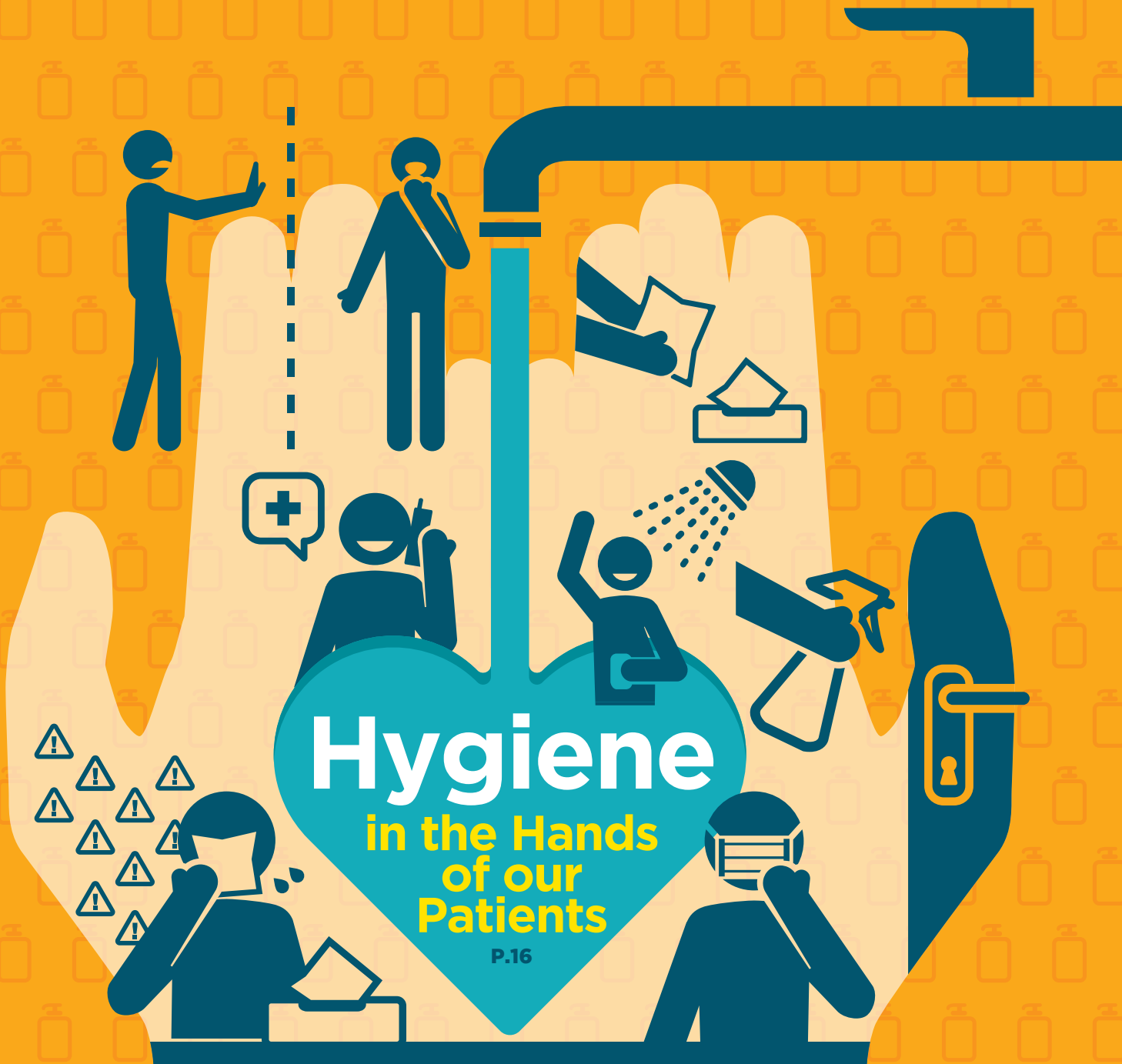
THE AUSTRALIAN

HOSPITAL HEALTHCARE

BULLETIN **SPRING 2015**



Hygiene in the Hands of our Patients

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One·Link
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One-Link, Needle-free IV Connector

- ✓ Power injector compatible (up to 325 psi)*
- ✓ Straight fluid path
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- ✓ Low priming volume of .08 mL

The neutral displacement ONE-LINK connector is designed to help reduce the risk of thrombotic catheter occlusions compared to devices with higher reflux volumes.[1] Less chance of reflux means simplified training and usage — and more time to focus on your patients.

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*Prior to power injection, ensure all parts of the IV System are compatible. Replace if a pressure over 325 psi is applied to the connector. The ONE-LINK IV Connector is intended for single patient use with a vascular access device for administration of drugs and solutions without needles and can be used to aspirate blood.

For safe and proper use of this device please refer to the Instructions for Use.

1 Data on file, Baxter Healthcare Corporation.

Preventing and Controlling Healthcare Associated Infections

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Key Issues with IV Connectors

Catheter Occlusions

- Catheter occlusion is the most common noninfectious complication in the long-term use of central venous catheters (CVCs) and occurs in 33% of these catheters.[1]
- A common cause for catheter occlusion is clotting of blood refluxed into the catheter. Blood reflux occurs when an administration set or syringe is connected to a positive displacement connector or disconnected from a negative displacement connector.[1]
- Occlusions increase the risk of procedural complications, risk of infections, and costs in hospital time and money. Maintaining the patency of the catheter is a high priority.[2]

Bloodstream Infections

- Facilities and governments have increased pressure to reduce hospital-acquired infections (HAIs).
- It is estimated that central vascular catheters are associated with 248,000 bloodstream infection per year in the US.[4]
- Development of a catheter-related bloodstream infection (CR-BSI) can increase hospital length of stay by an average of 23 days, and mortality rate by 21.6% which increases total cost of care.[5]
- As an additional reference the FDA has expressed concern about multiple clinical reports regarding the association of BSIs with positive displacement devices.[6]

Connector Failure

- Connectors not designed to tolerate pressures used for power injection can fail and harm the patient.[3]
- Failure can delay treatment of patient.[7]

Training Requirements

- Multiple connectors with varied techniques can cause confusion and increased potential for errors.[8]
- Ongoing staff turnover requires increased training.[9]

Key Features and Benefits of the One-Link Needle-free IV Connector

Features	Clinical Benefits
Withstands a maximum of 325 psi with a pressure power injector†	Compatible with most contrast media power injectors
Can be used for up to 200 actuations and over a period of 7 days. Replace device whichever comes first.	Aligns with CDC 2011 guidelines and may provide flexibility for longer use
Smooth top surface with gland tightly fitted to housing	Provides an easy-to-cleanse device that helps the clinician disinfect the surface
Clear housing	Allows the visualization of the fluid path, thereby helping the clinician to verify that the device has been flushed
Finger-grip surface	May reduce likelihood of touch contamination
Low flush volume after medication or solution administration. 10 mL flush required if the connector has been exposed to blood.‡	Facilitates thorough flushing of device Appropriate for fluid-restricted patients, including neonates and pediatric patients
Neutral fluid displacement	Eliminates the need for a specified clamping sequence; for patient safety, clamping is required only when the device is not in use Compatible with a variety of valved and non-valved catheters
Low priming volume (0.08 mL)	May allow for more medication to be delivered and less to be retained in the device
Lipid compatible	Can be used with a wide range of IV fluids
No clamping sequence required. (Clamp when not in use for patient safety)	Simplifies training

† Replace if a pressure over 325 psi is applied to the connector.

‡ Flush per organization protocol. Flush with a volume of 10 mL after exposure to blood. Replace if a 10 mL flush cannot be performed.

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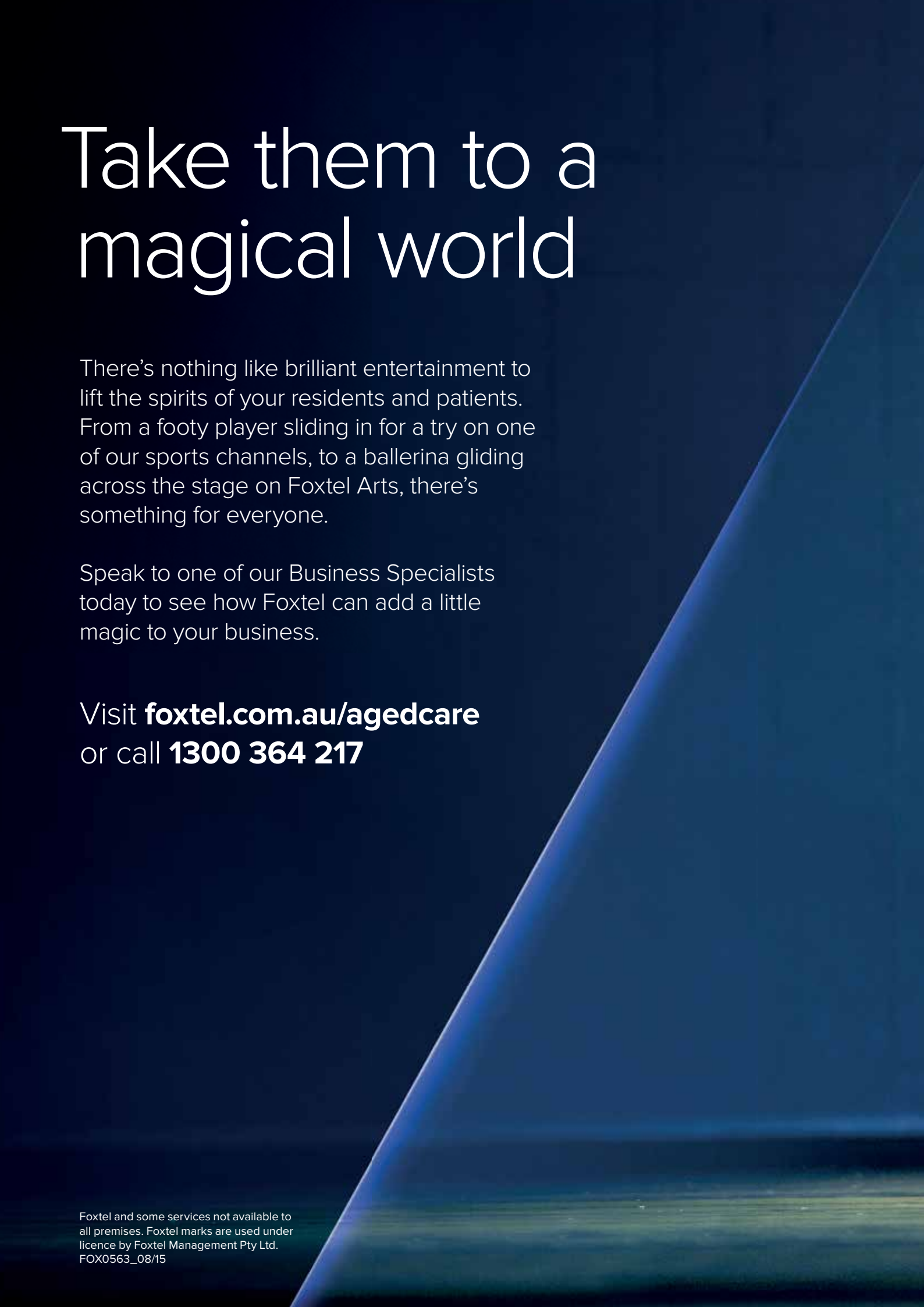


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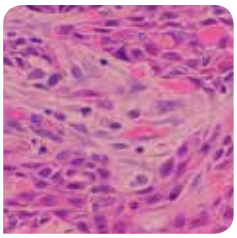
Preventing and Controlling Healthcare Associated Infections Standard 3

The Australian Commision on Safety and Quality in Health Care national standard.



21st Century Technology and Rare Cancers

Professor Clare Scott takes us through the things holding us back on rare cancer research: coordination, funding and technology.

Immunotherapy: QIMR Berghofer's T-Cells Therapies in Clinical Trials

The research institute is pioneering new avenues for immunotherapy thanks to government approval for clinical trials writes *Professor Rajiv Khanna.*

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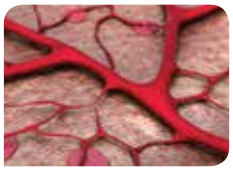
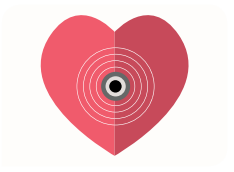
SPECIAL FEATURES

FEATURES





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Infection Control:
in the hands of our patients

Welcome to the Spring 2015 edition of Australian Hospital and Healthcare Bulletin. For this issue we have discovered an industry-wide leaning towards involving patients in their own care, from infection control, hospital design, meal planning and through the monitoring of their own health via smart technology and wearables.

As esteemed infection prevention and control practitioner Cathryn Murphy writes in our foreword, *"Whereas in the past healthcare consumers and particularly those requiring tedious infection prevention measures such as isolation, were expected to unquestioningly listen to, absorb and comply with recommendation, it is now possible for consumers to proactively and intentionally take self-initiated steps to reduce their own risk."*

People these days want to be able to track their exercise so as to improve their performance; to download the latest updates for their devices, and to gain an education online whilst working full time and raising a family and enjoying a full social life. They want to be able to have access to everything that affects their lives - and this does not end at the hospital doors.

We are not talking about 'Dr Google' here. To borrow a web terminology, it is about optimising the patient experience. If patients can improve their treatment through their self-tracking of a condition in the times they are away from their treating doctors or nurses (as we have seen on our website with a QUT researcher running a 'medical selfies' project where participants can track the development of skin rashes or even seizures via their smartphone cameras, the images of which are passed onto their treating clinician during a face-to-face consultation), we can see better outcomes for patients, clinicians and improved relationships between the parties.

There's nothing wrong with a little self-responsibility.

Sharon Smith, Editor
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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, send an email to **ssmith@aprs.com.au.**

If you have been following us online you would have noticed our new regular feature On Our Agenda, where we address a topical issue and discuss it with relevance to popular opinion, current affairs and regulatory frameworks. Don't forget we are on Facebook (/hospitalhealth), Twitter (@hospitalhealth) and LinkedIn (The Australian Hospital and Healthcare Bulletin) and would love to interact with you online.

We will be attending the Leading Age Services (LASA) 2015 National Congress in Melbourne on 11-14 October and the Australasian College for Infection Prevention and Control (ACIPC) 2015 Conference in Hobart 22-25 November so if you see us, please come up and have a chat.

Sharon Smith, Editor
ssmith@aprs.com.au

CORRECTION

In the Winter 2015 edition we ran the story *Controlling Infection Through Correct Hand Hygiene* (pages 46-47). It incorrectly listed the target for hand hygiene for compliance in 2015 as an average of 95%. According to the Australian Commission on Safety and Quality in Health Care the 2015 target is 70%.

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The Role of Australian Consumers in Infection Prevention and Control

In 2015 commonalities exist across many Australian industries in terms of consumer expectation. Persons purchasing and consuming food in Australia expect that their food will be grown, produced, transported, stored and sold according to relevant Regulations, Standards and industry norms. Commonly food items are clearly labelled so as to reduce ambiguity and in some cases to promote consumer confidence through the use of certain ticks or markings which indicate that a particular item is either "smart", "healthy" or endorsed by an appropriate and authorative body.

Consumers purchasing white goods, electricals or other non-consumables have similar expectations in regard to an item's design, safety and performance. Guarantees are provided so that in the event of fault or failure the consumer has an avenue for recourse, and perhaps replacement or return of the faulty good. These are just two examples of how and why Australian consumers expect reasonable standards of care and service across two very different fields. Let's now think about how this model currently fits within healthcare and in particular in relation to infection control.

Historically Australian healthcare consumers have had little opportunity, limited ability and insufficient knowledge to identify infection control and prevention breaches. Similarly, even if they recognised risk they have previously been reluctant to comment on or

Associate Professor
Cathryn Murphy PhD

Associate Professor Cathryn Murphy PhD provides independent consulting services to a range of clinical, public policy and commercial clients throughout the world. Over 25 years Cath's career has covered senior infection prevention positions within the clinical, government, non-government and professional associations within her home country Australia and internationally. She is Executive Director at Infection Control Plus **infectioncontrolplus.com.au**

"Consider the as yet largely unexplored ways in which medical industry and consumer partnerships could lead to innovative, patient-customised devices and solutions. Who better to influence design or new product development than the end-user?"

question their own care or that given to a friend or relative. Recent public policy reform including the Australian Quality and Safety in Healthcare Standards as well as increased consumer entitlement as well as moves from within professional associations such as the Australian College of Infection Prevention and Control (ACIPC) to be more inclusive of consumers are bringing about significant opportunity for consumers to be directly involved in infection prevention. Further, social media and innovative use of non-text-based messaging are expanding the reach, speed and impact of infection control messaging.

Whereas in the past healthcare consumers and particularly those requiring tedious infection prevention measures such as isolation were expected to unquestioningly listen to, absorb and comply with recommendation it is now possible for consumers to proactively and intentionally take self-initiated steps to reduce their own risk. Hand hygiene, maintenance of recommended vaccination status and appropriate handling of food are simple community measures that protect us all. In the healthcare setting hand hygiene by both providers and consumers gives excellent return on investment. Many healthcare providers actively encourage consumers and their advocates to question perceived infection prevention breaches. They also guarantee that subsequent care will not negatively impacted by the consumer raising their concerns. In organisations with a healthy culture of safety and improvement staff welcome and learn from consumer input. It is a win-win situation where the risk to both consumer and provider is mitigated.

As you enjoy the content of this issue of Australian Hospital and Healthcare Bulletin I strongly encourage you to contemplate the many other ways in which we can further involve consumers as united we pursue even safer healthcare. Consider the as yet largely unexplored ways in which medical industry and consumer partnerships could lead to innovative, patient-customised devices and solutions. Who better to influence design or new product development than the end-user?

Alternatively, think about the almost unlimited reach of both urgent and routine infection prevention messages and experiences, positive and negative, that could go viral across social media, instant messaging and other internet-based applications. Could and should consumers have been more proactively engaged in messaging during recent local outbreaks or even pandemics such as Ebola?

However we look at it the conclusion remains; the role of Australian consumers as advocates for better community and healthcare-based infection prevention is largely unexplored. Significant opportunity exists and organisations such as ACIPC, policy makers, medical device manufacturers as well as individuals working in and with healthcare providers in all sectors will benefit greatly from increased consumer input. Better still Australian healthcare consumers will understand what to expect in terms of infection risk and with education most likely embrace and comply with recommendations. Better still they may do so knowing that they have been directly involved.

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- User-friendly design makes training simple

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- Tamper evident seal ensures quality assurance

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"Empowerment...allows an individual or a community to gain the knowledge, attitudes and skills needed to make choices and participate in their care."

COVER STORY

Infection Control: in the hands of our patients

Dr Holly Seale has undertaken research to find out whether patients can play a role in the prevention of healthcare acquired infections.

Healthcare acquired infections contribute an additional strain on healthcare systems by increasing patients' morbidity and mortality. It has been previously suggested that 7 out of every 100 patients admitted to hospital will be affected by a healthcare acquired infection [1]. This means that each year there are around 200,000 cases and an estimated two million bed days lost in Australian hospitals [2].

Over the last ten years there have been some great initiatives introduced into hospitals to try and reduce the rate of infections. Initiatives have been aimed at encouraging healthcare workers to wash their hands and get vaccinated, and at strengthening surveillance activities and improving environmental cleaning. The problem is that there continues to be a pervasive lack of compliance to evidence-based infection control guidelines to prevent healthcare acquired infections [3]. The reasons for low compliance with infection control strategies in the healthcare setting are multi-factorial and can include a lack of awareness about infection control issues; ineffective communication and dissemination of guidelines; time constraints; workload pressures; disagreement over the composition of infection control guidelines; high risk patients; overcrowding; understaffing; and outbreaks [3, 4].

Ten years ago the World Health Organisation (WHO) decided to approach the healthcare acquired infection problem from another angle. They suggested that hospital patients could advocate for safer healthcare settings and play a more active role in the prevention of healthcare acquired infection. It has been suggested that patients and their families provide a unique perspective on the system and in doing so can help identify risks and solutions for reducing harm. Involving patients in their healthcare has been used to promote medication adherence, improve patient safety after surgery, and foster open communication with hospital healthcare workers [5]. Strategies to involve patients in clinical safety generally fall into five categories: inviting patients to provide feedback, directly involving patients in improvement strategies, encouraging patients to share information, getting patients to intervene directly and working with patients so that they are better able to manage their treatment regime safely [6].

The idea of involving or empowering patients to take a role has been around since the 1970s in healthcare, but it has only recently been expanded to the field of patient safety [7]. The term empowerment can have different meanings and interpretations, but in healthcare, it generally refers to the process that allows an individual or a community to gain the knowledge, attitudes and skills needed to make choices and participate in their care [8]. This marks a shift from a more passive to a more active engagement of patients, families and communities in both their own health and in the delivery of health services. Perhaps not surprising there have been several criticisms directed at this approach. There is concern, for example, that this shift of emphasis is actually about transferring some responsibility to patients for their care in order to reduce healthcare costs. The possibility also remains that an over-reliance on patients to care for themselves could also inadvertently lull healthcare workerss into a false sense of safety. For other clinical staff, relinquishing 'control' to patients threatens their professional identity [9]. Underpinning each of these criticisms is a central concern that relying on patients to check on the care they receive from health professionals is neither an effective nor an appropriate strategy for promoting patient safety. However, the counterargument is that a paternalistic approach centred on the notion of professional infallibility is no longer relevant in a consumerist 21st century. Patients are now actively using the internet both individually and as part of support groups, to gather and assess information about their conditions and their care. Consumer engagement strategies are not relying on patients to check on the delivery of their healthcare to ensure their safety; rather they actively involve patients in their own care, as a part of a range of efforts are made to improve both the quality and the safety of their care [9].

In regards to empowering patients around the healthcare acquired infection issue, one previous stream of activity has been an empowerment program aimed at assisting both patients and their healthcare providers to remember to ask and perform hand hygiene. Patient empowerment is an integral part of the WHO hand hygiene multimodal strategy. In 2009, the "Save Lives: Clean Your Hands" campaign, an extension of the 2005 "Clean Care is Safer Care" WHO Patient Safety Challenge, was launched to stimulate international efforts in promoting hand hygiene compliance among healthcare workers in an endeavour to reduce healthcare acquired infections [10, 11]. In the United Kingdom, the National Patient Safety Agency initiated the "Cleanyourhands" campaign, aimed at best practices in hand hygiene compliance among healthcare workers, with an emphasis on performing hand hygiene "at the right time and in the right place" [12]. A central message of this campaign was "It's OK to ask," encouraging patients to ask healthcare workers whether they had performed hand hygiene before providing patient care [13].

While studies generally report high levels of 'willingness to participate' in programs, rates of actual engagement with staff around hand hygiene are significantly lower. So why don't patients feel comfortable to ask their healthcare staff to wash their hands before touching them? We recently undertook a program of research to explore the attitudes and readiness of hospital patients from Sydney, Australia towards the use of patient empowerment as a strategy to reduce healthcare acquired infections [14, 15].

We undertook in-depth interviews with a sample of patients from the surgical department of a large public hospital and found that while patients generally agreed with the sentiment that they had a role to play in the prevention of infections, most felt that their role was limited to maintaining their own personal hygiene. They did not mention interacting with staff members. When asked whether they would be comfortable to engage with staff members, many voiced concerns about upsetting or annoying the staff member. Other participants were concerned that by speaking out it would be perceived as a criticism of the staff members work. Of concern, was that some patients believed that there would be negative consequences on the quality and delivery of their healthcare if they spoke out about infection control or asked a healthcare worker to wash their hands [15]. Amongst the patients we interviewed, we found that there were low levels of health literacy about healthcare acquired infections and very little provision of information.

The second stage of our study was to develop a patient empowerment tool aimed at increasing awareness and engagement of patients in preventing healthcare acquired infection [14]. We undertook a pilot study to examine the receptiveness of hospital patients toward the new empowerment tool which involved following up a group of surgical patients and comparing the attitudes of patients exposed to the patient empowerment concepts to a control group. At the baseline, just over half of the participants were highly willing to assist with infection control strategies. Participants were significantly more likely to be willing to ask a doctor or nurse a factual question then a challenging question. At the time of discharge, 23 of the 60 patients reported that they had discussed a health concern with a staff member; however, only three participants asked a staff member to wash their hands. Participants reported that they found the material interesting and informative and a good starting point, with one participant suggested the material "opened your eyes". However, they also felt that there needed to be

information on: what symptoms to look out for, on the myths about healthcare acquired infection, and about the rate of infections in hospitals.

While there has been a shift in the rigid structures of healthcare of yesteryear towards a space that recognises that patients have an important role to play, healthcare authority is still very strong and the concept of 'confronting' hospital staff goes against what some people believe is normal and accepted. Patients will continue to be unwilling or unable to engage with staff or adopt behaviours to promote infection control, unless they are empowered and encourage to by their health providers. Somehow we need to start passing on the message that hospital staff would actually appreciate and welcome a friendly reminder about hand hygiene.

In attempt to get this message across, some hospitals have previously used posters, pamphlets, bedside reminders and other visual aids. However, there has not been a comprehensive evaluation of these mechanisms and one cannot currently conclude which approach (or combination of approaches) works most effectively. It has been suggested that communication cues need to be developed for staff members to assist them with answering questions about healthcare acquired infection and about infection control and to aim them with engaging with patients around hand hygiene. However, staff must also be encouraged to take the initiative to tell patients about healthcare acquired infection/infection control and to continue to provide cues throughout the patients stay at the hospital. Staff need to be convinced about the potential gains from an 'empowered patient' i.e. that if they are more aware, taking responsibility, contributing to infection prevention, being an advocate to family members and visitors etc. Given that staff members are very accepting of the concept of patient centred care, emphasis should be placed on how patient empowerment builds on from that concept.

For patients, the ultimate value of an infection control program is measured by lower rates of infection, higher rates of survival, avoidance of or decreases in morbidity, shorter periods of illness or hospital confinements and more rapid return to good health. Reductions in readmissions, extended hospital stays and costs are just some of the benefits to the hospital system that will result from a reduction in healthcare associated infections.

The trend to include patients in safety initiatives is growing. Although the role of the patient in hand hygiene as a means to prevent infection has been recommended by others, patient engagement remains an underused method of preventing healthcare acquired infection. Evidence suggests that patient participation does yield positive results, and that most patients are willing and able to not only participate in their own hand hygiene but also to engage with hospital staff and encourage them to comply with it. However, more work is needed to acknowledge and address the unequal power relationship between patient and health workers, the resulting vulnerability of patients and their natural fear of raising concerns about infection control in case it affects their care.

"Why don't patients feel comfortable to ask their healthcare staff to wash their hands before touching them?"

Dr Holly Seale

Dr Holly Seale is a Senior Lecturer at the School of Public Health and Community Medicine, University of New South Wales, Australia. As an infectious disease public health researcher, she is particularly interested in the perceptions and behaviours of different groups of health professionals regarding infectious diseases, particularly vaccine-preventable diseases (VPDs) and disease prevention strategies, such as immunisation. She has experience in microbiology, virology, public health and epidemiology.

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Getting Armed for Battle – The Perioperative Challenge

The Role of Surgical Hand Scrub and Hand Antisepsis in Preventing Infection

Surgical hand antisepsis plays a significant role in preventing healthcare associated infections and surgical site infections and the subsequent morbidity, mortality, and cost associated with them.

Hand washing is known to be the single most important action in preventing infection. The hands of healthcare providers carry microorganisms identified as sources of microbial contamination.[1,2] For healthcare providers, the skin flora isolated from the hands can include coagulase-negative staphylococci (CNS), micrococci, *Staphylococcus aureus*, a-hemolytic streptococci, yeasts, fungi, lipophilic corynebacteria, large-colony diphtheroids, and other gram-positive and gram-negative bacteria.[2,6] Some of these same organisms, notably S. aureus and CNS, are also the leading causes of surgical site infections.

To help combat this problem, hand antisepsis is performed to remove or destroy transient microorganisms and for surgical scrubbing, to remove or destroy transient microorganisms and reduce resident flora.[3] Hand antisepsis and surgical scrub agents have been refined over the years, offering increasingly effective and broader spectrum microbial kill, first with povidone-iodine and hexachlorophene, and later, chlorhexidine gluconate.

Unfortunately, the effects of frequent scrubbing and hand washing can also damage the skin's integrity.[1–3,5–10]

Healthy skin needs to be soft, pliable, and hydrated to maintain its barrier function.[11] Fatty acids found in the stratum corneum help the skin maintain its barrier by preventing dehydration.[11] Additionally, these fatty acids have fungicidal and bactericidal activity important to modulating the balance of flora on the skin.[11] Yet, many of today's antiseptic scrub agents, although highly effective against a broad spectrum of infectious organisms, compromise the integrity of the skin's natural barrier by dehydrating and defatting the skin, resulting in a loss of moisture, pliability, and integrity.[1–3,6,10,16–21] The consequenceof damaged skin on the hands of health careproviders is that damaged skin can harbor large numbers of microorganisms, shed greater numbers of these microorganisms because of increased desquamation of dry skin, and become a deterrent to good hand washing practices.[1–3,6,8,10] Damaged hands are very prevalent among health care professionals because of frequent hand washing with harsh agents.[10,19,20]

Based on surveys of operating room nurses at the Association of periOperative Registered Nurses (AORN) 1996 and 1997 conferences, approximately 75% of nurses reported having problems with their hands including: dry, scaly, cracked skin; red blotchy skin; or stinging.[22] The frequency of hand washing/scrubbing and the soap/ antimicrobial agent used were among the most common reasons cited for damaged skin.[22]

To address this problem, the focus of hand antisepsis is shifting to incorporate maintaining the skin's health and integrity as a preventative measure against infection.[2–4] AORN, in their most recent guidelines, call for the following criteria when selecting an antimicrobial surgical hand scrub:

The surgical hand scrub agent should:

- contain a non-irritating antimicrobial preparation
- significantly reduce microorganisms on intact skin
- be broad spectrum
- be fast acting
- have a persistent effect[1]

* ACORN also highlight that the skin antiseptic criteria shall "have a cumulative action" as well as "have minimal detrimental effects on the skin". (ACORN Standards for Perioperative Nursing 2014-2015 Asepsis and Clinical. Standard: Scrubbing, Gowning and Gloving.)

Because many surgical scrub and hand antisepsis agents increase the damage to hands as well as the risk for contamination, leaders in infection control now call for increased emphasis on maintaining the skin's natural barrier as an adjunct to antimicrobial activity in preventing infection.[2,10]

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The Vortex' Twin blade action creates a vortex that pulverises the macerator contents and causes any foreign objects to get caught up in the blades rather than flushing to sewage. Content is macerated into fine watery slurry that will flow freely through drains.

The main benefits of the Vernacare human waste disposal system – which include macerator and a full range of single-use maceratable pulp containers are:

Reduced risk of cross-infection. The Vortex disposes of four single-use bedpans or urine bottles every two minutes, with no waiting around to unload processed bedpans, no unhygienic stacking of soiled receptacles, and no cross contamination from inadequately cleaned bedpans.

Innovative features ensure even greater levels of infection control: hands-free opening, cleaner macerator drum, hygienic lid seal, no aerosol leakage, blockage prevention, anti-bacterial deodoriser and overload protection function.

Cost Effective. Low capital outlay, minimal maintenance requirements and lower running costs compared to other waste disposal solutions make the Vortex a suitable choice for any budget.

Main cost saving factors are: average of 60% less water usage per item than traditional pan washers; lower electricity requirements; minimal maintenance is required and staff is free to spend more time caring for patients.

Environmentally friendly. Average of 60% less water usage per item than traditional pan washers; two minute cycle using only cold water with approximately 97% less electricity required; products are completely macerated and biodegradable; the Vortex macerator does not create aerosols in the process and there is no need to use detergents or chemicals.

Durability and Efficiency. The twin blades allow complete maceration. With an average life span of 10 years the Vortex macerator is very durable. It is manufactured to ISO EN 9001:2000 and it is easy to clean, having been designed to withstand detergents and disinfectants. Technical support by trained engineers and spare parts are readily available, as well as comprehensive manuals for sites with in-house engineers.

OH&S Benefits. The Vortex cycle will only begin when the lid is securely latched and it cannot be opened accidentally while in use. Carefully designed start control locks mean that the machine will automatically cut out in the unlikely event of a blockage or insufficient water in the macerator. An overload protection function and malfunction warning light are integral safety features. There is no steam or splashing from sluicing, and no chemicals are required.

These are all the reasons why so many flagship hospitals around Australia are already experiencing the benefits of the Vernacare waste management system of macerator and pulp containers.

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Cost Effective

- The Vortex disposes of four bedpans or urine bottles in two minutes
- Average of 60% less water usage per item than traditional pan washers
- Lower electricity requirements

Environmental Benefits

- Two minute cycle using only cold water
- Approx. 97% less electricity and 60% less water required

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Being Prepared for an Epidemic or a Pandemic

'...it is inevitable that the world will face another influenza pandemic. While there is no certainty about where or when the next one will occur, Australia must be prepared. An influenza pandemic represents a significant risk to Australia. It has the potential to cause high levels of disease and death and disrupt our community socially and economically.'

'Australian Health Management Plan for Pandemic Influenza' (AHMPPI) 20141

The prolific nature of national and international travel expedites the rapid global spread of communicable diseases between nations. As demonstrated by the influenza H1N1 2009 virus pandemic.[2]

Infectious diseases are increasing rather than decreasing[2]

While communicable diseases are potentially avoidable, they are increasing. In Australia, new tuberculosis (TB) notifications are increasing with 80-90% occurring in arrivals from overseas. There are increasing rates of known threats such as pertussis (whooping cough), lab-confirmed influenza, gonococcal infections, chlamydia infections, campylobacteriosis and salmonellosis.[2]

Emerging infectious diseases are an ongoing risk of epidemics or pandemics. New diseases are emerging more frequently, for example MERS-CoV, and new strains of influenza with pandemic potential such as avian influenza H5N1 and H7N9.[2]

While Influenza is usually a self-limiting, seasonal virus lasting a week or less, it can lead to complications and for more vulnerable people, such as older people, pregnant women, people with poor immune systems and people with pre-existing respiratory, cardiac and endocrine disease. For these people, influenza can be a significant disease and can be fatal. It can also cause the death of healthy adults and children.[1]

In addition to new threats, each year in Australian acute healthcare facilities, there are around 200,000 health care-associated infections (HAIs). Antibiotic-resistance in hospitals is rising, rendering first-line treatments ineffective.[2]

Personal Protective Equipment (PPE) resources need to be available for a rapid response [1,4]

Pandemics are unpredictable, for timing, severity and size.[1] The World Health Organisation (WHO) advise that advanced planning and preparedness are critical in helping mitigate the impact of influenza epidemics or pandemics.[5]

The availability and appropriate use of PPE is critica is critical in protecting hospital staff, other patients, and visitors in the event of an epidemic or pandemic. Even with the use of antiviral mediation, N95 respirators, gowns and gloves are an important line of defence against the spread of a virus. Disposable PPE should be used whenever possible, as the virus can remain infectious in garments for long periods of time.[4]

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A Critical Review to Plan the Future:

An Infection Prevention and Control Conference with a Difference

As the 4th International Australasian College for Infection Prevention and Control (ACIPC) Conference approaches, *Paul Hodgson* and *Brett G Mitchell* from ACIPC have joined us to discuss the program, which focuses on the future of infection prevention and control.

