insight

THE RAMSAY HEALTH CARE
TECHNOLOGY REPORT

Ramsay
Health Care

Australia

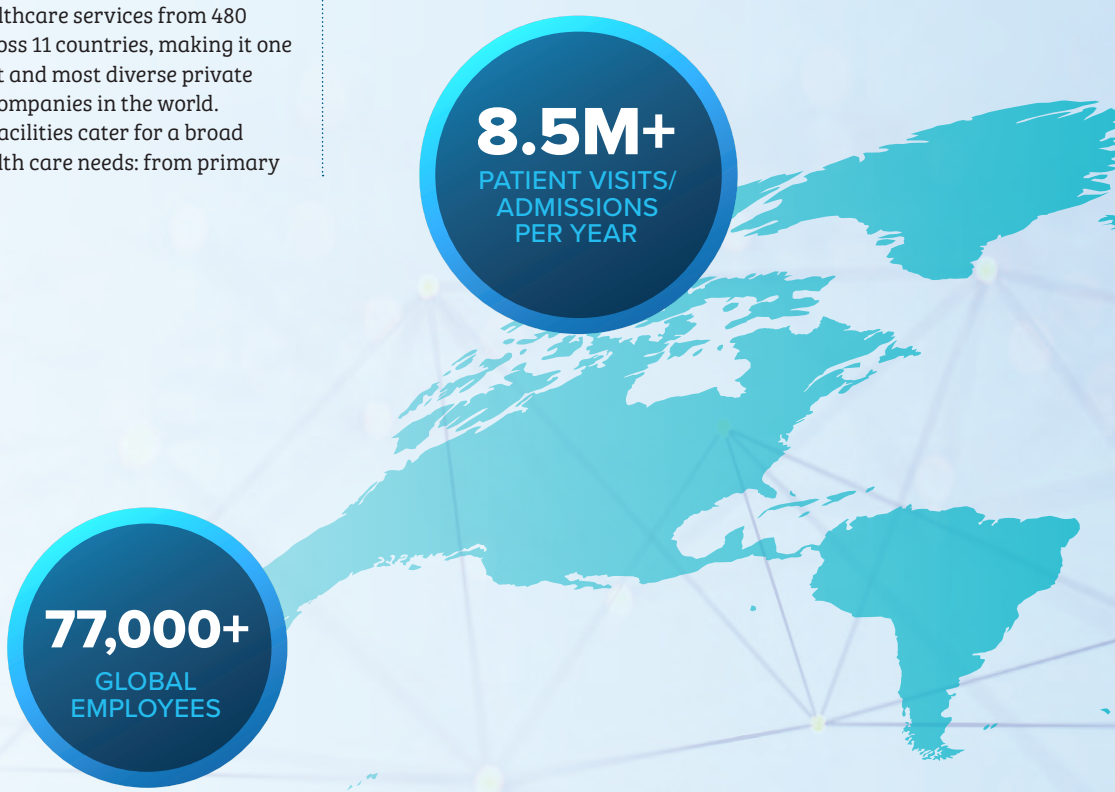
www.ramsayhealth.com/News/Insight2021

Ramsay Health Care: a global corporation

RAMSAY HEALTH CARE IS A GLOBAL HEALTH CARE COMPANY WITH A REPUTATION FOR OPERATING HIGH-QUALITY SERVICES AND DELIVERING EXCELLENT PATIENT CARE.

Established in Sydney, Australia, in 1964, by Paul Ramsay AO, Ramsay Health Care has more than 50 years of experience in providing acute health care services. Today, the company delivers a range of acute and primary healthcare services from 480 facilities across 11 countries, making it one of the largest and most diverse private healthcare companies in the world.

Ramsay facilities cater for a broad range of health care needs: from primary care and highly complex surgery, to mental health care and rehabilitation. The company employs more than 77,000 staff and treats 8.5 million patients in its hospitals and primary care clinics located in Australia, France, the United Kingdom, Sweden, Norway, Denmark, Germany, Italy, Malaysia, Indonesia and Hong Kong.



Ramsay focuses on maintaining the highest standards of quality & safety, being an employer of choice, & operating its business according to The Ramsay Way philosophy:

"People Caring for People".

People Caring for People...

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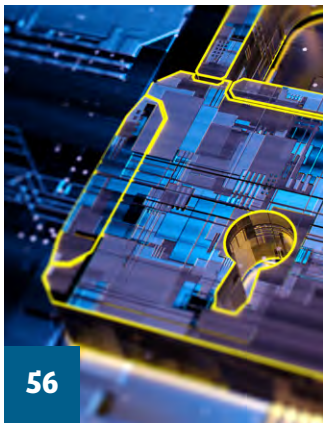
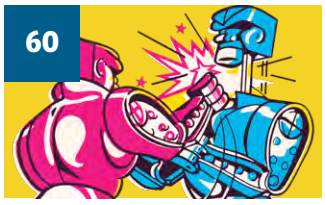




66 Tomorrow & beyond

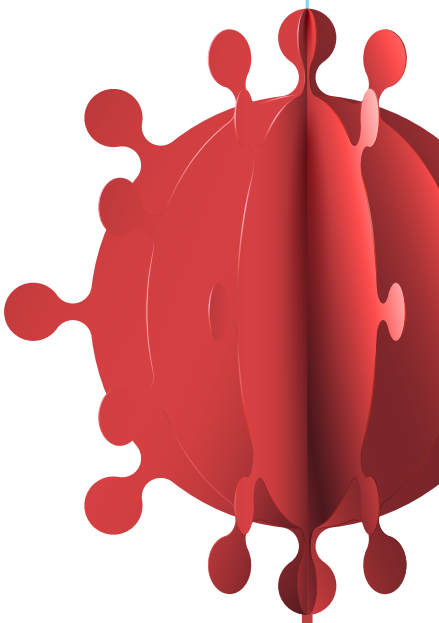
The year that was...

WE HAD MANY TECHNOLOGY-DRIVEN INNOVATIONS THIS YEAR – HERE ARE JUST A FEW EXAMPLES:

Carmel Monaghan
Chief Executive Officer
Ramsay Australia

Pivoting in a pandemic: The crucial role of technology

2020 HAS PRESENTED US WITH EXTRAORDINARY CIRCUMSTANCES AND UNPRECEDENTED CHALLENGES IN AUSTRALIA, WITH OUR HOSPITALS, CLINICS AND PHARMACIES ALL AT THE FOREFRONT OF THE COVID-19 PANDEMIC.



Ramsay Health Care Australia has been proud to play an active and important role in our nation's COVID-19 response.

Our primary focus has been, and always will be, to protect the safety and wellbeing of our patients, employees and doctors. Our ability to adapt throughout the pandemic to continue delivering high-quality patient care has been due to a number of factors, including the critical role of technology and the timely creation of digital solutions.

The past year has further highlighted the importance of embracing and investing in technology to ensure our people are supported to deliver excellent health care services in a variety of ways. From the onset of the pandemic, our IT teams undertook a range of projects including supporting corporate staff to work remotely and deploying a suite of virtual health care services. These improvements mean we are well-prepared to manage future challenges associated with the pandemic.

The past year has further highlighted the importance of embracing & investing in technology.

Our Chief Information Officer, John Sutherland, also recently topped the list of Australia's CIOs. The CIO50 List celebrates stories of innovation and leadership from tech leaders who work at organisations in both the public and private sectors in Australia. John has earned the number one spot for 2020 due to his creation of a high-performance culture that supports Ramsay's workforce to provide high-quality patient care.

We know the health care industry is rapidly changing so we will continue to pivot and innovate. We will further invest in technology to improve the patient experience and cater for a growing demand for health care treatment options away from the traditional hospital setting. Some of my priorities for our business include creating digital front doors, digitising our procedural care areas, and having an integrated approach across our business to create a more seamless patient journey.

I'm excited about the opportunities available to us as we embark upon our technology journey and to work with an exceptional network of people who live and breathe our Ramsay Way values.

We will continue to pivot & innovate. We will further invest in technology to improve the patient experience & cater for a growing demand for health care treatment options away from the traditional hospital setting.

Technology for extraordinary times

AT RAMSAY HEALTH CARE, TECHNOLOGICAL INNOVATION HAS ALWAYS BEEN ABOUT HELPING PEOPLE THRIVE.

John Sutherland
Chief Information Officer
Ramsay Australia

This certainly proved true in 2020, as we faced one of the most extraordinary health crises of our time.

Throughout the COVID-19 pandemic, technology played a significant role in not only keeping people safe, but also helping our staff and doctors embody our mission of 'people caring for people', despite facing formidable obstacles.

To find out what this looked like in practice, take a look through *Insight*: the third edition of Ramsay Health Care's annual Technology Report.

Read about Temi, a telepresence robot that allowed doctors at Greenslopes Private Hospital to keep treating patients in isolation.

Uncover how Joondalup Health Campus' IT team helped the hospital prepare for the unprecedented admission of 30 COVID-19 patients from the Artania cruise ship.

Find out how Ramsay nurses and midwives quickly introduced virtual antenatal classes when social distancing measures threatened this valuable service.

