article.

The difference between Alzheimer's and dementia

It's not unusual for people to use the terms 'dementia' and 'Alzheimer's disease' interchangeably; however, they're not the same.

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Dementia is a general term for a decline in mental ability severe enough to interfere with daily life. Alzheimer's disease is a specific type of dementia that causes memory loss and impairment of other important mental functions.

"Dementia is an umbrella term for a serious decline in mental ability that impacts one's overall health and functioning," said Marcia Ory, PhD, MPH, head of the Center for Population Health and Aging and Regents and Distinguished Professor at the Texas A&M School of Public Health. "There are different types of dementia, and the most common type of dementia is Alzheimer's."

Alzheimer's disease makes up between 60% and 80% of dementia cases. It is a progressive disease, which means that the symptoms gradually worsen over a number of years; Alzheimer's sufferers live an average of eight years after their symptoms became noticeable to others.

Other specific types of dementia include vascular dementia and mixed dementia. Vascular dementia is considered the second-most common form of dementia after Alzheimer's disease and usually results from injuries to the vessels supplying blood to the brain — often after a stroke or series of strokes.

Other less-common types of dementia come from frontotemporal disorders and Lewy body dementia. Frontotemporal disorders are a form of dementia caused by a family of brain diseases known as frontotemporal lobar degeneration (FTLD) and Lewy body dementia is caused by abnormal deposits of a protein — called alpha-synuclein — in the brain.

Mixed dementia is a term that describes having multiple types of dementia, such as both Alzheimer's disease and vascular dementia. In a person with mixed dementia, it may not be clear which symptoms are attributed to one type of dementia over the other. Researchers are still working to understand how the disease processes influence one another in mixed dementia patients.

In some cases, it's not known what type of dementia someone has. The causes of dementia are not always known, and some older people may develop age-associated memory impairment — which is different to dementia and Alzheimer's disease.

Risk factors for dementia

Two of the most common risk factors for Alzheimer's and dementia are age and genetics. Most individuals with Alzheimer's are 65 or older, and those who have a parent or sibling with Alzheimer's are more likely to develop the disease. However, there is evidence to suggest that there are other factors that people can influence.

According to research from the University of Cambridge, one-third of Alzheimer's disease cases were attributed to preventable risk factors. The seven main risk factors for Alzheimer's disease are diabetes, hypertension, obesity, physical inactivity, depression, smoking and low educational attainment.

"Minimising the risk of these factors can potentially minimise the onset of dementia, but to an unknown degree," Ory said. "We know that physical activity, a healthy diet and healthy lifestyle can help reduce the symptomology of many major diseases, and similarly these can affect the onset and progression of dementia symptomatology."

The role of healthcare providers

Healthcare professionals can ease the burden of concern for many people concerned about dementia and improve quality of life if a patient has any of these conditions.

Although there are no medications or treatment that can cure dementia or Alzheimer's, medications and a healthy lifestyle do help.

"Before people talked about dementia in medical terms, they'd say that the patient was 'crazy' or 'senile'," Ory said. "People don't use those terms now because they recognise it's a medical condition and not about personality or willpower. Alzheimer's and dementia are far too common and are not something we can ignore."

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The INHALO® features a high volume gas package which is light, easy to use and versatile. It eliminates the need for regulators, and with its plug-and-go functionality will make cylinder changeovers quicker, safer and easier – allowing you to concentrate on patient care.

BOC was the first company to develop and introduce the integrated valve cylinder to the healthcare sector. Its popularity has gone from strength to strength as customers have discovered how more efficient and convenient it is to use. These lightweight, ready-to-use cylinders have a built in pressure regulator, easy on/off handwheel and integral flow selector.

It is designed to make cylinder operation and the task of medical oxygen administration easier for healthcare staff, as there is no need to attach a regulator. With a wide range of flow settings, you can accurately select the treatment to meet the patient's prescription. With the integrated valve cylinder, you get constant outlet pressure and flow settings to match your requirements. The cylinder has a "live" contents gauge, giving you a clear indication of contents at all times, even when the cylinder is turned off. The INHALO® is constructed from lightweight materials, making it easier and safer to handle than conventional cylinders. Using a medical oxygen integrated valve cylinder, ensures that therapy can be started right away, without any complex set-up or unnecessary manual handling for the operator.

Integral valve

- Integrated valve/regulator/flowmeter. Enables simple multi-functional use and eliminates the need for external regulators and flow meters
- Enables faster, safer, easier cylinder changeovers saving precious time
- Inhalo is completely maintained by BOC saving you costly equipment inventory & maintenance
- A wide selection of accurate flow settings (1-15 lpm) provides for a wide range of oxygen therapies

Live contents gauge

- Easy to read gauge instantly provides a clear indication of gas level at all times
- Prevents waste as cylinder doesn't need to be opened to determine contents

Design

- Ergonomic carry handle is designed to provide a balanced and safe carry point
- Robust design ensures a secure supply of oxygen
- Fibre-wrapped cylinder provides high capacity but light weight making handling easy
- Tamper evident seal provides assurance of quality and safety
- Ease of use simplifies training

High capacity package

- The high gas capacity (630 litres) of the INHALO means less cylinder changes saving you time
- With significantly more gas than a standard C sized cylinder the INHALO can save you space on stock holdings, and cost on delivery charges