The Scientific Committee headed up by Associate Professor Brett Mitchell has created a fantastic program that is sure to have something for everybody in the industry. The program created should stimulate debate, promote a critical review of existing practices and propose opportunities for discussion on the future direction of infection prevention and control. Feedback from the successful 2014 conference in Adelaide was also considered.

Besides popular topics, latest issues and trends have also been included. The program has already been described as the biggest and best yet. The final program can be viewed on the conference website at: acipcconference.com.au/program

With record number of abstracts submitted for consideration by the Conference Scientific Committee, the event has been able to host a range of high quality original research from academics and clinicians. New findings will be presented in both oral and this year there is a focus on poster presentations as a critical component of a high-quality scientific conference.

We are thrilled and privilege to have four world-renowned international speakers present in Hobart: Professor Stephan Harbarth from Geneva University Switzerland, Martin Kiernan from London, Professor Patricia Stone from Columbia University, New York and Dr David Weber from the University of North Carolina Hospitals, USA. We have no doubt these plenary sessions will be packed to the rafters with delegates based on their popularity.

Prof Stephan Harbarth heads up the Infection Control Program at Geneva University Hospitals, Switzerland. Professor Harbath was educated at Cambridge University, Massachusetts. His current studies focus on control of MRSA and multi-drug resistance. His team is also involved in conducting several clinical and epidemiological studies to evaluate key questions related to the control of the acquisition, transmission and infection by multi-drug resistant microorganisms. Professor Harbarth will be presenting on *Which Established Infection Control Interventions are Supported by Evidence?*, and *Infection Control, What's on the Horizon?*

Martin Kiernan has worked in the field of infection prevention and control for 25 years in a variety of settings in the UK. His research interests are surveillance and urinary catheter-associated infections and his other professional interests include wound management, environmental hygiene and the adoption of a common sense, practical approach to the subject.

On the conference, Mr Kiernan comments, "I am absolutely delighted to have the opportunity to present at the Hobart conference. I had the pleasure of attending the Sydney meeting of the College a couple of years ago and felt that the scientific content was of the highest quality and it is a great honour to be able to contribute to this meeting."

The annual International ACIPC Conference is going from strength-to-strength each year and we expect Hobart to the perfect setting for the next chapter of the regions leading infection control conference. Follow what is happening in more detail using #ACIPC2016, or follow @ACIPC and @HealthcareInfec on Twitter. We look forward to seeing you all in Hobart 22-25 November 2015 at ACIPC15.

One topic Martin is presenting at the conference relates to patient wipes.

"Wipes are having a big impact in the prevention of healthcare associated infections and I will be looking at the science behind them, highlighting key considerations when selecting the right wipe for the intended task," he says.

Professor Stone is currently working as a visiting Professor at the University of Technology, Sydney. Professor Stone will present one plenary session on *Informatics and Infection Control* and one concurrent session *Enhancing Organisational Culture*.

Dr David Weber has a broad research range which include: the epidemiology of healthcare-associated infections, new and emerging infectious diseases. He will be presenting findings from a major research project *Assessment of Strategies for Terminal Room Decontamination'* in addition evidence-based guidelines on *Animal Visitation in Healthcare*.

Over 40 local speakers have been confirmed from Australia and New Zealand. The diversity of location and experience of speakers is bound to provide a most comprehensive and broad program with streams to suit all delegates.

The day prior to the conference commencing will offer seven half-day workshops. These workshops will also take place at Grand Chancellor.

Workshops include:

1. **Hand Hygiene Australia**, presented by Dr Andrew Stewardson and colleagues. A complimentary workshop which will address theoretical considerations about how to sustain gains while addressing remaining challenges, and will also provide practical frontline examples.
2. **Residential Aged Care**, presented by Dr Noleen Bennett. This workshop is designed to support those working in or have responsibility for infection control related issues in Residential Aged Care.
3. **Sterilisation**, presented by Terry McAuley. This workshop will provide an overview of the 'new' AS/NZS4187 – What do ICP's need to be aware of?
4. **Credentialing**, presented by Professor Ramon Shaban. This interactive and dynamic workshop presents the Australasian College for Infection Prevention and Control Credentialing Program.
5. **Aseptic Technique**, presented by Sue Atkins. This workshop will provide an overview of Aseptic Technique principles in practice in addition to practical work, teaching tool; and competency and auditing to monitor outcomes.
6. **Common Misconceptions in Medical Statistics**, presented by Associate Professor Adrian Barnett. This workshop will cover some of the basic mistakes ingrained in practice and show you simple ways to avoid these mistakes.
7. **Masterclass** - for experienced infection control practitioners, presented by Australian Commission on Safety and Quality in Health Care. The Masterclass will provide an opportunity to reflect on current and future challenges in infection prevention and control practice, and the ways in which the infection control practitioner can demonstrate how work that is undertaken in day-to-day practice can be used to effect improvement. This workshop is aimed at delegates with more than 10 years' experience in an Infection Prevention and Control or Surveillance role within a health service organisation.

The diversity of workshops offers something for everyone in infection control and at all levels of career.

Besides the strong scientific program the social side of the conference is always a hit. Most industries mention their delegates love a party at conference, and we attest to this with the infection control industry filling the dance floor through the first song each year. This in itself is a sight!

Hobart's Princess Wharf 1 is a beautiful old refurbished shipping shed that will host the gala dinner, where delegates will be entertain delegates well into the night with live music and a menu featuring local produce, wines, whiskeys and chocolates.

Incoming ACIPC President, Professor Ramon Shaban will host the annual President Breakfast. All delegates are welcome to attend this informal breakfast with colleagues and College Executives. It's a different setting designed to encourage interaction between delegates, industry colleagues and College Executive.

As with any conference the participation of trade exhibitors is an integral part of the success of the event. An exhibition of 70 exhibitors will be on show for the duration of the conference. Infection control wipes, hand sanitisers, wash bays, curtains, instruments, detergents, publications and accreditation agencies are just some examples of what the trade exhibitors will show including new innovations. ACIPC is also very fortunate again to have AMCLA as our proud Platinum sponsor, the sole distributor for Clinell® in Australasia. Rumour has it they are planning a huge stand taking up 36 square meters of exhibition space. The ACIPC is greatly appreciative of all trade involvement and encourage delegates to mingle with all exhibitors who have invested to be a part of the conference.

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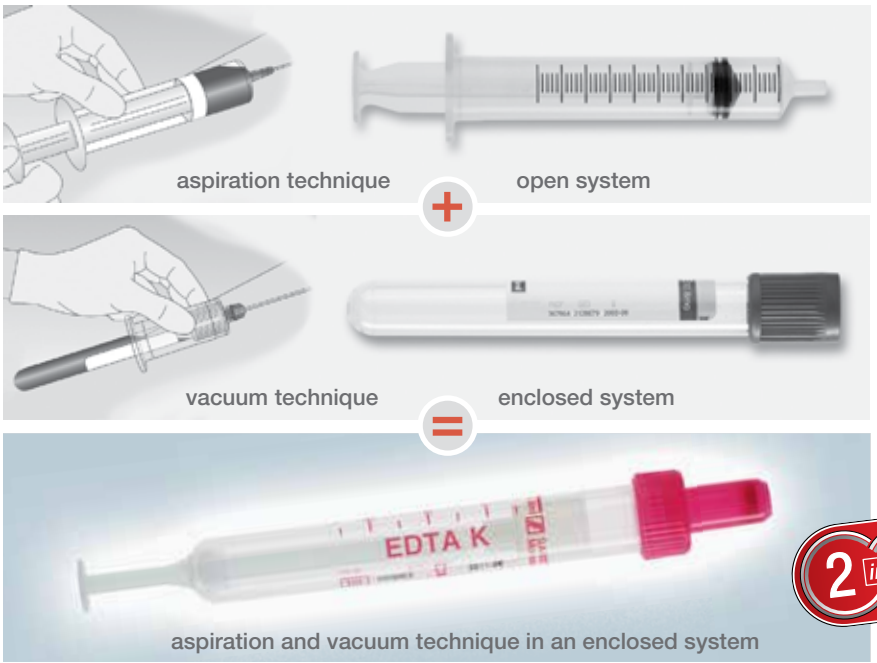

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Pressure Injuries and Skin Microclimate

A pressure injury is a localised injury to skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear.[1] Pressure injuries are believed to result from an interaction of compromised blood flow and deformation of soft tissue. Both pressure and shearing forces contribute to tissue deformation, with friction an important component of shear. An individual's *Tissue Tolerance* is influenced by numerous intrinsic (physiologic) and extrinsic factors. Tissue tolerance is a critical component in determining whether a resident develops a pressure injury.[2,3]

Skin microclimate is the term used to describe the interaction between skin temperature and moisture at the skin surface.[2] When skin is wet, the stratum corneum becomes softer, more permeable and skin pH moves away from its normal acidic range into an alkaline state. Normal acidic pH is necessary for skin barrier function and repair! Wet skin is more likely to sustain mechanical damage from friction. This happens because the attachments between skin cells are weakened and frictional forces are increased in the presence of moisture. As a result, cells are more easily separated from each other. Heat is created and epidermal cells are rubbed away, triggering inflammation and repair.

Key risk factors include: immobility, limited activity and diminished sensory perception.[4] Additional important risk factors include: presence of moisture, friction and presence of a medical device.

Pressure injuries that occur over bony prominences will correspond with the patient's dominant position. Patients that spend the majority of their time in bed are most likely to exhibit ulcers over the sacro-coccygeal area, heels, and malleoli. Extremely thin patients and those with skeletal abnormalities are at special risk.[5,6] As you perform your head to toe assessment, observe and document skin condition over prominent bony prominences e.g. hypertrophic (prominent) joints, the scapulae (shoulder blades), posterior iliac spines (bones on either side of spine) or prominent vertebrae (spine) in the patient with kyphosis.

An alcohol-free barrier film can be applied to intact skin over buttocks and the sacrococcygeal area as well as other bony prominences to help prevent skin damage from friction and moisture.[7,8] 3M™ Cavilon™ No Sting Barrier Film can be used for this purpose. Avoid use of barrier creams and ointments (e.g zinc oxide) that can increase drag and friction on the skin.

Ask for Cavilon™ No Sting Barrier Film. Cavilon™ No Sting Barrier Film is like no other barrier film. The product's unique 3M formulation contains a blend of not one but two polymers, including a Terpolymer and a Homopolymer (plasticiser). The Terpolymer is derived from three distinct monomers, that provides a protective coating on the skin, creating a highly effective barrier. The Homopolymer enhances the films ability to flex with the skin and helps to maintain a continuous, protective coating. Other barrier films contain only one polymer and some utilse alcohol as a solvent. For more information on Cavilon™ No Sting Barrier Film, visit our website: **www.Cavilon.com.au.**

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Evidence-based training helps meet IPC targets

Within the healthcare sector there is growing pressure to reduce the rates of Health Care Associated Infections (HCAI). Infection Prevention and Control (IPC) teams have increasingly stringent targets to aim for with tighter budgets and larger penalties in place if they fail.

It is accepted practice that improved infection control practices, such as good hand hygiene, routine cleaning and disinfection of surfaces, can help break the chain of transmission and therefore reduce HCAI rates.[1,2,3]

There have been many initiatives from both Government and individual Hospitals that target hand hygiene, however compliance and product effectiveness can vary. Environmental surfaces can serve as a reservoir for microorganisms, which can be transferred to the hands of healthcare workers, visitors and patients. Good environmental cleaning practices help to reduce bacterial load, preventing the cross transmission of potentially harmful microorganisms. Studies have shown the positive impact of effective environmental cleaning on reducing the bioburden of MRSA, *C. difficile* and norovirus. [1,2,3,4,5,6,7,8]

Reducing HCAIs

Education and training are proven to reduce HCAIs. It doesn't matter how powerful the disinfectant or how effective the delivery mechanism is, it will never achieve its stated claims if it is not used correctly due to insufficient understanding and training. An accessible, comprehensive and universal training scheme would be an invaluable tool for all staff. This should cover the basic tenets of infection control, such as why cleaning is important; how to clean in the most efficient manner; transference and high touch points. [9,10]

Training should be developed in conjunction with active IPC professionals, who are able to relay contemporary issues, solutions and trends that are current best practice. Any training package should be evidence-based and scientifically validated.

GAMA Healthcare, the manufacturer of Clinell, invited over 20 senior Infection Prevention and Control professionals, to join an advisory board. The board was tasked with creating the most flexible and accessible training package for environmental cleaning. Their advice, experience and research undertaken on the most up-to-date and relevant journals and studies have enabled GAMA to create a package outlining a practical and scientific approach to effective cleaning practices within a healthcare setting.

Delivered primarily on a 10in Android powered tablet, the Clinell Training Application is both accessible and enjoyable. Featuring fun and engaging games which help to emphasise key learning points and measure understanding. The application is designed to be used individually, in a small or large group and by nurse educators to perform ward-based training. The videos and instructional diagram sheets explain simply and clearly the most effective way to reduce microorganisms on the most common items found within a hospital.

Resources:

1 Otter et al. Am J Infect Control. 2013 May;41(5 Suppl):S6-11. doi: 10.1016/j.ajic.2012.12.004.

2 Weber et al. Curr Opin Infect Dis. 2013 Aug;26(4):338-44. doi: 10.1097/QCO.0b013e3283630f04.

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5 Kundrapu et al. Infect Control Hosp Epidemiol. 2014 Feb;35(2)

6 Plipat et al. BMC Infect Dis. 2013 Dec 17;13:595. doi: 10.1186/1471-2334-13-595.

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9 Goodman, E. R., Platt, R., Bass, R., Onderdonk, A. B., Yokoe, D. S. & Huang, S. S. 2008. Infect. Control Hosp. Epidemiol, 29, 593.

10 Eckstein et al. BMC Infect Dis. 2007; 7: 61. doi: 10.1186/1471-2334-7-61

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The most accessible, fun and comprehensive educational guide to environmental cleaning that has ever been compiled for healthcare professionals.

INTERACTIVE

Simple instructions allow a single player, a small group of players, or a trainer to go through the core principles of environmental cleaning, with detailed informations and scientific references at the click of a button.

VIDEOS

Videos and step by step diagrams clearly illustrate the best cleaning practices to reduce microorganisms on key items found in healthcare settings.

GAMES

Five fun and engaging games help to emphasise the key learning points and provide a scoring system to measure understanding and improvement.

STATS

Scores from the games, time spent on each page and the number of uses for each person, allow Infection Control to identify areas that may require further training.

THE TRAINING PACKAGE CONTAINS

1. ANDROID TABLET

The revolutionary, interactive Clinell Training Package is preloaded onto the latest 10” touch screen, Android tablet which is included in the pack. This enables you to access all of the games, content and videos straight from the box.

2. UV TORCH KIT

An Ultra Violet Torch Kit which consists of a powerful 28 led UV torch, two non-permanent, ultra violet, water soluble gel pens and 25g of ultra violet powder. This kit enables healthcare professionals to better demonstrate the importance of high touch surfaces and microbial transference in a clinical setting.

3. TRAINING DOCUMENTS

In addition, the Clinell Training Package comes complete with laminated diagrams, a certificate, two high touch sheets, five scenarios and five quiz sheets which can be photocopied for use by larger groups.

* Terms and conditions apply.

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Preventing and Controlling Healthcare Associated Infections Standard 3

Healthcare associated infections are the most common complication affecting patients in hospitals. Each year, around 200,000 healthcare associated infections are contracted by patients in Australia.[1]

"Clinical leaders and senior managers of a health service organisation implement systems to prevent and manage healthcare associated infection and communicate these to the workforce to achieve appropriate outcomes. Clinicians and other members of the workforce use the healthcare associated infection prevention and control systems."

At least half of healthcare associated infections are preventable. Successful infection control to minimise the risk of transmission requires a range of strategies across all levels of the healthcare system and a collaborative approach for successful implementation.

The aim of this Standard is to prevent patients acquiring preventable healthcare associated infections and to effectively manage infections when they occur using evidence-based strategies.

In brief, this Standard requires that:

- Effective governance and management systems for healthcare associated infections are implemented and maintained.
- Strategies for the prevention and control of healthcare associated infections are developed and implemented.
- Patients presenting with, or acquiring an infection or colonisation during their care are identified promptly and receive the necessary management and treatment.
- Safe and appropriate antimicrobial prescribing is a strategic goal of the clinical governance system.

Healthcare facilities and the associatedenvironment are clean and hygienic. Reprocessing of equipment and instrumentation meets current best practice guidelines.

- Information on healthcare associated infection is provided to patients, carers, consumers and service providers.

Resources and Tools

The Commission has the following tools and resources to assist with the implementation of this Standard:

- Antimicrobial Stewardship in Australian Hospitals
- Reducing harm to patients from healthcare associated infection: the role of surveillance
- Online Interactive Education Modules for Infection Prevention and Control
- Australian Guidelines for the Prevention and Control of Infection in Healthcare
- OSSIE toolkit for the implementation of the Australian Guidelines for the Prevention and Control of Infection in Health Care
- Guidebook for the Primary Care settings:

A companion to the OSSIE toolkit for the implementation of the Australian Guidelines for the Prevention and Control of Infection in Health Care

- Clinical Educators Guide for the Prevention and Control of Infections in Health Care
- Consumer fact sheets to support the Guidelines for the Prevention and Control of Infection in Healthcare (Methicillin resistant Staphylococcus aureus, Vancomycin Resistant Enterococci and Clostridium difficile)
- World Health Organisation Poster – Your 5 moments for Hand Hygiene.

Facts and Figures

- It is estimated the excess length of stay due to a surgical site infection is between 3.5 and 23 hospital bed days, depending on the type of infection.
- The total national number of bed days due to surgical site infections for a one year period was estimated to be 206,527 bed days.[2]
- If there was optimal use of antimicrobials and containment of antimicrobial resistance, $300 million of the Australian national healthcare budget could be redirected to more effective use every year.[3]

Further Information

A full copy of the Preventing and Controlling Healthcare Associated Infection Standard is contained in the National Safety and Quality Health Service Standards. It includes the criteria, items and actions required for health services to meet this Standard and is available on the Commission's website at **safetyandquality.gov.au.**

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Clean away the risk of infections with microfibre

With around 200,000* healthcare-associated infections in Australian acute healthcare facilities each year, prevention and control of infection is a top priority for hospital and healthcare facilities. Effective cleaning practices are essential in protecting the safety of staff and patients within healthcare facilities. A key element to achieve this is using the right cleaning products that improve infection prevention, provide superior performance and increase productivity to create a healthy environment.

Often hospital and healthcare staff rely too heavily on chemicals to guarantee a hygienic environment, yet the use of chemicals is quickly being side-lined by 'chemical free cleaning' or 'sustainable cleaning'. Staff also may not be aware that outbreaks often occur because microbes become resistant to certain chemicals which stop working, opening the facility up to the risk of potential outbreaks.

There is a growing movement in the healthcare industry towards sustainable cleaning practices, using microfibre to control and prevent infections. Microfibre is effective due to its ability to remove fine particles, bacteria, microbes, and oils hidden in surface crevices, that cotton sponges or cloths typically cannot reach. Microfibre products completely remove microbes, with less water, and without the need to use harsh chemicals that kill but don't remove bacteria.

An important step in the prevention of infection is to ensure all bacteria and particles are completely removed from surface areas to prevent the bacteria spreading and eliminate the food source for other bacteria to grow. The Rubbermaid HYGEN Disposable Microfibre System, in conjunction with chemicals or steam, effectively kills the bacteria while the microfibre removes it from the surface, providing a thorough clean.

Described as an industry first, the Rubbermaid HYGEN Disposable Microfibre System features innovative technology that offers optimal infection prevention, superior cleaning performance and improved productivity. It is the only Disposable product line in the healthcare industry proven to remove 99.9% of microbes, including C. diff, which helps stop the chain of infection.

Suitable for any surface, the HYGEN Microfibre system provides streak-free cleaning for mirrors, glass and stainless steel and can be used for dusting or wet cleaning. To clean larger areas, the disposable microfibre mop can be used wet or dry and is compatible with Rubbermaid Pulse or Rubbermaid HYGEN Charging Bucket.

With more coverage than leading disposable cloths, the HYGEN microfibre system also features built-in scrubbers that enable complete dirt removal without smearing.

In a hospital environment, reaching a higher level of cleanliness is an important goal. Areas where microfibre products can be used to effectively prevent infection include occupied and discharged patient rooms; emergency, ICU and isolation rooms; nurses' stations; MRI and X-ray machines; and other public areas. As patients and staff come into contact with these areas regularly it's important that they remain clean to prevent the spread of disease from person to person.

The superior cleaning power of microfibre allows staff to do more with less by removing all bacteria in a sustainable way. By removing the need for chemicals it takes away previously required steps in the cleaning process, providing increased productivity and cost savings. This creates a secondary benefit for hospital and healthcare facilities by preventing the costs associated from outbreaks or ongoing infections.

With infection control and prevention a top priority for hospitals and healthcare facilities it's worth considering the benefits of sustainable cleaning using the HYGEN microfibre system, as the uptake of sustainable cleaning in the Australian healthcare industry quickens pace.

*Australian Guidelines for the Prevention and Control of Infection in Healthcare 2010

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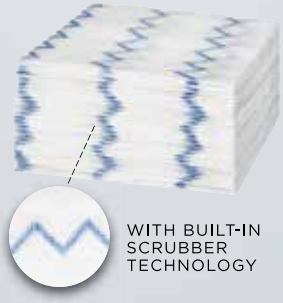

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Hundreds of lives have been saved by Australian hospitals that have managed to slash the number of people catching infectious bugs while in care through the use of hospital grade hard surface sanitisers. However, rates still vary widely between hospitals, leading the National Health Performance Authority to warn hospitals with higher rates that they should learn from those where infection rates are up to three times lower, thanks in part to the use of hard surface sanitisers.

The latest figures from the authority, released in April 2015, show the number of people developing serious blood infections caused by the potentially deadly "golden staph" bug fell by 6 per cent in the last financial year. This includes cases of the "superbug" MRSA, which is resistant to commonly used antibiotics.

Professor of infectious diseases at the Australian National University Peter Collignon said the rates of blood infections had halved over the past decade, saving hundreds of lives thanks in part to the use of hard surface sanitisers.

"If you prevent one or two thousand cases per year, which we probably have done over the past 10 years, that literally is between 200 and 400 fewer deaths per year in Australia," he said.

"That is also preventing a lot of suffering, and we are saving health care costs because people aren't in hospital longer than they need to be".

However, Professor Collignon warned that hospitals should not become complacent – many cases were still preventable with proper infection control such as staff making sure they cleaned their hands properly, and the use of hard surface sanitisers.

Australian company Eucalip Bio-Chemical Group Pty Ltd has innovatively manufactured a product, which is conveniently packaged in a sachet and ideal for everyday use as required – simply add water and safely and effectively sanitise your area. There are two hospital grade strengths in the Det-Sol range. Det-Sol 500 is used for sanitising hard surface areas, such as areas of food preparation and areas where general infection control is needed. Det-Sol 5000 is used in "dirty areas" where blood and body fluid spills may occur and a higher concentration of disinfection is required. Det-Sol is currently used by major hospitals, institutions, pathology laboratories and for military use nationally.

References:

1 National Health Performance Authority Performance Report (9th April 2015)

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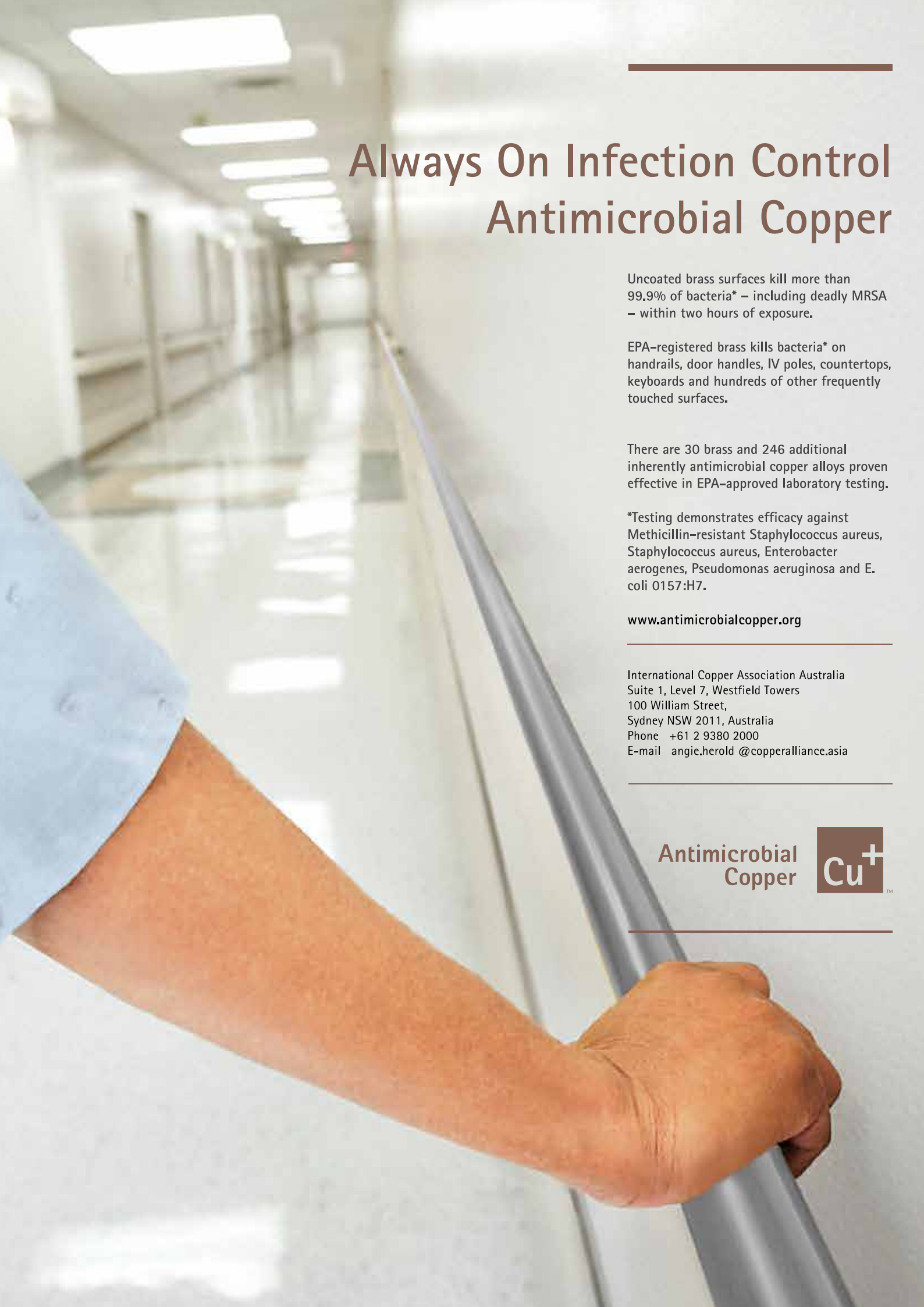

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August Conference Update

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KEYNOTE SPEAKERS

- **Professor Stephan Harbarth.** Geneva, Switzerland.
- **Mr Martin Kiernan.** London, UK.
- **Professor Patricia Stone.** New York, USA
- **Mr David Weber,** Charoltte. North Carolina, USA

PROGRAM SPEAKERS

- Dr Alistair McGregor
- Ms Louise Hobbs
- Associate Professor Karen Vickery
- Associate Professor Rhonda Stuart
- Emeritus Professor Mary Barton AO
- Associate Professor Allen Cheng
- Mr Phil Russo
- Mr David Brain
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- Dr Tara Anderson
- Professor John Turnidge
- Dr Deborough Williamson
- Mr John Ferguson
- Ms Sue Atkins
- Dr Noleen Bennett
- Ms Fiona Wilson
- Dr Mark Veitch
- Dr Terry Grimmond
- Professor Lyn Gilbert, and many more!!!!

PRESIDENT'S BREAKFAST

A complimentary breakfast will be held on

Tuesday 24th November
8am - 9am

This event is an informal breakfast with a brief presentation by the ACIPC President. We do hope you can make it. If you wish to attend please RSVP on your registration form for catering numbers.

WORKSHOPS

We have seven workshops planned that will be held on:

Sunday 22 November 2015
at Hotel Grand Chancellor, Hobart
These workshops will run between 10am-5pm

1. **Hand Hygiene Australia.**
   A complimentary Workshop for all presented by Hand Hygiene Australia.
   - Dr Andrew Stewardson

2. **Residential Aged Care.**
   - Dr Noleen Bennett

3. **Sterilization.**
   This workshop will provide an overview of the 'new' AS/NZS4187
   - Professor Patricia Stone

4. **Credentialing.**
   This interactive and dynamic workshop presents the ACIPC Credentialing Program.
   - Professor Ramon Shaban

5. **Aseptic Technique.**
   - Ms Sue Atkins

6. **Common Misconceptions in Medical Statistics.**
   - Associate Professor Adrian Barnett

7. **Master Class For Experienced Infection Control Practitioners.**
   - Australian Commission on Safety and Quality in Health Care.

Places are limited so register early!

REGISTRATION

Early bird registration will close on

9th October 2015

You can register at:

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Ethics and Evaluating Infection Control

Infection control, especially of healthcare associated infections, presents major challenges to not only the costs and effectiveness of healthcare in Australia; but also the management of hospitals and healthcare institutions; the professional responsibilities of healthcare professions; and the welfare of patients.

The challenge is the subject of national guidelines and standards issued by the National Health and Medical Research Council (NHMRC) and collected by the Australian Commission on Safety and Quality in Health Care. There is no lack of practical advice on preventing infection from guidelines to standard signage to online instruction modules and toolkits.

The ethical basis for such programs and guidelines merits consideration. Insofar as the guidelines set out conduct to be followed by healthcare professionals, the ethical basis sits squarely on the conventional ground of non-maleficence and the prevention of harm to patients. A similar basis could be found in the protection of healthcare professionals from harm that adhering to the guidelines will achieve.
This is an understandable expression of the individual focus that has dominated the modern development of medical ethics with its focus on the dyadic relationships between patients and healthcare professionals. In this focus, the importance of acting for the benefit of individual patients, respecting their autonomy by providing information that will inform their decisions about treatment and care and minimising harm are now familiar to modern healthcare professionals. Fulfilment of these obligations is central to establishing the trust of healthcare professionals by patients that it is essential to the effective functioning of a healthcare system.

Those same professionals will also be familiar with the well-defined situations in which those ethical responsibilities to individual patients give way to responsibilities to prevent predictable harm to others in the community. There is now clear legal authority, for example, to notify public health authorities in relation to certain infectious diseases and to include in those notifications identifying information of patients who present that risk. The statutory base of these exceptions is a clear expression of public acceptance that, in those circumstances, those community interests are more important than ethical obligations to individual patients.

Infection control is an example of the recognition of both ethical obligations. It is important because it addresses the risk to treatment of individual patients but also because it addresses the risk of infection to others in the immediate community of a hospital or a wider community beyond. Fulfilling responsibilities to achieve infection control is also important in building trust communities need to have in their healthcare institutions.

These two ethical frames come into sharp relief in studies or assessments of the effectiveness of infection control measure and procedures. A clear example was the Keystone study that involved an assessment of the impact of recommended interventions to prevent catheter related bloodstream infections in a large number of intensive care units in Michigan [1]. Towards the end of the study, a complaint was made to the Federal research ethics agency (Office for Human Research Protections) that the study should have had institutional review board ethics approval but did not.

Colin Thomson
BA, LLB, LLM (Sydney)
www.ehealthinfo.gov.au

Colin Thomson, BA, LLM (Sydney) is Professor of Law at the University of Wollongong and Academic Leader for Health Law and Ethics in the Graduate School of Medicine. He also works as a consultant.

He was a member of the Medical Research Ethics Committee (1988-91) of the National Health and Medical Research Council and, from 1998-2002 a member, and from 2006-2009, chair of the Australian Health Ethics Committee. As a consultant, he has advised NHMRC, FaHCSIA, Health Departments of NSW, Qld and Vic and several universities. He is a Senior Consultant with Australasian Human Research Ethics Consultancy Services (www.ahrecs.com).

Colin has provided training to human research ethics committees, chairs the CSIRO Social Science HREC and is a member of HRECs at Department of Health and Ageing and University of Wollongong/ Illawarra Shoalhaven LHD.

He is a joint author of Good Medical Practice: professionalism, ethics and law, 2010, Cambridge University Press.

The agency agreed that review had been necessary but that it was ethically justifiable not to require the consent of health professionals whose conduct was being studied.

The details of that story depend heavily on statutory definitions in United States regulations. However, evaluations of the effectiveness of infection control measures do raise a tension between, on the one hand, the conventional individualistic ethical principles of human research ethics and, on the other, the ethical foundations of infection control and possibly even the emerging ethics of the practice of public health.

As research projects, these evaluations would normally involve carefully assessing the value and validity of the proposed assessment, the risks and benefits to participants, whether health professionals or patients establishing appropriate procedures to seek the voluntary consent of those participants based on information about their involvement.

However, the community importance of identifying effective infection control measures may have more ethical weight and may justify at least waiving the requirement for the conventional voluntary and informed consent to participation, if not the need for formal ethical review and approval by a human research ethics committee.

Alternatively, these evaluations and assessments could be regarded as quality improvement or even as public health surveillance, emphasising the wider community and public health ethical values and follow established institutional approval processes for these activities.

The Keystone experience is salutary and suggests that at institutional, regional or even national levels in Australia, it would be prudent to provide guidance to infection control practitioners and institutions on the ethical considerations that need to inform the conduct of the evaluation of infection control measures.

Improving Burn Care Across the Nation

Yvonne Singer from the Australian and New Zealand Burns Association presents two tools that are useful for clinicians dealing with burns patients: the BRANZ and BQIP.

Burn injury can have devastating consequences. Each year there are approximately 50,000 burn related hospital admissions in Australia, and more than 3500 people will require admission to one of the 17 specialist burn centres throughout Australia and New Zealand. Apart from the devastating effects of the physical injury itself, burn injuries can result in significant personal and familial stress, long term unemployment and disability. Care must be evidence-based to minimise these adverse consequences of injury. Unfortunately however, the evidence base for burn management is lacking, and there is significant variation in the treatment of burn injuries across Australia and New Zealand. This means that patients with similar injuries can receive very different treatment according to which unit they are managed in; and we do not have a good understanding of the consequences of these differences, and their effect on patients' quality of life.

Recognising the significant impact of burn injuries and the variations in treatments and patient outcomes, our region's peak body for burn care clinicians, the Australian and New Zealand Burn Association (ANZBA) in collaboration with Monash University Department of Epidemiology and Preventive Medicine developed the Burn Registry of Australia & New Zealand (BRANZ) in 2009. The overall aim of BRANZ, a population based clinical quality registry, is to improve the standard of care for burn injured patients in Australia and New Zealand. This will be achieved by

- Collecting demographic details regarding burn injury.
- Measuring and benchmarking significant clinical processes and procedures, and linking them with patient outcomes.
- Monitoring compliance with evidenced based quality indicators.