Or discover how our unique QR code screening system, which screened over 100,000 people each week at Ramsay facilities, was deployed in just two weeks.

This year, it has been inspiring to see the different ways people have harnessed the power of technology to deliver excellent patient care.

Throughout the COVID-19 pandemic, technology played a significant role in not only keeping people safe, but also helping our staff & doctors embody our mission of 'people caring for people', despite facing formidable obstacles.

Ramsay has a strong history of delivering unique technologies to our market, and a global pandemic hasn't changed this.

Our hospitals are giving regional areas around Australia access to the latest innovations in robotic-assisted surgery, delivering tangible benefits such as fewer complications, shorter stays in hospital and less post-operative pain.

In Perth, we are on the cusp of launching WA's first private 'one-stop shop' for cancer care, featuring a cutting-edge oncology centre with an advanced linear accelerator.

We continue to invest in Australian start-ups trialling new medical technology, such as health artificial intelligence pioneer Harrison.ai.

Even gaming technology is making its way into our operating theatres, with surgeons at Greenslopes Private Hospital performing Australia's first complex shoulder reconstruction using 3D holograms.

Ramsay is also using technology to drive efficiencies in our business. In a year that saw over 4,000 staff work remotely, the value of robust cyber security controls, a comprehensive Wi-Fi network, seamless clinical systems, digital data collection and employee platforms (not to mention the incredible IT staff who help keep these things running) has never been more relevant.

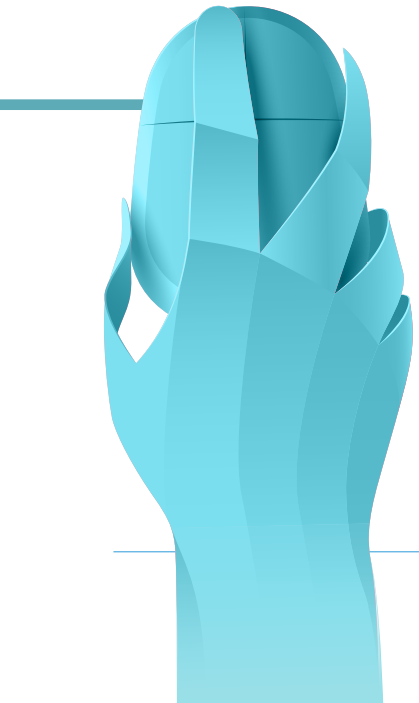
As we look towards the future, it's clear that technology will continue to shape the nature of health care in Australia – to dissolve boundaries, connect doctors to their patients, and deliver better outcomes and more choice to patients.

COVID-19 hasn't stymied this progress. If anything, the extraordinary circumstances of a pandemic have opened doors for technological innovation, especially in the areas of mental health and in-home hospital services.

I'd like to acknowledge the hard work and dedication of the Ramsay IT team, our technology partners across the business and our suppliers. You have shown your qualities, ladies and gentlemen.

At the heart of the journey, though, is one thing that never changes: the power of technology to change lives and help staff, doctors and our patients thrive. With this in mind, we'll continue to deliver high-quality services and excellent patient care, no matter what comes.

As we look towards the future, it's clear that technology will continue to shape the nature of health care in Australia – to dissolve boundaries, connect doctors to their patients, & deliver better outcomes & more choice to patients.



FEATURE

Standing tall in times of crisis

IT WAS ALL HANDS ON DECK WHEN JOONDALUP HEALTH CAMPUS ADMITTED 30 COVID PATIENTS FROM THE ARTANIA CRUISE SHIP. HERE'S HOW THE HOSPITAL STAFF, INCLUDING THE IT TEAM, ROSE TO THE CHALLENGE.

▲ "It was asking a lot of the staff, and they were brilliant." – Joondalup Health Campus Acting CEO Amanda Ling

On 30th March 2020, Joondalup Health Campus in Perth's northern suburbs was called on to accept 30 people infected with COVID-19.

The patients were from the Artania: a German cruise ship docked at Fremantle Port with 1,300 passengers and crew members in quarantine.

Most of the patients were over 70 years old, and very few of them could speak English.

Joondalup was already treating three COVID-19 patients. At that time, a total of 33 cases was thought to be the biggest single cohort – and accordingly, the most daunting undertaking – for any Australian hospital. It was a last-minute arrangement by the Australian government, described by the Federal Health Minister, Greg Hunt, as a "humanitarian operation".

"This humanitarian hospital care will be provided in one of the state's premier facilities, which is fully prepared for and is already treating COVID-19 patients," said Mr Hunt in a media statement.

Joondalup Health Campus' CEO Kempton Cowan agreed. "Our teams are ready with the appropriate training and strict infection controls and safety protocols in place," he said.

"Joondalup Health Campus is well-prepared and standing ready for these patients."

To understand how the Federal Government could have placed so much confidence in one hospital's ability to care for the Artania's passengers, we need to rewind by five days.

On 25th March, mere days before the German cruise liner arrived on Perth's shores, Joondalup Health Campus was opening the doors to its very first COVID clinic.

Getting the facility ready required an immense response across all departments. Patients were relocated to create an isolated COVID-19 section with dedicated entry and exit points, temporary fencing and signage. The engineering team installed 81 windows into doors...▶

> *At that time 33 cases was thought to be the biggest single cohort – & the most daunting undertaking – for any Australian hospital.*

A STITCH IN TIME SAVES NINE

BEFORE ARTANIA REACHED AUSTRALIAN WATERS, JOONDALUP'S TECHNOLOGICAL CAPABILITIES WAS ALREADY UP TO THE CHALLENGE.

According to IT Service Delivery Manager for Ramsay's WA and SA sites, Dave Rankin, the hospital executives and management teams had been keen drivers and adopters of technology to support and enhance their hospital operations. This paid dividends as the hospital began its fight against COVID-19.

The first was improving the way pathology results are received. The IT department enabled Joondalup's pathology provider to select patients from a digital list rather than having to re-enter their details manually. "This resulted in an ability to match results to patients at a high level of accuracy," said Mr Rankin.

The clean data feed helped with the implementation of a fast and intuitive pathology portal. Developed by a third party vendor, the portal allows staff to check and acknowledge returned results electronically.

This meant that when COVID-19 tests needed to be done by an alternative pathology provider, the vendor could facilitate a digital transfer of the results. The results could be easily consumed within the hospital system, instead of staff having to pass pieces of paper around.

The second initiative that bore fruit was initiated by Joondalup Health Campus: the establishment of a local Business Intelligence (BI) team.

"While IT supported the initial implementation of the BI system, the local hospital BI team have since consistently delivered high quality reporting," said Mr Rankin.

The output from the local BI team has been central to many hospital-driven improvements, but was very important during COVID-19 with new reporting requirements to the Health Department required at 15-minute intervals."

"The local BI team also developed internal reporting and dashboards to effectively manage COVID-19 patients and the appropriate consumption of PPE effectively."

"Joondalup's finest hour" continued...

so patients could be monitored remotely. Laundry and cleaning requirements more than doubled, while a PPE committee ensured a ready supply of protective gear.

The members of Joondalup's IT team also had their hands full.

When IT Service Delivery Manager for Ramsay's WA and SA sites, Dave Rankin, reflects on those crucial weeks in early March, he experiences two emotions: awe at the courage of the frontline workers who fought the pandemic, and pride that his team could be part of the multifaceted effort to get the hospital ready.

"We essentially had a period of two to four weeks where numerous relocations and reconfigurations were performed in order to help the hospital clear space for a potentially unknown wave of patients – and to move non-patient facing functions to safer areas," said Mr Rankin.

"It was a hectic period of time. Many adjustments were made and moves undertaken with limited information or notice, due to the pressing need to prepare for the unknown."

To get the hospital ready, Joondalup's IT department took on an immense list of crucial tasks.

Along with continuing to maintain the hospital's critical support functions, the team set up Wi-Fi coverage, computers, printers and iPads in the COVID-19 clinic, located in a tented area next to the hospital building.

Different departments were moved to new locations so COVID-19 specific areas could be created - a significant effort which involved setting up work stations, performing switch installations, patching ports and configuring systems.

The team also redeployed over 30 laptops so non-essential staff could work from home. They provided training sessions to many staff who had never worked remotely, allowing them to be productive off-site.

Mr Rankin said IT staff members started work early, stayed back late and barely stopped during the day in their efforts to support the staff – despite dealing with the uncertainty of a global pandemic.

"As a team, we had to be agile," he said. "We simply had to react, adjust and deliver results, even when the requirements were not entirely known at the outset."

In hindsight the entire hospital staff's efforts, along with the hard work of the IT team, delivered a great outcome. Most of the COVID-positive patients admitted to Joondalup recovered with no cases of staff transmission, although two of the 30 patients from the Artania sadly passed away.

The patients who have spoken publicly about their experience at Joondalup praised the compassion and expertise of the staff who supported them. They were provided with everything from expert medical care to interpreters, extra clothes, even high-quality Wi-Fi so they could FaceTime their loved ones back home.

For Mr Rankin, the IT team's contribution reflected their own personal character.