Multiple oxygen outlets

- The 'plug & go' functionality make the INHALO versatile & easy to use
- Allows multiple therapies from the same cylinder, e.g. oxygen supply &/or suction device (from DIO connection)
- The multiple outlets mean the INHALO acts like a cylinder & a wall outlet at the same time

Appearance

- The INHALO has a smart, clinical look that reassures patients and enhances compliance
- Clear plastic finish allows easy cleaning and provides for better hygiene

Registration

- Medical device, AUST R 135358, 187646
- Medical oxygen AUST R 34468

Inhalo specifications

Gas code	400CD
Gas type	Medical Oxygen E.P. Grade
Gas volume	630 litres
Empty weight	3.5 kg
Full weight	4.4 kg
Height	555mm
Diameter	105mm
Outlets	400 kPa outlet pressure (g)
- Firtree	Also known as 'barbed tail' Tubing diameters 6-8 mm Flow rates 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15 lpm
- Diameter Indexed Outlet (D.I.O)	Also known as Sleeve Index System (S.I.S.) refer AS2896 300 ipm (max)

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Getting the dietary essentials right for healthy ageing

Dietary deficiencies among the ageing population is a growing concern. The lack of sufficient nutrition in everyday food is causing major implications for the health and well-being of all Australians.

Often overlooked, fibre is essential in maintaining healthy ageing in older Australians. Fibre allows for a functional digestive system while also contributing to other major body processes such as the stabilisation of glucose and cholesterol levels.

However, the unfortunate reality is that many of these older Australians are often not getting enough fibre in their diet. This is irrespective of whether they live at home, are a resident of an aged-care facility, or a patient in a hospital environment.

"Individuals need 25–30g of fibre in their diet a day, and it's concerning to see just how many people are not getting their recommended daily dose of fibre," said Denise Burbidge, Accredited Practising Dietitian & Nutritionist, The Food Clinic.

"I see so many people who are struggling to eat their core foods — like fruits, vegetables and wholegrains. If people aren't eating the right fibre rich foods, their body will experience a range of health complications."

Recognising that every meal or snack is an opportunity to maximise nutrition intake — especially in a hospital setting — Australian food manufacturer SPC Ardmona created SPC ProVital. It's a range of nutritious and expertly formulated fruit-based products designed to address specific health requirements.

SPC ProVital Fibre Right Apple and Prune Puree offers a delicious way for people to get a sufficient amount of nutrients into their diet, and can be consumed as a meal accompaniment or snack. It is specifically formulated to provide a good source of fibre, with at least 5g in each serve.

SPC ProVital is a 'Texture C Puree', which means it has been developed and rigorously tested to meet the strict guidelines of 'Australian Standardised Terminology and Definitions for Modified Texture Foods and Fluids' to deliver a product suitable for people on Texture C diets. SPC ProVital also offers easy-open portion controlled packaging, which means it is also easily accessible for those with mobility issues such as arthritis.

Dijana Dragicevich, Senior Speech Pathologist at the Royal North Shore Hospital said, "It's so important that modifications to textures and flavours are made to products, especially for those with eating, speaking and mobility issues like dysphagia."

A recent study of 400 patients conducted at Royal North Shore Hospital in Sydney revealed 7 out of 10 patients stated that the SPC ProVital Fibre Right fruit range taste and texture was either very good or excellent.

SPC believes that positive nutritional food choices support the health and longevity of all Australians. As the next evolution of the easy-open portion control fruit range, SPC ProVital Fibre Right makes it simple and delicious for people to meet their daily fibre intake. SPC ProVital is determined to give Australia's ageing population choice, taste and nutrition every day, every meal occasion.

Key features of SPC's ProVital Fibre Right range include:

- Delicious apple & prune smooth fruit puree
- Suitable for Texture C Diets
- Available in portion control 120g cup and bulk 2.95kg can
- Easy-open portion control packaging
- Made in Australia
- At least 5g of fibre per serve

'SPC ProVital' is a registered trade mark of SPC Ardmona.
'Fibre Right' is a trade mark of SPC Ardmona.

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For more information on SPC ProVital, visit **www.spc.com.au/en/healthy-brands/provital.**

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FIBRE RIGHT™

The easy & delicious way to fibre

At least 5g of fibre per serve

Older white women more likely to contract Alzheimer's

Older white women genetically predisposed to Alzheimer's disease are more likely than white men to develop the disease during a critical 10-year span in their lives, according to a study headed by Keck School of Medicine of USC researchers.

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The findings from one of the world's largest big data studies on Alzheimer's counter long-held beliefs about who is at greatest risk for the disease and when, suggesting new avenues for clinical trials.

Study results show genetically vulnerable 55- to 85-year-old white men and women have the same odds of developing the memory-erasing disease — with one exception. From their mid-60s to mid-70s, women face significantly higher risk. That may provide clues to disease causes and potential interventions among these women.

"Our discovery is important because it highlights how clinical trials could be weighted toward women — a susceptible part of the population — to help scientists more rapidly identify effective drug interventions to slow or cure Alzheimer's," said Arthur Toga, director of the USC Stevens Neuroimaging and Informatics Institute at the Keck School of Medicine.