With four years of BRANZ data available, there is evidence of considerable variation in the management of burn injury between the Australian and New Zealand burn units. There is also evidence of significant variation in outcomes that are not explained by differences in injury severity or patient risk factors alone.

ANZBA established the Burn Quality Improvement Program (BQIP) in 2013. The aim of the BQIP is to use the BRANZ data to understand the effects of treatment variation on patient outcomes to determine best clinical practices. Multiple factors influence the different practices; these include a lack of an evidence base, geographical isolation, different training pathways and health care systems, as well as clinician and patient preferences. The BRANZ provides data to analyse the effects of different practices, and the BQIP provides a framework to address differences to ensure all patients receive best practice care.

Burn care is centralised in Australia and New Zealand with 17 designated burn units providing specialist burn care. These centres manage nearly all cases of major burn injury, which allows the BRANZ to collect standardised population based data.

It is timely to reflect on the significant achievements of both the BRANZ and the BQIP in improving burn care and patient outcomes across Australia and New Zealand.

The Burn Registry of Australia & New Zealand

The BRANZ is a Clinical Quality Registry (CQR) managed by Monash University Department of Epidemiology and Preventive Medicine (DEPM), in accordance with the Australian Commission on Safety and Quality in Health Care *Operating principles and technical*

standards for Australian clinical quality registries. BRANZ collects data on all patients admitted with a burn injury to the identified 17 burn centres for more than 24 hours, or cases with a length of stay of less than 24 hours who either had a surgical procedure and was discharged, or succumbed to their injury.

As a CQR, the BRANZ collects specific clinical and service activity data as well as patient outcomes. This provides an opportunity to link care and processes with risk adjusted outcomes to help determine best practices. For example, BRANZ can improve understanding of the relationship between different surgical treatments and scarring outcomes associated with the use of new bioengineered skin substitutes..

Additionally, embedded into BRANZ are clinical quality indicators related to structure and processes which allow surveillance of burn unit performance and provide a quantitative basis to drive improvements in care and processes. The quality indicators are clinically relevant and evidenced based, and provide useful comparisons for benchmarking.

Hypermetabolism is a consequence of severe burn injury and the early provision of adequate nutrition is critical to quality burn management. The commencement of enteral nutrition within 24 hours is associated with a reduction in rates of paralytic ileus, attenuation of the catabolic response and prevention of malnutrition.The Quality Indicator is "**Was Enteral feeding commenced in less than 24 hours of admission for burns adults >20% Total Body Surface Area (TBSA) and children >10% TBSA.**" The data illustrates significant variation in practice between units, with compliance of different units with best practice varying between 35% and 100% of eligible patients. This is where BQIP comes in to provide a framework for burn units to improve performance.

The BQIP

The primary aims of the BQIP are to improve the quality of burn care and patient outcomes. BRANZ data is used by the BQIP to provide:

i **Risk adjusted Burn Centre Specific Quality Indicator reports:** each unit will be provided an annual report and by request, to benchmark individual performance against comparative bi-national QI data and yet to be developed Standards of Care.

ii **Analysis of variances in treatment and outcomes:** the BRANZ data will be analysed by the BQIP Research Fellow so that the impact of practice variations on outcomes can be distinguished.

iii **Standards of Care:** Standards of Care for the BRANZ Quality Indicators will be developed.

iv **Best Practice Guidelines:** best practice guidelines will be developed.

The BQIP provides burn units:

i. **Educational opportunities:** web conferencing will provide education on subjects such as the Quality Improvement cycle and change management to provide knowledge and skills to facilitate changes to improve care.

ii. **Audit tools:** With the assistance of the Joanna Briggs Institute, develop a suite of online audit tools for the QIs to assist in the identification of barriers which can then be acted on to improve performance.

iii. **An online learning community:** a secure web portal will be developed for BQIP to facilitate peer to peer learning where clinicians can ask questions of each other to crowdsource solutions.

iv. **Development of local BQIP champions:** BQIP champions in each of the 17 burn units will integrate the BQIP into local quality improvement programs.

v. **Showcase high performers and best practices:** Burn Units who perform well in relation to specific quality indicators will be invited to share their practices via interactive presentation at Scientific Meetings, forums, online education sessions and through publication. Similarly, Burn Units will be invited to share their local successes and challenges in using the Quality Indicator to drive improvements to care via the online classroom.

vi. **Project support:** assistance is available to units to analyse their data, navigate the Quality Improvement cycle and support through the change management process.

vii. **Address variance in practice:** The BRANZ & BQIP Steering Committee will lead discussions within the Australian & New Zealand burn community regarding the impact of data and develop recommendations for practice change.

Where are we now?

The last two years has been productive for the BRANZ and the BQIP. The Quality Indicators and data items have undergone a major review and are currently undergoing interpretation. Additional QIs have been added, including QIs related to infection control practices and the management of psychosocial needs. These changes will be reflected in the BRANZ by 2016. There are several publications currently in publication which examine long-term outcomes, outpatient presentations and the relationship between first aid practices and surgical requirements and hospital length of stay.

As BRANZ and BQIP continue to grow, resource implications are increasingly significant and need to be addressed to ensure the program's sustainable future. ANZBA has been exploring long term sustainable funding opportunities.

Once Standards of Care have been developed, it is anticipated that BQIP will be integrated into the future ANZBA verification program. Verification is the next step in the process of the BRANZ and the BQIP and will make burn units accountable for their performance and integrate BQIP into local processes to improve safety and quality. This program will also facilitate multicentre morbidity and mortality meetings.

Conclusion

Access to data is a powerful driver of healthcare quality improvement provided it is timely, reliable and meaningful, and presented in a manner that can be understood. Clinical quality registries such as BRANZ provide significant advantages of a coordinated, national, approach to tracking outcomes of care, especially for relatively small medical sub specialties such as burns.

ANZBA's highest priority is to promote the safest care and best outcomes for patients. The BRANZ and the BQIP are welcome and useful tools for ANZBA to achieve this.

Who gets burnt in Australia?

The fifth annual report from the Burn Registry of Australia and New Zealand was made publicly available via the ANZBA website (www.anzba.org.au) in June 2015. Data was presented for 2656 burns patients treated at 15 burn units over the 12-month period from 1st July 2013 to 30th June 2014.

In summary, 64% of cases overall were adults, with males accounting for 68% of all cases. Children aged 12 to 24 months accounted for 34% of paediatric cases (Figure 2) while 20 to 29 year olds accounted for 25% of adult cases (Figure 3). Flame (32%) and scald burns (38%) were the primary cause of burn injury for all age groups. Scald burns were the predominant cause for paediatric patients accounting for 56 % of all burns followed by contact burns (19%). For children 11 to 15 years of age and adults 16 to 79 years of age, flame burn was the predominant cause. In the over 80 year age group, scalding was the predominant cause of burn. Nearly all burns were considered unintentional (96%).

Data from the BRANZ is used by ANZBA as well as other key stakeholders to increase community awareness regarding the prevention of burn injury as well as influence changes to legislation and product design that can minimise the incidence of burn injury. BRANZ data has recently been used by the Australian Competition and Consumer Commission in the revision of their hot water bottle safety messages, the revision of the children's nightwear standards and the development of burn awareness information leaflets available via the ANZBA website.

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Reference: 1. Smith & Nephew. Broad–spectrum antimicrobial properties of nanocrystalline silver. Data on File; 2001: report: ACCL4010.

It Stays With You

Dr Simon Judkins

Extract from the book Emergency by Dr Simon Judkins, published by Michael Joseph, RRP $32.99. Available as an eBook.

It's the smell that you can never really get out of your head. It's the brutal insult to the human body and the trauma to the human psy- che, for the patients, the family and the staff. The combination of all these factors makes this horrible.

It's a combination of burnt flesh, burnt hair and singed clothing. It sticks with you.

When we get the call, I can smell that smell. Even before the patient arrives, I know what we're going to face. You never forget it if you have experienced it once. I can see the burnt flesh, smell it.

The crew are just around the corner. A thirty-year-old woman with 'burns everywhere'. The ambos just 'scooped and ran'. Unable to get a line in, they had given her a morphine injection and put her in the back of the ambulance. Lights and sirens all the way to the hospital.

We know what we have to prepare for. All the things we worry about in resuscitation, the ABCs (airway, breathing, circulation) will be problems here. All of these things will need to be dealt with simultaneously.

I speak with the team. We only have a few minutes, but I give them a briefing of what I expect.

'Airway is going to be a problem. Apparently she has facial burns and airway burns; the ambo crew have given us a heads- up. She is breathing, so they didn't want to make it worse. They haven't attempted an airway.

'We get one shot at an endotracheal intubation.' That's the 'normal' way we insert a breathing tube, through the mouth and into the trachea. 'If you can't see anything,' I say, turning to my senior registrar, 'we are going to cut the neck.' That's called a surgical airway, where we use a scalpel to cut through to the airway under the Adam's apple and put a tube directly into the trachea. He nods a lot quicker than I expected.

'Have you done this before?' I ask. 'Nope.'

'Let's hope you won't have to do it now, but it will be a difficult airway.' Quick nodding again.

'Ventilation will be a problem. Airway burns means an insult to the lungs. We will manage what we get.'

'Circulation,' I go on, 'we have no access. We apparently only have a few areas that aren't burnt. One look, then use the drill. We need intraosseous needles in both legs.' We use a drill to get an IV line straight into the shinbone and the bone marrow. We can use that for fluids and drugs.

Everyone knows his or her job, but still can't quite fathom what we will have to do.

I can smell the smell before I hear the ambulance sirens – my temporal lobe reminding me of last time. Crashing through the doors, the crew arrive with our patient. She is barely conscious and covered in burns from head to toe.

We move her across to our bed and get to work. The ambulance officer gives me a quick handover.

'Possible suicide. Might have taken an overdose and then set the house on fire. She was near a window, so the fireman got to her and pulled her out.'

'What have you guys done?'

'Couldn't do much. Brought her straight in. Some morphine. It's all we could do, her GCS is low.' A low Glasgow Coma Scale – she was barely conscious.

There could be a whole lot of reasons for that. Smoke inhalation, medications, trauma etc. We will need to work that out.

'OK team, let's go.'

We work on the ABCs simultaneously. There is a small area behind her legs, on her buttocks and back, that isn't burnt. She was probably lying on her back when the fire took hold. This gives us a picture of what we're dealing with: between 80 per cent and 90 per cent burns, meaning close to 100 per cent mortality. But we don't think about that at this stage. We do what we need to do.

We're unable to get an accurate blood pressure, as both arms are blistered. No oxygen monitor, as the hands are burnt.

'How is the airway?'

'Swollen, black, but she is still moving some air.'

'One needle into the left leg!' calls the procedure doc. 'IV fluids up. Ketamine going in.' Ketamine gives great pain relief and induces a coma-like state. It's a good drug in this case.

'Next IO (intraosseous) going in now.'

'Great. Airway?'

I look at the registrar and give him a quick nod. 'Give it one go,' I say. 'If not, a surgical airway.'

I look at the neck. As the senior doctor, I'll make the decisions and do the life-and-death stuff. Blistered and burnt, the neck looks uninviting. I hope we can get a tube in.

'Position the patient,' I order. 'You've got suction and a bougie?' 'Yep.'

'Rocuronium 150 mg please,' I call to the nurse, 'and another 200 of ketamine.' These are the drugs for a general anaesthetic.

'Remember,' I say, 'one look.'

Beads of sweat materialise on every forehead in the room.

The airway doc inserts the laryngoscope into the mouth and looks into the black hole. 'I can see bubbles.'

That's a good sign; bubbles coming up into the pharynx usually come from the lungs.

'Suction.'

'Pass the bougie.'

The bougie is slowly passed through the bubbles and behind the swollen epiglottis.

'I can feel the rings,' the airway doc calls. The cartilaginous rings of the trachea have a distinct feel as the bougie bumps past them. A sigh of relief ripples around the bay.

'Good. Pass him the tube.' I direct the nurse assisting.

The breathing tube is slid over the top of the bougie and into the airway. Frothy, bloody fluid comes up the tube.

'Oedema.' Fluid in the lungs, damaged by the hot, smoky air she has inhaled.

We set the ventilator to push oxygen into the burnt lungs. We give medications to sedate her heavily and paralyse her. Her airway is controlled. Her breathing and ventilation are stable, but still need some work.

The next focus is circulation. The lines are in; the fluids are running. Skin provides protection. It's a barrier to fluid loss. Without it, fluid seeps out. Think about a small burn you have had – the blister and the fluid. Think of that covering almost all of your body.

We need lots of IV fluids, so a line goes into the main blood vessels near the heart to help us manage this. A catheter is inserted into her bladder so we can monitor her fluids more accurately.

While a few of the team work on these issues, we pause and reassess. We look at the arms, the legs, the torso. All burnt. When skin burns, it swells, blisters and then contracts like a tight band around the limbs and chest. Full-thickness burns do this very quickly. As this progresses, the blood supply to the limbs cuts off, and the ability to ventilate worsens.

'OK guys, airway is secure, ventilation is still difficult, circulation . . . we are still in trouble. We need to do escharotmies.'

We need to loosen those bands that are causing the blood supply problems, the breathing problems. I turn to my senior registrar.

'No, haven't done it before.' He knows the question before I ask. 'Let's do this together.'

On each limb we cut through the burnt skin down to the tissue below: from the point of the shoulders down to the wrists, from the hip to the ankle. The tissue below bulges out of the incisions we make as if gasping for air.

We can see the perfusion to the fingers and toes improving as we perform this procedure.

Then we're on to the chest. We cut a large square over the chest to allow the lungs underneath to expand without the resistance of the burnt tissue surrounding them, which is stopping their expan- sion with each breath.

The improvement is immediate, but this just means we've moved from very, very bad to bad.

She is stable; we are stable. We cover her from head to toe in plastic wrap like artificial skin. It seems pretty basic, but it prevents fluid loss, heat loss and infection.

While we're doing all of this, we arrange for transfer to the area burns unit. If she is to have any hope of surviving, she needs specialist care.

We continue to do what we can while waiting for her transfer.

We've had time to think about how unbearable this is, but no one speaks about it. There is a time for that, and it's not while we are with the patient. Not while we are delivering care.

I do hear one of the nurses whisper under her breath, 'This is fucking awful.'

I look up from what I'm doing. I make eye contact with her – a reassuring nod. She knows we are in this together.

The retrieval team arrives. They gently move our patient from our equipment onto theirs. In thirty minutes, they have taken our patient and are on their way to the burns unit and intensive care.

We have done all that we can do. We've given her a chance. We've tried to alleviate her pain, but we cannot begin to fathom the pain she has been through.

We don't know her, what she has been through or how her life has come to this.

She did not survive. We all knew she wouldn't, but we did what we could do . . .

It will stay with me, but I'll put it away. I'll deal with the visual impact. I'll deal with the emotional insult. But the brutality of this will remain.

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The support for Unique Care Products from Australia itself has been overwhelming. Many Australian facilities continue to select Unique Care as their preferred supplier, it is that trust that has directly contributed to Unique Care's success.

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"Excellence is not a singular act, it's a habit. You are what you repeatedly do." - *Aristotle*

The 39th Annual Scientific Meeting (ASM) of the Australian and New Zealand Burn Association (ANZBA) will be held over four inspirational days in Melbourne from 20 – 23 October 2015. ANZBA is the peak body for health professionals responsible for the care of the burn injured in Australia and New Zealand. This international forum will connect over 300 burn care leaders and practitioners and provide a setting to meet, learn, share knowledge and experience, and recognise accomplishments in improving burn care.

The theme of this year's meeting ***"Quality burn care: The Art and the Science"*** has led to the development of an innovative program that explores many of the contemporary challenges and advances in burn care. We increasingly recognize the importance of the structures and systems within which we practice in influencing *how* we practice - what we do - and the outcomes of our treatments; and the Conference programme features keynote speakers who will showcase the best of thinking and practice in burn care, quality improvement and registry science. High quality burn care is quintessentially a team endeavour, and this conference will include the broad range of multidisciplinary sessions which the ANZBA membership has come to appreciate at our previous meetings. The scientific program will be complemented by high quality poster presentations and a trade exhibition promoting the latest in burns pharmaceuticals, medical, diagnostic and therapeutic equipment and developments.

We encourage you to make this significant event part of your professional development for 2015 and look forward to welcoming you to the ANZBA ASM in stunning Melbourne this October.

Russell Taylor
Director, Burn Unit, Royal Childrens Hospital

Heather Cleland
Director, Victorian Adult Burn Service
Past President, ANZBA

Invited Speakers

Dr John Greenwood
Dr Warren L. Garner
Dr James Jeng
Dr John McNeil
Margaret Banks
Professor Roy Kimble
Dr Andrea C. Issler-Fisher
Suzanne Rea
Stuart Marshall
Bill O'Shea
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Emergency Care in Papua New Guinea:

a Volunteer's Perspective

In 2014, *Dr Rob Mitchell* worked as an Australian volunteer funded by the Australian Government as part of the Australian Volunteers for International Development (AVID) program in Madang, Papua New Guinea.

It's eight o'clock in the morning, and the outdoor waiting area is already crowded. Most of the patients have arrived by public motor vehicle (PMV), but others have come by boat from nearby islands.

Many have been referred from remote aid posts and rural health clinics. Some have travelled for days, enduring discomfort as well as major expense. This is a place of last resort.

Several of the patients were here yesterday, but the Emergency Department (ED) and its associated outpatients clinic were too busy to see them. They've returned in the hope of a fleeting review by a nurse, health extension officer (HEO) or doctor. The sickest patients are allocated one of three emergency beds, but the rest must wait in the heat and humidity.

Staff members are few in number, and in constant demand. They are incredibly resilient though, and remain cheerful despite the challenging work.

Inside the ED though, things are more desperate. The burden of disease in Papua New Guinea is on display each and every day here, and this morning is no different.

Trauma

The man in bed one is crying out in pain. A nurse has been dispatched to the pharmacy to fetch some morphine, but it's not yet open. With luck, the drug will be in stock this week.

Jack* has been lying in the bed since the early hours of the morning. He was involved in a PMV accident on the road to the Highlands, and was transferred to the hospital in the tray of a passing 4WD. The bruise on his abdomen doesn't do his pain justice.

On arrival, Jack was semi-conscious with critically low blood pressure. He's awake now because he's been transfused with a few units of whole blood; it took several hours to source, but the impact was swift. His family members have since been called upon to donate and replenish the hospital's limited stocks.

Jack has been attended by the on-call emergency doctor, who was summoned by the nurse on night duty. A donated ultrasound scanner has been used to identify his internal injuries. There is a lot of blood around his spleen, and the doctor suspects it's been lacerated. Thankfully the scanner was working today; it's become increasingly temperamental with advanced age.

Ideally Jack would have already gone to the operating theatre, but summoning staff overnight is a challenge. The hospital bus has to collect them from their homes, and it's a slow process. In any case, the OT can only handle dire emergencies at the moment. The steriliser is broken, and stocks of clean instruments are dwindling.

Fortunately for all concerned, Jack's blood pressure has stabilised. He's in considerable pain, but given his earlier state, any sensation is a blessing. Despite the severity of his injuries, things are looking up. He's made it this far, and before long he should be in the relative sanctuary of the surgical ward.

Communicable Disease

Steven*, in bed two, is confused and agitated. He's throwing his arms around violently, and has just pulled out the intravenous cannula from the front of his elbow. There is blood dripping on the floor from the exposed puncture site.

Having collapsed in town, Steven was brought to the ED by his friends. They've explained that he's been experiencing hot and cold sweats for two days but was reluctant to attend the hospital because of the fee.

Steven's just been administered an old-fashioned but reliable sedative medication - for his own safety and for that of the staff. While the drug slowly takes effect, his friends and family persist with efforts to talk him down.

As Steven starts to settle, the nurse yells from the corner of the room that his malaria test is positive. An anti-malarial medication is quickly prepared and injected into his buttock. A new intravenous cannula is inserted, and a fluid drip is connected. He's also given some antibiotics in case another type of cerebral infection is contributing to his confusion. Meningitis is common in these parts.

Steven falls asleep, but he will need to be observed closely. Conventional monitoring equipment isn't available, so his family must assist by keeping watch.

Obstetric Complications

The young woman in bed three, Helen*, has just died. The delivery of her fourth baby, two weeks ago, was complicated by bleeding and infection. She had been increasingly unwell ever since.

Helen had been identified as being critically ill upon her arrival at the ED. She had signs of severe infection, a drastically low haemoglobin level. In order to compensate, her heart was working at the extreme range of its capacity.

Despite being administered intravenous fluid and antibiotics, she succumbed a short while later. Efforts had been made to resuscitate her with the limited equipment available, but Helen was so unwell that the prospects of recovery were probably hopeless from the outset.

Despite her poor prognosis, the staff agree they did the right thing by employing all available treatments and interventions – this was an acute illness, and she was young. Besides, there might have been some psychological value in her family witnessing the team's resuscitation efforts.

Helen's family are sitting devastated in the corner, occasionally wailing in despair. Much of their grief is for Helen's two-week old daughter, whose own survival has instantaneously come under threat.

Emergency Care in PNG

The ED staff at Madang's Modilon Hospital are all too familiar with cases such as these. Most patients eventually find their way to the ward, but the critically ill often die in the Emergency Department. Some patients are so sick when they arrive that there is limited scope to turn their illness around.

In many respects, it is not an environment conducive to healing – the sights, sounds and smells of the place can be overwhelming – but the ED offers what many other centres cannot: basic investigations, essential medications and access to an in-patient bed if required. →

→ PNG faces significant challenges in addressing health care, with statistics including a life expectancy of 60 for males (65 for females) and an infant mortality rate of 47 per 1000[1]. Major challenges include drug-resistant tuberculosis, a rising burden of non-communicable diseases and high rates of trauma, including family and sexual violence[2]. The maternal mortality ratio is at least 30 times greater than that of Australia[3].

Emergency care has an important role to play in addressing these challenges. There is strong evidence that early medical intervention can be lifesaving in a large number of conditions, such as severe infections, heart attacks and major trauma. In fact, many of the leading causes of death in PNG, as with many low and middle-income countries, are amenable to treatment with simple and affordable interventions. For children, this includes pneumonia, diarrhoea and malaria.

Barriers to Access

One of the challenges for the delivery of emergency and other healthcare in PNG is access. Remoteness is a major issue, with vast amounts of land only accessible by foot. Roads are in poor condition and carry their own risks – pot holes, river crossings and roadblocks among them.

Although some communities have access to basic primary care services, this is not universally the case. It's estimated that there are only 0.58 health workers for every 1000 people, a figure well short of international benchmarks[4]. The World Health Organization recommends at least 2.5 per 1000 simply to deliver basic community level care.

Rural aid posts (staffed by community health workers and/or nurses) and health centres (staffed by nurses and/or HEOs) are scattered around the country, but often lack basic infrastructure and essential equipment. Nearly 25% are non-operational.[5]

Although the National Government has introduced a policy of free primary healthcare, it is still being rolled out across the country. The costs involved in accessing hospital-based services are a major deterrent for some patients.

Cultural practices also impact on access to healthcare. In certain regions, strong beliefs in sorcery and witchcraft can delay presentations to health facilities. When symptoms are attributed to a curse, it is not uncommon for patients to consult a witch doctor rather than a health worker.

Although the patients may not realise it, those who reach the ED here are in the fortunate minority. It is evident that the demand for timely emergency care extends well beyond the hospital.

Future prospects

Slowly, modest gains are occurring in the availability of emergency care in PNG. HEOs graduating from university have all undertaken a term in emergency medicine, and are better equipped to deal with acute cases in rural health centres. The country now has ten specialist emergency medicine physicians, and the provision of continuing medical education is improving. The ED at Port Moresby General Hospital has recently been redeveloped, and there are plans for similar enhancements in selected other hospitals.

Some of these improvements have been achieved through partnerships with Australian clinicians and organisations. Through the exchange of ideas, knowledge and skills, emergency care professionals in both PNG and Australia have much to offer one another. Despite social, cultural and economic differences, cross-border collaborations and projects will help realise better health outcomes for citizens of both countries.

The greatest asset PNG's health system has is its staff, and if sufficient resources are provided, they will continue to drive the necessary reforms. The stories of Jack, Steven and Helen are representative of the thousands of patients they treat in clinics and EDs across PNG each and every day.

Epilogue

Jack was managed without an operation for his internal injuries because his condition stabilised. He spent a week in hospital until he was well enough to be discharged to the care of family members.

Steven, the young man afflicted with cerebral malaria, left hospital after three days. His conscious state improved quickly, and his fevers settled with anti-malarial medication. Given that cerebral malaria kills more than 15% of its victims, Steven's outcome was excellent.

Unfortunately Helen's case is illustrative of the major challenges in maternal care. With easier access to healthcare, her life may have been saved. Her sister has promised to care for her newborn boy and his siblings.

Despite the sadness of cases like Helen's, I thoroughly enjoyed my assignment in PNG and look forward to developing a long-term relationship with Modilon Hospital and the emergency medicine fraternity. It was a privilege to be welcomed so warmly into the Madang community, and I feel I gained far more than I was able to contribute. Volunteering with Australian Volunteers International was a wonderful experience, and I would encourage other health professionals to consider an Australian Volunteers for International Development (AVID) assignment. The rewards far outweigh the challenges.

**Pseudonyms have been used throughout this piece, and certain details adjusted to protect the privacy of patients and staff.*

Dr Rob Mitchell

Dr Rob Mitchell **(@robdmitchell)** is an Emergency Medicine Registrar at the Royal Brisbane and Women's Hospital with interests in global health and medical education. As a Visiting Clinical Lecturer in Emergency Medicine at Divine Word University, he taught and supervised HEO students undertaking clinical placements at Modilon Hospital's ED. The position is part of an ongoing partnership between Divine Word University and the Australasian College for Emergency Medicine, which aims to improve the delivery of emergency care in rural PNG. A similar relationship has recently been established with the Royal Australian and New Zealand College of Obstetricians and Gynaecologists. The Australian Volunteers for International Development (AVID) program is an Australian Government initiative. Australian Volunteers International is one of three partners who deliver for the AVID program. AVI regularly seeks positions for a wide range of assignments, including allied health, organisational management and medical positions. Volunteers are provided with airfares, accommodation and modest living allowances, together with extensive briefing and support. Airfares, accommodation, modest living allowances and extensive briefing and support are provided.

Learn more at **dfat.gov.au/australianvolunteers**

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"In the near future, it may be more efficient to perform molecular analysis on each rare cancer at the time of first diagnosis, in order for the best molecular match to guide a management plan."

21st Century Technology and Rare Cancers:

a Disconnect or a Ripple of Hope?

While there have been significant recent improvements seen for many patients with common cancer types, this has not been observed for the majority of patients with a rare cancer diagnosis. For the thousands of Australians diagnosed with a rare cancer each year, many will experience delays and frustrations in receiving a diagnosis and a management plan. *Professor Clare Scott* writes on the rare cancer challenge.

Of the 43,000 Australians who die each year of cancer, around 14,000 die of a rare cancer, defined by the RARECARE group as a cancer type with an incidence rate of < 6/100,000 general population incidence[1]. The majority of patients will not receive evidence-based care or treatment targeted to their specific cancer type. Very few will be eligible for PBS-funded 21st century targeted cancer treatments. Most tragically, the average age of those diagnosed with a rare cancer is younger, and perhaps not surprisingly, they are more likely to die of their cancer, than are those with a common cancer, with a devastating impact on their families and our community.

At the same time, the proportion of patients who are being diagnosed with a cancer that is classified as being rare is increasing, in part due to the realisation that even common cancers may in fact fall into the rare category once they are classified according to specific molecular changes.

What have we achieved?

Two categories of rare malignancy, childhood cancers and haematologic malignancies, have been associated with notable improvements over the last three decades and serve as a guide as to how we may improve the outcome for rare cancers in general. The care of children with cancer is based on decades of highly organised and centralised clinical research that has focused on optimising dose, scheduling and combinations of conventional chemotherapeutics and supportive care. For haematologic malignancies, easy and safe access to malignant cells for analysis by flow cytometry has facilitated basic science research, allowing a greater understanding of their biology and hence how they may be treated. Despite accounting for only 10% of cancer burden and deaths, haematologic malignancies have received one third of PBS cancer expenditure,[2] reflecting the successful implementation of effective treatments arising from research, both basic and clinical.

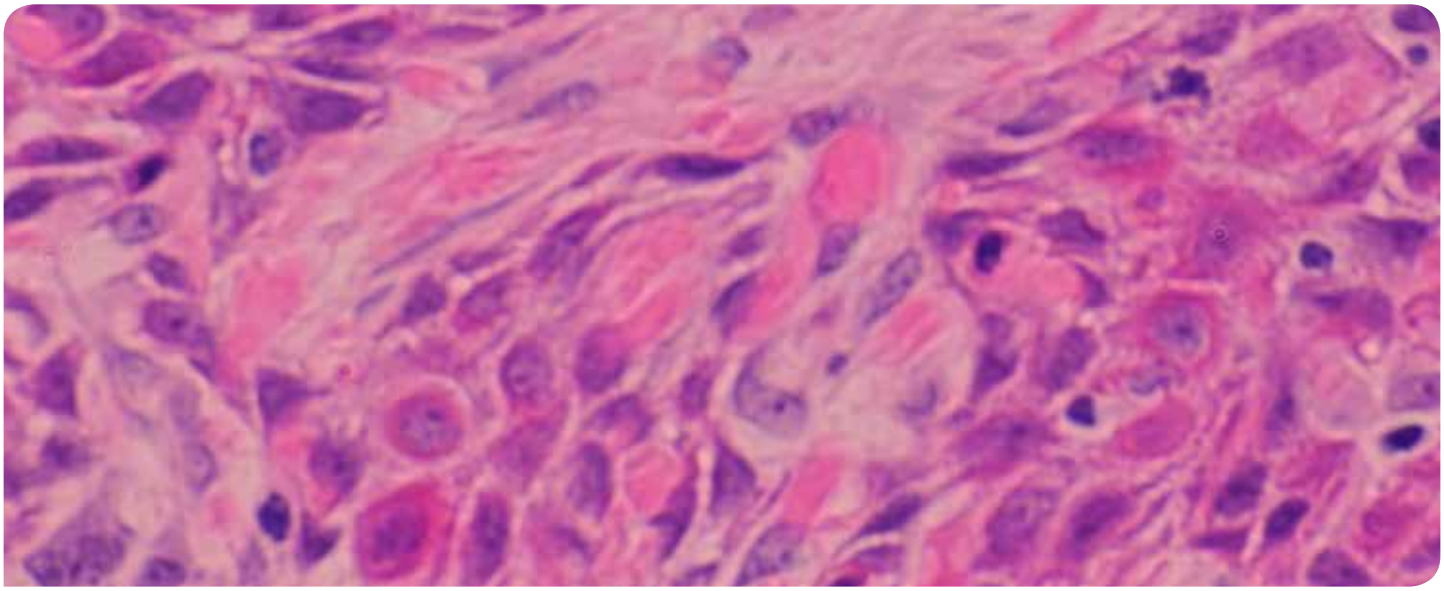
The application of 21st century genomics technologies

The extraordinary potential of next generation sequencing (NGS) technology makes it possible for rare cancer types to be divided into molecular 'subsets' for more accurate study, rather than the current system based on histology and organ of origin. This may, paradoxically, reduce the ~200 rare cancer subtypes identified by RARECARE[1], to a more manageable number of 'molecular' groupings, providing some context as to prognosis and treatment direction for those patients for whom we currently have little in the way of evidence-based guidance. Many common cancers types may also become 'rare' by molecular association, as has been described above for molecular subsets of melanoma and lung cancer.

NGS technology allows analysis of DNA sequence; RNA expression; as well as regulation by the epigenome, microRNAs and other phenomena and will transform the way we think of rare cancers. NGS platforms are under local development for clinical analysis of tumour tissue and also have the potential to provide analysis of a liquid biopsy from the peripheral blood of circulating tumor DNA[3,4] and for less expensive analysis of tumour-derivatives (methylated DNA).[4,5] Utilising these molecular approaches, diagnosis will no longer be pigeon-holed in an organ or histologic subtype, but better 'matched' to molecularly similar tumour types, with direct therapeutic relevance. Just as studying a rare cancer, such as *BRCA1/2*-associated high-grade serous ovarian cancer (HGSC) can have relevance for related yet BRCA1/2 WT HGSC,[5,7] matching rare cancers to common cancers may allow their management path to be deduced by association. Context specific tailoring will likely be required, as BRAF mutations require different therapeutic approaches in colorectal cancer compared with melanoma.

However, plausible hypotheses may provide treatment options for patients who have no 'standard of care'. An innovative approach, involving molecular analysis of cancer of unknown primary or CUP, is underway.[186771011] Indeed, many rare cancers could be seen as 'cancers of unknown molecular primary' (CUMP) and might be matched accordingly using NGS platforms. Most importantly, as by definition a rare cancer has arisen, often at a relatively young age, in a cell type of origin which does not commonly transform into a cancer, the likelihood of detecting a strong genetic driver in the tumour may be more likely than for a common cancer.

In the near future, it may be more efficient to perform molecular analysis on each rare cancer at the time of first diagnosis, in order for the best molecular match to guide a management plan. Likely →



→ prognosis and the most appropriate management and treatment may be better estimated than from our current anatomical and histological characterisation. While at present, molecular analysis of rare cancers is not funded, it is logical to think that within a relatively short number of years, that will become the priority, as it will become less acceptable to treat people based on histology and imaging alone. True evidence-based guidelines for each rare cancer type will take longer, however, as information from molecular profiling, leading to hypothesis-generated choice of treatment, will need to occur within research studies. Even these data will not reach the stringent requirements for regulatory approvals and funding decisions, heralding ongoing challenges for some time to come.

Clinical trials for rare cancer patients

Designing clinical trials for small numbers of patients is challenging. Approaches for studies limited by small patient numbers have been described, using Bayesian methods, optimising external controls, robust biomarker incorporation and adaptive designs e.g. 'basket trials'.[197881112] International endeavours will be essential, such as the International Rare Cancer Initiative (http://www.irci.info/);[8] international clinical trial groups such as the Gynaecologic Cancer Intergroup, who have recently published consensus statements on the management of 20 rare gynaecologic cancers;[9] and at a more basic research level, the Cancer Genome Atlas rare cancer projects **(http://cancergenome.nih.gov/cancersselected/RareTumorCharacterizationProjects).**

National Co-ordination and Streamlining of Rare Cancer Management

Increased national coordination is required due to the rare nature of these diseases, as by definition it will be difficult to accumulate sufficient cases for statistically meaningful studies to be done without this. The aim of any such endeavours should be focused in several ways: i)to facilitate more accurate diagnosis, including molecular analysis, allowing focus on distinct rare cancer subsets; ii)review of novel tumour testing in a multidisciplinary team meeting, such as a Molecular Tumour Board, with a range of experts present; iii) participation in small, focused clinical trials and/or streamlining of management protocols with international collaboration; and iv) national and international data capture of patient management and outcomes.