"They stood up tall without needing to be asked and only had in their minds fixed on how they could help the staff support the patients. They were the embodiment of the 'people caring for people" values that define Ramsay Health," said Mr Rankin.

"I think this was easier when you could see all the hospital staff work towards this shared goal. It was inspiring, and you couldn't help but put in the extra effort needed to make their lives easier in any way you could." ***F***

> *It was a hectic period of time. Many adjustments were made & moves undertaken with limited information or notice, due to the pressing need to prepare for the unknown.*

Artania cruise ship passenger, Jurgen Schreyek, given a guard of honour at Joondalup Health Campus after 'miracle' COVID-19 survival.

Cruise ship Artania passengers & COVID-19 patients, Jürgen & Christina Schreyek, recovering at Joondalup Health Campus.

Fond farewell to final Artania patient

"Everyone, no matter who it was, showed me so much love. It's something that you cannot describe. I will never in my life forget this," said Mrs Schreyek.

THERE WAS PLENTY OF EMOTION IN THE AIR WHEN JÜRGEN SCHREYEK FINALLY HEADED HOME TO GERMANY AFTER WINNING HIS BATTLE AGAINST COVID-19.

Joondalup Health Campus staff were in tears as they clapped and cheered for Mr Schreyek, who was given a guard of honour as he was discharged on the 25th May.

Mr Schreyek - one of the sickest passengers aboard the Artania - was the final patient from the cruise ship at Joondalup, having arrived at the hospital on the 30th March with his wife Christina. She made a quicker recovery and flew home several weeks before her husband.

The couple are experienced cruise passengers, and were looking forward to a month-long tour with the Artania.

"When we arrived in Fremantle, we couldn't enter the harbour. [The ship was] supposed to go directly to Europe again," said Mrs Schreyek through a translator.

People on board were increasingly falling ill, and eventually the vessel was able to dock in Fremantle. "It was getting worse and worse; we were at the doctor every day because the disease had spread so much."

Mr Schreyek became very unwell on the ship, and required the support of a ventilator while still on board. The couple's fate was confirmed when passengers began to be repatriated and they were identified as being too unwell to fly.

"I already knew, like many others, that I'd been sick somehow – probably with Coronavirus," said Mr Schreyek.

"When we left the ship, there were two police buses outside...with emergency lights on. They drove us at high speed. I didn't know what was going on, or where I was going."

Mrs Schreyek watched as her husband lost consciousness during the bus ride to Joondalup Health Campus. Neither of them can clearly recall arriving at the hospital, but she remembers being told her husband needed the support of a heart-lung machine.

He spent two weeks in ICU and a further six weeks on the COVID ward. As they recovered, the pair were full of praise for the quality of care they received at Joondalup, and the staff with whom they formed strong bonds.

"Everyone, no matter who it was, showed me so much love. It's something that you cannot describe. I will never in my life forget this," said Mrs Schreyek.

Although Mr Schreyek was glad to finally make his way home, he also said that leaving Joondalup was somewhat heartbreaking because he now considered some of the staff as family – including Anne Karow, a registered nurse and fellow German who assisted him as a translator.

The couple have told friends and family back home that no one would believe the quality of care they received.

"I write every day to our friends in Germany, and yesterday I wrote 'you cannot imagine how we are treated; I think in Germany not even Angela Merkel is treated like this.' It's really like that; we are happy," said Mrs Schreyek.

DOCTORS EMBRACE VIRTUAL EDUCATION

RAMSAY GP LIAISON OFFICERS HAVE TURNED TO DIGITAL TECHNOLOGY TO SUPPORT DOCTORS DURING THE COVID-19 PANDEMIC.

After quickly recognising the need to offer virtual education sessions rather than traditional face-to-face events in times of social distancing, GP liaison officers from around Australia moved these meetings to Zoom and other online platforms.

Over a six-month period, they hosted 153 RACGP-accredited GP education events, featuring hundreds of medical specialists and attended by almost 4,500 GPs across Australia.

Doctor Engagement and Marketing Manager, Taren King Koi, said the virtual GP education sessions helped to foster relationships and referral pathways between community GPs and medical specialists – at a time when social distancing prevented large gatherings.

"Attendance numbers for our virtual GP education events have been increasing and there are a few reasons for this," said Ms King Koi, adding that GPs like having the option to log on from the comfort of their homes or offices to access the content.

Chair of Ramsay's GP Education Committee, Dr Sue Gray, agreed, saying that GPs no longer need to factor in travel time and location into their plans, as many of the education videos can be watched online in their own time.

"In a post-COVID world, we would anticipate offering a combination of both virtual and face-to-face education events for GPs," said Dr Gray.

App revamps COVID-19 screening

2 million+
Over 2 million COVID-19 online screenings.

WHEN RAMSAY RAMPED UP ITS COVID-19 SCREENING PROCESS IN 2020, OPERATIONAL CHALLENGES EMERGED.

Interviewing people individually about their virus exposure caused delays while waiting rooms were becoming over-crowded, impacting staff productivity and the patient experience.

In response, Ramsay launched a new smartphone tool to streamline the COVID-19 screening process at its hospitals, clinics and day surgeries.

When people enter a Ramsay facility, the robust screening system requires them to scan a unique QR code using their smartphone. Once they have answered simple questions about their possible exposure to COVID-19, their phone will display a green colour to show they are safe to enter, or an amber colour if they need to speak to a staff member.

Since the tool's launch, over 100,000 people have been screened each week to identify those at risk of having COVID-19. The screening tool has been translated into five languages – Chinese, French, Arabic, Vietnamese and Italian – to assist people with English as a second language.

Ramsay's IT department quickly rolled out the screening tool after the spike of COVID-19 cases in Victoria and New South Wales. The team also launched Virtual Waiting Room: a digital platform that makes crowded waiting rooms a thing of the past.

With Virtual Waiting Room, once patients fill out their paperwork they are free to leave the facility instead of remaining in the waiting room. They receive a text or phone call when it's time to return for admission.

To find out how Ramsay's software development team deployed the COVID-19 screening app from scratch in just two weeks, turn to page 60.

Remote working? We've got you covered

5,800+
staff have securely connected their smartphones to the Ramsay email system compared to 1,500 before the pandemic.

3,500+
head office & operational staff used Microsoft Teams. The number of chats, meetings & teleconferences over Microsoft Teams has grown from 40k to over 350k per month during the pandemic.

16 secs
is the average call answer time – with 74% of calls answered within 10 sec.

20k+ hrs
of staff & clinician collaboration over video & voice teleconferencing occured per month during COVID-19.

4,000+
Ramsay staff worked remotely & ran over 650 Zoom meetings, totalling 2,500+ hrs per month.

NO-TOUCH SOLUTION PROTECTS STAFF CLOCKING ON FOR SHIFTS

RAMSAY HEALTH CARE'S NEW SMARTPHONE APP ALLOWS EMPLOYEES TO CLOCK ON AND OFF FOR THEIR SHIFT WITHOUT PHYSICALLY TOUCHING A SHARED SCREEN.

The MyTime app, which is free to download on the Apple and Google Play store, allows employees to 'touch' on or off for their shifts using their smartphone rather than using a physical MyTime clock device. Staff can also view their roster through the app to check their upcoming shifts.

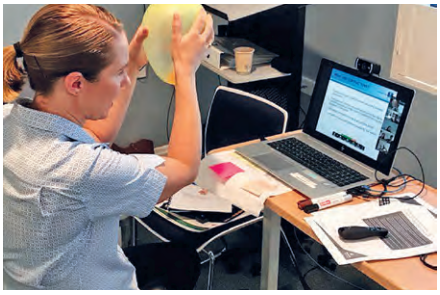
National Human Resources Manager, Adurty Rao, believes the app is an important safety initiative during the pandemic.

"Every day we have thousands of team members logging on for their shifts at Ramsay hospitals around the country, and the MyTime app means they will no longer be at risk of sharing or spreading germs from a physical MyTime Clock device," said Ms Rao.

"Ramsay Health Care staff are on the frontline battling this pandemic, and the MyTime app is another way we can keep our people as safe and healthy as possible in their work environment."

FEATURE

In tough times, telehealth keeps patients connected



WHEN COVID-19 RESTRICTIONS FORCED HEALTH SERVICES TO SHUT DOWN, RAMSAY TURNED TO TELEHEALTH AS A WAY TO REACH PATIENTS WITHOUT MAKING PHYSICAL CONTACT.

Sarah-Jane Green and her partner, Paul, were over the moon when they found out they were expecting their first child.

There was just one issue that caused them concern: missing out on attending childbirth and parenting classes.

For many parents-to-be, antenatal classes are an opportunity to learn about the birthing process, meet others on the same journey and progress confidently into parenthood.

During the COVID-19 pandemic, hospitals around Australia were forced to cancel these classes due to the need for social distancing. Not only were parents prevented from accessing the expertise they needed; they also couldn't meet their midwives, or visit the suites where they would eventually give birth.

A solution was needed, and the maternity team at John Flynn Private Hospital in Queensland was determined to provide it.