The study was published in the *Journal of the American Medical Association Neurology*. It included data from 57,979 North Americans and Europeans in the Global Alzheimer's Association Interactive Network (GAAIN). This big data project provides scientists around the world with shared data and sophisticated analysis tools to address a disease that makes up about 65% of the 47 million cases of dementia worldwide.

Times — and data — have changed

The results contradict a seminal 20-year-old study that found women with one copy of ApoE4, a gene variant linked to Alzheimer's, were diagnosed with the disease 50% more often than men with the same genetic profile.

The findings presented in the USC-led study expand the amount of participant data by ninefold and indicate the critical decade falls between 65 and 75, more than 10 years after the start of menopause. Previous studies in animals and humans have reported a relationship between ApoE4, menopause and cognitive decline.

"So much work has been dependent on one 1997 finding, but with tools like GAAIN, we

now have the ability to reinvestigate with increased statistical power," Toga said.

Many attribute the imbalance in disease risk to the fact that women, on average, live longer than men. However, a growing body of evidence suggests other reasons also contribute to the difference. For instance, men have higher rates of heart disease and stroke. So, men who live longer may be healthier than women of the same age and may face less risk of developing Alzheimer's, according to the study.

In the future, doctors who want to prevent Alzheimer's may intervene at different ages for men and women, said Judy Pa, co-author of the study and an assistant professor of neurology at the USC Stevens Neuroimaging and Informatics Institute.

"Menopause and plummeting oestrogen levels, which on average begins at 51, may account for the difference," Pa said. "However, scientists still don't know what is responsible. Researchers need to study women 10, 15 or even 20 years before their most vulnerable period to see if there are any detectable signals to suggest increased risk for Alzheimer's in 15 years."

Worry less, work out more

Only some women are at increased risk of developing Alzheimer's in their mid-60s to mid-70s compared to men. To find out, women could have their DNA analysed. However, Pa cautions that genetic testing for the ApoE4 variant is no crystal ball.

"Menopause and plummeting oestrogen levels, which on average begins at 51, may account for the difference."

"There is controversy in terms of whether people should know their ApoE status, because it is just a risk factor," Pa said. "It doesn't mean you're going to get Alzheimer's disease. Even if you carry two copies of ApoE4, your chances are greatly increased, but you could still live a long life and never have symptoms."

Even if some women discover they are at heightened risk, they can improve their odds by making life changes.

"Get more exercise. Work out your mind, especially in old age," Pa said. "Pick up hobbies that are cognitively or physically challenging. Reduce processed sugar intake because it's linked to obesity, which is associated with many chronic diseases."

In the United States, Alzheimer's disease is the fifth-leading cause of death for people 65 and older, but it may one day outpace the nation's top two killers — heart disease and cancer. Alzheimer's-related deaths increased by nearly 39% between 2000 and 2010, while heart disease-related deaths declined 31% and cancer deaths fell 32%, according to the Centers for Disease Control and Prevention.

Time to focus on women

Historically, women have not been adequately represented in clinical trials, especially in studies on heart disease. Women need to be represented equally to men — or even overrepresented, Pa said.

"The bottom line is women are not little men," Pa said. "A lot more research needs to target women, because gender-specific variations can be so subtle that scientists often miss them when they control for gender or use models to rule out gender differences. Most research today is ignoring a big part of the equation."

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With over 60 years experience providing gas solutions and support, BOC's Qi Maintenance program's dedicated resources are backed by the technical expertise and professional standards that the hospital environment demands.

The development and maintenance of a hospital's medical gas system is Qi. Australian Standards (AS) and equipment manufacturer recommendations form BOC's benchmark for service. Our routine maintenance tasks are performed to BOC best operating practice which meet these requirements.

Depending on the design of your individual system, BOC can customise a program that includes 12 monthly service and maintenance of your hospital's medical gas reticulation system, including surgical tool control units, medical gas pendants, regulators, flow meters, compressors, vacuum plant and other medical gas related equipment.

BOC's preventive maintenance program is designed to operate efficiently and improve the life of your medical gas system. Creating a robust and reliable system avoids unplanned interruptions to supply, builds system confidence and contributes towards greater patient safety.

Maintenance plans are carried out by our skilled service technicians according to applicable standards and the manufacturers' servicing recommendations. The service of your equipment at regular intervals includes testing, maintenance repair, parts replacement and tuning.

With our broad Qi Medical Gas Services portfolio, BOC can help you meet the considerable challenges of compliance and safety in today's healthcare environment. At the same time, we provide balanced insight and flexible tools to improve control and coordination of medical gases throughout your facility.

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- Gas manifolds
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Fractures costing Australia more than $3.1 billion a year

The brittle bones of NSW and ACT residents aged 50 plus are expected to cost $1.1 billion in 2017,[1] while the total cost over 10 years will climb to $7.5 billion by 2022.[1] Nationwide, costs are expected to be $3.1 billion in 2017 and nearly $23 billion by 2022. This is according to the first state and territory reports analysing the costs and burden of poor bone health, released by Osteoporosis Australia.