In this era of significant genomic changes ahead of us, it is of great importance to involve Australian patients and their families, as all too often they feel they have to fight to find support and management options in our current system. Together, we can be more strategic, designing and harnessing new approaches, including innovative ways of accessing new treatments. The common themes recurring throughout are of the need for centralised coordination of management and research of rare cancer patients and of the potential utility of detailed molecular analysis. One approach to this has been to develop a website that allows individual rare cancer patients or their approved proxy to enter clinical data into a database. Details are available at CART-WHEEL.org and this program enables the community to work with researchers as a partnership.[10] Additionally, support for consumers, patients and their families is provided by Rare Cancers Australia, a charity whose purpose is to improve awareness, support and treatment of Australians with rare and less common cancers **http://www.rarecancers.org.au/.**

Indeed, Rare Cancers Australia have highlighted the current disconnect between patients with rare cancers and access to PBS-funded therapies targeted directly to a person's cancer[11]. The advent of cancer care guided by novel tumour testing could be transformed with appropriate streamlining of infrastructure, a focus on rare cancer basic research and an overhaul of the regulatory and funding environment. The current disconnect between 21st century technology and rare cancer care could instead be transformed into a ripple of hope, for Australians with rare cancers who currently have very few treatment options.

Professor Clare Scott was recently Guest Editor for a forum on rare cancers in the open access journal *Cancer Forum* (**www.cancerforum.org.au**). She is a Medical Oncologist at the Royal Melbourne Hospital and a researcher with the Walter and Eliza Hall Institute of Medical Research, Parkville, Victoria.

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Clinical trials of Cancer Therapy in private medical practice in Australia

Participation in clinical trials of new and evolving cancer therapies is an accepted part of the provision of quality cancer care. They form the basis of logical clinical progress and provide the signs of benefit, the warnings of side effects and the proof of utility required to establish the role of new therapies into funded clinical practice. They provide a measure of the quality of practice and are the basis for professional advice to government for the funding of new therapies under the Pharmaceutical Benefits Scheme. Provision of clinical trials at Phase 2 and Phase 3 levels provides early access for patients to new and promising therapies in a controlled and safe environment where the benefits and side effects can be closely monitored and documented. They provide protection for patients against the provision of treatments outside the limits of reasonable practice. Clinical trials are therefore an essential component of any integrated cancer service, public or private, in Australia.

Participation in relevant clinical trials is generally taken as a sign of quality medical practice. It provides a template for documentation and self-reflection around treatment approaches and encourages clinicians to review their own practices. It is highly rated by the professional colleges when assessing continuous medical improvement programs. On that basis, cancer services in the private sector have increasingly committed to clinical trial participation. Our own clinical group commenced clinical trial participation in 1989, facilitated by the creation of a not-for-profit entity, The Wesley Clinic Research Centre, which became an active participant particularly in trials overseen by the forerunner of today's Australasian Leukaemia and Lymphoma Group. It has subsequently changed through the Haematology and Oncology Clinics of Australasia (HOCA) Research Centre into today's Icon Cancer Foundation which oversees clinical trials in Icon Cancer Care's five day oncology centres in Queensland. Three of those centres exist in the context of comprehensive cancer care services within private teaching hospitals, and two centres exist within comprehensive day care services. The breadth of care offered by these services allows an extensive clinical trial portfolio which forms the backbone of the work of the Foundation.

The formation of The Private Cancer Physicians of Australia Group in 2006 provided the opportunity to work with other clinical groups around the country to promote clinical trial participation. Now most clinical groups practising in the private sector are involved in some form of clinical trial participation with models varying between institutional not-for-profit foundations as I have described, through for-profit clinical entities or smaller discrete programs attached to clinical practices. While the nature of the funding determines to some extent the trial profile of each group, the basic vision is shared amongst all participants to improve access to new medical therapy and to ensure that the quality of oncology practice. Icon Cancer Foundation has been a very significant contributor to trials proving the efficacy of anti-HER2 therapy in breast cancer, the development of new lymphoma and myeloma therapies and the introduction of innovative immunological therapies in diseases such as melanoma. Our fund raising efforts and the efforts of collaborating small disease-specific foundations has allowed support of and involvement in clinical trials of rare diseases such as sarcoma in adolescents and young adults.

There are important challenges in clinical trial participation across all sectors. Those challenges are drawn into sharper focus in a private practice setting where funding is often initiated by individual clinicians and the supporters of individual clinics. The increasing levels of process that are well documented in clinical trials throughout the western world have led to increasing costs and diminishing margins. These changes are challenging to small foundations. A recent review at The American Society of Clinical Oncology in June 2015 highlighted the increasing challenges in terms of time and cost to physicians and clinical trial coordinators of trials in cancer therapy. While many of these costs reflect the compliance cost imposed by regulatory authorities, individual management styles across different organisations can lead to unnecessary delays in the implementation of new protocols and a loss of investigator enthusiasm. In some major recent clinical trials, simple protocol amendments have had a documented cost of over US$500,000 that have taken a mean of more than 60 days to implement.

Of particular concern across the western world has been a lack of commitment on the part of health insurers to the importance of clinical trial participation. There have been examples in the United States and Australia of health funds failing to provide the costs of the usual patient care component of patients who are on clinical trials. It is critical that health insurers understand the importance of clinical trial participation and agree to the usual costs of clinical care for patients who are receiving innovative therapies in a trial environment. The United States 'Affordable Care Act' now mandates health insurance companies cover routine costs associated with approved clinical trials. This innovation is justifiably regarded as an important advance towards universal access of high quality cancer care in the United States. Such legislation is urgently required in Australia to clarify the specific responsibilities of health care payers and clinical trial groups.

Participation in clinical trials in the private sector has been an exciting development over the last 20 years. There will always be challenges but the successes have defined the standard of care across the country and guided Federal Government funding in many clinical settings. Equally, we have been involved in many investigator initiated trials that have led to similar advances in less common diseases such as chronic myeloid leukaemia, rarer lymphomas, germ cell tumours and adolescent and young adult sarcomas. These trials are often the result of collaboration between individual practices, national clinical trials groups, hospital research foundations and consumer led patient support foundations. The private sector has an important part to play in these collaborations, and Icon Cancer Foundation has been successful at building those collaborations for the benefit of patient care. I believe this participation is an essential component of 21st century cancer care. Only with buy-in from clinicians, hospitals, health insurers, government and patients can we ensure that the innovative but expensive new therapies can be introduced in a way that justifies their cost, both to our patients and to the community.

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» Article written by **Dr John Bashford FRACP FRCPA : Board Chair, Icon Cancer Foundation**. Wesley Medical Centre, Brisbane, Queensland.

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Immunotherapy:

QIMR Berghofer's T-Cell Therapies in Clinical Trials

Promising new immune therapies for cancer treatment have moved a step closer following major advances at the QIMR Berghofer Medical Research Institute. The therapy against virus-associated cancers has been developed in the laboratory of QIMR Berghofer's renowned tumour immunologist, *Professor Rajiv Khanna*, who explains the relevance of this research.

The Brisbane-based Institute has obtained the first approval in Australia to produce clinical grade experimental T-cell therapies, opening the way for new clinical trials.

Our technique involves taking a patient's T-cells from a blood sample, modifying and effectively training them to attack the virus, and then returning them to the patient's body.

When the 'killer' T-cells destroy the virus, they also destroy the cancer.

Preliminary trials have shown the therapy is safe, has no major side effects and can be effective against tumours including the aggressive brain cancer, glioblastoma multiforme (GBM).

The Therapeutics Goods Administration (TGA) approval enables us to initiate new advanced clinical trials designed to assess the efficacy of T-cell therapies.

QIMR Berghofer's clinical manufacturing facility, Q-Gen, will prepare novel immunotherapeutics including T-cell therapies for patients with cancers such as GBM and nasopharyngeal carcinoma (NPC).

QIMR Berghofer is focused on producing research with outcomes beyond the laboratory, and this is an excellent example of our efforts to get laboratory discoveries through clinical trials and to the hospital bedside. →

→ Q-Gen has a strong commercial track record and continues to work with industry in the manufacture of therapies to Good Manufacturing Practice (GMP) standards.

Immunotherapy is a rapidly emerging research area in the oncology divisions of major international pharmaceutical industries and academic centres of cancer medicine.

The QIMR Berghofer Centre for Immunotherapy and Vaccine Development includes more than 200 staff and students across 14 laboratories, focused on mobilising the immune system to fight cancer and autoimmune diseases.

Clinical trial for brain cancer patients

In Phase I clinical trial of the T-cell therapy in patients with recurrent GBM, most participants lived much longer than the six-month prognosis normally given, and some showed no signs of disease progression.

Survival rates for this aggressive cancer have barely changed in decades.

There is an urgent clinical need for new treatments and if this treatment can buy patients more time, then that is a big step forward.

GBM is the most common malignant brain cancer, diagnosed in about 800 Australians every year. Despite surgery, radiotherapy and chemotherapy, less than 10% of patients survive beyond five years.

The research team is now keen to begin the next phase of trials, involving patients at an earlier stage of the cancer's development.

The Phase I trial was conducted in collaboration with Dr David Walker at Brisbane's Wesley Hospital and built on previous research which found that many brain tumours carry cytomegalovirus (CMV).

Effective against NPC

We have also successfully used similar technology to target nasopharyngeal carcinoma (NPC) – an aggressive throat cancer prevalent in South East Asia. The common herpes virus, Epstein-Barr virus (EBV), is present in the NPC cells and provides the immunotherapy target.

In a Phase I clinical trial for NPC, overall survival rates for immunotherapy patients was 523 days, compared to only 220 days in patients who did not receive the treatment.

This Phase I clinical trial was conducted in collaboration with the Queen Mary Hospital in Hong Kong and the University of Hong Kong (UHK) Li Ka Shing Faculty of Medicine.

Patients who participated in the trial were in the late stages of the cancer and quite unwell, so it was important to ensure the treatment was non-invasive, non toxic and did not damage healthy cells.

By offering this treatment in the earlier stages of NPC, accompanied with chemotherapy and radiation, we are confident we can further enhance survival rates.

Phase II trials, involving the standard chemotherapy regimen combined with immunotherapy, are about to begin in Brisbane and Hong Kong.
NPC is common among people in China, Indonesia, Thailand, Philippines, Vietnam, Singapore and many other countries in the South-East Asia region.

Pioneering immunotherapy

QIMR Berghofer is also collaborating with various clinical centres in Australia to develop adoptive immunotherapy for Hodgkin's lymphoma and other B-cell lymphomas which are associated with EBV.

QIMR Berghofer's immunotherapy program is funded under a major Flagship Research Program on Cancer Immunotherapy which is supported through the Rio Tinto Ride to Conquer Cancer.

Under this program, the Institute's researchers are also developing a special immunotherapy bank which will be able to provide off-the-shelf cellular therapies for cancer patients.

QIMR Berghofer is focussed on producing research with outcomes beyond the laboratory, and this is an excellent example of our efforts to get laboratory discoveries through clinical trials and to the hospital bedside.

The Institute is located in Brisbane's key medical precinct at Herston.

QIMR Berghofer's facilities for GMP manufacture of cell-based and molecular therapies are also available for hospitals, organisations and other external clients requiring a controlled environment for manufacture and research.

Co-located within the Institute is the commercial Phase I/II clinical trials facility, Q-Pharm Pty Ltd, allowing QIMR Berghofer scientists and external clients the extended and unique capability for taking research findings from the laboratory to hospitals and clinics.

Professor Rajiv Khanna

Professor Rajiv Khanna is the Head of the Tumour Immunology Laboratory and the Coordinator of Centre for Immunotherapy and Vaccine Development at QIMR Berghofer Medical Research Institute. He is a Senior Principal Research Fellow with the National Health and Medical Research Council (NHMRC). Professor Khanna has authored many significant research publications, with a particular focus on exploiting viral infection as therapeutic target for disease and the development of vaccines. He completed his PhD in India in 1989 and is currently the Chief Investigator on two major NHMRC-funded projects.

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Rare Cancers: Common Goals

The Clinical Oncology Society of Australia's 42nd Annual Scientific Meeting

A rare cancer is defined as a cancer type found in less than 6 per 100,000 Australians per year, and less common cancers found in between 6 and 12 per 100,000. Almost 125,000 cases of cancer are diagnosed in Australia each year, and 42,000 Australians diagnosed with a rare or less common cancer, making up about 30% of all diagnoses in a year (sounding less rare and more common).

Recently there have been significant improvements for many patients with common cancers (such as breast and prostate); however this is not the case for the majority of patients with a rare cancer diagnosis.

The Clinical Oncology Society of Australia (COSA) is the peak national body representing health professionals from all disciplines whose work involves the care of cancer patients. COSA recently established a Rare Cancers Group, and appointed Associate Professor Clare Scott, Medical Oncologist at the Royal Melbourne Hospital and Laboratory Head at the Walter and Eliza Hall Institute of Medical Research, as the inaugural chair.

Professor Scott is an active campaigner for rare cancers in Australia and internationally. She is the founding Chair of the International Rare Cancers Initiative Australia, which was formed to build a cohesive network and promote a national approach to the diagnosis, classification and development of best practice guidelines for rare cancers. Recognising that the numbers are small for each cancer type, it becomes critical to ensure we are building new knowledge and providing the best treatment possible to all Australians with a rare cancer.

The COSA Annual Scientific Meeting (ASM) is considered the premier gathering of cancer health professionals in the region each year. The conference welcomes all health professionals working in cancer care and control including clinicians and researchers, medical and radiation oncologists, cancer surgeons, nurses, pharmacists and other allied health workers.

With the theme of "Rare cancers: Common goals" COSA's 42nd ASM program will focus on rare cancers. This is a new theme for COSA and a growing area of concern placing increased strains on our health care system.

With eight international experts and over 50 Australian specialist speakers confirmed, the program is sure to include something of interest to everyone working in cancer. Part of COSA's strength is its multidisciplinary membership and this is reflected in every session. The opening plenary will set the scene to define what rare cancers are, how we classify them, how we diagnose and treat them, and how patients cope with them. Speakers include a world renowned pathologist from Italy Angelo Paolo Dei Tos, the author of the text book on rare cancers Derek Raghavan from North Carolina USA, the head of the Office of Population Health Genomics at WA Health Hugh Dawkins, and David Kissane an academic psychiatrist, psycho-oncology researcher and palliative care physician who recently returned to Australia to take up a position at Monash University and Monash Medical Centre.

Associate Professor Clare Scott
Chair, COSA Rare Cancers Group

Dr Allison Black
2015 COSA ASM Co-convenor (left)

Dr Louise Nott
2015 COSA ASM Co-convenor (right)

The second plenary features a talk on three common rare cancers – sarcoma, neuroendocrine tumours and rare melanoma, followed by a concurrent session on each which will investigate each disease in more detail. As well as hearing from various health professional experts, the sarcoma and NETs sessions will also include talks from patients.

On behalf of the COSA ASM Organising Committee and the co-convenors, Drs Louise Nott and Allison Black, Medical Oncologists at Royal Hobart Hospital, and the COSA Board and Advisory Council we look forward to seeing you in Hobart.

Clinical Oncology Society of Australia

»
For more information please visit **www.cosa2015.org**
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Clinical Oncology Society of Australia

COSA's 42nd Annual Scientific Meeting

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RARE CANCERS: COMMON GOALS

CONFIRMED INTERNATIONAL SPEAKERS

(as at 31 July 2015)

Professor Andreas Adam
Interventional Radiologist
University of London | Clinical Director, Department of Radiology | St. Thomas' Hospital, UK

Dr Angelo Paolo Dei Tos
Director of Oncology
Director of Anatomic Pathology General Hospital of Treviso, Italy

Dr Leeka Kheifets
Epidemiologist
UCLA Fielding School of Public Health, USA

Professor Brian O'Sullivan
Radiation Oncologist
University of Toronto, Canada

Professor Poulam Patel
Head of Division of Cancer and Stem Cells
School of Medicine| University of Nottingham, UK

Dr Derek Raghavan
President of the Levine Cancer Institute
Charlotte, North Carolina, USA

Dr Heather Cunliffe
Senior Lecturer in the Department of Pathology
University of Otago NZ

PROGRAM HIGHLIGHTS

The Local Organising Committee has taken a very creative approach to their interpretation of the rare cancers theme to include sessions on:

- Common rare cancers such as ocular melanoma, NETs and sarcoma
- Truly rare cancers such as merkel cell carcinoma, PHAEOs, thyroid and small cell cancer of the ovary.
- Rare cancer sub types including inflammatory breast cancer, ALK lung cancer and BRAF colorectal cancer
- Rare presentations of common cancers such as breast cancer during pregnancy
- Genetics and the reclassification of cancer – are all cancers rare?
- Supporting rare cancer patients
- Equalising outcomes by reducing inequities
- Brain Teasers – Cerebral Metastasis and the MDT
- Alternative trial designs in rare cancers – the statistics of small numbers

Visit the conference website for program information and registration:
www.cosa2015.org

The Big Deal About Biologics

The United States is attempting to expand monopolies on medicines in the Trans Pacific Partnership. *Deborah Gleeson* and *Ruth Lopert* explain why Australia must stand firm.

Talks intended to finalise the Trans Pacific Partnership (TPP) Agreement wound up in Hawaii at the end of July without reaching a final deal. Over the last five years, 12 countries – Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam – have been involved in negotiations over the agreement which will cover trade and investment for 40% of the global economy.

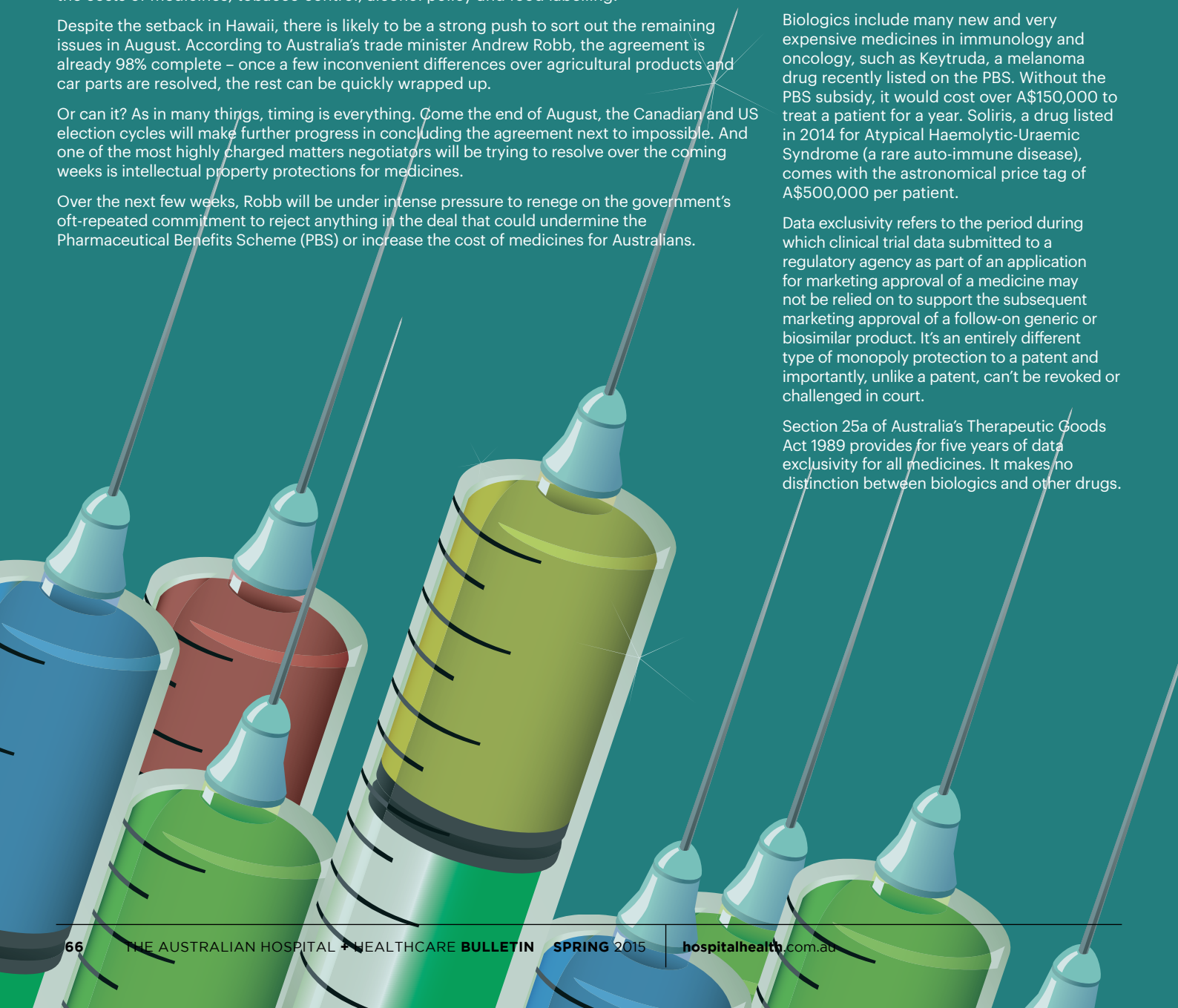
This is not the first time the conclusion of the agreement has been delayed - the TPP negotiations have already missed several deadlines, including those set for 2012 and 2013.

But delays are hardly surprising given the span of controversial and politically sensitive issues involved. The agreement is not just about trade liberalisation and tariff elimination, but strays into many other critical policy areas – many of which directly or indirectly affect health. A health impact assessment of the TPP conducted by a group of Australian academics and non-government organisations found the potential for negative effects on the costs of medicines, tobacco control, alcohol policy and food labelling.

Despite the setback in Hawaii, there is likely to be a strong push to sort out the remaining issues in August. According to Australia's trade minister Andrew Robb, the agreement is already 98% complete – once a few inconvenient differences over agricultural products and car parts are resolved, the rest can be quickly wrapped up.

Or can it? As in many things, timing is everything. Come the end of August, the Canadian and US election cycles will make further progress in concluding the agreement next to impossible. And one of the most highly charged matters negotiators will be trying to resolve over the coming weeks is intellectual property protections for medicines.

Over the next few weeks, Robb will be under intense pressure to renege on the government's oft-repeated commitment to reject anything in the deal that could undermine the Pharmaceutical Benefits Scheme (PBS) or increase the cost of medicines for Australians.



Throughout the negotiations, the US has sought to extend and expand intellectual property protections for medicines in a variety of ways. These include (among others) expanding the scope of patentability to include new forms and new methods of using existing products, extending the term of patents beyond 20 years, and preventing regulatory agencies from aproving generics where there is a patent on the original product. The US push has been so aggressive Mèdecins sans Frontiéres has warned that: "Unless damaging provisions are removed before negotiations are finalised, the TPP agreement is on track to become the most harmful trade pact ever for access to medicines in developing countries."

Data exclusivity

While some of the intellectual property provisions in the most recent leaked draft of the TPP's intellectual property chapter are consistent with current Australian domestic law, there are a number others for which the US is pushing for obligations that go well beyond our current settings. This is particularly the case in relation to 'data exclusivity' for biologics, products derived from living organisms.

Biologics include many new and very expensive medicines in immunology and oncology, such as Keytruda, a melanoma drug recently listed on the PBS. Without the PBS subsidy, it would cost over A$150,000 to treat a patient for a year. Soliris, a drug listed in 2014 for Atypical Haemolytic-Uraemic Syndrome (a rare auto-immune disease), comes with the astronomical price tag of A$500,000 per patient.

Data exclusivity refers to the period during which clinical trial data submitted to a regulatory agency as part of an application for marketing approval of a medicine may not be relied on to support the subsequent marketing approval of a follow-on generic or biosimilar product. It's an entirely different type of monopoly protection to a patent and importantly, unlike a patent, can't be revoked or challenged in court.

Section 25a of Australia's Therapeutic Goods Act 1989 provides for five years of data exclusivity for all medicines. It makes no distinction between biologics and other drugs.

The powerful biopharmaceutical industry lobby in the United States is seeking 12 years of exclusivity for biologics, as currently applies in the US. This is despite President Obama calling for a reduction in the period from 12 to seven years, and a 2009 analysis by the US Federal Trade Commission taking the view that no period of data exclusivity was needed at all.

Facing intense and consistent opposition, in Hawaii the US Trade Representative fell back to a 'compromise' of eight years. While this was heralded as a new level of 'flexibility' in the US position, in reality it remains a significant extension of intellectual property rights in most TPP countries, who, with the exception of the US, Japan and Canada, currently have either five or zero years of data exclusivity for biologics.

Good reasons not to budge

Thus far, the Australian delegation has apparently maintained the position that it will not go beyond existing domestic law. And just days before the talks broke up, the trade minister indicated in an interview on ABC Radio National that he didn't see the sense in accepting a longer monopoly for biologics.

Three factors are likely to be contributing to this resolve. First is the direct costs of extending monopoly protections on biologics. These are likely to be tens, and even hundreds of millions of dollars a year in the short term, and could increase exponentially as the longer period of data exclusivity extends beyond the expiry of patents on biologics already listed on the PBS.

In a submission to the Department of Foreign Affairs and Trade in 2014, we showed that if biosimilars had been available for the 10 most expensive biologic products listed on the PBS in the 2013-14 financial year, $205 million in PBS subsidies would have been saved, simply by virtue of the 16% statutory price reduction that is triggered when the first biosimilar version of a product is listed on the PBS. Savings in subsequent years would have been even greater, as more competing products entered the market and PBS price disclosure mechanisms kicked in to reduce prices further.

Higher costs to the PBS resulting from longer data exclusivity periods could be expected to flow on into higher patient co-payments, a sure vote 'winner' for any government. And as the Government now requires new PBS listings to be offset through savings, delays in biosimilar listings could well mean delayed access to new medicines (a point the industry would do well to ponder).

A review of the Australian pharmaceutical patent system conducted under the previous government in 2012-13 found that there was insufficient evidence to warrant an increase in data exclusivity for any class of drugs, including biologics. The review panel's final report was also strongly critical of Australia's approach to negotiating trade agreements, and recommended that "The Government should strongly resist changes – such as retrospective extensions of IP rights – which are likely to reduce world economic and social welfare and it should lead other countries in opposing such measures as a matter of principle." (Recommendation 3.2, p. xv)

The second factor likely to be front and centre for the Trade Minister is the growing public and political opposition to longer medicine monopolies in Australia. Extending the period of data exclusivity would require an amendment to the Therapeutic Goods Act 1989 – a move Labor, the Greens, and many independents would likely strongly oppose. And failure to get implementing legislation through the Senate would compromise the whole deal.

In a clear indication of the degree of political opposition, just days after the TPP talks stalled former Minister of Finance Senator Penny Wong (leader of the Opposition in the Senate and Shadow Minister for Trade and Investment) and Catherine King (Shadow Minister for Health) issued a joint statement indicating Labor's concern about the US proposal for biologics. The statement called on the Abbott Government to "reassure the public that it will not agree to any TPP provisions that will increase the price of essential medicines in Australia".

A third factor is the evident lack of progress in gaining access to US markets. In Hawaii the US reportedly made only a token offer on sugar, and actually withdrew an earlier offer on dairy products. Few Australians would consider an improved export market for sugar and dairy to be an acceptable trade-off for higher co-pays on PBS medicines. And the loss of future health policy flexibility seems an overwhelmingly high price to pay for what at best will be only modest gains in exports.

Eight years of data exclusivity won't be an appealing option for any of the other TPP countries either. New Zealand's trade minister recently faced outrage at home over admissions that the cost of medicines may be expected to increase after the agreement. The country's opposition, also Labor, has declared it wouldn't support a deal that raised the costs of medicines. Even Japan and Canada, which already allow for eight years, would be 'locked in' by the agreement, precluding future policy flexibility.

The US position is itself inconsistent, as the White House has for some time been proposing a reduction in the exclusivity period for biologics to seven years, to speed up the availability of cheaper alternatives. The faster introduction of biosimilars would lead to an estimated US$16 billion in savings over the next decade.

It seems clear to everyone except US negotiators – and the biopharmaceutical industry and its lobbyists – that the pursuit of additional data exclusivity for biologics must be abandoned if the TPP is to be finalised. In the final denouement the Australian Government must maintain its resolve and continue to reject the US demand outright.

This article is an extended version of a piece first published on The Conversation. Read the original article here. http://bit.ly/1fCQrCO

"Unless damaging provisions are removed before negotiations are finalised, the TPP agreement is on track to become the most harmful trade pact ever for access to medicines in developing countries."

Dr Deborah Gleeson

Dr Deborah Gleeson is a lecturer in public health at La Trobe University. Her research focuses on the impact of trade agreements on healthcare and public health policy. She is convener of the Political Economy of Health Special Interest Group of the Public Health Association of Australia (PHAA), and represents PHAA on matters related to trade agreements, including the TPP.

Ruth Lopert

Ruth Lopert is a former Harkness Fellow and is currently Deputy Director, Pharmaceutical Policy and Strategy at Management Sciences for Health and an adjunct professor in the Department of Health Policy at George Washington University in Washington DC. From 2008-11 Ruth was TGA's Principal Medical Adviser, and in 2005-06 directed the Pharmaceutical Policy Taskforce in the Department of Health. In 2003-04 she was primary negotiator of the pharmaceutical provisions of the Australia-US Free Trade Agreement.

New Clinical Care Standard for Acute Stroke

Launched in June 2015, the Australian Commission on Safety and Quality in Health Care (the Commission) launched the new Acute Stroke Clinical Care Standard. The Standard aims to improve the early assessment and management of patients with stroke to increase their chance of surviving the stroke, to maximise their recovery and to reduce their risk of another stroke.

Stroke affects thousands of Australians each year and is a major cause of death and disability. Acute stroke was the underlying cause of 8800 deaths in 2011, which is 6% of all deaths for the year[1]. The impact of stroke on survivors is high – over a third of Australians who have experienced a stroke have a resulting disability[1].

Receiving the right care at the right time and in the right place can significantly improve an individual's chance of surviving a stroke and recovering to lead a full and independent life[2]. Current data show that despite well-developed guidelines, not everyone with stroke receives the recommended care[3].

Clinical Care Standards are small sets of concise recommendations ('quality statements') that aim to ensure a shared understanding by patients, clinicians and health services of the care that should be offered. They help patients know what care may be offered by their healthcare system, support clinicians make appropriate decisions about care and support health services examine the performance of their organisation and make improvements in the care they provide.

The Acute Stroke Clinical Care Standard consists of seven quality statements which have been developed for use in hospitals and pre-hospital settings:

i A person with suspected stroke is immediately assessed at first contact using a validated stroke screening tool, such as the F.A.S.T. (Face, Arm, Speech and Time) test.

ii A patient with ischaemic stroke for whom reperfusion treatment is clinically appropriate, and after brain imaging excludes haemorrhage, is offered a reperfusion treatment in accordance with the settings and time frames recommended in the Clinical guidelines for stroke management.

iii A patient with stroke is offered treatment in a stroke unit as defined in the Acute stroke services framework.

iv A patient's rehabilitation needs and goals are assessed by staff trained in rehabilitation within 24-48 hours of admission to the stroke unit. Rehabilitation is started as soon as possible, depending on the patient's clinical condition and their preferences.

v A patient with stroke, while in hospital, starts treatment and education to reduce their risk of another stroke.

vi A carer of a patient with stroke is given practical training and support to enable them to provide care, support and assistance to a person with stroke.

Before a patient with stroke leaves the hospital, they are involved in the development of an individualised care plan that describes the ongoing care that the patient will require after they leave hospital. The plan includes rehabilitation goals, lifestyle modifications and medicines needed to manage risk factors, any equipment they need, follow-up appointments, and contact details for ongoing support services available in the community. This plan is provided to the patient before they leave hospital, and to their general practitioner or ongoing clinical provider within 48 hours of discharge.

The Acute Stroke Clinical Care Standard was developed by the Australian Commission on Safety and Quality in Health Care (the Commission) in collaboration with consumers, clinicians, researchers and health service organisations. It is the third Clinical Care Standard to be released – Clinical Care Standards on Acute Coronary Syndromes and Antimicrobial Stewardship are also available.

The Commission has developed a range of resources for clinicians and health services to assist with implementation of the Acute Stroke Clinical Care Standard, including indicators for local monitoring and evaluation, and fact sheets for clinicians and patients.

"Receiving the right care at the right time and in the right place can significantly improve an individual's chance of surviving a stroke and recovering to lead a full and independent life.[2] "

For more information, and to download the Acute Stroke Clinical Care Standard and resources, visit **safetyandquality.gov.au/ccs**

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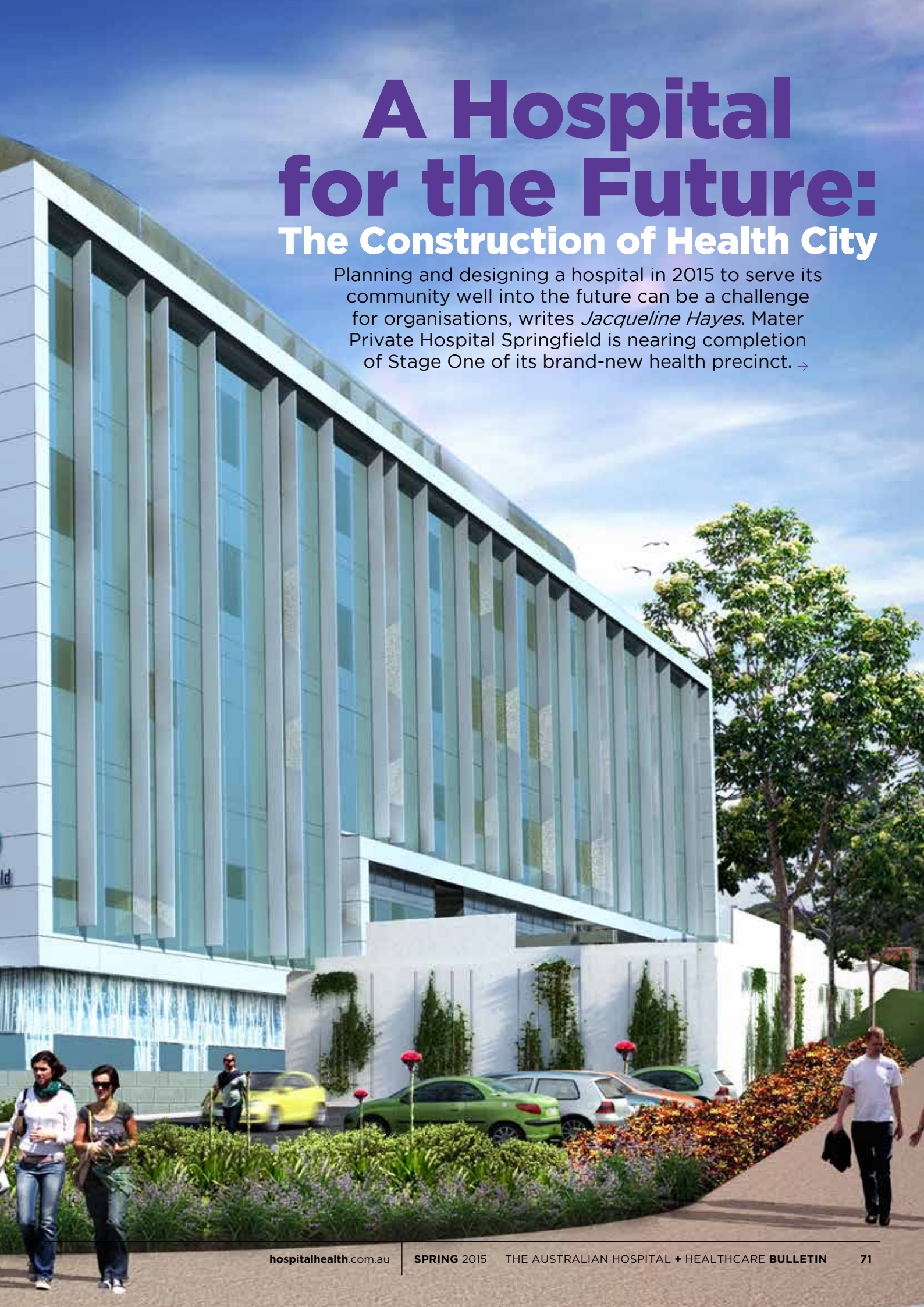
A Hospital for the Future:

The Construction of Health City

Planning and designing a hospital in 2015 to serve its community well into the future can be a challenge for organisations, writes *Jacqueline Hayes*. Mater Private Hospital Springfield is nearing completion of Stage One of its brand-new health precinct. →



Queensland's Mater Health Services is meeting the growing healthcare needs of the booming population of Springfield between Brisbane and Ipswich by building Mater Private Hospital Springfield (MPHS). The master plan for the hospital precinct within Health City Springfield Central, incorporates a number of expansion stages to be rolled out to meet the demands of the region.