Not wanting to leave expecting parents on the Gold Coast without support, the staff quickly put together a virtual antenatal program.

Medical, technical and legal experts collaborated to deliver the online service in record time, while ensuring patient confidentiality was strictly maintained. Midwives led the virtual classes and fielded questions from participants. For the birthing suite tours, the nurses flexed their creative muscles and attached laptops to wheels to guide people through each room virtually.

Thanks to everyone's efforts, Ms Green didn't have to leave the comfort of her home in Burleigh Heads to attend her first class.

"[The online classes] gave us invaluable information and it was great to meet members of the midwife team, as well as have a virtual tour of the birthing suites which we otherwise wouldn't have been able to see in the current situation," she said.

"Being first- time parents, we were anxious at the thought of not being able to participate in antenatal classes, and really appreciated that the John Flynn team made it happen for us."

Breaking down barriers with telehealth

Maternity isn't the only health care unit affected by Australia's COVID-19 restrictions. From consultations to rehabilitation therapy and day programs, social distancing rules have forced services to shut down, giving rise to a critical need for remote delivery models.

This has led many providers to turn to telehealth: the delivery of health services through digital communication technology.

Telehealth is not a new concept. One of its earliest recorded uses was in 1879 when a doctor, listening to the cough of an infant over the newly invented telephone, reassured the grandmother that the baby did not have croup, and a house call was not needed.

Fast forward to 2020 and things have progressed significantly.

FaceTime, Zoom, video conferencing and smartphones have enriched telehealth into a multifaceted offering across a wide range of disciplines. It became so ubiquitous during the pandemic that in March the Australian government made telehealth items temporarily available on the Medicare Benefits Schedule (MBS). By April, more than 4.3 million health services had been delivered to over three million patients through the MBS.

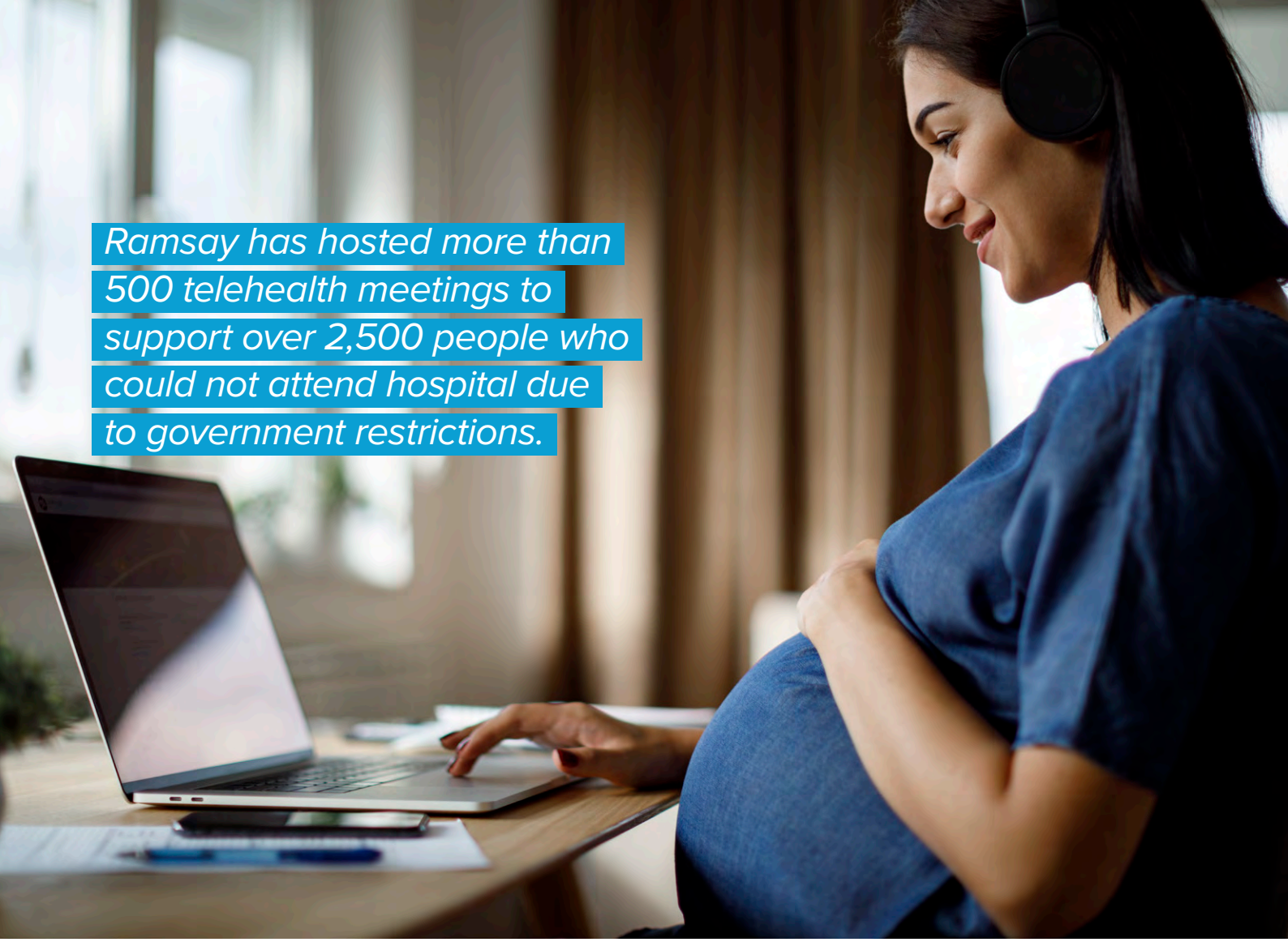
Ramsay Health Care was one of the many facilities that quickly mobilised to move services online. Each month since the pandemic started, Ramsay has hosted more than 500 telehealth meetings to support over 2,500 people who could not attend hospital due to government restrictions.

To support the community's GPs, Ramsay's GP liaison officers hosted 153 RACGP-accredited virtual GP education events, featuring 239 medical specialists and attended by almost 4,500 GPs across Australia.

In addition to this, many of Ramsay's health care services moved online, including mental health therapy sessions, group day programs for anxiety and depression, physiotherapy rehabilitation sessions, and one-on-one appointments with exercise physiologists.

Ramsay Connect, a joint venture between Ramsay Health Plus and Remedy Health Care, is also using virtual technology to help patients continue their hospital recovery at home.

The provider's CEO, Ian Galvin, says telehealth has enabled nurses, doctors and allied health care workers to continue providing in-home services to patients despite social distancing measures.



Ramsay has hosted more than 500 telehealth meetings to support over 2,500 people who could not attend hospital due to government restrictions.

"Being able to use telehealth means we can increase the number of interactions that we have with people, and provide greater flexibility for them to access care from home," he said.

"It has helped us greatly during the COVID-19 pandemic, especially when we had to switch to telehealth at certain stages for staff and patient safety."

Providing alternatives to Dr Google

The real value of telehealth, though, is not just in uptake numbers. Even more important are the benefits online health care has brought to patients.

Ramsay's virtual antenatal classes are a case in point. Most Ramsay sites across Queensland, New South Wales and Victoria are now offering virtual childbirth education sessions, with classes in Mandarin available at North Shore Private Hospital, Waverley Private Hospital and Mitcham Private Hospital.

Ten sites are also running Ramsay's Know My Midwife program online, allowing patients to meet their midwives virtually for antenatal assessment appointments.

Cairns Private Hospital Nurse Unit Manager, Jayne Dennett, said that after 11 years as a nurse and midwife, she was excited that her unit took the step of delivering antenatal classes and postnatal consultations through Ramsay's virtual care platform.

"Most of these women are first-time mums and are in the final stages of their pregnancy, so it's a really important time," said Ms Dennett.

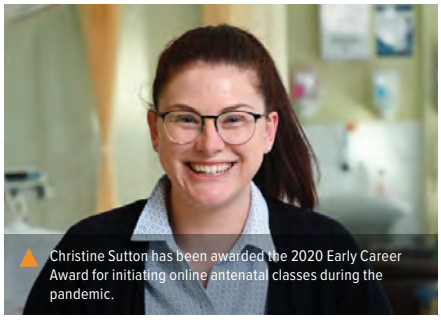
"Many of them are extremely anxious – not just about their upcoming birth, but also about the risks of COVID-19, and we want to be there for them so they can feel confident about having their babies."

"It's great that, despite COVID-19 restrictions, these mums-to-be can still ask all of their questions about the birth and what it's like to have a newborn baby rather than relying on Dr Google."

Moving beyond the pandemic, whether telehealth initiatives like virtual antenatal classes will be a permanent fixture of Australian health care remains to be seen. But for now, mums-to-be like Ms Green are thrilled with the convenience.

"Because there weren't as many couples in the class as there would normally be, [the virtual classes] were really personalised," she said.

"And I loved that we could do it in the comfort of our own home." **F**



Christine Sutton has been awarded the 2020 Early Career Award for initiating online antenatal classes during the pandemic.