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The recent release of the 'Osteoporosis costing NSW & ACT: A burden of disease analysis' report coincided with the launch of the independent SOS Fracture Alliance — Australia's only national alliance of 30 medical, allied health, patient and consumer organisations focusing on the prevention of osteoporotic fractures.

Living with brittle bones

According to Osteoporosis Australia Medical Director Professor Peter Ebeling AO, 1.9 million NSW and ACT residents aged 50 and above are currently living with brittle bones.[1]

This figure is expected to climb to 2.1 million within the next five years,[1] leading to a cascade of fractures, which could be prevented, saving millions of dollars and improving patient lives. The report estimates that by 2022, there will be 64,000 fractures in NSW and ACT each year.[1]

"A broken bone is usually a sign that we need to take action to prevent more bone loss, as each fracture significantly raises the risk of a further fracture.[1]

"What is extremely worrying is that four-out-of-five Australians treated for an osteoporotic fracture are not tested for osteoporosis, and therefore, are not offered treatment for osteoporosis,"[2] said Prof Ebeling.

More often than not, people are sent home after their fracture has been 'fixed', and miss out on essential investigation and care, which in many cases would prevent further fractures.

Urgent action required

According to Osteoporosis Australia CEO Greg Lyubomirsky, Sydney, urgent action is needed to improve health outcomes for patients and their families.

"It is our collective responsibility to stop osteoporotic fractures from occurring. Fractures are an important cause of death in older people and require the same focus and attention as heart attacks and stroke," he said.

Osteoporosis affects women and men, and occurs when bones lose their quality and strength, weakening the skeleton.[3] Osteoporotic-fractures most often occur in the spine, hip, wrist, upper arm, ribs, and pelvis.[3] Proper medical investigation and management can halve the risk of further fracture.[3] Direct costs of managing fractures from osteoporosis include ambulance services, hospitalisations, emergency and outpatient departments, rehabilitation and community services.[1] These are preventable costs.

For more information about osteoporosis and the 'Osteoporosis costing NSW & ACT: A burden of disease analysis' report, visit www.osteoporosis.org.au/burdenofdisease. For more information about the SOS Fracture Alliance, visit www.SOSfracturealliance.org.au.

National statistics

Expected costs of osteoporosis in residents aged 50 plus:

State or territory	2017	2022
NSW + ACT	$1.1bn	$7.5bn
Vic	$777m	$5.5bn
Qld	$611m	$4.3bn
Tas	$78m	$564m
SA	$255m	$1.8bn
WA	$307m	$3.2bn
NT	$16.7m	$110m
Total	**$3.1bn**	**$22.97bn**

Source: Osteoporosis Australia.

References:

1. Sanders KM, Watts JJ, Abimanyi-Ochom J, Murtaza G, 2017. Osteoporosis costing NSW & ACT: A burden of disease analysis - 2012 to 2022.
2. What You Need To Know About Osteoporosis. Osteoporosis.org.au. N.P., 2014. Web. [Accessed June 9, 2017].
3. Australian Institute of Health and Welfare. Australia's health 2010. Cat. no. AUS 122. Canberra: AIHW.

Australia's quiet success story

Kristin Michaels*

Most Australian states and territories have signed up to the Public Hospitals Pharmaceutical Reform Agreement to enable hospital access to PBS funding. Adoption by NSW and the ACT would cement this landmark program for future generations.

Australian public health policy has led to standout achievements in recent years — increasing vaccination rates, preventing the transmission and spread of HIV, reducing the occurrence of SIDS, and introducing curative medicines for Hepatitis C all come to mind. However, another major initiative has had a strong and growing impact on public health, away from the headlines.

Over the last 15 years, the Pharmaceutical Benefit Scheme (PBS) medicines in hospitals program has supported the supply of medicines for people being discharged from hospital, accessing chemotherapy or attending outpatient clinics.

Previously, supply of medicines in public hospital settings was determined by hospital budgets and managed at a pharmacy-by-pharmacy level. These operational and financial pressures meant that access was sometimes capped, and patients received less than a week's worth of medicines on discharge; increasing demand for general practitioner appointments and contributing to reduced medicine adherence — the most common reason for rehospitalisation, especially for older people.

Today, comprising more than 20% of PBS expenditure, the PBS medicines in hospitals program plays an important role in supporting equitable medicine access (and high-quality clinical pharmacy care) for all Australians in line with the National Medicines Policy. Every year hospital pharmacists dispense, counsel and provide clinical review for Australians across 10.3 million hospital care episodes as they transition back to community care. In addition, the provision of equitable funding for chemotherapy services through the PBS has enabled the increased delivery of chemotherapy in regional and rural hospitals and clinics.

Since its introduction in 2002, most Australian states and territories have signed up to the Public Hospitals Pharmaceutical Reform Agreement to enable hospital access to PBS funding in some capacity. In Victoria, South Australia, Western Australia, Tasmania and Queensland the PBS medicines in hospitals program has been fully embedded into hospital pharmacy service provision. In the Northern Territory, it has been partially adopted to support chemotherapy access.