Construction of Stage One, an 80-bed hospital commenced in April 2014 and is scheduled for completion by December this year.

Director Mater Private Hospital Springfield Fritha Mackay believes stage one is an exciting chapter in Springfield's history.

"Patients requiring treatment, especially cancer treatment, will be able to stay close to home instead of travelling to the city," Ms Mackay said.

"Illness requiring ongoing treatment can be immensely stressful for the patient and their loved ones as it disrupts daily routines. Something close to home will hopefully be one less thing to worry about.

"Our initial elective surgical and cancer services are laying a foundation for broader service areas to be incorporated in the future.

"We are committed to progressing Stage Two of the hospital to meet a predicted shortfall in patient beds for the region," she said.

Watpac is the principal contractor on the $85 million project. Approximately 8.7 hectares of Health City has been allocated for hospital and healthcare developments with pre-planning approval obtained for up to 1200 hospital beds.

The Mater Cancer Care Centre will be built with $21.4 million dollars of Australian Government Funding. In partnership with Radiation Oncology Queensland, the Centre will include one linear accelerator (initially) and 15 medical oncology treatment bays to offer a supportive and positive environment for patients and loved ones.

Significant planning has been done to ensure greater patient comfort and the streamlining of check-in procedures.

The interior design was finalised as a result of a consumer engagement process. More than 100 people visited two prototype rooms replicating a patient ward and cancer care treatment pod. Useful feedback was provided on the layout, design and décor of the rooms.

Customised Services for Modern Lives

"Enhancing that care and welfare with modern techniques and technology is what we are working on," said Ms Mackay.

"Room service will be rolled out from opening at Springfield after its success at Mater Private Hospital Brisbane."

"The room service menu is comprehensive and offers patients delicious meal options that cater to every taste, and are clinically suitable to meet individual dietary requirements," she said.

Mater Private Hospital Brisbane is the first private hospital in Australia to offer hotel-like room service to patients. Meals are freshly prepared, ordered at the patient's convenience (between allocated times) and delivered directly to the patient's room within 45 minutes.

The innovative room service initiative has been recognised by the Private Hospitals Association of Queensland (PHAQ) for significantly lowering food wastage and improving patient outcomes.

Ms Mackay explains another first: family members will also be able to sleep in patient rooms.

"It's not just children and babies who need someone close by when you require

treatment," she said.

"Just having someone there can boost your confidence or provide that extra reassurance you might need."

Comfortable fold-away beds are in well-designed cupboards in all rooms.

Flexible visiting hours will also be in place when the hospital opens.

"Life doesn't happen within the strict 9-5 routine anymore," Ms Mackay said.

"No set visiting hours means families and friends will be able to have greater access to patients when it suits them," she said.

Also gone are the days when patients complain about the temperature in their rooms. Integrated Room Controls (IRC) mean patients can adjust not only their air conditioning, but blinds and lighting.

"Being a patient is a very vulnerable position to be in," Ms Mackay said.

"The main purpose of IRC is to enhance the inpatient experience and allow patients to co-manage their environment," she said. "Research shows that the more the patient feels in control, the more positive their health outcomes."

Integrated Room Controls (IRC) manage:

- General lighting within the room including the above-bed downlight, ensuite and reading lights, all with dimming abilities.
- Air conditioning temperature control warmer or cooler from a set point.
- Motorised window blinds with one block-out and one shade blind per room that are able to be operated independently of each other.

The system will be controlled by simple switch panels located at the entrance to the room and beside the bed. These panels will illuminate when a hand comes close and allow patients and staff to easily change the room conditions without having to turn on the lights.

"This is a truly innovative system which can also be controlled from patient's own smart devices like tablets and smartphones commonly known as bring your own device (BYOD)," she said.

"We are committed to progressing Stage Two of the hospital to meet a predicted shortfall in patient beds for the region"

Innovative technology extends to nursing staff as well. The selected Nurse Call system extends beyond the traditional call bell system. This system will offer the capability to streamline workflows and automate business processes by routing the calls to the right clinical staff and in turn improving response times.

Nurses will also carry an automated nurse presence and real time location services (RTLS) tag. This tag will alert nursing staff when a patient activates the nurse call function and tells them which patient room has activated the request. When nursing staff wearing the RTLS badges enter the patient's room the system will automatically cancel the Nurse Call request. At the same time the corresponding corridor light will illuminate to indicate the nurse has responded and is present in the room.

This technology will leverage off and utilise the high destiny wireless network that will be in place at MPHS. The technology, when implemented, will open the way for further innovation both within Stage 1 and future stages.

The future health of the Springfield region is in good hands with continuous and innovative planning supporting a responsive patient care model.

Stage one of Mater Private Hospital Springfield will provide:

- Four theatres, two inpatient wards, and medical imaging services.
- A Mater Cancer Care Centre including one linear accelerator and 15 medical oncology treatment bays in partnership with Radiation Oncology Queensland.
- Treatment for 4,800 local public patients each year.

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Trying to minimise any health risks to the patient/healthcare staff, whilst in hospital is one of the top priorities in today's healthcare environment. Adverse events relating to the bed (patient falls, entrapment or pinching) do not only cause financial loss but also endanger reputation. Knowledge of the potential risks and awareness of options available to avoid these is the first step towards eliminating such unwanted situations. But there is no needs to sacrifice the ambience and design of your hospital, to compensate for safety in a bed. The Image 3 Hospital Bed, as seen above, represents the new direction in which hospitals are deciding to embark on. It is an electrically adjustable bed that respects the growing demands of the patient and nursing staff. Its attractive design will find universal use in a whole spectrum of hospital care.

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PDT + STH Delivering Transformative Healthcare Design

"The vision for Mater Private Springfield Hospital is to create a benchmark healthcare facility that provides a nurturing, contemporary, non-institutional environment in which patient wellness is the primary focus"

The Mater Private Springfield Hospital is a major and transformative health project as part of the new 52 hectare health and wellness precinct Health City Springfield Central, a new medical and educational campus being developed by Springfield Land Corporation. The new Hospital will be the genesis for the future campus, establishing the architectural language for the future development.

Silver Thomas Hanley (STH) in a Joint Venture with PDT Brisbane (PDT+STH) are delivering the new $85 million private hospital for Mater Health. PDT+STH completed full master plan services and initial design works for the new private hospital in 2013, developing the layout and functional relationships of the new facility.

The five level, 10,000 m² stage one project, currently in construction, will include 80-beds and provide a range of medical and surgical services to the growing Springfield community including four operating theatres, inpatient wards, a day surgery unit and medical imaging services. In addition, a new Cancer Centre will be operated by Radiation Oncology Queensland, providing 15 medical oncology treatment bays and a linear accelerator, made possible by $21.4 million of funding from the Australian Government.

The built form is a simple juxtaposition of massing and building elements. The perceived simplicity of the built form is due to adopting a traditional approach to massing, with the main building elevated on a podium, providing a calm and uniform base for the various architectural elements above.

The uncluttered nature of the building massing is expressed through the building elements and materials. A curved metal screen acts as a unifying component and creates a sculptural, noble element that reinforces the civic nature of the building. The translucent nature of the screen is suggestive of form, without appearing solid and overpowering the rest of the building. At the same time, it provides an identifiable marker for the main approach to the hospital and the health precinct. Exterior materials have been specified for their neutral tones to help express simplicity and unity.

The PDT+STH Interior Design for Mater Private Springfield Hospital is based on the concept of "patient centred care", an approach that acknowledges the patient as an individual who has a unique experience with an illness.

The interior spaces will be comparable to a hotel-like environment, enlivened with colour and texture that interplay with a warm neutral base palette of tones reflective of the brick and stone of historic Mater Brisbane buildings and the sandstone formations of the national parks close to the new hospital. Strong geometric motifs from the historic buildings are juxtaposed with soft ripples and natural elements from the Springfield landscape.

Material selections reflect the colours of the external form and include warm timber (natural and timber look laminate), natural stone, warm whites and charcoal contrasted with deep sea blue and copper tones.

Mater Health and Springfield Land Corporation, through Australian contractor Watpac, commenced construction of the Mater Private Springfield Hospital in April 2014 with a construction completion date scheduled for the end of 2015.

STH pdt. architects

»
For more information on STH or PDT

STH **www.sth.com.au** PDT **www.pdt.com.au**

»
For more information on Mater Private Springfield Hospital

www.mater.org.au

Providing Cancer Care to Springfield

Since its inception in 2007 Radiation Oncology Queensland (ROQ) has been providing exceptional patient care to Queensland. ROQ currently has three established centres in Toowoomba, Cairns and Gold Coast. With a commitment to best practice cancer care, ROQ's latest venture is to provide much needed cancer treatment to Queensland's Western Corridor with a new centre set to open in Springfield late this year.

Why Springfield?

Since the beginning ROQ's number one priority has been to provide easy access to the best cancer care for everyone. First opening in Toowoomba, ROQ provided a much needed radiation therapy services not only to the residents of Toowoomba but for the entire Darling Downs region, especially rural towns such as Warwick, Dalby and Oakey who before ROQ Toowoomba would have to face the gruelling travel into Brisbane for treatment.

Continuing their commitment to service areas in desperate need of cancer care, ROQ will open a centre in the rapidly expanding area of Greater Springfield where the closest radiation therapy centre is in Brisbane's CBD. CEO Mark Middleton says ROQ Springfield will be a big win for local cancer patients.

"Our Springfield centre will reduce the need for patients to travel to places as far as central Brisbane. ROQ will be the first centre offering radiation therapy to patient's in the western corridor and beyond. Currently people have to travel 40 minutes from Springfield and Ipswich into the city. A 10 minute appointment quickly becomes a half day exercise ... this centre will ensure people can access cancer services closer to home".

Technology and Innovation

As with all ROQ centres, the Springfield centre located within the new Springfield Mater Private Hospital will be a modern state-of-the-art centre equipped with the latest in radiation therapy technology. Springfield will commence with one Varian linear accelerator, with plans to include a second machine within a year. The centre will be offering several methods of radiation therapy treatment: Image guided radiation therapy (IGRT), Intensity modulated radiotherapy (IMRT) and Volumetric Arc Therapy (VMAT). Additionally, ROQ has introduced Deep Inspiration Breath Hold (DIBH) for select patients utilising Respiratory Gating which will also be offered at Springfield.

Radiation Oncology Development Manager Toni Sisson understands the importance of staying abreast of the latest technology. "ROQ is all about innovation. This is achieved by creating a positive environment where ideas are celebrated. We are constantly in search of ways to improve what we do. For us, embracing new technology and being innovative has become the norm and what is expected end demanded from our team".

Radiation Oncologists

ROQ has a dedicated team of radiation oncologists who will be consulting at Springfield: Dr Michael Poulsen, Dr Jonathan Ramsay, Dr Kumar Gogna, Dr Peter Gorayski and Dr Manoja Palliyaguru. All our radiation oncologists are experienced professionals committed to every cancer patient that walks through the doors and to make them feel at ease during a very difficult time.

Dr Peter Gorayski who is currently based at ROQ Toowoomba started his career with ROQ as a radiation oncologist trainee and is now a valued member of the team and a perfect example of the proud ROQ culture and commitment to cancer care.

"There is something very special about having the privilege to care for people with cancer. Being a radiation oncologist involves honesty, open communication, hope and a great deal of compassion. ROQ has provided me with a great start to my career

and I am excited to take the next steps at Springfield".
All our radiation oncologists are also involved in clinical trials and cancer research. Furthermore, they have been published in a number of journals, are mentors to future radiation oncologists, continue to expand their knowledge through further study and are leaders in their field.

Multidisciplinary Team

Delivering exceptional cancer care is only made possible with a team of talented professionals. As it is across the ROQ network, the Springfield team will be made up of radiation oncologists, radiation therapists, medical physicists, registered and clinical nurses and administration staff. These disciplines all collaborate and work together in order to ensure all ROQ patients receive the best care and complete their radiation therapy journey in the most positive way possible.

Gold Coast Nurse Manager Emily Ballarin is passionate about the clinical nurse's role in a patient's radiation therapy journey. "It is particularly rewarding to help cancer patients throughout their journey. The role of the radiation oncology nurse is to co-ordinate all aspects of the patient's care during their treatment. Working in a multidisciplinary team is vital to ensure optimal outcomes for patients. We have developed very close and cooperative relationship with our doctors, radiation therapists and allied health professionals".

Staff Development and Awards

ROQ prides itself on developing its' people and invests heavily on their staff professional development. Many current staff are undergoing further studies while at work and all staff are encouraged to participate in the internal ROQ in-service program.

Mark Middleton says the key to providing a successful service is to have a happy and engaged staff.

"We are continually seeking people who are dedicated, passionate about what they do and motivated and excited to be a part of a great culture ... a happy and engaged workforce will naturally result in outstanding cancer service to the community".

ROQ's happy and engaged staff are considered a family. This is reflected in their inclusion in Best Places to Work Australia 2014 list where they were ranked 25th and then successfully placed 23rd in Asia's Best Small and Medium Workplaces 2015. A rank in this prestigious list is based on an extensive cultural audit and trust index voluntarily taken by ROQ staff.

Integration Clinical Lead Radiation Therapist Huong Nguyen who has been with ROQ since the beginning truly embraces this idea of family and a supportive culture.

"It is such a positive and engaging environment to work in. We [the staff] are always rewarded for our efforts and great work is always acknowledged ... I love being a part of such a success story. Just because we are expanding doesn't change our attitude or our approach to both exceptional cancer care and a fun and supportive workplace".

Looking Ahead

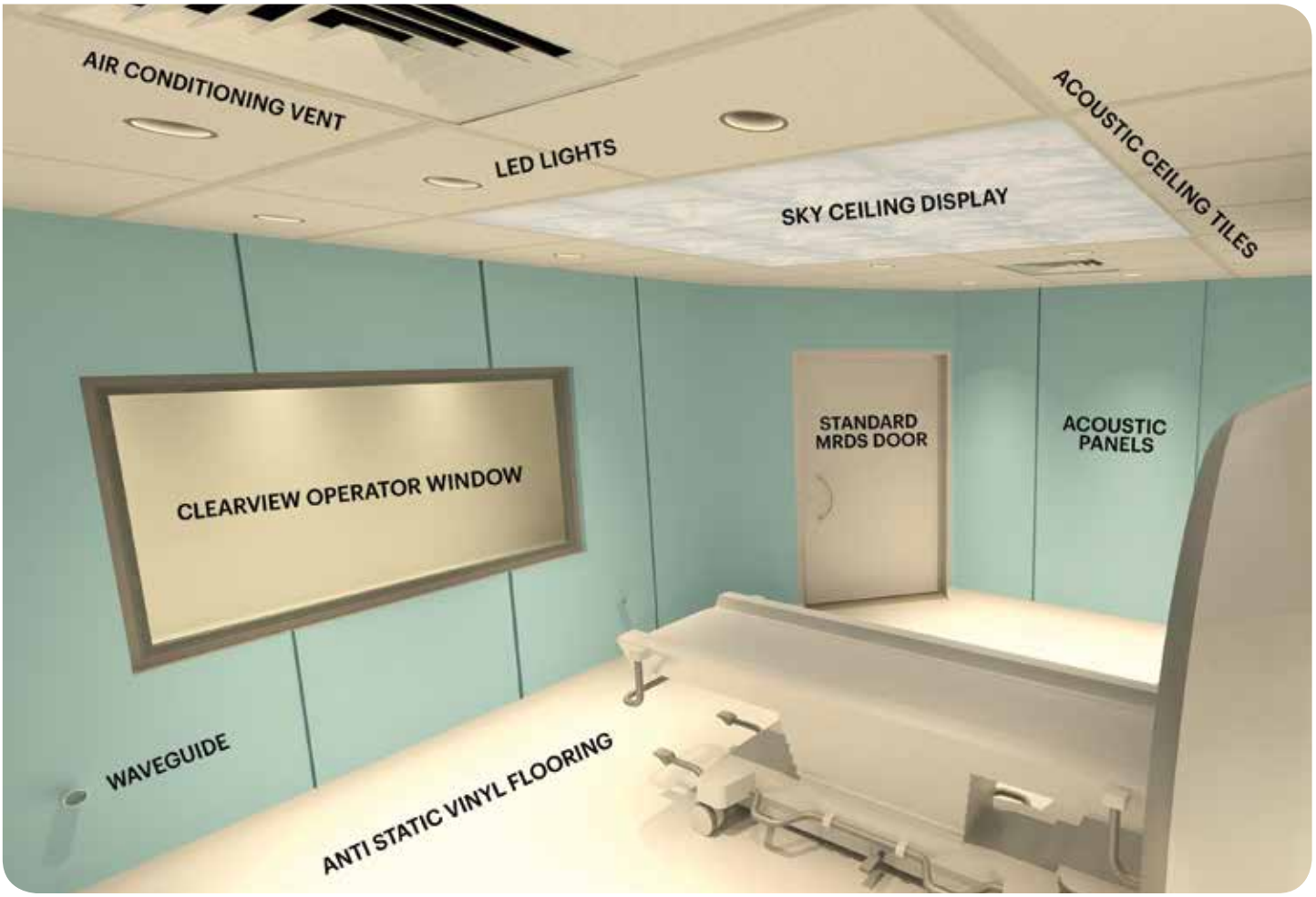
The team at ROQ believe in making the impossible possible. From humble beginnings, ROQ has forged leaps and bounds ahead, expanding exponentially with an endless spirit and a motivation to not only provide outstanding patient care but to continue to deliver it with the same enthusiasm and passion as they did when they were only one centre.

"There is no end to ROQ's mission to provide access to affordable and exceptional cancer care across the nation. We are on track to open another two centres in Greenslopes and Redlands and we will continue to forge the way and step across State borders and beyond".

ROQ
Radiation Oncology Queensland

» For more information go to **www.roq.net.au**

» Article written by **Alicia Moo, ROQ**



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A World View
on Patient-Centred Care Design

Jill Joseph is a leading healthcare planner and designer, having worked across the US, Europe and the Middle East as a consultant for Herman Miller Healthcare. This year she visited Australia to educate architecture and design firms on patient-centred care and evidence-based design for the healthcare industry.

Jill Joseph

In working with both new design and redevelopment projects, Ms Joseph has been able to pass on her experience and the information that Herman Miller has gained over the last 40 years. She credits her international experience with the exposure she has had to cultural differences in approaches to care, manufacturing and business models.

"Increasingly, designers of hospitals have a triple aim: they need to reduce costs, improve the quality of their facility, and get more people through the door. We have found the way to plan for this is a convergence of sustainability, evidence-based design and lean manufacturing."

A key finding from Ms Joseph's work is the amount of waste that hospitals produce, and this needs to be factored into the facility's business model. The waste management budget is often one of the largest running costs a hospital faces.

"Take for example patient rooms that need refurbishment or repair. In a traditional fixed design, a tradesperson would come in, pull out →

→ the millwork and create a lot of dust, dirt, noise and waste - not to mention shutting down the room which means less patient beds - and this affects many departments negatively. As opposed to new room design products such as a finished architectural wall which is designed to change, with tiles that pop off the wall for reconfiguration and modules for easy insertion or removal," she says.

This kind of planning, with modular design for flexibility and integration with core systems such as gases and utilities, is how Ms Joseph along with her colleagues in the design world believe is key to ensuring buildings have the ability to not only last for the next 50 years but also grow and adapt to our changing healthcare needs.

Much of Jill's work is founded on evidence-based design, which is quickly gaining momentum throughout the healthcare design industry as best practice.

Of course there are always obstacles to tackle in healthcare design, with infection control, noise and function versus aesthetics being the common factors to address again and again.

"Funding is a major obstacle for many facilities too. Many organisations find that forming partnerships help."

Partnerships help not just with the funding, but with solving problems like design ideas and safety standards.

Evidence-based design is described by leading US healthcare design firm Huelat Davis as an environment that results in:

- Enhanced patient safety through the selection of materials that reduce infection, risk, injuries from falls, and medical errors;
- The elimination of environmental stressors, such as noise, that negatively affect outcomes and staff performance;
- A reduction of stress and promotion of healing by the designing of hospitals to be more pleasant, comfortable, and supportive for patients and staff alike.

A focus on patient care and evidence-based design is how companies like Herman Miller and Huelat Davis have come together as part of Planetree, Inc.; a not-for-profit organisation that works with healthcare organisations around the world and focus groups consisting of patients, families and staff to improve the care experience.

Working in the Middle East allowed Ms Joseph to bring new ideas to challenge traditional Western design ideas.

"Design in healthcare spaces is quite different in the Middle East. Religious and cultural considerations meant we had to consider things like separation of sexes in waiting spaces and treatment areas - and even wardrobe design, where their longer garments such as chadors and thobes do not hang properly in our Western-designed spaces that tend to be smaller, only fitting shirts, pants or skirts," Ms Joseph says.

On the other hand, there were some familiar issues emerging in the Eastern spaces, with chronic lifestyle-related issues such as obesity and diabetes on the rise thanks to the spread of Western culture. Bariatric products have become a necessary addition to the facilities.

Something that she sees all over the world is the demand for better at-home care. As the population ages and the Baby Boomers begin to flood our aged care and hospital facilities, the call has increased for keeping people at home through ageing in place strategies. Jill also notes the surge of voices asking for primary support to care for the chronically and terminally ill in familiar surroundings (such as at home), rather than in acute care.

When it comes to Jill's ideal hospital, she likes the idea of positive interaction with the environment.

"There is good statistical data proving positive interaction with the environment, and the [US] Facility Guidelines Institute indicate these should be contained within the space."

"Personally, I like water. I like to see the outdoors. I want to feel healthy, protected, pleasant and serene," she says.

"Increasingly, designers of hospitals have a triple aim: they need to reduce costs, improve the quality of their facility, and get more people through the door. We have found the way to plan for this is a convergence of sustainability, evidence-based design and lean manufacturing."

Planetree.org

Planetree is uniquely positioned to represent the patient voice and advance how professional caregivers engage with patients and families. Guided by a foundation in 10 components of patient centred care, Planetree informs policy at a national level, aligns strategies at a system level, guides implementation of care delivery practices at an organisational level, and facilitates compassionate human interactions at a deeply personal level. Our philosophical conviction that patient centered care is the "right thing to do" is supported by a structured process that enables sustainable change.

Herman Miller Healthcare, helping you make waiting areas purposeful.

Herman Miller healthcare has a range of waiting room options from standard lounge seating to bariatric seating, with integrated power, tables and magazine holders to suit a wide range of facilities and aesthetics from acute care to physician suites. Built for the rigorous demands of healthcare environments, covered in appropriate materials and based on research into human needs, Herman Miller Healthcare products stand up to 24 hour use in healthcare environments.

The Toyota Production System has classified waiting as waste—and that's something any healthy organisation strives to eradicate. According to Roger Call, Director of Healthcare Kaizen Architecture at Herman Miller Healthcare, "The goal of a lean continuous improvement approach is to reduce and eliminate waste, while recognising that it may be very difficult to eliminate all of it." For example, a patient's family members or driver may still have downtime during the appointment or procedure.

Unscheduled emergencies and other situations can also extend waiting times. Whenever patients are forced to wait, that experience influences their perception of quality of care. As public zones where people with illnesses gather, waiting rooms are sometimes seen as places where germs abound. This impression can create a sense of discomfort and urgency to leave the space as soon as possible—making it more difficult to tolerate service delays, errors, and inefficiencies—and lowering patient expectations.

Not surprisingly, research has shown that as wait time goes up, patient satisfaction goes down. Those who waited five minutes or less expressed 95.4 percent satisfaction with their experience, and satisfaction dropped steadily along with wait time, all the way down to just 80.4 percent satisfaction for those who waited more than 30 minutes. One study even suggested that perceived wait time is a more compelling indicator of patient satisfaction than actual wait time. A wait that "feels" long due to crowded, noisy surroundings or a lack of positive distractions like art, aquariums, movement options or windows can lower satisfaction scores even more. This suggests that focusing on the emotion-related component of waiting may be an important part of improving the patient experience.

Transforming waiting spaces into social healing areas makes waiting purposeful. Purposeful waiting time respects the time of your customers, allowing them the opportunity to power their personal devices, research health topics, gather with family or continue with their work. Offering postural variation and movement has been shown to decrease anxiety, perception of waiting time and violence against staff in emergency departments. Choices for comfortably sitting alone or for a patient and family to gather including different height solutions, dining options and child friendly spaces enhance the experience of waiting. Options for bariatric patients while in the same family of product line accommodates a greater range of patients while maintaining a consistent aesthetic.

Creating natural divisions can help make patients feel more relaxed and less self-conscious. In Herman Miller's pharmacy waiting area study, a pair of seats that was isolated from the main area of the waiting room was among the most popular places to sit. Already under stress or experiencing symptoms, some patients may not want to sit next to strangers who could be ill or overhear conversations.

The physical attractiveness of waiting spaces can also impact of the perception of quality of care. Simple environmental changes such as adjusting room temperature to patient mix, providing glare-free lighting, playing soft music, and choosing energetic warm colours or calming cool colours can make a difference to the patient experience.

The healthcare industry's understanding of waiting continues to expand all the time. By considering the changing demographics, behaviours, activities, and expectations of waiting spaces, Herman Miller Healthcare is dedicated to improving the waiting experience.

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For more information on Herman Miller Healthcare products visit **hermanmiller.com.au** or contact **info_au@hermanmiller.com**

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Herman Miller presents Ava: a lighter, more streamlined recliner that is comfortable even for long periods of sitting. Responsive features like pivoting arms, dual-sided controls, and lay-flat recline along with improved kinematics make Ava easy-to-use for caregivers and inviting for patients.

Find out more about Ava Recliner and other high-performance healthcare solutions at hermanmiller.com.au.

HermanMiller Healthcare

Hospital Products Australia

"Creating spaces that give you more"

Hospital Products Australia is the foremost distributor of market leading healthcare solutions for the local healthcare industry. We source the most innovative, best-of-breed products through our extensive global network that meet the increasing demands of local healthcare providers. From modular operating theatre construction to high-quality, modern furniture, Hospital Products Australia offers a variety of health-related products and solutions. Our customers include suburban medical centres, private day surgeries, metropolitan and regional hospitals.

Through our global network of healthcare providers, Hospital Products Australia is in the unique position of being able to supply an extensive range of solutions for healthcare providers regardless of size. We only offer products that we believe are the best solutions for the local healthcare industry. Our product suite exemplifies unsurpassed quality, innovative and clever design that delivers true benefits to the end user.

Hospital Products Australia is the local distributor and partner for a range of leading global brands which include Herman Miller, GCX, Derungs, CBS, Linet, Provita and HT Labor + Hospitaltechnik. These providers deliver forward-thinking healthcare solutions using cutting edge technology. They are closely aligned with practitioners to keep pace of the constant changes in the healthcare industry and invest in extensive product research and testing. It is this same commitment to offering the best possible product that allows Hospital Products Australia to deliver innovative solutions locally.

Our people

Our team is our success.

Hospital Products Australia is supported by a committed team of individuals with a wealth of knowledge of the healthcare industry. It is not only our knowledge that sets us apart, but our passion for making a difference to local healthcare providers. This means that our people genuinely believe that the solutions they offer are unsurpassed – whether it is their innovative design or competitive pricing.

The Hospital Products Australia team believes in developing deep relationships with our customers to ensure that the highest quality of product is delivered and that ongoing maintenance is consistent and responsive. We work thoroughly and quickly to develop an understanding of the problem we need to solve and engage with all levels of management.

Our promise

We deliver what you need plus more.

Our wealth of knowledge of the local healthcare industry combined with our capabilities in modular construction enables us to offer 'single source' procurement for all your healthcare needs. 'Single source' procurement simplifies the process for our customers from decision-making to initial purchase through to maintenance. Our ability to package products that are complimentary and solution-focused means we offer the highest quality products from our global network, backed by unparalleled warranties for a price that can meet your budget. In fact, our warranties far exceed the industry standard and are the hallmark of the Hospital Products Australia range.

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HEALING SPACES

What kind of place takes your mind off things?

An individual haven can provide a sense of stability and calm, even when circumstances feel beyond one's control. Elements like a recliner that cocoons the patient or passive monitoring technology that shields the patient from unnecessary interruptions create an environment that promotes rest, relaxation, or focusing on one's hobbies and passions. Mimicking a home-like setting through material selections and furnishings that conceal medical supplies creates a sense of familiarity and comfort.

At Hospital Products Australia we work with healthcare organisations and designers to create warm, welcoming spaces for patients and visitors.

Our supplier, Herman Miller Healthcare, has created Terra Casegoods, a flexible system for patients undergoing infusion or other outpatient treatments. Terra has been designed to put control back in the hands of the individual, while improving the treatment experience for patients, guests and caregivers.

A Personalised and Flexible Space

Terra is purposely designed for choice, letting patients shape it to match their moods and activities. An innovative, individually-controlled screen allows patients to decide whether they want privacy or socialisation with other patients, giving them ownership of their space. Patients and their guests are also supported by entertainment centers, shelves, and power and data hubs, letting them connect with friends, work, or simply unwind during the treatment.

While traditional built-in systems can limit a facility's ability to adjust to individual needs and new methods of care delivery, Terra's modular nature means facilities can rely on it to meet their evolving needs without the cost and disruption of additional construction.

Reinforcing Hospital Products Australia and Herman Miller Healthcare's commitment to sustainability, Terra is GREENGUARD Gold Certified and is backed by Herman Miller's 12 year, 3 shift, 7 day warranty.

For more information on our Herman Miller Healthcare range, please contact us today on (02) 9882 6988, emailing us at info@hpaust.com or visit www.hpaust.com

HPA Hospital Products Australia | HermanMiller Healthcare

Innovative Technology and Unmatched Versatility:

The New Tennant T300 Scrubber

Introducing the new Tennant T300 Walk-behind Scrubber - the first scrubber of its kind equipped with Tennant's next generation ec-H2O NanoClean™ technology and innovative new features that deliver reliable, high performance results at a lower cost to clean. The T300 is a compact, easy to use machine with unmatched versatility in the industry, providing unsurpassed cleaning performance on virtually any hard floor surface. The T300 also addresses key cleaning challenges for facility managers, delivering outstanding scrubbing results to enhance a facility's image whilst improving health and safety, and minimising maintenance costs.

The T300 is Tennant's most versatile machine to date, available with multiple configurations to optimise cleaning performance on most hard floor surfaces from smooth, polished concrete to grouted floors and stone. Configuration options include single disk, orbital, dual disk and new to Tennant's walk-behind scrubber range, dual cylindrical. Tennant's new dual cylindrical configuration reduces the need for pre-sweeping floors, and provides exceptional results on uneven surfaces. The T300 is also equipped with the Insta-Click™ magnetic head which allows operators to change brushes and pads easily, safely and quickly, as well as Tennant's patented parabolic squeegee for outstanding water recovery in a single pass.

The Tennant T300 features a new optional Pro-Panel™ LCD touchscreen interface that provides simplified operation with easy to understand graphics and video tutorials. The touchscreen also allows for programmable Zone Settings™, to set specific machine settings for different locations and floor types, to take the guess work out of the cleaning process and ensure consistent results. The Pro-Panel™ also features on-demand video tutorials on machine operation and maintenance. This helps minimise operator training and improves operator confidence in using the machine for increased uptime.

"Tennant is continually innovating to improve our customer's cleaning operations with high performance sustainable technologies. It's our commitment to drive innovation in both cleaning technology and cleaning process to help our customers clean more places, clean better, and clean for less," said Dave Huml, Tennant Company Senior Vice President of Marketing.

The T300 is Tennant's first scrubber equipped with the next generation cleaning innovation, ec-H2O NanoClean™. Like the original ec-H2O™ technology, ec-H2O NanoClean™ technology electrically converts water into an innovative cleaning solution with the same great benefits and now cleans better, cleans more soils and is effective in more applications. The converted water is created by an onboard e-cell that generates millions of microscopic bubbles - nanobubbles - per millilitre of solution. These nanobubbles then promote the cleaning efficacy of the solution. ec-H2O NanoClean™ effectively removes typical daily soils as well as more stubborn soils like food greases, without leaving chemical residue. This improves floor traction and increases safety within the facility.

The new Tennant T300 is engineered for productivity and versatility. Contact us today for an onsite demonstration and to see ec-H2O NanoClean™ work firsthand.

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For more information on Tennant Australia call **1300 TENNANT** or email **demo@tennantco.com**

TENNANT

THE NEW INNOVATIVE AND VERSATILE T300 SCRUBBER

- The first scrubber of its kind with Tennant's next generation ec-H2O NanoClean™ technology and multiple brush/pad configurations for any floor type
- Optional T300 Pro-Panel™ LCD touchscreen interface that provides simplified operation with easy to understand graphics and onboard training videos
- Ultra-quiet vacuum motor to clean at a sound level as low as 58 dBA for unobtrusive, anytime cleaning
- Equipped with the Insta-Click™ magnetic head to change brushes and pads safely and quickly, as well as Tennant's parabolic squeegee for outstanding water recovery

Ask about the new dual cylindrical configuration which eliminates pre-sweeping

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The Hospital Built by Doctors

The Hospital for Specialist Surgery is a new and unique concept both in hospital ownership and hospital design for Australia. *Dr Pritpal Singh*, ophthalmic surgeon and Founder talked to us about the design process used for the hospital which opened in June this year.

Sydney's Hospital for Specialist Surgery is owned and operated wholly by 46 medical specialists, 43 of whom are specialist surgeons. We have set out from the very beginning to focus on patients and the delivery of quality care. If we get that right, the rest will follow.