AWARD TO MIDWIFE FOR BIRTH CLASS INNOVATION

A GOLD COAST MIDWIFE WHO HELPED LAUNCH VIRTUAL ANTENATAL CLASSES HAS BEEN HONOURED BY THE QLD NURSES AND MIDWIFERY UNION.

John Flynn Private Hospital's Christine Sutton won the 2020 Early Career Award amidst an impressive field of candidates, with the judges praising her passion for nursing.

"Christine was able to facilitate a connection with mothers during a very trying time, adapting to new ways of working and displaying outstanding leadership skills," commented the judges.

Knowing the importance of supporting women and families during pregnancy, Ms Sutton was one of the founding midwives who planned, initiated and taught antenatal education classes via Zoom during the early stages of the pandemic.

"We adapted and we got some laptops on wheels," said Ms Sutton. "We were able to virtually walk them through our facility so they could still experience it all."

Ms Sutton was nominated for the award by her Nurse Unit Manager, Gayle Hardwick, who praised her skills as a future health care leader.

"Christine encompasses all the qualities that you look for in a student and the next generation of midwives – dedication, enthusiasm, compassion, patient-focused care and a willingness to learn," said Ms Hardwick.

Ms Sutton felt lucky to have won the award. "It will just open so many doors to further education for me - which means I can support new mums even more."

IT helps support Victoria's frontline workers

"TODAY I STEPPED WAY OUTSIDE MY COMFORT ZONE AND STOOD ALONGSIDE SOME AMAZING NURSES TO HELP THE FRAIL, VULNERABLE AND SCARED. I WILL NEVER BE ABLE TO DESCRIBE EXACTLY WHAT I SAW, AS IT WAS HEARTBREAKING. THESE PEOPLE ARE SOMEONE'S MUM, DAD OR GRANDPARENT. NOBODY SHOULD BE PUT IN THIS SITUATION. BUT I AM GOING TO GO BACK TOMORROW, BECAUSE I KNOW I MADE A DIFFERENCE."

These words, spoken by a Ramsay employee who worked at a Victorian aged care home rife with COVID-19 cases, provide a glimpse of what it is like to be a frontline worker during a pandemic.

At its height in mid-August, the second COVID-19 wave in Victoria brought 7,880 active cases across the state.

The Victorian State Government, having declared a state of emergency, issued a rare 'call-to-arms' for health care providers to help in any way that they could.

Twelve of Ramsay's Melbourne-based hospitals and clinics responded to the call. Approximately 1,500 public patients were admitted to these hospitals, with 72 COVID-19 patients treated at Warringal Private Hospital, Glenferrie Private Hospital and Peninsula Private Hospital.

Ramsay employees were also redeployed to work more than 1,500 shifts in eight Victorian residential aged care facilities where outbreaks had occurred.

As they cared for vulnerable seniors and assisted with efforts to contain the pandemic, these workers needed support – physically, mentally and emotionally.

This is where Ramsay's national COVID-19 Response Team stepped in.

Initially established to take care of personal protective equipment, organisational readiness and Ramsay's workforce and resilience, the Response Team also worked with Ramsay's Mental Health Care Service Line to address staff wellbeing.

Mental Health Service Line Director, Dominique Robert-Hendren, developed a 12-week mental health strategy to provide immediate support to staff. Crucially, this included delivering targeted interventions for frontline workers in Victoria – both physically at different sites, and through digital channels.

"In Victoria, we had nurses who were experiencing anticipatory anxiety before starting a shift, because they were preparing to treat people who were potentially COVID-positive. We implemented some grounding and defusion techniques, including relaxation and mindfulness meditation, and self-compassion and self-kindness strategies, via Zoom before a shift," said Ms Robert-Hendren.

"We also went on-site to provide face-to-face psychological first aid services for our employees and doctors in Victoria, and delivered resilience strategies for leaders, heads of departments and executives."

According to Ms Robert-Hendren, the success of these interventions was largely dependent on how well-targeted they were.

Ramsay's IT department digitally categorised employees into cohorts, so that a nurse working shifts at a Melbourne aged care facility, or a doctor

handling a clinic outbreak in another part of the state, could log on to the MyRamsay app from their phones and receive different care messages – each one relevant to the situation being faced.

"The category might be everyone in Victoria that provides mental health care, or everyone in Victoria working on the care frontline, or in catering, maintenance, environmental cleaning and infection control. The IT team was able to categorise particular cohorts to receive specific messages," said Ms Robert-Hendren.

"For example, we had a clinic in Victoria with an outbreak. They were closed down, so we developed a lot of messaging specifically targeted only to them, and the IT team helped us separate who they were. We were sending them messages that were meaningful and specific to the situation that they were in and only they would receive these messages, making it personal for that particular group…that was really helpful; we did that with a few sites and their feedback was great."

Caring for Victorian frontline workers is just part of the COVID-19 Response Team's mental health strategy. To find out more about how Ramsay addressed staff wellbeing with digital technology, turn to page 47.

A patient speaks to Director of Emergency, Dr Mark Baldwin, via Temi outside Greenslopes Private Hospital.

Robo doctor adds the human touch

GREENSLOPES PRIVATE HOSPITAL HAS INTRODUCED A 'ROBO DOCTOR' TO BRING HUMAN INTERACTION INTO HEALTH CARE FOR PATIENTS IN ISOLATION.

Temi the telepresence robot travels autonomously throughout the Brisbane hospital to treat and visit patients. Its 'head' is a small television monitor with a live feed of the doctor or staff member, allowing healthcare workers to attend patients' bedsides while maintaining strict infection control measures.

Greenslopes Private Hospital Emergency Centre director, Dr Mark Baldwin, said Temi enabled the hospital to keep family members and staff safe when patients were in isolation, and helped limit the use of Personal Protective Equipment.

"Temi's head is at the height of a patient in bed or seated in a chair…there is a little tray behind the monitor which can carry items like medical equipment, medications or even sanitiser and masks," he said.

Dr Baldwin believes the robot provides a reassuring presence without the risk of infection, as there is something more "human" about patients being able to see their doctor's face on the robot's monitor.

"Family members and health care workers can see and talk to a patient without being in the room," he said. "Temi can move around the wards and follow a patient without any other person being present."

Temi was purchased from Exaptec, a Melbourne company which specialises in social service and telepresence robots. According to Greenslopes Private CEO Chris Went, the robot is "a great addition to the staff."

"Of course, nothing can replace hands-on care and that is what we provide the majority of the time. However, when a patient is in isolation, Temi is a safe way for health staff to continue monitoring them and for family and friends to catch up in a more personalised way than over the phone," said Ms Went.

"We are happy to invest in new technology like Temi, to ensure that patients still receive the best possible outcome, and our staff and their families are kept safe during times of isolation."

FEATURE

The first of its kind performed in Australia – the operation used a million-dollar Mazor X Stealth Edition Robot to guide more than 20 metal implants into Ms Telford's spine.

Robotic surgery at a hospital near you

RAMSAY BRINGS THE LATEST ROBOTIC TECHNOLOGY TO LOCAL AUSSIE COMMUNITIES, SAVING PATIENTS LONG TRIPS FOR CUTTING-EDGE SURGERY.

For a decade of her life, Lindy Telford suffered from chronic back pain.

The solicitor from Queensland was diagnosed with scoliosis, a sideways curvature of the spine, at the age of 25. "Since then it has grown worse, and in recent years, I've found that I need to do a lot of physiotherapy and massage and exercise just to keep it in check," she said.

What eventually turned the situation around for Ms Telford was a revolutionary surgical robot.

Pindara Private Hospital, located on the Gold Coast in QLD, restored Ms Telford's freedom of movement through robotic-assisted spine surgery – the first of its kind performed in Australia. The operation, led by Associate Professor Matthew Scott-Young and Assistant Professor Laurence McEntee, used a million-dollar Mazor X Stealth Edition Robot to guide more than 20 metal implants into Ms Telford's spine.

"Normally, surgeons rely on freehand techniques and x-rays to place screws and rods in complex spine surgery," said Prof. Scott-Young.

"The Mazor X system tracks the position of instruments in relation to the patient's anatomy to improve accuracy, which is vital in operations like Lindy's where the spinal cord and vital organs might be only two or three millimetres away."

"It means less time under anaesthetic, fewer x-rays, smaller incisions and faster recovery."

Accessing a robot like the Mazor X is not easy for many Australians.

For those who live outside capital cities, undergoing this type of life-changing surgery often involves huge challenges, such as travelling long distances while unwell, being away from family, or receiving care in an unfamiliar environment.

This is what makes Pindara Private's new robotic capabilities so valuable. Patients from the Gold Coast no longer need to travel far to undergo spinal surgery with cutting-edge equipment. A similar story is unfolding in other hospitals throughout Ramsay's network. Making robotic-assisted surgery available to local communities is creating many benefits: better outcomes, quicker recovery times, advanced procedures for those unable to travel, more training opportunities for regional surgeons, to name just a few.

Ultimately, it's about making the latest technological developments accessible to people who need it. No matter where they live.

Revolutionising knee & hip surgery

About a thousand kilometres south of the Gold Coast, Dudley Private Hospital is also using robots, but for a different part of the body.