Patients in non-signatory New South Wales and the Australian Capital Territory are not able to access PBS-supported medicines in public hospitals for a range of serious conditions or medicines on discharge, typically receiving medicine supply for 2–3 days rather than 30. Although the NSW government has exempted patients from consumer charges for chemotherapy for 2016–2017, pharmacists from SHPA's NSW Branch continue to advocate for PBS adoption, which they believe will address the recommendations of the 2009 Commission into Public Hospital Services (Garling Report) that specifically flagged underuse of clinical pharmacy services as detrimental to patient care.

Evidence tells us that increased provision of clinical pharmacy services in hospitals improves patient outcomes, reduces rates of rehospitalisation, improves prescriber efficacy and saves money. In fact, previous economic analysis has indicated expenditure on medicine decreases in excess of five-fold for every dollar of pharmacy salary spent per bed day. While public hospital reimbursement is lower than remuneration for dispensing by community pharmacies, the confidence of consistent remuneration for medicine management which meets the quality guidelines mandated by the Australian Pharmacy Advisory Council has enhanced the model of care provided by pharmacists in hospital settings.

The PBS medicines in hospitals program is a quiet and ongoing success story of Australian health policy, and a credit to the Australian government. It represents the best effort in Australia so far to address the challenges of transitional care, and reduce the risk of rehospitalisation for Australians with chronic conditions and complex multi-morbidities — a growing concern as the casemix of public hospital care shifts to respond to our ageing population.

In response to a recent review of the PBS medicines in hospitals program, SHPA identified a range of opportunities to further enhance medicine access, and create even greater value for the Australian public. One example, allowing hospital doctors, as well as general practitioners, to provide Closing The Gap prescriptions, would make medicines more accessible for Indigenous patients, as this exclusion currently inhibits access in the PBS environment.

Responding to the interdependence of medicines, pharmacy services and hospital care, the PBS medicines in hospitals program represents a successful collaboration between federal and state governments and continues to deliver widespread value for Australians. Adoption by Australia's most populous state and territory would cement this landmark reform for the benefit of future generations.

*Kristin Michaels is the Chief Executive Officer of The Society of Hospital Pharmacists of Australia.

Technology makes procurement sustainable

Rob Cook, Marketing Manager, TenderLink

Business sustainability involves the management and coordination of financial, social and environmental demands to ensure responsible, ethical and ongoing success. Nowhere do these three demands overlap more directly than in the procurement function responsible for buying the right goods and services at the right price.

And at the centre of procurement lies technology. Designed to help public-purse organisations like Councils stretch their finite resources further, our procurement technology offers an important contribution to the ongoing sustainability of organisations.

Applied during the preparation, advertisement and management of the full range of competitive bid procurement notices, it can be coupled with an evaluation toolset that enables users to drive more rigour into the bid response evaluation process.

As a package, these tools help organisations deliver better financial outcomes, while also meeting community obligations of fairness and equity. All tenderers receive the same information, so there can be no complaints about unfair treatment. Well-documented criteria and weightings ensure that all submissions are measured and ranked with the same yardstick and the whole process is transparent and auditable.

While the technology itself doesn't guarantee "green" procurement, local authorities with strong environmental aspirations can ensure that their standards are upheld when documenting their tender requirements. Any crucial environmental requirements can be explicitly specified, weighted and scored within the evaluation toolset.

Business sustainability is not only about doing the right thing, but also about showing that you're following the ethical, fair and responsible path. Here again, procurement technology provides organisations with full visibility over every stage of the purchasing process — from specifying the need to communicating with the market and evaluating proposals. So, while also helping organisations deliver on their financial, social and environmental objectives, procurement technology also provides organisations with confidence in their procurement systems by allowing them to defend any decisions which may be questioned down the track.

Women need to stop sabotaging themselves!

Avril Henry*

Women have a strong presence in the healthcare industry — many in management roles. But their communication style can undermine their ability to be promoted. Here, Avril Henry outlines her 'golden rules' to stop women sabotaging themselves.

Over the past seven years more than 400 women have completed our Great Leaders Are Made (GLAM) women's leadership development program. More than 40% of them have been promoted or received a pay rise within a year of completing the program, or have gone on to be offered a more senior role in another organisation with greater responsibilities and remuneration than the previous role. GLAM was specifically created to address the common myths about women at work and in leadership that are simply wrong, and to focus women's attention on enhancing their distinct female leadership traits.

To ensure this outcome, I created a number of 'Golden Rules' for GLAM to prevent women from constantly sabotaging themselves:

1. Stop saying "Sorry", unless you have hurt someone's feelings!

Women often start sentences with "I'm sorry to ask...", "I'm sorry to interrupt..." or "I'm sorry to disagree...", something men don't do. Men use language such as "Do you have a minute now?" or "I don't agree." Women need to stop apologising for everything and anything, including those things that are simply not their fault.

2. Do not minimise your achievements and efforts, and accept compliments graciously. When complimented on good work, do not say "It was nothing", especially when you put in extra effort and time to achieve good results. Say "Thank you, it was a lot of work and effort, and I too am happy with the result."

3. Know what your key achievements are, be proud of them and be willing to speak about them when pursuing a career opportunity. At least once a year update your current CV to reflect your past year's achievements, new skills and competencies acquired, and new experience. Remember, no-one is more interested in your career than you! This is not boasting, it is simply strategic career management.