Being designed by doctors, we were able to bring to bear many years of accumulated working knowledge of operating theatres and hospital wards. We were able to optimise the design in terms of efficiency, ease-of-use by patients, doctors, nursing staff, allied health professionals and support staff.

It is predominantly a surgical hospital with 10 operating theatres in total. There are six main theatres and four rapid turnover day surgery type operating theatres. From the main operating theatres, the patients can either be discharged home, go immediately to high dependency or surgical wards and from there, to the onsite integrated rehabilitation facility if needed.

Our philosophy is very much "ground-up collaborative effort" to make the best hospital that we can. There is easy interchange between all who work at the HSS. Any issues in patient care or problems with the hospital can be brought directly to the attention of management. This streamlines the efficiency and running of the facility.

The chairman and the directors of the hospital are all surgeons who use the facility. They have a direct understanding of the issues surrounding surgery and patient management. They are not removed from the facility and don't view it in terms of an intellectual exercise or a spreadsheet. They are often at the HSS many days of the working week operating and using the facility. The users of the hospital are stakeholders and there is free and frank exchange of ideas on how to make the hospital better. They know the staff by name and in many cases, have worked with many of them over many years, building up relationships and friendships.

Forming the Team

The Castle Hill Day Surgery (CHDS) was built in the hills district of Sydney about 14-15 years ago with about 17 owners. The facility was a huge success and expanded to five operating theatres from the original three and over 70 users doing many thousands of procedures a year.

Five years ago, our chairman Dr John Fox learnt that a building was on the market in Norwest Business Park next to the lake. With an inspired leap of faith Dr Fox and a colleague Dr Alf Lewis, felt that a bigger version of the CHDS could be created with the same ethos of community and patient orientation.

They approached their colleagues many of whom worked at CHDS or the Westmead Hospital and 35 original doctors wanted to be part of the collaborative effort. A company was incorporated and the project moved into a design and then construction phase. The project rapidly gained momentum and after a short while we were being approached by doctors wanting to join the team. We were able to select those doctors with a track record of excellence and who we felt would have the same philosophy of collaborative effort.

There are a number of issues that we have faced.

First of all we were converting an office space into a hospital. As a result we had to work within the constraints imposed by the existing structure. In some cases we had to perform major structural work that added cost and complexity. Generally speaking these were technical issues and with a bit of creative thinking they could be surmounted.

The bigger issue was keeping the architects and engineers on track. It is not enough to delegate the work to those that you think have the knowledge, and hope that it will all come out fine in the wash. We were constantly performing surveillance on the quality of the work that was being presented. Fortunately, the board is very hands-on and a number of our doctors are multiskilled, with an intimate understanding of design and engineering. On multiple occasions we picked up design flaws or engineering errors. As a result, we saved hundreds of thousands of dollars and kept the project moving.

The last major issue we are faced has been getting all the requisite approvals prior to opening. There is a lot of bureaucracy involved but with persistence and considerable support from benefactors such as our local member of Parliament, that hurdle has been surmounted.

Lastly you might think that with such a large group of doctors that there could be difficulty keeping everyone on track on such a large financially demanding project. Somewhat surprisingly that has not been an issue at all. The group has been incredibly cohesive and understanding, allowing the board to progress the design and construction in a timely manner.

Core Principles in Healthcare Design

Our philosophy is “patients first”. For that you need the right people. We have actively sought those with a compassionate and caring nature. People who would see a problem and not leave it to someone else to solve it but would actively fix it themselves.

Because of the long-standing success of the CHDS, when the community became aware that we were building a new hospital, we were inundated by quality applications. A very fortunate position to be in.

Because surgeons are the owners as well as the users, we were able to pick their brains to make sure that we got the best equipment possible. Each craft group selected a wishlist of equipment. Subcommittees were formed to look at what was available, cost-benefit ratios and future directions in technology to ensure that we did not end up with redundant equipment.

The hospital is on an ideal site. It is situated on a large parcel of land close to transport and shopping. The north west of Sydney is experiencing rapid growth ideally placing the hospital in a position to provide services to the local population. Finally, being adjacent to the lake and with views out to the mountains, it provides a restful and comfortable environment for patients to recuperate after their procedures.

We believe greenspace is an integral part of the healing process, and have adopted this principle into our hospital design. The HSS has sculpted grounds. There is a contemplation garden for when patients and family require it. Being adjacent to the lake there are beautiful views out over the water. There is a lot of local wildlife using the lake such as ducks and geese. All the patient rooms have elevated views over the lake and mountains with large windows allowing lots of sunlight. These can all help to make a difference in patient recuperation.

In order to be flexible around permanent needs, we have put a lot of effort into future-proofing the building which could last for 50+ years. We have built in a lot of excess capacity that can be utilised as the demands on the hospital increase. Additionally the day surgery and rehabilitation swimming pool wing were designed with extra-large footings so that the building envelope can be expanded in the future, adding another four floors onto that section. This came at additional building cost but gives us the ability to add a few thousand square metres down the track should we need it. Lastly,

the zoning of the site permits another building of the same size!

Environmental impact factor is an important consideration. First of all, just by retrofitting an existing building rather than knock down and construction dramatically reduces the environmental impact. The philosophy was to use as much material from the original building as we could, which has had the added benefit of cutting costs.

We have used double glazing on all windows and high levels of installation in the wall and roof panels. We have installed awnings onto the outside of the building to cut down on solar exposure and reduce air conditioning costs. All the lights had been replaced with high efficiency long use LEDs. The building electronics are all on “Smart Grids” minimising electricity consumption. We have installed our own oxygen generation equipment. This is quite a common technology overseas but is the first in Australia.

From the design of our management team to the filling of our resources for staff and patients, our vision has been to build a hospital where the philosophy of Patients First is instilled from the ground up. HSS realises that vision in ways the corporate and public sectors cannot match.

Infection Control

We have incorporated our infection control strategies are incorporated into the building design through:

- Hospital grade air conditioning with HEPA filtration.
- The operating theatres are extremely large with positive airflow. A lot of effort was put into separating the clean from non-clean areas to avoid cross contamination.
- We have imported the best tunnel washers to sterilise the surgical equipment.
- Handwashing is extremely important and there are sinks or hand wash lotion virtually every few metres.

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New Technologies in Screening Dense Breast Tissue

Dr Jessie Jacob was in Australia during July to speak about dense breast tissue and the new technology developed by GE Healthcare which improves invasive breast cancer detection by up to 55% over mammography alone in dense breasts. This new ultrasound system has hit Australian shores, with Adelaide based Benson Radiology the first group to purchase the technology.

The major issues currently faced in breast cancer screening can be divided into five areas:

i Compliance: There is still a lack of awareness on the effectiveness of early diagnosis, confusion regarding screening guidelines and avoidance of screening due to cost, accessibility, fear and discomfort.

ii Interval Cancers (Missed/Occult Cancers): A significant number of breast cancers are still going undetected with current screening technology.

iii Lack of awareness in two ways:

(a) The expectations of detection screening do not align with the capabilities of widely used screening technology.

(b) There is a lack of awareness of the masking effect of dense breast tissue, the risk factors for breast cancer and the proper use of diagnostic exams.

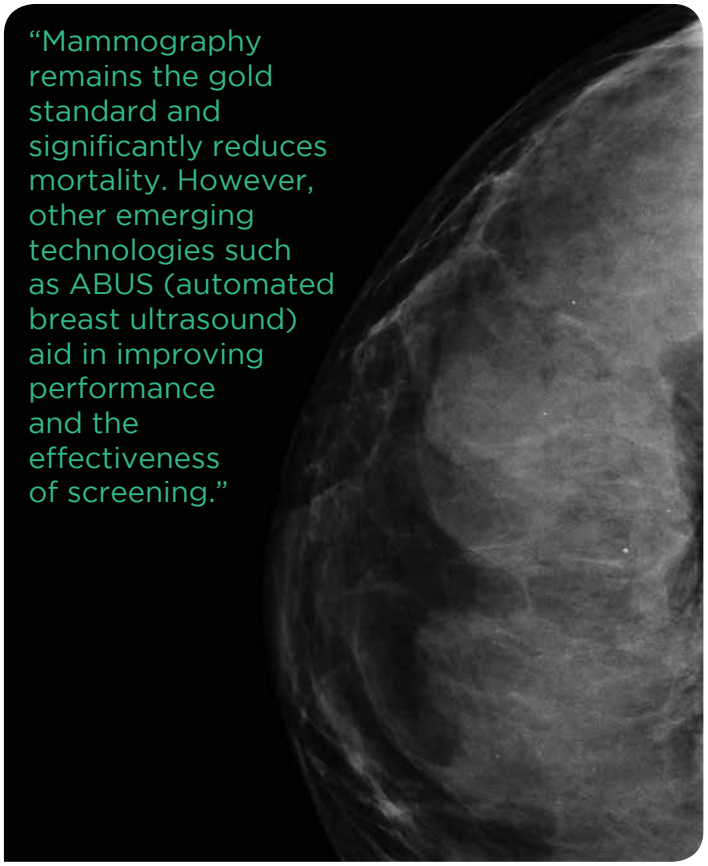
4. Prognostic factors: Limitation on predicting prognosis amongst various forms of breast cancer and subsequently tailoring treatment accordingly.
5. Mortality rates: We are seeing increasing mortality rates in many regions of the world.

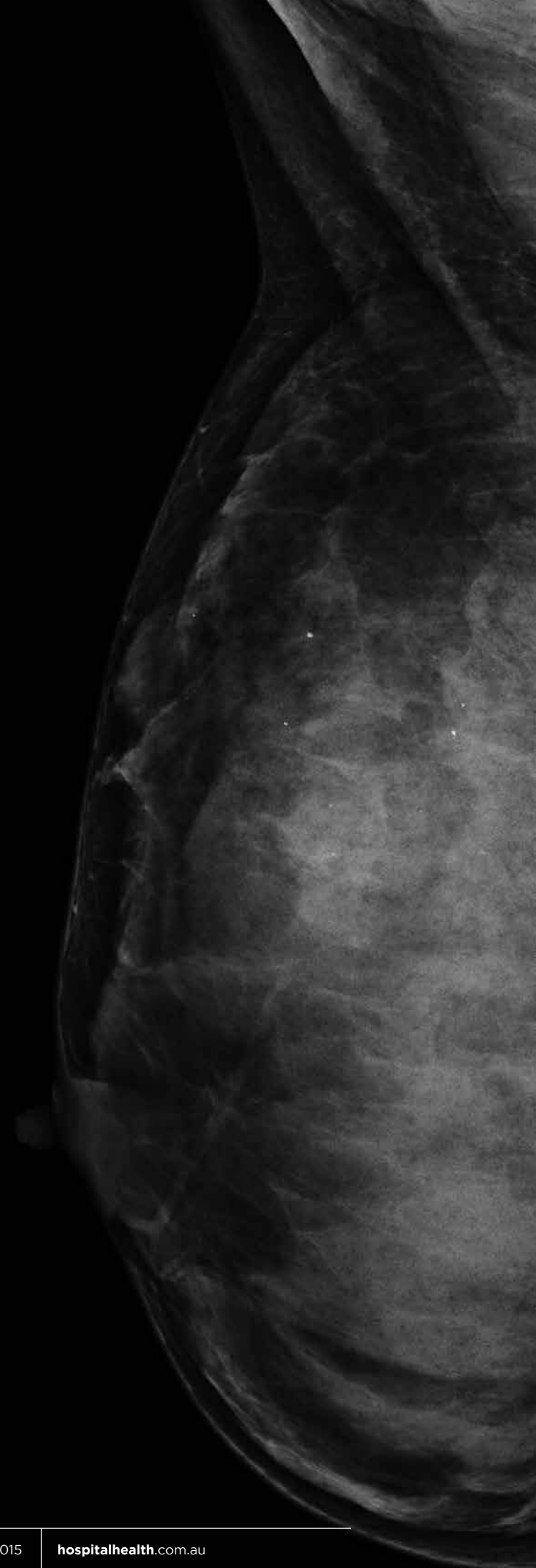
While there has been confusion around the proper use of diagnostic exams as an issue, and we have seen a lot of commentary coming from the UK about the over-prescription of diagnostic tests as a potential danger, Dr Jacob believes over-prescription is not as much of a concern as underutilisation of the proper tools and a lack of individualising and personalising diagnosis and treatment based on characteristics, risk, history and findings.

And so she has partnered with GE Healthcare to launch Invenia™ ABUS in Australia, an ultrasound technology used to detect breast cancer in those with dense breast tissue.

Breast density is defined as the amount of fat and glandular tissue that is within the breast. In dense breast tissue, there is more glandular tissue than fat and the mammogram appears white as opposed to grey. Since cancers are also white, detecting cancers in a background of white (dense tissue) can be challenging since the cancer hides in the dense tissue. This is called the "Masking Effect". Dense breast tissue is a normal finding in a large number of women. Since mammography alone can be limited in women with dense tissue, using supplemental imaging such as ABUS may improve breast cancer detection. ABUS is especially effective in finding small invasive node negative (early) breast cancers.

While men are still at risk of breast cancer, they are less likely to have dense breast tissue. Typically, men have only a sparse amount of glandular tissue unless it is present due to other influences. →





"I am a strong advocate for being open minded to new technologies that could change the imaging arena. U-Systems, the startup that developed ABUS, is an example of how new technology can make a significant contribution,"

→ Mammography remains the gold standard and significantly reduces mortality. However, other emerging technologies such as ABUS (automated breast ultrasound) aid in improving performance and the effectiveness of screening.

To explain how it works, ABUS uses sound waves as opposed to x-rays. The sound waves are able to better penetrate the dense breast tissue. Additionally, on mammography in women with dense breasts, cancers appear white in a white background but with ultrasound in dense breast tissue, cancers appear dark in a background of white and are therefore easier to detect.

Mammography has become synonymous with early detection and is the primary screening exam for all-comers. The evolution of mammography involves both improvement in quality assurance and quality control as well as the progression from film-based (analogue) imaging to digital imaging technology. The benefits of mammography have been repeatedly demonstrated. However, the limitations of mammography in women with dense breast tissue is also well known. It is no surprise that ABUS received unanimous FDA PMA approval as the first and still the only supplemental screening tool specifically for women with dense breast tissue.

The introduction of ABUS into the breast imaging landscape has just begun. With improved workflow and reproducibility, ABUS is well positioned to take the forefront of pioneering technologies and improve accessibility, compliance and misdiagnosis across the world. Given the ability to detect small, invasive, early breast cancers, ABUS will fulfill an unmet need.

Based in Silicon Valley, Dr Jacobs is also a passionate supporter of healthcare startups.

"I am a strong advocate for being open minded to new technologies that could change the imaging arena. U-Systems, the startup that developed ABUS, is an example of how new technology can make a significant contribution," she says.

Dr Jessie Jacob

Dr Jessie Jacob is a board certified, fellowship trained radiologist, a dedicated breast imager and an avid medical writer. Dr Jacob received fellowship training in Breast Imaging and Intervention at Yale University and has directed breast centres in both New York and California. While directing, she initiated multiple programs including accreditation as an ACR Breast Center of Excellence, a 3T Breast MRI program and a High Risk Breast and Ovarian Program.

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.

We serve over 7,500 hospitals and 1,000,000 patients throughout the world, supplying medical gases, hygiene products and equipment to hospital customers, and providing Home Healthcare services to patients in the community.

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 cylinders 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.

It was demonstrated with several case studies in Europe and Canada that hospitals were returning about 50% of their medical oxygen cylinders for refill (considered as empty) when cylinders were actually over 1/4 full. With the new digital integrated cylinders, over 90% of the cylinders were returned completely empty by the hospital. As a focus on lean management and waste reduction practices in the healthcare sector continues, **TAKEO_2™** is the innovative solution for cost savings.

How does it work?

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Reducing Radiation Exposure to Children from Unwarranted CT Scans

The Australian Commission on Safety and Quality in Health Care (the Commission) has developed improved resources for parents and carers, referring clinicians, and other healthcare professionals involved in paediatric CT imaging.

In Australia, recent data show there are over 80,000 computed tomography (CT) scans performed annually on children and young people under the age of 20[1]. CT is a valuable diagnostic tool of benefit in a wide range of clinical situations. However, the higher level of ionising radiation used in CT compared to other types of imaging and their use in childhood or adolescence has been linked to a slight increase in developing cancer later in life, with one extra case of cancer estimated for every 1,800 scans [2].

It is important to ensure that CT scans are undertaken for time-critical conditions and when there are evidence-based protocols for conditions or disease - for example in cases of serious head trauma - CT scans may provide important diagnostic information to the clinical team in a hospital's emergency department. However, children and young people are more sensitive to ionising radiation because their bodies are still developing, so consideration needs to be given to whether:

- an immediate CT scan will improve the child's healthcare
- previous imaging is available that could provide the information needed
- there are other imaging options that could be used
- a justified CT scan be done using a 'kid-sized' radiation dose
- the benefits and risks have been explained to parents and carers

New resources

In partnership with other organisations, the Commission has produced a number of resources for parents and carers, referring clinicians (including GPs, medical specialists and dentists) and medical imaging service providers. These resources include:

- *'What you need to know about CT scans for children'* – a brochure for parents and carers containing information on CT scans, the benefits and risks, and how exposure might be reduced. This brochure could support a conversation between doctors and consumers about CT scans and their child's care.
- *'Talk to your doctor about CT scans for children'* – a poster for display in waiting rooms covering questions parents and carers might ask.
- *'CTs and children: information for referrers'* – a fact sheet for doctors containing information about CT-related radiation exposure, the increased risk of radiation exposure in children and young people and the importance of explaining benefits and risks to patients, parents and carers.
- A consumer brochure and companion poster on cone beam CT as used in oral health care have also been produced for dentists and dental specialists.

Partnership with Australian Institute of Radiography

The Commission also partnered with the Australian Institute of Radiography to undertake a survey of Australian radiographers, and subsequently identified strategies to support radiographers in the technical aspects associated with undertaking paediatric CT scans, through an online learning module.

More information

For more information, including links to these and other resources about CT scans and children and young people visit **www.healthdirect.gov.au@ctscansforkids** or **www.safetyandquality.gov.au/ctscansforkids**

References

1. 2013/14 Medicare data. Figures include cone beam CT used by dental practitioners.
2. Mathews JD et al. "Cancer risk in 680,000 people exposed to computed tomography scans in childhood or adolescence: data linkage study of 11 million Australians". BMJ.2013;346:2360.

"In Australia, recent data show there are over 80,000 computed tomography (CT) scans performed annually on children and young people under the age of 20 [1]."

RANZCR 2015 Adelaide

Have you registered yet? Now is the time!

We encourage you to book now and to be part of The Royal Australian and New Zealand College of Radiologists (RANZCR) 66th Annual Scientific Meeting to be held 29 October – 1 November 2015 at the newly redeveloped Adelaide Convention Centre in Adelaide, South Australia.

We are very excited about the upcoming 2015 ASM in Adelaide 29 October – 1 November. Registration is still open, and we encourage you to register before 14 September 2015 to obtain the standard discounted rate and secure your place in the number of exciting workshops on offer at this year's meeting.

The local organising committee have finalised the program which is an excellent mix of invited keynote speakers, local speakers, proffered papers and exhibits.

The radiology program will be covering topics on neuroradiology and breast imaging, abdominal and pelvic imaging and the musculoskeletal system. We have been successful in attracting eminent professors in these fields to present at the conference, including Professors Anne Osborn, Elizabeth Morris, Mini Pathria, Paula Woodward, Paul Chang and A/Prof Steven Trenkner.

Prof Paul Chang will be bringing his Medical Informatics program to Australia. It will be the first time for it to be presented out of North America.

Highlights of the radiation oncology program will include hearing invited speakers Prof Jay Loeffler from Boston and Prof Laura Dawson from Toronto discusses aspects of proton therapy and stereotactic ablative therapies, respectively. We will also be running the popular FALCON contouring workshop again—this time on breast cancer contouring, run by the current ESTRO President, Prof Philip Poortmans. There will be other eminent international guests joining us, including Prof Michael Steinberg from ASTRO.

View the program online at **www.ranzcr2015.com/scientific-program**

We are also pleased to offer a number of Workshops and Interactive Sessions during the ASM, workshop places are limited; therefore we encourage you to register early to avoid missing out. For further information on each workshop, the cost to attend and how to register please visit the ASM website **www.ranzcr2015.com/workshops-and-interactive-sessions**

Networking is an important element of the Meeting and is one of the reasons why delegates attend. RANZCR ASM 2015 will provide plenty of opportunities for delegates to interact with colleagues, sponsors and exhibitors. Social program highlights include the Welcome Reception, the Radiation Oncology Dinner at Adelaide Oval and of course the Annual Gala Dinner—always a night not to be missed! 2015 marks the 80th anniversary of The Australian and New Zealand Association of Radiology (ANZAR), with a special tribute to be made on the Saturday evening at the dinner.

We look forward to welcoming all radiologists and radiation oncologists to Adelaide in 2015 to what will be an inspiring and exciting meeting!

Dr Evelyn Yap
2015 Radiology Convenor

Drs Andrew Potter and Braden Higgs
2015 Radiation Oncology Co-Convenors

The Royal Australian and New Zealand College of Radiologists

2015 marks the 80th anniversary of The Australian and New Zealand Association of Radiology (ANZAR)

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For all the latest updates and hot off the press information on the ASM, don't forget to follow the College on Facebook, Twitter and LinkedIn or visit the meeting website **www.ranzcr2015.com** for more information.

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University of Utah, Utah, USA
SPECIALTY: NEURORADIOLOGY

PROFESSOR ELIZABETH MORRIS
Memorial Sloan Kettering Cancer Center, New York, USA
SPECIALTY: BREAST IMAGING

PROFESSOR PAUL CHANG
University of Chicago, Illinois, USA
SPECIALTY: INFOMATICS

PROFESSOR MINI PATHRIA
University of California, San Diego, USA
SPECIALTY: MUSCULOSKELETAL IMAGING

PROFESSOR PAULA WOODWARD
University of Utah, Utah, USA
SPECIALTY: BODY AND PELVIC IMAGING

ASSOCIATE PROFESSOR STEPHEN TRENKNER
Mayo Clinic, Minnesota, USA
SPECIALTY: GASTRO-INTESTINAL IMAGING

RADIATION ONCOLOGY

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Australian Diagnostic Imaging Association **Feature**

Breast Imaging – The Way Forward

At some point during our lifetime we will know someone affected by breast cancer. It is the most common cancer in women (excluding non-melanoma skin cancer) and accounts for 15.5% of all female cancer deaths in Australia.[1] It is estimated that 1-in-8 Australian women will be diagnosed in their lifetime[2] and the incidences of breast cancer are increasing – by 2020 it is estimated that there will be over 17,000 new cases of breast cancer in Australia alone.[3]

While breast cancer is well known, there are still a number of facts that are overlooked. For example, diagnosing breast cancer is far from easy. While risk factors such as a strong family history or known genetic mutation are known, only 5-10% of breast cancers are due to these factors.[4] Equally as difficult are issues such as breast density, which not only makes it more difficult to find breast cancer, it may also increase the risk of having cancer by up to six times.

Faced with these challenges, the diagnostic imaging sector is constantly striving to tackle breast cancer by developing techniques that enable it to be detected earlier and with greater accuracy. This article looks at the current methods used to find breast cancer and the advances that will transform the diagnosis and treatment of breast cancer in the years to come.

Breast Imaging Today

Dr Manish Jain, a radiologist and specialist in breast imaging, outlines four modalities that are used to detect and monitor response to treatment for breast cancer - mammography, ultrasound, Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) – and highlights the value of patient access to each of these modalities for both screening and diagnosis.

'The problem with breast cancer is that it is a collective term for a large variety of diseases. There are different types of breast cancer and not all are visible with any one modality. It's like looking at the world through different coloured lenses – you might only be able to see the road with one lens.'

Mammography, for example, is the first port of call when screening for breast cancer. Mammography, more commonly referred to as a mammogram, uses low energy X-rays to scan the breast and involves compressing the breast between two flat plates to obtain high quality images.

'However, the effectiveness of mammography is reduced if the breast tissue is too dense'.

More recently a process called tomosynthesis, commonly referred to as 3D mammography, has emerged.

'Over time I would expect that 3D mammography will replace conventional mammography completely. It has been shown to detect more cancers earlier and reduces both false positives and negatives.

Ultrasound, another modality used to diagnose breast cancer, is often used to supplement a mammogram and is generally used to diagnose any abnormalities detected during a scan. Ultrasound can help to show additional features of an abnormal area and is also used to guide breast biopsies using the real time images ultrasound produces.

Similarly, MRI is also a supplementary tool for mammography and ultrasound for the staging of breast cancer or screening of high-risk patients. It has a number of benefits, particularly with breasts that are too dense for conventional mammography. There is no compression of the breast in MRI and it is more sensitive than mammography and ultrasound in depicting breast cancer. MRI scans are also beneficial as they do not use ionising radiation.

Unfortunately MRI for breast cancer attracts very limited Medicare funding. 'As far as Medicare is concerned, MRI is only available for screening, and only then in limited, high-risk individuals. For the staging of breast cancer MRI is not currently eligible for a Medicare rebate' says Dr Jain.

PET is another modality that is effective for the staging of breast cancer. A form of nuclear medicine, PET uses a radioactive tracer to locate cancerous cells. It has been shown to be more accurate than a conventional

Dr Christian Wriedt
President of the Australian Diagnostic Imaging Association

ADIA represents medical imaging practices throughout Australia, both in the community and in hospitals, and promotes ongoing development of quality practice standards so doctors and their patients can have certainty of quality, access and delivery of medical imaging services.

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imaging[5] for initial breast cancer staging[6]. Unfortunately there is no Medicare rebate available for this procedure.

While each of these modalities has an important role to play in the diagnosis and monitoring of breast cancer, new technologies are constantly being developed to increase the accuracy of breast imaging.

The Future of Breast Imaging

Dr Jain highlights two advances that are worthy of note in breast imaging – Contrast Enhanced Spectral Mammography (CESM)[7] and Breast Specific Gamma Imaging (BSGI).

CESM is a relatively new procedure that takes conventional mammography one step further. It creates more detailed images that assist in identifying breast cancer. The procedure involves injecting a patient with a special dye prior to undergoing a conventional mammogram and takes about 15 minutes to perform.

'Currently it is a new procedure with a limited application' says Dr Jain, 'but shows a great deal of promise in the detection of breast cancer'.

CESM has demonstrated a greater sensitivity than conventional mammography and may be useful in the identification of breast cancers in patients with dense breasts and for some patients it may be a viable - and less expensive - alternative to diagnostic MRI for breast cancer patients.

Breast Specific Gamma Imaging, or BSGI, is a form of nuclear medicine that is designed specifically for breast cancer. The process involves the insertion of a radioactive tracer that travels to the breast. Abnormal tissue takes up more dye than normal tissue and this is identified by a special gamma camera that captures images of the breast. The test takes approximately 45 – 60 minutes to perform.

BSGI has shown a great deal of promise in assisting clinicians with staging breast cancer and can help to identify if multiple breast tumours are present. It is also a valuable tool in identifying lesions within the breast that need a biopsy. Nuclear medicine breast imaging may be appropriate for patients with dense breasts or large abnormalities that are difficult to examine with mammography or ultrasound.

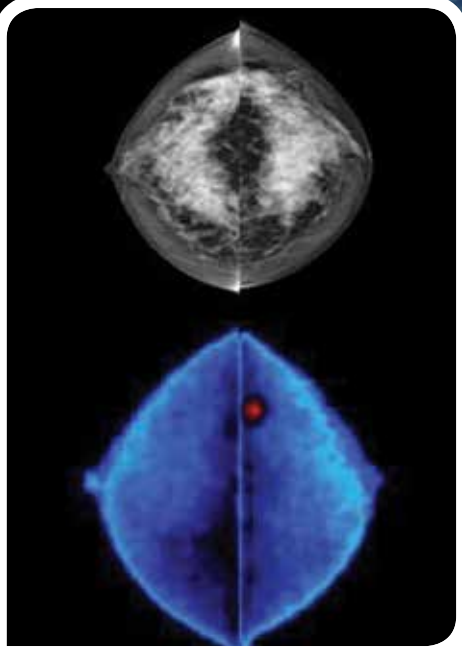
It is important to note that BSGI is not appropriate for the screening of breast cancer and has a limited ability to detect small abnormalities.

Where to from here?

At the end of the day it is essential that all patients have access to the correct imaging when dealing with breast cancer. However, the current funding arrangements make this difficult. Dr Jain highlights the importance of appropriately funding for the basic necessities for breast imaging, such as ultrasound and MRI.

'The lack of Medicare funding for diagnostic MRI and ultrasound limits patient access to these imaging modalities. This reduces the chances of detecting breast cancer early and early detection is essential because finding breast cancer early is both better for the patient and reduces the cost to the health system.'

At one time or another breast cancer will affect us or someone we love. It is essential that Medicare funding is available, not simply when screening for breast cancer, but also for patients who require imaging following their diagnosis. Breast imaging needs to be available to every patient – not just those who can afford to pay significant upfront costs.



The impact of BSGI

TOP: a mammogram that is difficult to interpret due to dense breast tissue.

BOTTOM: Utilising BSGI, a lobular carcinoma was detected in a region that returned a benign biopsy in a patient with dense breasts

Resources:

1. Australian Cancer Incidence and Mortality (ACIM) Books - Breast cancer for Australia (ICD10 C50). http://www.aihw.gov.au/acim-books/ [Accessed July 2015]
2. National Breast Cancer Foundation, www.nbcf.org.au/Research/About-Breast-Cancer.aspx [Accessed July 2015].
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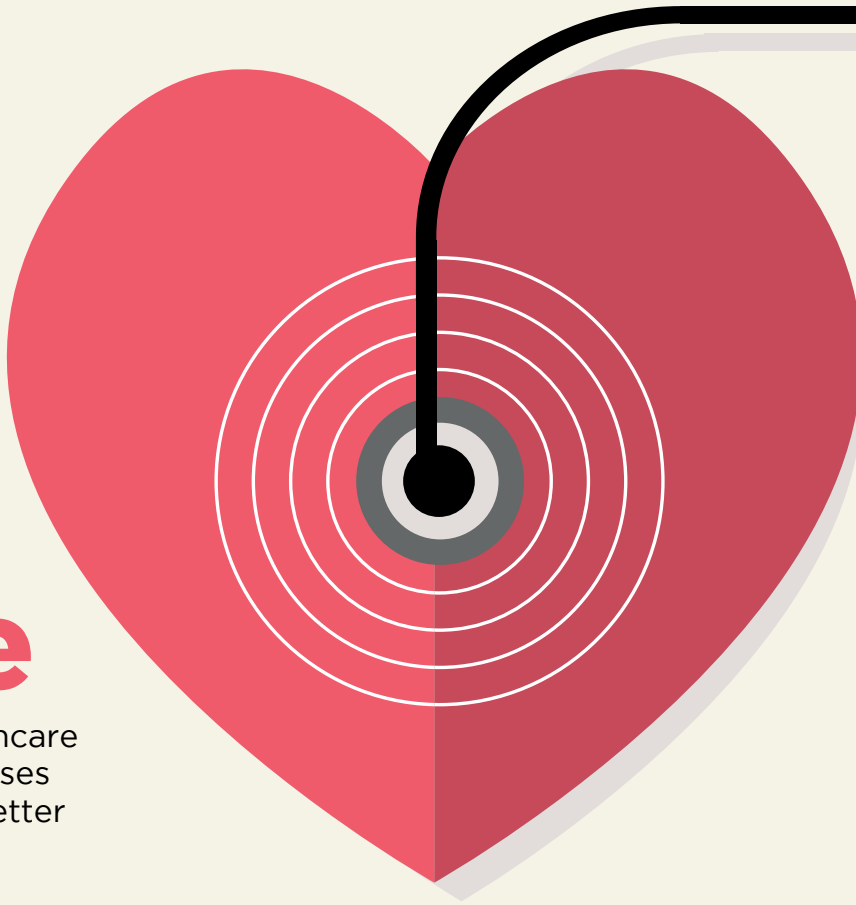
4. Sue-Anne McLachlan, 'Managing healthy women at risk of breast cancer', Australian Prescriber, Vol. 25 No. 6 2002).
5. The conventional multimodal algorithm utilizes X-ray mammography, breast ultrasonography, chest plain radiography, bone scintigraphy and ultrasonography of the breast, liver and axillary fossa.
6. Riegger et al (2012), ' Whole-body FDG PET/CT is more accurate than conventional imaging for staging primary breast cancer patients' European Journal of Nuclear Medicine Vol 39, 852–863
7. Fallenberg et al. 'Contrast-enhanced spectral mammography versus MRI: Initial results in the detection of breast cancer and assessment of tumour size', European Radiology, January 2014; 24(1), 256-64.



Wearable Devices in Healthcare

Wearable devices are transforming healthcare and medicine. *Christopher Roosen* discusses how the design of devices can provide better interaction between patient and clinician.

Just one example is Dartmouth University's development of an an app called 'StudentLife' that uses data collected from wearables to predict a student's grades based on their sleeping, studying and exercise habits.

In more formalised hospital settings wearable devices are recording patient location, heartbeat, breathing rate, perspiration, temperature and even the makeup of exhaled gases and waste products.

As the volume of consumer grade health focused wearable devices increases, so does user feedback. Already, early adopters and the leading edge general consumer struggle with the challenges of managing a growing number of experience touch-points.

"Do I need to wear all these devices?"
"When and how often should I check each one?"
"How do I use all this different data?"
"Do I really have to look at all these screens?"
"What information is being captured and why?"
"Why should I bother?"
"How do I get these to connect?"

Macro themes emerge from an analysis of actual and prospective users.

Can users trust the devices they use, or the answers they give? What value does a heavily tracked life give? Do the devices create more workload then they are meant to alleviate? Do the wearable devices create more freedom or constrain it? What are the experiential cost/benefit tradeoffs if Big Brother is always watching our every move, both literally and metaphorically? Will the stress of having constant access to our health data result in even more medical conditions?

User Experience Design provides an interesting perspective on how to intentionally and purposefully design an integrated fabric of device experiences that provide both value and clarity.

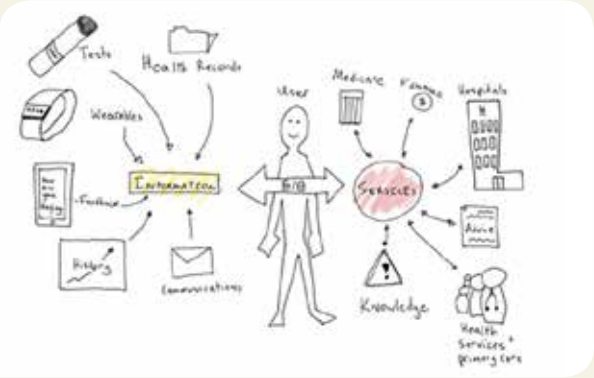
A 'user experience' can be defined as the emotional, psychological and physical sum that emerges when someone uses a product or is part of a larger service or system.

Creating a user experience goes far beyond just the visual or graphic design of the screen or user interface of a wearable device. It involves the rich set of features, rules, constraints, behaviour and interactions that make an experience.