The hospital, located in the inland city of Orange, has introduced a state of the art 'ROSA robot' (Robotic Surgical Assistant) for total knee replacement surgery. It is the first hospital in regional NSW to give locals access to this technology. ▶

The benefit for our patients is they can remain in the region to have access to this technology, instead of having to travel to & stay in the metropolitan cities.

"Robotic surgery at a hospital near you" continued...

According to orthopaedic surgeon Dr Evan Jones, the ROSA robot provides "an extra level of precision and accuracy" to the placement of knee implants.

"The benefit for our patients is they can remain in the region to have access to this technology, instead of having to travel to and stay in the metropolitan cities," he said.

Similarly, Hillcrest Rockhampton Private Hospital has helped save Central Queenslanders a trip down south for robotic-assisted knee and hip replacements by investing two million dollars in the Mako system.

Mako constructs a 3D model of a patient's joint using a pre-operative CT scan, then generates a plan based around minute variations in the patient's anatomy. When the surgeon prepares the bone for implant, the system's robotic arm guides them within a pre-defined area to ensure placement accuracy and alignment of the implant. The soft tissue around the knee or hip is only minimally disrupted, which can translate to faster recovery time and less post-operative pain than is possible with other procedures.

Hillcrest Rockhampton Private Hospital CEO Fiona Hebbard said investing in Mako was part of the hospital's commitment to being the "orthopaedic centre of excellence" for Rockhampton and the wider central Queensland area.

"This is a huge win for regional Queenslanders, with world-leading technology now available locally for robotic-assisted total hip replacements, and total knee and partial knee replacements," she said.

A renaissance in robotic technology

It's not just orthopaedic surgery that is harnessing the latest in robotics. Another system that is expanding doctor capabilities is 'da Vinci': a tool that surgeons say is like an extension of their hands.

Made up of three integrated components, the da Vinci system allows routine and complex procedures to be performed as minimally invasive surgery, with great dexterity and precision. According to reviews of published studies, patients operated on with da Vinci technology experienced fewer overall complications, a shorter stay in hospital and less pain than those who had open surgery.

Port Macquarie Private Hospital, situated on the northern coast of NSW, has just completed its 10th urology case using the da Vinci system, using the technology to perform prostatectomy and bladder diverticulectomy procedures. The hospital's CEO, Connie Porter, said having the robot has reduced the need for both doctors and patients to travel to a metropolitan centre for this type of surgery.

"It not only benefits the hospital but also people in our local community," she said. "It has also made training for other surgeons more accessible, and we look forward to more doctors progressing their interests in robotic surgery."

Western Sydney-siders are also benefitting from Da Vinci's precise touch. Westmead Private Hospital has recently invested in the da Vinci Xi robot, which is the latest, most advanced da Vinci system for minimally invasive surgery.

Associate Professor Felix Chan said Westmead Private is leading the way, as "no other hospital in the Western Sydney region has [the Da Vinci Xi robot]." The hospital's investment comes at the right time, with Sydney's west tipped to experience a population boom over the next 10 years. Parramatta, a suburb next to Westmead Private, is Sydney's second-most populated suburb with a population of over 493,000.[1]

"The population is growing rapidly, and by having the latest technology to work with, surgeons can work more efficiently, and that opens up the potential to serve more of our community," said Prof. Chan.

The da Vinci Xi is used for a range of complex procedures at Westmead Private, including bowel, cardiothoracic, head and neck, bariatric, pancreatic and upper gastrointestinal tract surgeries. Prof. Chan, who is a gynaecologist at the hospital, says since using the da Vinci Xi robot for complex gynaecological procedures, 90 per cent of his patients were able to go home within 24 hours.

Providing access to robotic technology is bringing tangible outcomes for patients in different communities, many of them life-changing. As for Linda Telford, it's about the simple pleasures she no longer takes for granted, like being able to exercise every day.

"The first week after the operation was pretty tough, but since then, I've grown more mobile and flexible," she said.

"I'm now back at the gym daily and lifting weights. I'm looking forward to getting back into yoga." ***F***

[1]*Source: SGS Economics & Planning, ABS, 2019*

Flexible imaging gives surgeons room to breathe

QUEENSLAND'S FIRST FLEXARM TECHNOLOGY IS TRANSFORMING THE WAY IMAGES ARE BEING CAPTURED IN THE OPERATING THEATRE.

Specialist teams at Pindara Private Hospital on the Gold Coast are now able to perform real-time imaging without needing to move the patient or the operating table, thanks to the purchase of Queensland's first FlexArm technology.

Launched by Philips in 2019, the Azurion7 C20 FlexArm makes it easier for specialists to perform high-definition 3D and 2D imaging. The fully flexible system is mounted to the ceiling, allowing medical teams to move freely around the patient and perform multiple surgeries or procedures at once.

Director of Clinical Services Tracey Clark said the system has received a positive response from the hospital's medical specialists since its arrival in March, 2020.

"[The FlexArm] is placed in our Theatre 11 Hybrid Room, and while we used to have surgeons who didn't want to work in there because of its space limitations, these surgeons are now asking to use that room because of this amazing technology," said Ms Clark.

"It provides very high definition imaging and the quality is first class. It has really made a big difference to the type of imaging we can obtain."

With the FlexArm, specialists can now perform a wider range of surgeries in Theatre 11, including chemotherapy for patients with liver cancer, vascular and other intervention procedures, neurosurgery and orthopaedic surgery.

Mornington Peninsula residents welcome neurosurgery close to home

PENINSULA PRIVATE HOSPITAL HAS LAUNCHED A NEUROSURGERY SERVICE FEATURING WORLD-CLASS BRAIN SURGERY TECHNOLOGY.

Neurosurgeon Associate Professor Jin Tee said in the past, patients from Mornington Peninsula in Victoria had to travel to the city for tests and surgery. "Now they can stay close to home, which is a huge benefit for the patients and their families at a stressful time," said Prof. Tee.

To support the service, Peninsula Private has acquired the latest cranial neuro-navigation equipment from 7D Surgical: a GPS-based device to aid surgical accuracy and improve outcomes.

The main procedures offered are for patients with traumatic bleeds, metastatic and primary brain tumours, spinal tumours and hydrocephalus. The first operation was to remove a metastatic brain tumour.

Prof. Tee also expects the new service to be particularly valuable in testing patients who show dementia-type symptoms, possibly caused by brain bleeds.

This particular age group is expected to increase in the coming years. The Peninsula's older demographic makes this new clinic and increasingly vital service for the community.

NOOSA DOCTORS GET A CLOSER LOOK AT THE HEART

A PROCEDURE WHICH PROVIDES DOCTORS WITH A CLOSE-UP VIEW OF THE HEART IS NOW AVAILABLE TO CARDIAC PATIENTS AT NOOSA HOSPITAL.

Similar to an endoscopy, a Trans-oesophageal Echocardiogram (TOE) involves sliding a small probe down a patient's throat, while under anaesthesia, to capture high-resolution images of the heart.

Cardiologist Professor Christian Hamilton-Craig said the procedure provides the ability to diagnose heart conditions with increased accuracy compared to a standard heart ultrasound.

"In some cases, the images can be 50 per cent more accurate, particularly for diagnosing infections of the heart," Prof. Hamilton-Craig said.

The 20-minute procedure is used in diagnosing and treating various cardiac conditions (including endocarditis and atrial fibrillation) and identifying the need for heart valve surgery.

TOE is also used to look for clots inside the heart prior to a cardioversion: a procedure involving use of a brief electric shock to reset the heart to normal rhythm.

Previously, Noosa patients requiring the TOE procedure needed to travel for about an hour for treatment. "I see people virtually every day requiring this procedure, so it means a lot to the community to have these services available locally," said Prof. Hamilton-Craig.

FEATURE

From video games to surgery: how holograms are changing medicine

TECHNOLOGY PIONEERED BY THE GAMING INDUSTRY HAS ALLOWED A GREENSLOPES PRIVATE HOSPITAL SURGEON TO OPERATE WITH THE HELP OF HOLOGRAMS.

Mention the word 'hologram' and for most of us, video games, sci-fi films and episodes of Star Trek spring to mind.

But now 3D holograms and immersive reality headsets are making their way into the operating theatre – specifically, a complex shoulder reconstruction performed at Greenslopes Private Hospital.

In what is believed to be an Australian first, Dr Ashish Gupta and his team of engineers have used gaming technology to create a 3D hologram of a patient's shoulder as a guide for surgery.

The operation, performed in August 2020, was to treat a 19-year-old patient who had suffered a traumatic shoulder dislocation with a large residual bone defect. As in gaming, Dr Gupta wore a headset with 3D goggles to interact with the patient's shoulder hologram.