4. Don't be afraid to say "No" when you don't want to do something or don't have the time, without feeling guilty! Women constantly take on more responsibilities at work and at home, simply because they don't want to upset others by refusing. Take care of yourself, it's not selfish.

5. Believe in yourself; if you do not believe in yourself, you cannot expect anyone else to do so. It is also a great idea to have a mentor who believes in you and is willing to be a sage sounding board.

6. Say "Yes" to opportunities when they present themselves, take risks and don't be afraid to fail. The only thing we should fear is the fear of trying something new. Failure can often be a great learning opportunity, so step out of your comfort zone daily.

7. Back yourself! The reality is that many women sabotage themselves and their careers through engaging in self-defeating behaviours and limiting language. From early childhood, girls are taught that their ultimate success in life is dependent on them behaving in stereotypical ways, such as being polite, speaking softly, being agreeable and not openly disagreeing with others, and taking care of others first. This is reinforced by family, social messages, language and the media.

It is not that women consciously behave in self-defeating ways, it is that they are acting in ways consistent with what they have been taught all their lives while growing up. Women are conditioned to be 'nice girls'. Women have learnt that it is easier to 'fit in'. I love Lois Frankel's comment: 'Success comes not from acting more like a man, as some might lead you to believe, but by acting more like a woman instead of a [nice] girl.' This, of course, is not the case for all women, as many women have found ways to overcome the stereotypes they learned in their childhood, and act in empowered ways.

Women sabotage themselves by constantly questioning their abilities, suffering from the 'imposter syndrome', ie, "what if I am not as good as people think I am?" This in turn leads to a lack of self-confidence. Men have no hesitation speaking about their achievements and liberally using the word "I", whereas women need to be encouraged to share their achievements and are more inclined to use "we", even if they did the work themselves without assistance. Women see such language and behaviour as boasting, rather than as self-promoting.

My advice to women who aspire to lead is: be bold, speak up, take risks, don't fear failure and above all stop caring what others think about you!

*Avril Henry is a management consultant, keynote speaker, coach, author and Managing Director of Avril Henry & Associates, a leadership and management consulting business. Contact: (02) 9818-1892 or selenal@avrilhenry.com.

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Features and benefits

Regulator and flow meter are integrated into the valve

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Dual oxygen outlets

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- User-friendly design
- Two ergonomic carry handles
- Tamper proof seal provides quality assurance
- Lightweight cylinder package makes handling easier
- Plastic coating makes it easy to clean
- Staff training in 6 easy steps
- Sleek, professional appearance ensures patient confidence

Specifications

Product code	202178 Gas Medical oxygen
Gas content	0.639 m^3 (~639 litres) at 15°C and 101kPa
Cylinder fill pressure	20 000 kPa at 15°C
Diameter	115 mm
Height	524 mm
Weight (empty)	3.5 kg
Weight (full)	4.4 kg
Outlets – Firtree	Tubing diameter: 6-8 mm
(Therapy tubing connection)	Flow rates: 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15 lpm
– Diameter index outlet (D.I.O.)	Maximum outlet pressure (g). 400 kPa
Also referred to as sleeve index system (S.I.S)	Flow rates: up to 300 lpm as per AS 2902-2005

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About the conference

The ACIPC International Conference is Australasia's pre-eminent conference for Infection Prevention & Control professionals.

Held at the National Convention Centre, Canberra, ACIPC 2017 will broker new dimensions and frontiers in education, research and practice in infection prevention and control as we together prevent and control infection in our communities.

Conference Program

The 2017 ACIPC International Conference provides an unparalleled educational opportunity for Infection Prevention and Control professionals in Australia. This year's program boasts:

- a diverse array of presentations from international and local experts
- a dedicated poster and ePoster viewing session
- informal pop-up talks on current industry topics and Q&A sessions
- multiple networking opportunities
- a comprehensive trade exhibition showcasing the very best in innovation and technology from a broad array of committed industry suppliers

To view the full conference program, and learn more about conference activities visit www.acipcconference.com.au.

Registration

Registration is open for the ACIPC 2017 International Conference being held at the National Convention Centre, Canberra 20-22 November.

- ACIPC & Editorial Board Members – Standard registration: AUD$865
- Non-Member – Standard registration: AUD$965
- Student – Standard registration: AUD$600

All full registrations include:

- All conference sessions (excluding Hand Hygiene Australia pre-conference workshop)
- Welcome Reception
- Poster Reception
- Presidents Breakfast
- Morning tea each day
- Lunch each day
- Afternoon tea each day

Day registrations are also available.

Visit www.acipcconference.com.au to register.

Hand Hygiene Australia pre-conference workshop

Sunday 19 November

01:00pm – 05:00pm

National Convention Centre, Canberra

*Space is limited. We recommend registering early to secure your spot.

Visit www.acipcconference.com.au for more information and to register.