More importantly, a holistic experience is not something that happens in a single momentary interaction. Typically we define experience as something that is the combination of many experiences over time and possibly varying locations.

In the case of health and wellbeing, experience extends both up and down the continuum of wellness and across the many interrelated moments that shape our health. From being well and maintaining wellness, through to managing the physical, mental and emotional challenges associated with sickness or end of life.

Knowing the complexity of both the real-world journey and of the potential volume and complexity of a web of wearable devices, our focus should not be on designing a single interface, but on creating entire experiences architectures that provide the scaffolding or framework for effective individual wearable devices to fit within a larger holistic system. A well-designed User Experience architecture in the wearable space should be part of a User Experience architecture that puts the user in control and at the centre of their experience.



Potential user experience architectures can be evaluated, measured or analysed according to rules that increase physical, psychological or social wellbeing.

Overall	
Protection	Protect the user at the centre of the experience
Psychological	
Insight	Deliver insight, not just aggregation
Workload	Equal or less work than existing processes
Centralised	Provide a centralised controller touch-point to reduce cognitive load
Stress	Reduce stress and distractions by adopting natural cues (eg, temperature/pressure triggers)
Physical	
Comfort	Physically comfortable and practical
Social	
Dignity	Increase dignity, don't reduce it
Privacy	Let people control their privacy

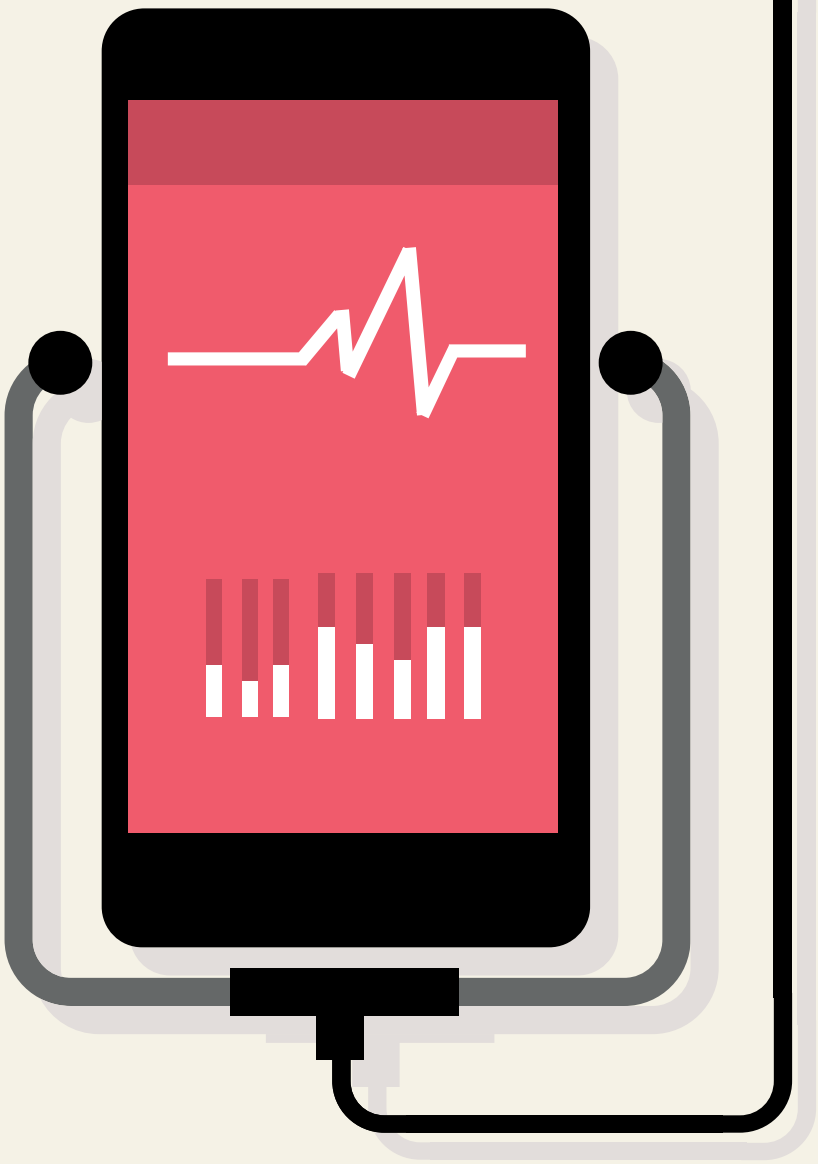
Any or all of these rules are not intended to stifle the incredible insight gained when rich sources of data are connected together. As a practical everyday example, imagine a wearable device that could automatically detect every piece of food that a person ate, twenty-four hours a day, seven days a week. Knowing that the aggregate of everyday food choices significantly affects future health and disease, what if the hypothetical device continually predicted and re-predicted your life expectancy based on food choices? Only on the surface does this seem like a good idea. It is more likely that the paranoia and fear associated with 'losing' a week off your life after eating one too many desserts would create deeper psychological issues than it would create gains in physical well being.

Instead, user experience rules suggest the system should subtle and slowly nudge the user away from a larger sequence of unhealthy behaviour, rather than giving an abrupt warning. This is more in tune with a trade-off between immediate severe punishment and gentle, long-term guidance.

Granted, there is also political dimension to using a user experience lens on the strategy, analysis and design of wearable devices in healthcare. A user experience focus, by its nature, leads the design of requirements, rules, and technology from the needs, boundaries and goals of individual users or groups. In this way, the wearable device frameworks proposed by user experience can create rapid, democratic and personalised experiences.

However, this can sit in tension with the slower, paternalistic and impersonal experiences of some more formalised healthcare. Though these opportunities don't need to create opposition, there is a distinct paradigm shift in thinking that occurs when wearables continue to make their presence known in the healthcare space.

The goal then remains to create a user experience that balances the best technological capabilities that wearable devices have to offer, with the least amount of political friction to create the best user outcomes.



A 'user experience' can be defined as the emotional, psychological and physical sum that emerges when someone uses a product or is part of a larger service or system.

Christopher Roosen

Christopher Roosen is the owner of Cognitive Ink, a user experience (UX) consultancy based in Sydney, specialising in the innovation and design of products, services and experiences. He has a deep interest in using calm technologies to reconnect people with their communities and the environment. Obsessed with understanding how and why users think and behave, Christopher's expertise grounded in a Masters degree in Cognitive Psychology and a Postgraduate Certificate in Human Factors (a specialist discipline involving user-focused design to fit the physical and mental capabilities and limitations of human beings).

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The PCEHR arrives in the last chance saloon

Australia has been working on the implementation of a National E-Health Record System for at least the last fifteen years. This has been since the release of the National Health Information Action Plan for Australia in late 1999. The mission of the plan was:

"To improve the delivery of healthcare and achieve better quality of care and health outcomes through effective and innovative use of health information"

You can download a summary of that document (and many others) from this link:

http://ozhealthithistory.wikispaces.com/file/view/summary.pdf/182744435/summary.pdf

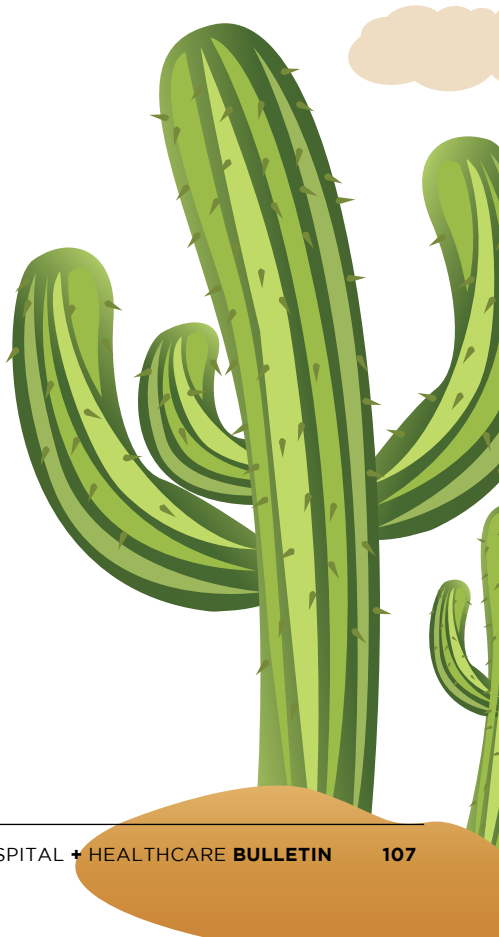
The summary of what was being envisaged way back in 1999 makes very interesting reading indeed (p11)!

What will the Australian healthcare system look like in the future?

So what might the Australian healthcare system look like in the future? If firm foundations are laid and if the projects mapped out in Health Online are implemented, then Australia's future healthcare system could look like the following:

- Consumers and providers, wherever they are located (in the city or the country), will have online access to clinical records, clinical advice, specialist referrals, diagnostic tests and results, and other telehealth services;
- Consumers will have the opportunity to provide general practitioners, specialists, hospitals (public and private) and other health providers with access to information on their clinical histories held in comprehensive lifetime electronic health records (to which consumers themselves would also have access), with appropriate regard to security, privacy and the appropriate use and disclosure of data;
- There will be a seamless delivery of care for the consumer with the right information being available at the time and place where care is delivered — and with greater integration and exchange between health and community sectors;
- Relevant information from medical records will be integrated with clinical decision-support systems;
- Consumers and providers will have ready, electronic access to information to support informed choices among potential treatments and so provide better quality health service at the time and point of delivery;
- Consumers, providers and managers will have access to high-quality data for performance information development for benchmarking and quality improvement purposes;
- All providers will be linked with the key funders of the system (such as private health insurance funds and the Health Insurance Commission) to enable online, real-time transactions, including forwarding referral information and pharmaceutical prescriptions;
- Data will be gathered as a by-product of operational systems to support research into improved promotion, prevention and treatment, and to provide a foundation for public health initiatives generally, while at the same time maintaining privacy and confidentiality; and
- Consumers, providers, healthcare organisations and governments will have access to data that enable measurement of quality of care and health outcomes to inform treatment choices and policy development.

"Governments of both persuasions - and largely the same bureaucrats - have been working on National eHealth for over 15 years, have spent a fortune, and are still trying to work out how to get it right at further expense for the long suffering taxpayer."



Fast forward fifteen years and where are we, and just how far have we moved down the agenda outlined so long ago?

After the false start of HealthConnect Program in the noughties - which was essentially abandoned when Joe Hockey told Tony Abbott it might cost a billion dollars - in the 2010 Budget the then Health Minister (Nicola Roxon) announced a Personally Controlled National E-Health Record (the PCEHR). This was to go live in 2012 - as it duly did - to a fairly complete lack of interest from both consumers and providers - after many hundreds of millions of dollars were spent. The lack of use, and interest in the system, led to a review by the incoming Abbott Government in 2013.

The review then led (for very unclear reasons) to the commitment of nearly another $500 million to be spent in the next three years from 2015 to operate what had been developed and to, by compulsion, essentially force every citizen to have a record within the PCEHR, subject to some trials for this 'opt-out' (of having a record approach). The rationale for this approach was that if everyone had a record clinicians and consumers would all then be keen to use the system, as there would be some information to see were the record to be consulted. →

→ As of the time of writing planning for the trials - to cost $50M are underway and submissions have just closed (early July, 2015), with some pretty concerned responses, on the enabling legislation to create an electronic health record for everyone who is not quick enough, or conscious enough, to opt out of this happening to them.

Late last year Deloitte consulted with a wide range of stakeholders about views on the PCEHR and at least one finding is totally congruent with the fate that has been met by submissions over the years on the topic by many people (including myself). Deloitte reported (p20) the following:

"Some stakeholders feel that input they have provided in the past has largely been ignored. There is also an impost on provider's time which tends to be uncompensated, this becomes an issue when stakeholders feel their advice and experience is having little impact."

Here is the link:
http://health.gov.au/internet/main/publishing.nsf/Content/17BF043A41D470A9CA257E13000C9322/$File/Report%20-%20Consultation%20on%20PCEHR%20Review%20Recommendations%20-%20Sep2014.pdf

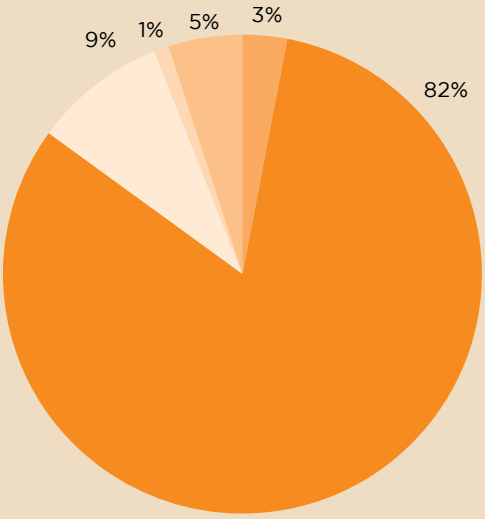
With this background we get to the title of this short piece (Last Chance Saloon). Governments of both persuasions and largely the same bureaucrats have been working(?) on National eHealth (and a National eHealth Record) for over 15 years, have spent a fortune and are still trying to work out how to get it right at further expense for the long suffering taxpayer. All the evidence I have seen indicates they don't listen to feedback - even when it is seriously well informed and responsible - and worse they have, in the most recent consultation round, seemingly kept important research from those responding to the most recent request for submissions.

It is my strong view that if stakeholders do not see comprehensive, well considered and reasonable responses to the significant issues raised this time (June 2015) that it is unlikely stakeholder trust and interest in such projects can ever be recovered. Bluntly, most involved are sick of having bureaucrats simply ignore their contributions for no good reason.

Here is a link to the consultation page and some responses:
http://aushealthit.blogspot.com.au/2015/07/some-intelligent-and-hardly.html

This recent poll of the engaged specialist readers of my blog illustrates the level of cynicism: AusHealthIT Poll Number 278 – Results – 12th July, 2015.

Do You Believe The Government Is Serious About Conducting The Opt-Out Trials For The PCEHR Or That The Outcome is Pre-Determined And They Will Just Go Ahead?



They Will Publish And Take Notice Of The Results	3%	(4)
They Will Just Proceed To Opt-Out	82%	(108)
The Trials Won't Actually Work Or Be Evaluated	9%	(12)
I Have No Idea	1%	(1)
Other Answer Not Covered Above	5%	(6)
Total votes		131

Conclusion: Seems a very large majority think any input from stakeholders and the public will just be ignored.

It is thus vital, if we are not to throw huge sums of good money after bad, that the Department of eHealth Branch starts listening to expert and experienced advice and acting on it. If they do not we will be condemned to another 15 years of grand sounding ideas and hardly any progress on the ground. That this has gone on so long with so little progress just beggars belief!

Use of Health Information Technology, sensibly and based on evidence, can make a major positive difference to our health system. What is needed to realise that promise is dramatically improved leadership and governance (as well as a broad range of skills which are presently ignored), otherwise all hope seems lost.

"Some stakeholders feel that input they have provided in the past has largely been ignored. There is also an impost on provider's time which tends to be uncompensated, this becomes an issue when stakeholders feel their advice and experience is having little impact."

Dr David More
Health IT Consultant

Dr David More is a Health IT consultant with more than 20 years' experience in the e-Health area. His blog can be found at aushealthit.blogspot.com and covers all matters e-Health. He may be contacted via the links provided on the blog.

CONFERENCE COVERAGE

SEPTEMBER

World STI & HIV Congress
September 13, 2015
– September 16, 2015
Brisbane Convention Centre
Merivale Street & Glenelg Street
South Brisbane QLD 4101 Australia
www.worldsti2015.com/ehome/index.php?eventid=91027&

Transitioning to eMedication Management Systems
September 15, 2015 – September 16, 2015 Woodward Conference Centre
University of Melbourne, 185 Pelham Street, Carlton VIC 3053 Australia
www.criterionconferences.com/event/medicationsafety/

Australasian HIV & AIDS Conference 2015
September 16, 2015 – September 21, 2015
Brisbane Convention & Exhibition Centre
Merivale Street & Glenelg Street
South Brisbane QLD 4101 Australia
www.eiseverywhere.com/ehome/index.php?eventid=91027&&internal=1

OCTOBER

LASA National Congress 2015
October 11, 2015 – October 14, 2015
Melbourne Convention & Exhibition Centre
1 Convention Centre Place
South Wharf VIC 3006 Australia
www.lasacongress.asn.au/

Institute of Hospitality in Healthcare National Conference
October 12, 2015 – October 14, 2015
Hilton Hotel Brisbane
Travelex Wintergarden, 190 Elizabeth Street, Brisbane QLD 4000 Australia
http://ihhc.org.au/

The National Nursing Forum – Advancing Nurse Leadership
October 14, 2015 @ 5:00 am
– October 16, 2015 @ 6:00 am
Australian College of Nursing
http://acn.edu.au/forum_2015

Australian and New Zealand Burn Association (ANZBA) 39th Annual Scientific Meeting
October 20, 2015 – October 23, 2015
Crown Convention Centre
8 Whiteman Street
Southbank VIC 3006 Australia
www.anzbaasm.com/

HIMAA NCCH National Conference
October 27, 2015 – October 29, 2015
Sydney Masonic Conference and Function Centre. 66 Goulburn Street
Sydney NSW 2000 Australia
http://himaa2.org.au/conference/

Royal Australian & New Zealand College of Radiologists – RANZCR
October 29, 2015 – November 1, 2015
Adelaide Convention Centre
1/15 Leigh Street Adelaide SA 5000 Australia
www.ranzcr2015.com/

NOVEMBER

48th AAG National Conference
November 4, 2015 – November 6, 2015
Alice Springs Convention Centre
93 Barrett Drive Desert Springs NT 0870 Australia
http://aagconference.asn.au/

Hospital in the Home 8th Annual Scientific Meeting
November 11, 2015 – November 13, 2015
Rydges World Square, Sydney
389 Pitt Street Sydney NSW 2000 Australia
http://conference.hithsociety.org.au/

COSA 42nd ASM
November 17, 2015 – November 19, 2015
The Federation Conference and Exhibition Centre, Hotel Grand Chancellor
1 Davey Street Hobart TAS 7000 Australia
http://www.cosa2015.org/

Australian College for Infection Prevention and Control 2015 Conference
November 22, 2015 – November 25, 2015
Grand Chancellor Hobart
1 Davey Street Hobart TAS 7000 Australia
www.acipcconference.com.au/

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The Endless Possibilities of Foodservices

Change is constant and the way market segments stay in touch and grow is through innovation and integration. *Dr Karen Abbey* shows us how an idea becomes a new reality.

Services such as hospitals, Meals on Wheels and residential aged care homes continue to evolve: undergoing transformations in the way they operate. Change is used to redefine the system and integrate different market operations to achieve personal, organisational, financial and resource goals. In today's society there is a constant push to innovate and integrate service models to seek out different ways of performing tasks and working faster so that organisations are more cost-effective, doing more with less and delivering better outcomes to the users of these services.

We can only imagine what our centenarians reflect upon in their 100 years of being alive and watching how the world has transformed. From taking a ship that took weeks to get to Australia, where the radio and writing letters were the main form of communication, to now when that same word means operating smart technology to talk to their great-grandchildren on the other side of the planet.

The world today is so small compared to 100 years ago, everything happens almost instantly with the communication options that are at our fingertips. Today we all need to be more tech savvy; handling and manipulating multiple communication systems in a never-ending stream of information which bombard our phone, tablets, laptops, watches and glasses (and bombard our senses!), thanks to the technology we constantly carry with us. People are now booking into technology-free retreats just to turn off the world and have some peace and quiet!

But what does all this have to do with foodservices? This new way of sourcing information means everyone has access to Google. Anyone can look up topics to do with health, nutrition, science, foodservice, cooking, or recipes; meaning that clients are armed with more information then ever before.

This is one of the primary reasons why consumer expectations are starting to increase and changes are needed to current service models. People are looking for more bang for their buck through specials, discounts and better eating experiences or more convenience. Foodservices like all industries are under constant competition trying to meet market demand, niches and follow trends.

Examining McDonald's it has integrated all its operations to work on a multi-service platform to meet the wide needs of its consumer base. Innovations over the last couple of years have seen healthy options on the menu, dine and be served with create your own hamburger, drive through convenience, coffee shop and now drive through to get your morning coffee. This is an example of multi-flexible innovations which has integrate their services but providing choice and quality to consumers and that is the key to their success.

The development of the HACCP system first used by

NASSA is an example of innovation and integration and now widely used across the foodservice industry for a safer food supply. Most foodservices started out with paper-based system but technology has provided the means now where equipment can be monitored remotely and the reams of paper no longer used for document control. Reducing the time it takes for this system to be managed and though while there are technology cost they are outweighed by accuracy, reporting frameworks and integration between equipment.

Development of smarter multi-purpose production and meal delivery equipment such as combi ovens, kettles, the use of induction cooking, pressure cooking and design features that are programmable, HACCP control and remote or wirelessly controlled. Even in kitchen design multi-functional equipment allows for smaller design footprints which reduce building costs which incorporate cook, chill, sous vide and room service models all contributing to how food is produce and delivered to clients. Menus are managed electronically and clients have more access to point of service choice models. All of the above aimed to improve service time, reduce food and labour costs, increase choice and satisfaction within the dining experience.

Competition is driving change of traditional foodservice models, where food is the battleline and choice is what people are looking for with convenience of meal planning, meal preparation and delivery.

When you have cooked all your life, having someone else prepare your meals at night is an attractive service for the elderly in the community. With new players looking for a slice of this increasing market from ready-prepared, cooked fresh, cook-chill and frozen to providing all the ingredients and recipe in a box for easy preparation. This segment is targeting the elderly down to the busy family and convenience is the new trend which allows people to reallocate more time into their life by reducing the time needed in the kitchen. Even the supermarkets provide options as they have decreased the size of the fresh produce section and incorporated more ready-made meal components, salad bars, pre-cut up fruits, soups, sushi stations and the list all catering for the home bound consumer to pick up something from the train station pop in the microware and all done and ready to eat 5 minutes after walking in the door. Vending machine design has also changed not only for the snack market but also the ready-made meal market where they are open 24 hours a day, require no labour except for the restocking with communication technology using Wi-Fi purchase monitoring, which enables restocking procurement to be organised before the van leaves the warehouse. Technology is leading the way for service and system design. Doing more with less in a fast, efficient way that links service components.

Growing expectation of services is one of the primary drivers for the innovations of all technologies. The patients, clients and residents of today have been brought up in a society where expectations of servicers are very different. Menu planning and foodservices will have to be able to provide for these demands for delivery of a tasty meal meeting the increasing dietary needs people have. These include allergies/intolerances but also the trendy eating patterns of paleo, no sugar, slow food movement, vegan and vegetarian. An example of a recent conversation I had with an aged care facility asking for advice on the paleo eating plan to integrate this into their menu. This is just one example of how homes, hospitals and community meals services are going to have to be able to prepare meals in the future. Choice is the new commodity; those that can provide it will succeed and menu planning will be shaped around this concept. We have already entered the era of consumer directed care and choice is the cornerstone of this policy development.

Innovation and integration will come at a cost. How does an organisation get up with the speed of change? How do you keep staff motivated? And how do your services withstand the rapid changes needed to ensure success? One way which is fast becoming apparent is that people need to continual upgrade their skills, qualifications, IT levels and be prepared to move with change.

Foodservices has unlimited possibilities but one thing is certain motivation to innovate and integrate will ensure foodservices will continually change.

Australian Hospital and Healthcare Bulletin readers are invited to join the Nutrition and Catering Global Hub, a rich information source for all involved in the foodservices sector. Sign up at **www.nutcat.com.au.**

"We have already entered the era of consumer directed care and choice is the cornerstone of this policy development."

Dr Karen Abbey

Dr Karen Abbey is a foodservice specialist dietitian providing catering and dining room consultancy and training services to the aged care industry in Australia. Karen specialises in aged care dining and foodservices, problem solving and finding solution to improve services and outcomes for residents and staff. Karen presents widely for the aged care conferences and writes widely for the national publications. Karen is the editor of the Nutrition and Catering

Global Hub (www.nutcat.com.au) a free online publication everyone can access, proving valuable information to support foodservices. Karen has completed a PhD which focused on menu planning and the meal environment in residential aged care in Australia.

It's time to flip the way you think about pre-prepared egg dishes.

Sunny Queen Meal Solutions have cracked serving good food, fast.

Making every bite count for people suffering or recovering from illness is essential to ensuring the best health outcomes, and eggs are a kitchen manager's best friend. Packed with protein, vitamins and minerals, egg dishes are easily digested as well as delicious and – thanks to Sunny Queen Meal Solutions – they're now even easier to include on your menu.

Sunny Queen has perfected pre-prepared egg meals in their ever-expanding range of Meal Solutions. Hospitals and health care facilities around Australia are finding Meal Solutions to be the most convenient, safe and delicious way to serve real egg dishes at any time of day. From rustic-looking Home Style Poached Eggs with deliciously creamy yolks to tasty snack-size Egg Bites, nutritionists, cooks and diners agree that these meal solutions tick all the boxes of nutrition, convenience and taste.

There's no disguising Sunny Queen quality.

For three generations Sunny Queen has been synonymous with top quality, fresh, great tasting eggs. Now, with the completion of their new, state-of-the-art kitchen, this commitment to quality is extended through the Meal Solutions range. All products are made with fresh farm eggs, are gluten free, and contain no added colours or artificial flavours.

Serious about food safety.

As all good cooks and chefs know, food safety is of critical importance. Sunny Queen Meal Solutions dishes are all delivered either fully cooked or pasteurised, eliminating the need for using raw eggs. This is especially important in kitchens catering to unwell or elderly diners. Dishes are delivered snap frozen and packed into conveniently–sized portions so cooks only need to defrost the quantity required.

Many meals served in minutes? Now it's overly easy!

Serving Meal Solutions couldn't be faster or easier (and saving time means saving money). Use a microwave, grill, combi or conventional oven to heat, then garnish as you and your diners prefer.


Goats Cheese & Caramelised Onion Egg Bites


Fetta & Spinach Omelette


Roasted Pumpkin, Spinach & Fetta Fritters


Scrambled Egg Mix

Real eggs.Real easy.

»
To see how Sunny Queen can add tasty, new favourites to your menu, speak to the Sunny Queen Customer Service Team on **1300 834 703** or visit **www.sunnyqueenmealsolutions.com.au**

Real Eggs To Delicious Meals.

Real eggs, laid on Sunny Queen farms.

Cleaned and pasteurised for food safety.

Prepared by chefs in our state-of-the-art kitchen, using top quality ingredients to create a range of delicious, nutritious dishes.

Carefully packed in practical portions.

Snap frozen to lock in freshness, taste and nutrients.

Delivered to your kitchen, ready to be heated and served.

So you can enjoy the compliments.

Sunny Queen Meal Solutions

Look who's giving pre-prepared egg dishes a good name.

Sunny Queen Meal Solutions. Delicious, nutritious, convenient and safe.

Prepared with care in our state-of-the-art kitchen, Sunny Queen Meal Solutions are made with pasteurised eggs from our own farms and are ready to be heated and served in minutes. From Home Style Poached Eggs with deliciously creamy yolks to tasty Fritters, Egg Bites and more, Meal Solutions will keep your diners happy and nourished and your kitchen humming.

For more information call Sunny Queen Customer Service on 1300 834 703 or visit sunnyqueenmealsolutions.com.au

Real eggs. Real easy.

Sunny Queen™ Meal Solutions

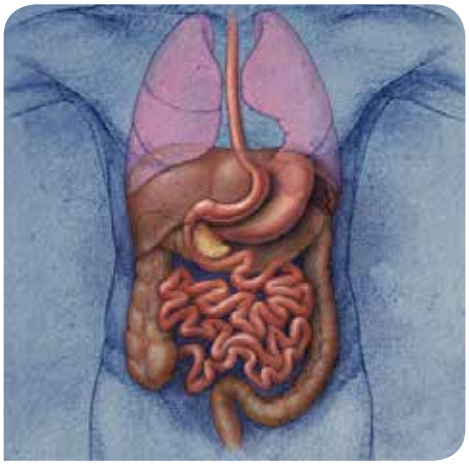
Nutrition Management in Bariatric Surgery and the Healthcare Facility

The Dietician plays an important role in bariatric surgery recovery through pre and post-operative nutrition management. *Charlene Grosse, Nazy Zarshenas, Dr Nikki Cummings* and *Trudy Williams* from the DAA Bariatric Surgery Interest Group discuss guidelines for the Dietician's role in this extract.

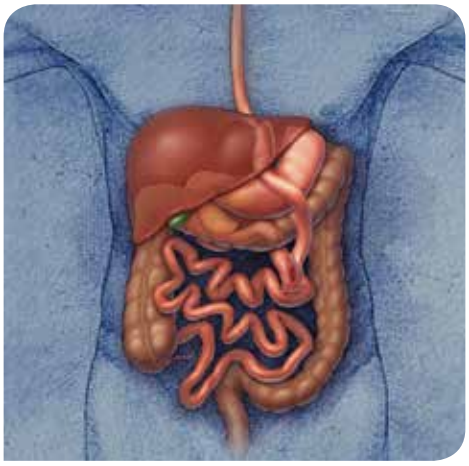
In Australia, obesity is on the rise as is the associated risk for a person to develop long-term chronic conditions such as cardiovascular disease, high blood pressure and Type 2 diabetes. With obesity now classified as a disease by the American Medical Association, close to 15,000 people opted for bariatric surgery last year in an endeavour to better manage their weight and health.

Bariatric surgery, also known as weight loss surgery or metabolic surgery, is recognised by the National Health and Medical Research Council (NHMRC) as the most effective treatment available for those with morbid obesity, i.e. those with a Body Mass Index (BMI) > 40 and for those who have weight-related co-morbidities at a BMI between 35 and 40.

The most common bariatric procedures performed in Australia are Sleeve Gastrectomy, Adjustable Gastric Banding and Roux-en-Y Gastric Bypass, with a small number of Biliopancreatic diversions (BPD) also performed.

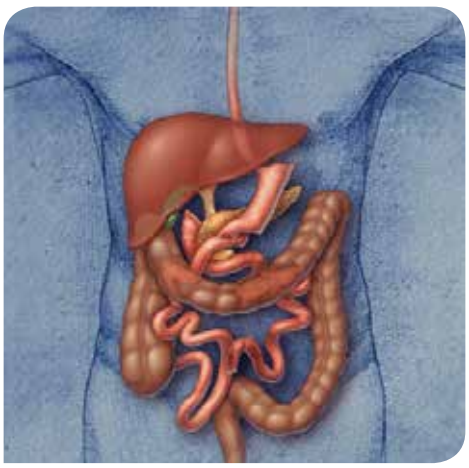


1 Sleeve Gastrectomy



2 Roux-en-Y Gastric Bypass

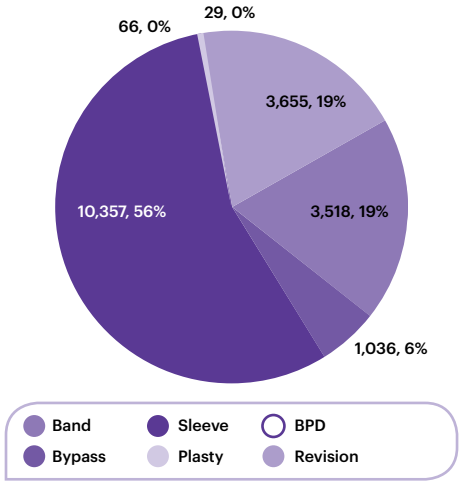
3 Adjustable Gastric Banding



4 Biliopancreatic Diversion with Duodenal Switch

These procedures impact on or change the anatomy and, in some cases, the physiology of the gastrointestinal tract which reduces oral intake and/or absorption of nutrients and hence aids weight loss. This subsequently prevents or treats the obesity related co-morbidities and as a result decreases mortality. The rate and amount of weight loss varies between the procedures, as does the resolution of co-morbidities. Data from the Australian Institute of Health and Welfare reveals a dramatic 34-fold increase in the number of hospital separations for bariatric surgery from 500 in 1998 to 17,000 in 2008.

Australian Bariatric Procedures
(MAT Jan 2015)



Over-fed does not mean well nourished

There is a common perception that people with obesity are in a state of 'over nutrition' but often the opposite is true. People who present for bariatric surgery may be in a state of malnutrition. Poor quality diets, fad diets, lifestyle choices and side effects from some medications negatively influence the preoperative micronutrient status of the morbidly obese. Overweight and obese individuals are at risk for deficiencies in several micronutrients including iron, vitamins D, B12, E and C.

Obesity management does not stop with surgical intervention. Both obesity and its management are complex. Therefore the National Institute of Health, American Society for Metabolic and Bariatric Surgery and NHMRC recommend long-term nutrition and medical follow-up and advocate a team approach that includes a bariatric dietitian.

The dietitian's role in bariatric surgery management

The dietitian's role is a vital component of the bariatric surgery process, starting prior to admission and continuing life-long after discharge. The dietitian assesses the nutritional status of the patients to identify and treat any nutritional deficiencies, designs medical nutrition therapy interventions, and provides extensive education, counselling and support throughout the weight loss journey to help prevent complications and maintain optimal weight loss.

Dietitians in the acute care setting liaise with the food service/catering department and other stakeholders to develop, as well as ensure provision of an appropriate therapeutic bariatric diet. During complications and in acute illness, nutrition support to preserve lean body mass and enhance recovery of patients takes priority over weight loss.

Because the risk for micronutrient deficiencies persists or may worsen over months and years after bariatric surgery, ongoing comprehensive nutrition screening is required by the bariatric dietitian to ensure optimal nutritional status.

Bariatric surgery carries both short and long term nutritional risk

Maintaining adequate nutrition is a challenge. Every bariatric surgery leads to very reduced total kilojoule (kilocalorie) intake, especially in the first six postoperative months, typically ranging from 2900–3800 kJ (700–900 kcal) per day following RYGB. This contributes to the decreased intake of all macronutrients especially protein as patients may have difficulty consuming their recommended protein requirements.

The emphasis of postoperative nutritional care is to:

- Ensure adequate nutrient intake and hydration to support healing and preservation of muscle mass.
- Ensure beverages and 'foods' supplied for consumption after surgery minimise common post-surgical complaints, which include nausea, vomiting, anorexia, dehydration, halitosis, dumping syndrome, constipation, diarrhoea, flatulence, lactose intolerance and reactive hypoglycemia.
- Guide a patient's diet transition from fluids to purée to soft and then back to solid foods. The duration of each phase is dependent on the type of bariatric procedure performed and the patient's tolerance.
- Guide changes to a patient's eating and drinking style (e.g. taking small sips of fluid, cutting foods into small pieces and chewing each mouthful thoroughly before swallowing) to minimise the adverse symptoms and help the patient adjust to and establish new eating and drinking behaviours.

Due to the significant changes to the gastrointestinal system, a unique and stage-based diet is implemented and progressed according to the individual patient's tolerance in liaison with the Accredited Practising Dietitian (APD) and surgeon.

Vomiting may result from drinking or eating too much or too quickly at a single time, progressing too rapidly through the transition stages, not chewing prior to swallowing, and/or eating foods that are too tough or dry.