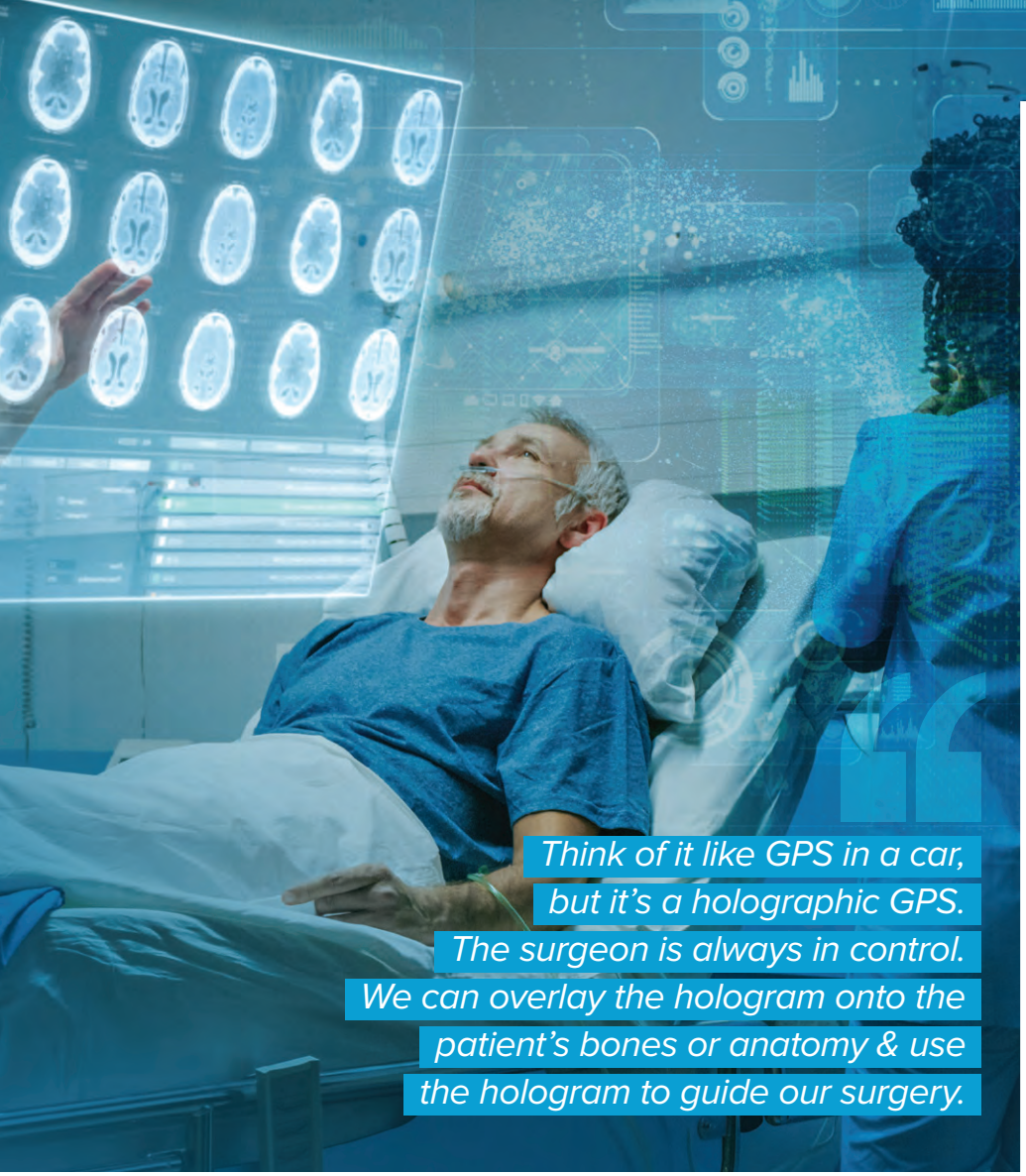
"The hologram allows you to see what is beyond the surgical field of view," said Dr Gupta. "Going forward, it could be really significant in other fields of medicine, such as neurological surgery."

Dr Gupta's engineering team created the hologram using mixed reality: a new wave of technology that combines virtual reality and augmented reality to allow physical and virtual objects to interact together in real time.

According to Dr Gupta, unlike playing a game in virtual reality where you don't know what's going on outside the simulated environment, mixed reality allows you to be highly aware of your surroundings.

"Think of it like GPS in a car, but it's a holographic GPS," he said. "The surgeon is always in control. We can overlay the hologram onto the patient's bones or anatomy and use the hologram to guide our surgery."

Research and Development Engineer Marine Launay, who created the 3D models used for the shoulder reconstruction, said



Think of it like GPS in a car, but it's a holographic GPS. The surgeon is always in control. We can overlay the hologram onto the patient's bones or anatomy & use the hologram to guide our surgery.

integrating mixed reality technology enabled the team to approach the surgery differently.

"Previously, all the pre-planning work would have been done, and Dr Gupta would have taken his printed plans or 3D print models into surgery," she said.

"By using mixed reality, he has the potential to see, interact and manipulate the pre-planned hologram during surgery before he makes decisions about the patient."

Ms Launay added that the technology also helps guide the surgeon's positioning during surgery.

"When you're doing a shoulder surgery, the field of view is really restricted. But if you can see the 3D hologram of the scapula at the same time, the surgeon can see things he may otherwise be unable to see without mixed reality technology. It's like being able to see what lies behind a wall."

Mixed reality technology is currently being validated by an ethically approved clinical trial at the Queensland Unit for Advanced Shoulder Research (QUASR): a multi-skilled shoulder research facility with more than 40 researchers working on bio-mechanical, computational, modelling, robotics, neuromuscular and gait projects.

Greenslopes Private Hospital CEO Chris Went said the hospital was committed to supporting improvements in technology that can offer patients a wider range of treatment options.

"This is such an exciting medical milestone which further illustrates Greenslopes' commitment to research and development to help deliver excellent health care for our patients." *F*

To find out how Greenslopes Private Hospital is investing in cutting-edge shoulder surgery techniques, turn to page 71.

What is mixed reality technology?

MIXED REALITY IS A RELATIVELY NEW PLAYER IN THE FIELD OF IMMERSIVE TECHNOLOGY.

Invented in the 1990s, the technology combines virtual reality (full immersion in an artificial environment) with augmented reality (placing digital objects over the real-world environment). It allows users to interact with virtual objects in the real world, usually through a headset with a single display.

Although mixed reality is still in the early stages of development, we are seeing its potential in industries beyond online gaming such as manufacturing, aerospace and education. According to a recent Harvard Business Review Analytic Services study, nearly 90 per cent of businesses are exploring, piloting, or deploying mixed reality technology.

In healthcare, mixed reality has been used for training purposes, such as helping students to practise surgery. The shoulder reconstruction, performed by Dr Ashish Gupta and his team at Greenslopes Private Hospital, is believed to be the first Australian use of mixed reality technology in this context.

Dr Ashish Gupta has done more than a dozen operations using mixed reality technology at Greenslopes Private Hospital as part of an approved clinical trial.

The Elekta Versa HD can precisely target & destroy cancerous cells in an exact area of the patient's body, with minimal exposure to the surrounding healthy tissue.

FEATURE

Western Australia's first one-stop shop for cancer care

HOLLYWOOD PRIVATE HOSPITAL'S NEW HIGH-TECH ONCOLOGY CENTRE WILL BE WESTERN AUSTRALIA'S FIRST PRIVATE ONE-STOP SHOP FOR CANCER CARE, CAPABLE OF TREATING UP TO 1,000 PATIENTS EACH YEAR.

The new oncology centre, due to open in February 2021, emerges from a partnership between Ramsay Health Care and GenesisCare, which is currently the largest provider of cancer care in Australia.

The centre will treat cancer patients using advanced technology, with a strong focus on breast and prostate cancer.

This includes radiotherapy delivered by the Elekta Versa HD with the Brainlab ExacTrac X-ray system: an advanced linear accelerator which is capable of the latest radiation treatment, such as stereotactic radiotherapy.

The Elekta Versa HD can precisely target and destroy cancerous cells in an exact area of the patient's body, with minimal exposure to the surrounding healthy tissue. Radiation oncologist for GenesisCare Dr Yvonne Zissiadis describes the accelerator's technology as "state of the art".

"[It has] a tracking system which allows it to position patients, and for us to view patients as they're having treatment. This means it's a more rapid treatment, and it is high precision," said Dr Zissiadis.

Investing in cutting-edge technology for radiation oncology has allowed Hollywood Private Hospital to offer comprehensive care to patients with cancer.

Over the past decade the hospital has developed a multidisciplinary team environment for cancer treatment, giving patients integrated care from medical specialists, haematologists, surgeons, radiologists, nurse specialists, clinical trial researchers, allied health and mental health professionals.

The only piece missing had been radiation oncology. According to Hollywood Private Hospital CEO Peter Mott, patients had to travel off-site to undergo radiation therapy, then back to the campus for other treatment. This added to the already significant emotional and physical toll of cancer diagnosis and treatment, particularly for those receiving palliative care.

"The partnership with GenesisCare means that the one aspect of care we weren't previously able to provide on-site, radiation oncology, [will be available]. It means patients can now get all of their care

Cancer is the leading cause of death in Western Australia, accounting for approximately three in every ten deaths.