Invited Speakers

This year's program features presentations from over 40 invited speakers from Australia and abroad including:

- Professor Benedetta Allegranzi
- Matthew Ames
- Dr Deverick Anderson
- Emily Bailey
- Sarah Bailey
- Dr Noleen Bennett
- Professor Frank Bowden
- Associate Professor Jennifer Broom
- Donna Cameron
- Professor Allen Cheng
- Carolyn Chenoweth
- Dr Kate Clezy
- Cathy Connor
- Louise Davis
- Alison Farrington
- Dr Jenny Firman
- Fiona Fullerton
- Sylvia Gandossi
- Professor Lyn Gilbert
- Fiona Gotterson
- Sue Greig
- Sally Havers
- Dr Susan Huang
- Associate Professor Martyn Kirk
- Dr Andie Lee
- Dr Deborough MacBeth
- Terry McAuley
- Dr Chong Ong
- Dr Sue Phillips
- Kylie Robb
- Dr Philip Russo
- Professor Ramon Shaban
- Professor Pat Stone
- Professor Karin Thursky
- Professor Karin Verspoor
- Dr Deborah Williamson
- Associate Professor Leon Worth
- Dr Hao Zheng

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Speaker highlights

Dr Deverick J. Anderson - Duke University

Dr. Anderson is an Associate Professor in the Division of Infectious Diseases and Department of Medicine at Duke University. He is currently Director of the Duke Center for Antimicrobial Stewardship and Infection Prevention. Over the past decade, Dr. Anderson's work has led to improvements in the quality and safety of care in multiple areas of healthcare, including large tertiary care hospitals and small community hospitals.

Dr Anderson will be talking on the Duke Infection Control Outreach Network (DICON) approach to Infection Prevention and Control.

For more information about Dr Anderson's presentation, visit www.acipcconference.com.au.

Dr Susan Huang - University of California Irvine

Susan Huang, MD MPH is Professor of Medicine in the Division of Infectious Diseases and Medical Director of Epidemiology and Infection Prevention at the University of California Irvine. Dr Huang received her MD from Johns Hopkins and her MPH from the Harvard School of Public Health. Dr Huang completed residency at the University of California San Francisco and her ID fellowship at Harvard at Brigham & Women's Hospital and Massachusetts General Hospital.

Dr Huang will be talking about her research on regional approaches to preventing the spread of Multi-drug resistant organisms.

For more information about Dr Huang's presentation, visit www.acipcconference.com.au.

Matthew Ames

Matthew Ames was 39 years old when what started as a sore throat resulted in the loss of all four of his limbs. He had contracted streptococcal resulting in toxic shock and was never expected to survive. Now a year later Matthew has beaten the odds, spurred on by the fact that he is the father of four young children aged between two and nine and husband of a very dedicated wife determined to grow old with him.

Matthew will be talking about how we can avoid catastrophic events in health.

For more information about Matthew's presentation, visit www.acipcconference.com.au

6th International

Australasian College for Infection Prevention and Control 2017 CONFERENCE

National Convention Centre, Canberra
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Contact: If you have any questions regarding the conference, please contact the team at Conference Design. mail@conferencedesign.com.au, **03 6231 2999,** or visit the conference website **www.acipcconference.com.au**

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In Conversation

In Conversation provides a glimpse into the life of an 'outlier' — an exceptional person going above and beyond to improve outcomes in their field. In this issue, our guest is Associate Professor James Ward of Flinders University and the South Australian Health and Medical Research Institute (SAHMRI).

Recently awarded the Rising Star Research Excellence Award from the National Health & Medical Research Council, A/Prof Ward was also recognised by his own community when NAIDOC South Australia named him Scholar of the Year. Known for his research into infectious diseases in Aboriginal and Torres Strait Islander communities, A/Prof Ward is a passionate advocate for taking action against STIs. He doesn't just talk the talk … he walks the walk.

What led you to specialise in this field?

Almost 20 years ago I could see there was great disparity between the Aboriginal and Torres Strait Islander people and and non-Aboriginal people, and unfortunately this disparity hasn't closed, particularly when it comes to STIs. It should have narrowed by a long way, because most of these STIs — like gonorrhoea, chlamydia and trichomoniasis — are easily tested for and cured.

I feel really passionate about the area. There is so much we could potentially do if we got the potency of interventions right, and if we got significant buy-in and good will from the community and from policy and programmers.

In a joint study from 2011, you were hopeful of eradicating syphilis in remote communities. Is this still the case?

Now there is no chance of eliminating it. It's just ridiculous. Every year there's probably 300–400 cases, and there's been 1400 cases from the one outbreak that has moved across the north of Australia. We're doing a lot around community notice and and engagement with young people.

We need to tap into the strengths that exist, rather than demonise young people in remote areas. It's not that they're promiscuous and sleep around; it's because STI levels are so high in these communities that there's little chance of not getting an STI if they have unprotected sex. People say 'they should all be using condoms', but if you compare it to other populations, 30% of gay men have unprotected sex.

How have STIs become such a big issue among Aboriginal and Torres Strait Islander people?

People in disadvantaged communities generally have poor health outcomes, both chronic disease and communicable diseases, and Aboriginal people in Australia are not spared. We live in a very developed nation and we've got this huge disparity between populations. That's really disappointing.

How do the infectious disease challenges that Aboriginal and Torres Strait Islander communities face compare to other indigenous communities overseas?

For STIs we've got some of the highest notification rates, particularly in the developed world, which is not a good claim to have. Our HIV rates are higher than New Zealand [Maoris] and American Indians, but not as high as [the indigenous population in] Canada, and rates of viral hepatitis in Australia are probably among the highest in the world among indigenous people as well. So we haven't got a very good storyboard here.