Role of the healthcare facility

An integrated approach in managing the treatment and care of patients following bariatric surgery is imperative. EQuIPNational criterion 12.2 and the Nutritional Standards for Adult Inpatients in Hospitals set regulations to ensure the nutritional needs of all patients are met. These standards require the delivery of innovative clinical services to optimise food and nutritional care in healthcare facilities and acknowledge a duty of care to ensure access to safe, appropriate and adequate food and fluid through a patient focused meal service. Food served to patients is an important factor that influences both their clinical outcomes and satisfaction with their hospital stay.

How to optimise early postoperative care in hospital

Good-quality food and fluids are basic requirements in effectively managing a patients' nutritional needs. The hospital's routine affects a patient's ability to comply with their post-operative dietary requirements. The following ten key →

"I will apply dietetic measures for the benefit of the sick according to my ability and judgement; I will keep them from harm and injustice"
– Hippocrates

→ points help to optimise nutritional intake in the early post-operative phase.

- Commence sips of water and progress to thin clear nutrition support fluids within 24 hours after any bariatric procedure.
- Advise patients to sip fluids slowly over the day to support adequate hydration.
- Leave meal and drink trays with patients between meals to allow them time and opportunity to optimise their fluid and nutrient intake.
- Monitor and correct hydration status as even mild dehydration can contribute to headaches, nausea and fatigue.
- Avoid transition to non-fluid choices in the early post-operative stage.
- Progress to medical nutrition support 'bariatric' fluids if the length of stay is extended beyond the expected period.
- Commence additional enteral or parenteral nutrition support for the patient who experiences post-operative complications.
- Commence a "bariatric specific" multi-vitamin and mineral supplement if the length of stay is extended beyond the expected period.
- Supply crushed or liquid rapid release medications to maximise absorption in the immediate post-operative period.

Confirm in the discharge plan that the patient has a post-operative consultation booked with an APD skilled in bariatric dietetics. Some surgeons have a preferred bariatric APD.

Managing the dietary needs of a long term patient

For the person who has had bariatric surgery in the past, consider these additional points.

- Identify specific type of bariatric procedure because each procedure carries different nutritional risks
- Consult with a Bariatric APD to evaluate nutrient supplementation and guide further screening, supplement dose adjustments, and dietary recommendations
- Perform comprehensive nutritional screening if no recent results available because nutritional deficiencies directly impact on clinical outcomes and well-being
- Provide texture appropriate meals and options on a selective menu. For some people, foods may present textural challenges that result in discomfort, pain and regurgitation
- Provide appropriate amounts at meals and snacks, the solid and fluid volume tolerated changes with time and type of procedure starting from as little as ¼ cup of food per meal without adverse symptoms and increasing to ½ a cup or more per meal over the first year of surgery
- Increase proportion of protein served at the small meal to preserve lean body mass (muscle preservation) and aim to half fill the small plate with a protein source
- Provide protein rich snacks and/or medical nutrition drinks when appropriate

Conclusion

Bariatric surgery is now more commonly used as an effective treatment for obesity. An understanding of the short and long term nutrition requirements and adherence to the recommended guidelines for the bariatric patient by all care providers help to optimise patient care.

Referral and regular review by an APD with expertise in bariatric surgical care are an essential component in treatment. To find an APD in your area who works with patients who have undergone bariatric surgery, visit Find an APD on the DAA website www.daa.asn.au and select 'bariatric surgery' under 'Area of Practice'.

This is an extract. For the full article please visit www.hospitalhealth.com.au

Authors

Charlene Grosse (APD)
Nazy Zarshenas (APD)
Dr Nikki Cummings (APD)
Trudy Williams (APD)

Combined Biography

The authors of this article are specialised senior bariatric APD's from NSW, WA and QLD. They are active members of the DAA Bariatric Surgery Interest Group and have combined experience in the hospital and private practice settings.

A full list of references is available from Charlene.grosse@sjog.org.au

Food Safety... 'we have a problem'

The standard of food safety occurring within your organisation roughly equates to 'what happens when you're not there.' Yes, your staff have been trained and have their 'food handler' certificates, but are they really applying their skills and knowledge when you are not there to check?

The reality is you cannot always be there to monitor. You will never really know whether the food service assistant who dropped the plate of sandwiches on the coolroom floor discarded them or whether she quickly reassembled and served them; or whether the food handler making today's salad secretly has a bout of diarrhoea.

The behavior that occurs when no one is looking reflects the food safety culture of the organisation and is a critical and often overlooked factor in this compliance driven environment. Although it is unlikely food handlers in your organisation will go out of their way to intentionally cause food contamination, it is likely that you can identify at least some staff who:

1. comply only because they have to and who doubt the significance of the risks posed; or
2. will take the view that a food safety issue they discover is 'not their problem'.

Identifying a poor food safety culture is one thing, changing it is a significant challenge. Simply giving a directive to supervisors to 'address the problem' will not suffice. Changing a culture is a difficult task and will be even more problematic if members of the senior management team also hold a similar 'doubting' or dismissive viewpoint.

An important early step towards change is for the leaders in the organisation who value food safety to demonstrate their commitment and 'walk the talk'. If the organisation has previously placed little value on food safety, changing to a culture that views food hygiene as a critical business issue and rewards better practice will not happen overnight, but is achievable.

Changing a culture with the attitude of 'it's not my problem' is a related and perhaps more difficult challenge. It requires those leading change to genuinely involve food handlers early in the process by seeking their feedback and encouraging their input on issues and improvements. For food handlers who have previously had no input to decisions and have only ever been told 'what to do and how, where and when to do it', it may take some time before they adopt the team based approach of 'we have a problem' when they discover an issue.

An important consideration that can help drive change is recognising the other benefits an organisation can gain when it chooses to improve its food safety culture. It has been my personal experience, after 13 years as a food safety consultant, that foodservice businesses who genuinely demonstrate a commitment to food safety can, and often unexpectedly, improve their bottom line. This occurs not just through the reduction in food waste and failure costs. Hotels and hospitals who have chosen to 'lift the bar' and become HACCP or ISO 22000 certified often have a foodservice team who are proud of their certification. They exhibit a higher level of staff morale linked to improved customer service and productivity.

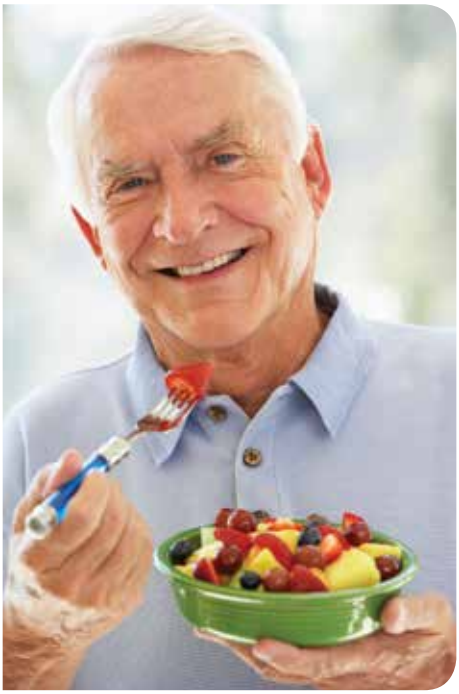
Culture is a key consideration when Infocus Food Safety undertakes its services, whether that be developing a HACCP or ISO 22000 Food Safety Management System or delivering food safety refresher training. Senior food safety consultants at Infocus complete postgraduate management qualifications as part of their PD and are well equipped to assist organisations improve their food safety culture.

We are keen to assist you to be as confident as possible that your food safety risks are being managed, even when you or the auditors are not there.

infocus FOOD SAFETY

»
Melinda Chapman - Director, Infocus Food Safety

To discuss your training requirements, please call **1300 818 408** or visit **infocusfoodsafety.com.au**



Institute of Hospitality in HealthCare Ltd, Annual National Conference 2015

Innovate, Integrate, Motivate – Making it Happen

The 34th Annual National Conference of the IHHC will showcase innovation in the hospitality in healthcare sector to Hotel Service Professionals and Support Staff working in Hospitals and Aged Care Facilities. The education sessions and events will leave you rejuvenated and filled with fresh ideas you can put to use immediately. Take away the best solutions and re-energize your career with new ways to address your most challenging issues.

Who are the IHHC?

The IHHC is a not-for-profit organisation nationally and internationally recognised as a proactive association for the advancement of professional standards in Hotel Services in the Health and Aged Care Industry. Dedicated to the delivery of excellence in education, advice and networking to its members, each year the IHHC hosts a Conference to bring together professionals from Health and Aged Care organisations across Australia, including Support Service Managers, Foodservice Managers, Executive Chefs, Laundry and Environmental Services Managers and many others who deliver services to the Health and Aged Care sectors.

Why attend the National Conference? – Learn, Network, Inspire, Motivate

The aim of this year's conference is to educate, inspire and engage delegates through an informative education program of national and international speakers, and facilitate networking and business opportunities for supporters and suppliers through an extensive trade exhibition and a dynamic program of social events.

The conference program includes a range of industry experts, regulators and influential business leaders who will present thought provoking discussions around the challenges faced by hospitality in health care professionals today. Presentation topics are structured to assist you and your organisation in identifying areas in the work place that can be improved to ensure consistent delivery of high quality care.

Hear sessions on packaging innovation; effective cleaning approaches in hospitals; contemporary management of food allergies; raising the profile and flavour of food in aged care organisations; the benefits of implementing moulded puree and minced meals in aged care organisations and how to implement an effective gluten free menu in a healthcare facility.

This year, supporters and suppliers will connect face to face with delegates through an extensive trade exhibition, featuring the latest products and services in the industry. Delegates will have the chance to access new markets, network and discover new trends.

Conference Program

Choose from an array of networking events including bowling by the Brisbane River, the Welcome Reception and the Annual Dinner. Conference delegates will also be given the opportunity to attend one of three industry tours to explore and learn from leading manufacturing facilities, catering facilities and micro fibre cleaning facilities.

To see the full conference program including speakers, tours and social events visit **www.ihhc.org.au**

Registration Bonus

The IHHC is offering non-members free membership to the IHHC for 2016 (conditions apply). Simply register as a Full Non-Member delegate for your chance to be a member of a leading Healthcare Organisation for free!

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» To register visit **www.ihhc.org.au** or contact the IHHC National Secretariat CLEMS on **(03) 9416 3833** or email **ihhc@clems.com.au**

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Advancing Nurse Leadership at the 2015 National Nursing Forum

Now in its third year, the National Nursing Forum coming up on the 14-16 October at Brisbane's Convention and Exhibition Centre has become our signature annual event, bringing together nurses from around the nation. This year's theme **Advancing Nurse Leadership** will provide delegates with the perfect platform to learn, share insights and work together as a collective; so we, as nurses, can develop sound solutions to our country's mounting healthcare challenges.

For instance, I believe nurse leadership is the link to improving the current nursing workforce shortage and ensuring quality patient outcomes. With a large proportion of the current workforce entering retirement and many others leaving the field, nurse leaders working in all healthcare settings are well placed to create environments and cultures that support the retention of staff and improve care.

Nurse leaders also assist in overcoming other challenges currently being experienced within the Australian healthcare system, such as maintaining the productivity and cost-effectiveness of both nursing services and health services as a whole. As healthcare costs rise, and governments seek to contain expenditure and increase efficiencies across the entire healthcare system, nurse leaders provide advice, propose reforms, and demonstrate leadership on how to manage costs without reducing the quality of care provided.

Nurse leadership is critical as it is needed to inform the strategic direction of Australia's health system and to drive the necessary changes within organisations. The availability and appropriate distribution of a nursing workforce with the right education, skills and experience underpins the delivery of healthcare across all settings.

As the national professional organisation for nurse leaders, our goal at the ACN is to nurture and support the nurse leaders of today and tomorrow, and our Forum is a critical component of being able to achieve this.

The 2015 National Nursing Forum aims to inspire and engage nurse leaders by offering numerous interactive workshops, inspiring keynote presenters, ample chances to spark stimulating discussions, it is also the opportunity to network and share ideas with colleagues and peers.

The mixture of speakers participating in this year's Forum is significant, with Professor Anne Marie Rafferty, from King's College London, leading the charge with her keynote Leveraging leadership for policy and system change. The former Dean of the Florence Nightingale Faculty of Nursing and Midwifery, Professor Rafferty's presentation considers the pivotal role that strong nurse leadership plays in setting the culture and parameters for change. It argues that leadership is first and foremost a moral enterprise - not just doing things right, but doing the right things. One of the most anticipated seminar sessions at this year's Forum, Professor Rafferty will draw on a wide range of evidence to demonstrate how nurses can leverage leadership for sustainable change.

Other keynotes include:

Sue Hawes, a nurse for over 30 years, specialising in working with children and young people with physical and intellectual disabilities; today Ms Hawes is a Director at PwC's National Health Practice. A true professional who considers it a privilege to be a nurse, she believes every day is an opportunity to make a difference, to ask critical questions and practice the values that are core to who you are. Ms Hawes' seminar *Do you see what I see? Advancing nurse leadership* highlights how a nurses' ability to lead and influence, has never been more critical or more threatened.

"We need to use our expertise in healthcare in a different way and find our collective voice. Our conversations need to move from the problem to implementing the solutions. We need to seek out new opportunities and mobilise our ideas – quickly," explains Ms Hawes.

Professor Diana Slade's session *Better bedside handover communication: training nurses in the interactional and informational skills of well-structured patient centred handovers* brings to the fore how ineffective communication between clinicians and patients remains a leading cause of avoidable patient harm across healthcare settings internationally. With over 30 years' experience in researching, teaching and publishing in applied linguistics, linguistics and organisational communication, Professor Slade is currently the Professor of Applied Linguistics and Director of the International Research Centre for Communication in Healthcare, University of Technology, Sydney and Hong Kong Polytechnic University.

Alan Lilly, CEO Eastern Health, talks about *Lessons and reflections on leadership,* where he will review the characteristics of successful leaders, provide insight on his own leadership journey, and conclude with some tips on what he believes are at the core and heart of successful leaders.

Last, but certainly not least, Veronica Casey, Executive Director of Nursing Services Metro South Health QLD is taking a stand with her session *Advancing nursing leadership – trials, tribulations and transformation!* Throughout the world, nurses are consistently rated as the most trusted profession, and are therefore accountable to ensure patients, families and communities receive the best possible healthcare. This presentation will reflect on the lessons learnt through one hospital's journey to nursing excellence, and how transformational leadership can and did make a difference.

Having held numerous roles over her 35 years as a Registered Nurse and Midwife including clinical leadership roles, quality management and change management positions, Ms Casey has held executive leadership roles within Queensland Health and has served as the Executive Director of Nursing and Midwifery Services for the Metro South Hospital and Health Service since 2006.

The 2015 National Nursing Forum presents delegates with the opportunity to learn from those who spearhead the term 'leadership' in their respective fields. It provides the perfect platform for nurses to ask questions, raise ideas, and challenge themselves and others to advance their skills and knowledge of nurse leadership.

Sue Hawes

Diana Slade

Alan Lilly

Anne Marie Rafferty

Veronica Casey

THE NATIONAL NURSING FORUM 14-16 October 2015

The National Nursing Forum, 14-16 October, Brisbane Convention & Exhibition Centre, Queensland. For more information, visit: **www.acn.edu.au/forum_2015.**

ACN

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Article written by **Carmen Morgan FACN, President of ACN**

ACN

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for nurses

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Clinical Coders work 'behind the scenes', using an international health classification system to translate information from the clinical record into data vital to the quality delivery of the health system - funding, research and health care planning all depend upon it.

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A national Registered Training Organisation (RTO), we offer a foundation course in Comprehensive Medical Terminology (CMT) which, as well as entry requirement for our coding courses, is useful for medical receptionists, health fund administrators, pharmacy assistants and IT personnel interested in moving into the health industry. Our Clinical Coding courses at Introductory, Intermediate and Advanced levels are all Units of Competency eligible for a Certificate IV in Health Administration. For the fleet of mind, HIMAA also offers its Accelerated Program, fast track for fast learners who wish to complete CMT and Introductory Clinical Coding in just 12 months.

All our courses are delivered online so you can complete them at your own pace. Our Education Officers are HIM-trained educators specialising in coding who offer a personalised service throughout the course, providing advice and guidance as and when it is needed.

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HIMAA Education Services - Enrolment Calendar

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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Comprehensive Medical Terminology			■		■		■		■
Introductory Clinical Coding			■				■		
Intermediate Clinical Coding					■			■	
Advanced Clinical Coding					■			■	
Refresher Clinical Coding	■					■			
Accelerated Program	■						■		

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Our Education Officers offer a **personalised service** throughout the course, providing advice and guidance when needed.

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Hoslab maintain that their approach is best

Leading reticulated gas specialists Hoslab, have come clean with their thoughts on the problems that healthcare facilities face if they fail to correctly maintain life support gas systems. These systems are an essential service within all medical facilities. Hoslab believe that on-going maintenance of essential medical gas systems is a critical factor in ensuring that healthcare environments remain safe, reliable and cost effective.

Hoslab are experts in the Maintenance of Medical Gas Systems and provide fully accredited maintenance programs. They have the distinct advantage of also designing, building and installing complete systems too. Shelley Watson, Director and Technical Manager commented, "We are acknowledged experts in this field, having been at the pinnacle for over twenty years, and most would say that we are 'the' gas reticulated engineering business in Australia. This gives us a unique insight into how systems all over the country are being maintained because we have had involvement with many of them. Standards are generally high which is a comforting thought, but in our view it must always remain at the top of everyone's agenda"

So what are the issues? Well the number one is always safety. A planned maintenance approach carried out by Hoslab allows organisations to be reassured that risk is minimized and the correct standards of compliance for levels of purity, energy efficiency and longevity of equipment are being met. Secondly, it's cost. Both consumables and permanent equipment face damage when maintenance isn't carried out, which ends up increasing the levels of spend on replacement items, sometimes to excessive levels.

Many of those involved would strongly agree with Hoslab's final thought that the best approach, whatever the medical environment, is to ensure that there is a comprehensive preventative maintenance program in place to identify and avoid any problems before they arise.

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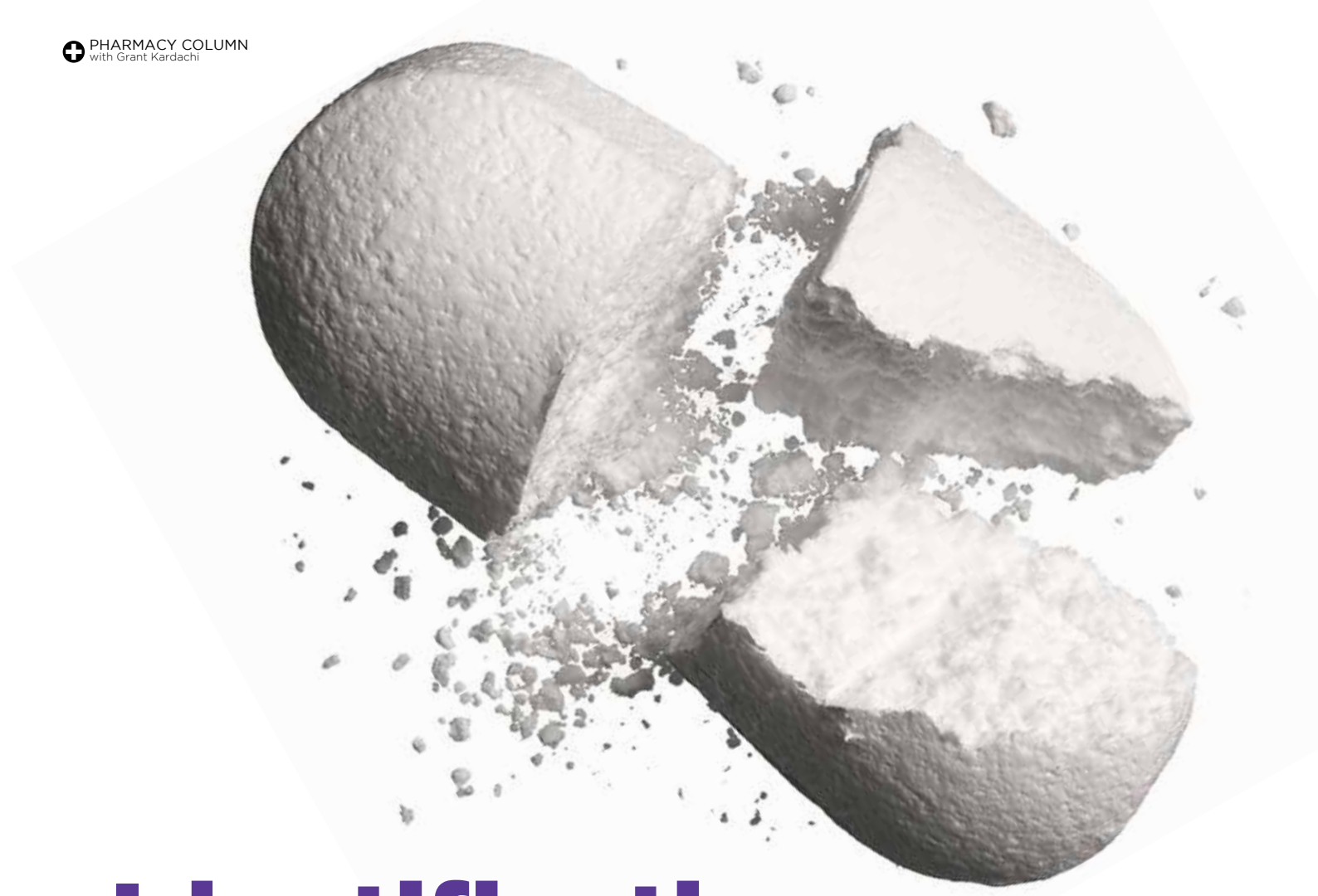


Identification and Risk Assessment of Hazardous Medicines

A significant number of medicines can pose a health and safety risk as a result of unintended exposure when people other than the patient — such as carers, family members or healthcare professionals — handle them.

Pharmacists have a responsibility to inform consumers, carers, and healthcare professionals who handle medicines about ways to manage the potential risks associated with a medicine.

In addition, healthcare facilities such as hospitals and aged care facilities have a legal responsibility and obligation to protect their staff from occupational exposure to hazardous substances. This responsibility requires these facilities to:

- identify potential hazards in the workplace
- assess the risks associated with the potential hazards
- eliminate or minimise the risk associated with the potential hazards
- maintain and review risk control measures

Grant Kardachi

Grant Kardachi was recently re-elected president of the Pharmaceutical Society of Australia for a fourth term. He is a community pharmacist who recently sold his business interests but is still accredited to undertake medication reviews and sits on the Australian Association of Consultant Pharmacy board.

The latest edition of the Australian Pharmaceutical Formulary and Handbook (APF23) provides an invaluable tool for pharmacists, healthcare professionals and hospital administrators in regards to identifying and making an assessment of hazardous medicines.

APF23 provides a convenient source of practical, current, evidence-based information to assist pharmacists and can be used to quickly find information and guidance on many areas of pharmacy theory and practice, including identifying drug-related issues; making clinical judgements; counselling consumers on the safe and effective use of their medicines; and preparing extemporaneous products or modified oral formulations.

It is a Pharmacy Board of Australia recommended reference text for all pharmacists.

To help protect people from unintended exposure to hazardous medicines, APF23 contains a list of hazardous medicines that are recommended to be labelled with Cautionary Advisory Label 21 (special handling and disposal required – ask your pharmacist).

An issue for the Australian health environment is the variation across the country in State and Territory approaches including those in place for local clinical governance, work practices and jurisdiction requirements. This presents particular challenges when developing PSA's Cautionary Advisory Labels (CALs). CALs are an important counselling tool used by pharmacists but they need to be used in an appropriate and targeted manner.

To ensure relevance and appropriateness of CAL recommendations, the Cautionary Advisory Label Working Group reports to the APF Editorial Board and is charged with reviewing the CALs using the latest available evidence and manufacturers' and regulatory documentation, while also examining safety and clinical relevance.

In view of jurisdictional differences across the country and the different ways in which people can be exposed to hazardous medicines, the counselling and cautionary advisory labels chapter of the APF emphasises that pharmacists are expected to exercise professional judgement when deciding whether to omit one or more cautionary advisory labels for a particular patient.

The chapter contains extensive explanatory notes about the appropriate use of CALs. The intent of the explanatory notes is to assist pharmacists in the decision-making process associated with using CALs. The APF list of hazardous medicines assists pharmacists to identify medicines that pose a potential risk, and is a prompt to inform consumers, carers and healthcare personnel. Once a potentially hazardous medicine has been identified, the pharmacist or healthcare facility can assess the level of risk associated with the medicine in the context of how it is to be handled (such as self-administered by the patient intact or crushed by a staff member).

Using the criteria for hazardous medicines outlined in APF23 helps pharmacists and healthcare facilities to identify and assess the potential risks associated with medicines that may have limited safety data. Selectively removing a medicine or class of medicines that meets one of the criteria for inclusion in the list may have legal ramifications to the pharmacist or healthcare facility should an adverse outcome occur.

Assessment of the risk associated with inadvertent exposure of carers or healthcare facility staff should consider factors, such as:

- the potential route/s of entry of the medicine
- who could be exposed to the medicine (e.g. pregnant staff members)
- when exposure is likely to occur (e.g. during administration of the medicine)

After consideration of the risk associated with exposure to a medicine, pharmacists or healthcare facilities can then determine appropriate strategies to eliminate or minimise risk, which may include the use of gloves, eye goggles, face masks and so on.

The *Counselling and cautionary advisory labels* chapter also reminds pharmacists that CALs are a tool for pharmacists to use as an aid to counselling and are intended to reinforce rather than replace verbal counselling. As an example, Label 21 is not intended to provide specific information to consumers about handling requirements for medicines. Rather, it is used as a prompt for consumers to discuss with the pharmacist any handling requirements that may be relevant to the particular patient.

The importance of identification and risk assessment of hazardous medicines has been underscored by the Chair of the APF23 Editorial Board, Emeritus Professor Lloyd Sansom, who has stressed that unintended exposure to a hazardous medicine during preparation and administration could occur through skin contact, ingestion or inhalation and some people, such as pregnant women, may be at greater risk from unintended exposure than others.

"Some hazardous medicines may not pose a significant risk if they are administered to patients intact, (that is via coated tablets, capsules), but the risk can be increased if these formulations are modified (e.g. cutting, crushing, or opening capsules), or with long-term, low-level exposure," he said.

Oral products of hazardous medicines should be swallowed whole where possible, and should not be removed from their original packaging for transfer into a dose-administration aid. Standard operating procedures should be developed by institutions to minimise risk.

"APF23 recommends patients and their carers are made aware of the risks of hazardous medicines and the precautions that can be used to minimise risk of exposure, including the use of gloves, face masks and non-permeable gowns," Professor Sansom said.

"There is limited data available on exposure limits for individual medicines identified as being hazardous. The APF provides general guidance, but this may not be applicable to all possible scenarios encountered in practice. Pharmacists are advised to conduct their own risk assessment to determine the appropriateness of labelling and handling requirements in specific circumstances.

"Cautionary advisory labels are an important counselling tool for pharmacists."

Why we Need a Co-Design Approach to Transitionary Care

Assuming the necessary legislation is passed in time, in less than a year short term restorative care places are due to be incorporated into the aged care planning ratio, writes *Patrick Reid*

The 2015 Budget announcement of a progressive increase of short-term restorative care places was welcomed by LASA and its members, but this does not address existing gaps and flaws in current transitionary care processes.

If anything, the planned increase of 2,000 places by 2021 without a co-designed review of transitionary care will create additional burdens on local services and compromised quality of care.

By co-design I am referring not only to decision-makers within a given hospital, aged care facility and government department, but also patients/residents, their families, GPs, pharmacists, home care providers, paramedics, community nurses and carers, technology developers and IT gurus, universities and manufacturers. In other words, representatives from any sector or service provider that may come into contact with a person immediately before, during or after they transition from one care setting to another.

Taking a co-design approach to social services is relatively new to our way of thinking but its premise is simple: engaging users of products and services in the design process will lead to improvements and innovation.

In the UK, co-design has long been central to the creation of specific health services including the first children's hospital built in the English-speaking world in 1852, the Great Ormond Street Hospital for Children. Today the hospital continues its innovative approach to medicine not only through clinical research and therapeutic firsts, but creative, co-designed approaches to the healing environment and hospital experience for patients, visitors and staff.

As a term, co-design has crept into the lexicon of policy makers, advisors and analysts and is actively lobbied as the best approach to improving many social services. British thinktank Demos recently identified co-design (sometimes also called co-production) as vital in supporting people with learning disabilities and mental illness, noting, "when co-production works best, people who use services and carers are valued by organisations as partners – they have the same influence over any decisions made about the service as anyone else."

Social design agency thinkpublic helped to inform the UK's 2008 National Dementia Strategy by gaining unique insight into living with dementia through teaching people with the disease how to interview people and use video recorders. The joint project with the Alzheimer's Society fed directly into co-design workshops and resulted in a number of project proposals, including a Dementia Signposting Service, a Mentoring Programme for Carers and the design of a safe "Wandering Garden".

Returning to Australia, and there are many lessons about the value and impact of a co-design approach to services in relation to transitionary care.

The increase of restorative care places ultimately aims to support older Australians to remain living at home longer. But simply increasing the number of places for transitionary care alone will not achieve this.

No matter the mode of transfer from acute care to home or residential aged care, the most important aspect of a person moving through the health and age services systems is that the journey be seamless.

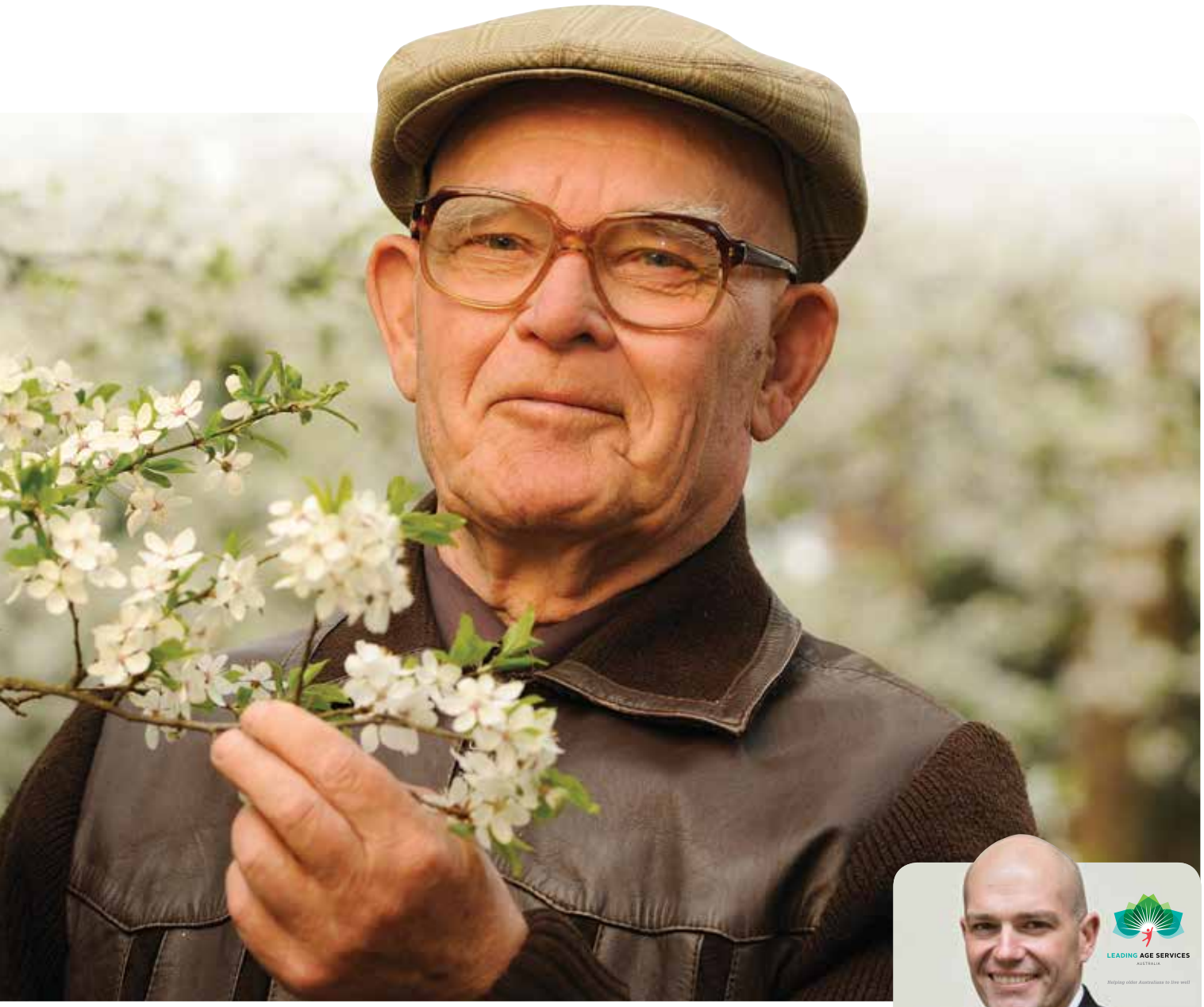
A study published in 2008 found the transition between acute health care and residential aged care settings was impacted by four key factors: shortfalls in information and communication processes, co-operative care, and discharge planning procedures. In one submission to the National Health and Hospital Reform it was stated there is a perception that hospitals are desperate to get elderly people out of acute care, and some of the findings reported that prior to transfer from hospitals, aged care residents appear to suffer significantly from nutritional deficiencies, and compromised skin integrity.

While these are not recent reports, we do know that in 2012-13, patients who were waiting for residential aged care used 10.4 of 1,000 patient days nationally (for overnight separations only).

Despite having the capability to offer more complex health, wellbeing and re-ablement services, residential age service providers face myriad issues they need to consider when accepting a transfer from the acute hospital system.

The transition from one care setting to another can be upsetting for both the patient/resident and their family, and should occur with as much information as possible from the transferring acute service.

Service providers also have to consider important factors before accepting a person transferring from acute care that may impact



on their ability to fulfil their duty of care from the person's arrival. These include whether the person is being admitted on a respite or permanent basis, their medical history and current diagnoses, medication regime and family involvement, the capacity and capability of staff to meet the needs of the individual, cost of care and whether ACFI will cover ongoing costs, availability of appropriate clinical supervision and whether there will be a comprehensive handover.

As the voice of age services, LASA has called on the government to consult with the industry before making any changes to restorative care places. There are many areas in which the provision of age services can be improved through co-design and integration with other industries, and transitionary care could become the watershed.

It is only through taking a co-design approach to reviewing the current transfer of care processes and systems that we will be able to ensure a seamless journey for older Australians moving from acute to sub acute services, and remaining in their homes for as long as possible.

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Patrick Reid

Patrick Reid is the CEO of Leading Age Services Australia.

Leading Age Services Australia
P 02 6230 1676
W lasa.asn.au

Thinkpublic founder, Deborah Szebeko, is a keynote speaker at LASA's national congress in Melbourne from 11-14 October 2015. For more information go to **www.lasacongress.asn.au**

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