That's what drives me to try and make a difference to those notification rates.

How big a threat is HIV to our indigenous population?

I'm really worried about the escalation of HIV in remote communities. It used to be a thing we talked about; now it's a reality. When you've got a very high presence of other highly transmissible diseases, it makes it much easier for HIV to be transmitted.

We're not prepared, we don't have the workforce out in those communities, and clinical guidelines are not being followed. One guideline says that if you test positive for an STI, you should get the patient back for an HIV test within 30 days. But over the last four years, only a third of all positive STI diagnoses for chlamydia, gonorrhoea or trichomosias have been followed up with an HIV test. That is not good enough. It's a clinical guideline, it should be happening, it's not happening.

You're clearly doing much more than research. Can you tell us about that?

We're more like a research and translation centre here [at SAHMRI]. I don't think we can do research without translating it into the population who are most at risk. I feel very passionate about it.

Images from A/Prof Ward's syphilis awareness campaign. Image credit: ©SAHMRI

So we've tapped into social media to promote awareness of, and testing of, syphilis. We're trialing a Facebook page called Young Deadly Syphilis Free. We've produced educational animations and two television commercials for the syphilis outbreak.

We have a website with resources at youngdeadlyfree.org.au, an Instagram account and an app called Divas Chat, which young people in remote communities use quite a bit.

I'm really happy with this campaign. It is Commonwealth funded, and we've had reach of over 70,000 since we started. People have engaged with the campaign about 6500 times; videos have been watched over 20,000 times. People are obviously desperate for things to happen.

What other positive stories can you tell us about work in this area?

We decided three years ago that every December we'd have a focus on HIV in Aboriginal communities across the nation, in collaboration with Aboriginal health services, for Aboriginal & Torres Strait Islander HIV Awareness Week. In our first year we had about 12 events; last year, 64 events. It's really a grassroots, bottom-up approach.

Last year we launched it in Canberra and ran a great breakfast meeting with Parliamentarians during the last sitting. We had really good buy-in from about 20 parliamentarians, done on the smell of an oily rag.

In terms of our research, we're in a much better place now to understand what we need to do. In 2013 we undertook a survey, and we're about to embark on part two of that, to understand what young people know, what health services they go to and what risk behaviours they're engaging in.

From the health services research, we understand how well the clinical guidelines are being used, how many young people are frequenting these services, so there are some lights at the end of the tunnel.

What message do you have for the healthcare industry?

Aboriginal and Torres Strait Islander health is not just Aboriginal and Torres Strait Islander business — it's everyone's business. There's some very big health groups and professional groups that should be having a voice on these issues that often don't. I think they need to step up to the plate. It's not always easy as an Aboriginal person to talk to politicians; they often listen to professional people and groups. These groups can help with that. We need help with the cause, but in a way that is sensitive to the Aboriginal people, so we don't stigmatise, stereotype or create further discrimination.

Out & About

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1. Individual Distinction winner Dr Claire Jones. Claire was recognised for founding the not-for-profit Australian Refugee and Migrant Care Services Limited (ARMCare). **2.** L-R: Young Leader Award finalists Nicholas Schuster, Ryan Ebert with Chris Knox. **3.** Team Excellence Finalists Siona Hardy and Amelia Samuels, from Mars Clinic for Children's Continence, Mars Clinic, Qld. **4.** Young Leader Award Finalist Bertrand Doeuk with HESTA CEO Debby Blakey. **5.** Benjamin Pates with Young Leader Finalist Nicole Pates, of Perth Paediatric Physiotherapy.

HESTA Primary Health Care Awards

A Queensland founder of a not-for-profit organisation helping refugees access health care, a Victorian rehab team treating patients with acquired communication disabilities and a Queensland Oral Health Therapist who developed a free dental cleaning service for homeless youth received top honours at the 2017 HESTA Primary Health Care Awards.

The awards recognise the innovation, dedication and professionalism of individuals and teams working across primary health care.

NHMRC Research Excellence Awards

Exceptional researchers in the fields of infectious disease, autoimmunity, chronic pain and Parkinson's disease were among the Australians honoured at the NHMRC Research Excellence Awards.


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1. NHMRC CEO Professor Anne Kelso and Dr Nikolajs Zeps. Dr Zeps received the biennial NHMRC Ethics Award in recognition of his leadership in the development of ethics policies and standards, both within Australia and internationally. **2.** Professor Michael Kidd, Professor Helen Zorbas and Professor Anthony Lawler. **3.** Professor Kathryn North and Professor Carola Vinuesa. Professor Vinuesa was recognised twice, for the top-ranked Project Grant application and for the NHMRC Elizabeth Blackburn Fellowship (Biomedical) for her research on the development of rogue antibodies that lead to autoimmune and allergic diseases. **4.** Dr Paul Kelly and Dr Hugh Heggie. **5.** Dr Sonya Bennett, Professor Phyllis Butow and Dr Charles Guest. **6.** Associate Professor Julian Elliott, Professor Sharon Lewin and Professor Andrew Steer. Associate Professor Elliott and Professor Steer both received Career Development Fellowships.


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