Two of the most common cancers in WA are prostate cancer in men, and breast cancer in women. Prostate cancer accounted for around 28 percent of total male cancer cases, while breast cancer accounted for around 30 percent of all female cancer cases.

Hollywood Private Hospital's new oncology centre will have a strong focus on prostate and breast cancer, including partnering with the Breast Cancer Research Centre WA for additional support.

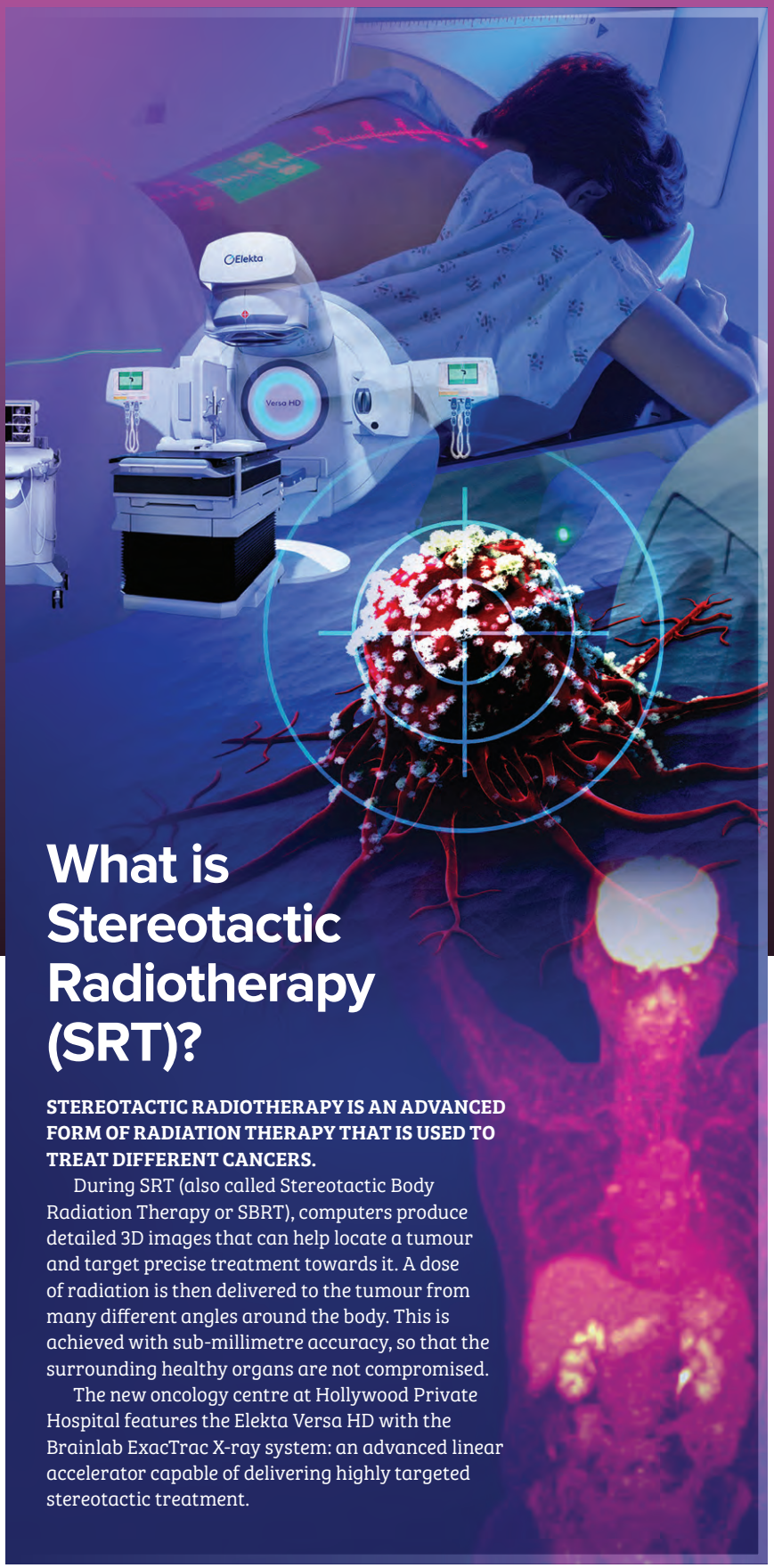
Source: Cancer Council Western Australia

in the one location, so we really are now the 'one stop shop' for cancer care for Western Australia," said Mr Mott.

The new oncology centre will also be able to significantly reduce the time from consultation to treatment for patients through what Acting General Manager for GenesisCare Oncology in WA, Louise Coffey, calls a "rapid access pathway".

"That basically means that the time [from] when the patient comes and meets a radiation oncologist for their initial consult, through to the commencement of their treatment, will be as efficient as possible," said Ms Coffey.

"We are excited to be partnering with Ramsay Health Care to ensure cancer patients in Perth are able to receive the highest quality of comprehensive cancer care, closer to home." ***F***



What is Stereotactic Radiotherapy (SRT)?

STEREOTACTIC RADIOTHERAPY IS AN ADVANCED FORM OF RADIATION THERAPY THAT IS USED TO TREAT DIFFERENT CANCERS.

During SRT (also called Stereotactic Body Radiation Therapy or SBRT), computers produce detailed 3D images that can help locate a tumour and target precise treatment towards it. A dose of radiation is then delivered to the tumour from many different angles around the body. This is achieved with sub-millimetre accuracy, so that the surrounding healthy organs are not compromised.

The new oncology centre at Hollywood Private Hospital features the Elekta Versa HD with the Brainlab ExacTrac X-ray system: an advanced linear accelerator capable of delivering highly targeted stereotactic treatment.

Endoscopic technology levels up at Ramsay

RAMSAY HAS STEPPED UP ITS ENDOSCOPIC CAPABILITIES AT WESTMEAD PRIVATE HOSPITAL AND CARINS PRIVATE HOSPITAL.

Gastroenterologist Professor Michael Bourke led the team that performed Westmead Private's first Endoscopic Retrograde Cholangio-Pancreatography (ERCP) procedure in July 2020. Previously the procedure was performed only at public hospitals.

An ERCP allows doctors to see the pancreatic and bile ducts inside a patient's body. It can help identify the cause of a problem, whether a patient needs surgery, and if so, which type of surgery is best.

The hospital's CEO Mike Flatley called the ERCP an example of Westmead Private's commitment to providing patients with access to the very latest technology.

"Private patients in Western Sydney can now access this procedure in a private hospital, with the excellent standard of care they know to expect with Ramsay Health Care," he said.

Cairns Private Hospital and Cairns Day Surgery have also improved their endoscopic services, with new equipment that provides safer procedures for patients and better imaging technology for specialists.

According to gastroenterologist Dr Bernard Chin, the facility's latest endoscopy video equipment allows doctors to "make the correct diagnosis and potentially treat the pathology at the same time, avoiding invasive surgery."

"Clearer vision means our ability to pick up subtle but dangerous pathology will be enhanced – for instance, picking up precancerous polyps in the large bowel means effectively preventing bowel cancer," said Dr Chin.

"Eighty Australians per week die from bowel cancer, but it is one of only a few cancers which are almost entirely preventable if picked up early."

Clearer vision means our ability to pick up subtle but dangerous pathology will be enhanced – & picking up precancerous polyps in the large bowel means effectively preventing bowel cancer.

Superglue offers innovative treatment for varicose veins

INNOVATION COMES IN ALL SHAPES AND SIZES, EVEN IN DECEPTIVELY SIMPLE TECHNOLOGY LIKE A HUMBLE TUBE OF SUPERGLUE.

Medical superglue designed to treat varicose veins has been used for the first time at Waverley Private Hospital in Victoria.

VenaSeal is a minimally invasive treatment that uses medical superglue to seal off the saphenous vein, which is the most common cause of varicose veins.

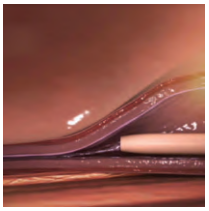
When treating the patient with VenaSeal, local anaesthetic is applied before a fine tube is threaded into the abnormal vein. A very small amount of medical grade superglue is then inserted, and the vein walls are pressed together while the glue sets.

This process is repeated every three centimetres down the full length of the vein being treated.

Waverley Private Hospital CEO, Lisa McFadden, said the treatment was an exciting advancement for the hospital.

"The glue essentially sticks the offending vein shut, so that the abnormal refill of blood into the vein is stopped. This leads to a reduction in the high venous pressure in the leg, which may reduce the signs and symptoms of varicose veins," she said.

"It was wonderful to have the procedure performed for the first time here at Waverley, and the team is looking forward to providing patients with this treatment option the future."



Step 1: Apply adhesive

Adhesive is placed in the vein via a small catheter.

Step 2: Apply pressure

Pressure is applied to the leg to help seal the vein.

Step 3: Remove catheter

The small catheter is removed from the vein.

Step 4: Apply bandage

A bandage is applied to cover the wound.

Images courtesy of Medtronic

LOCAL RETURNS WITH PACEMAKERS FOR RESIDENTS OF COFFS HARBOUR

A CARDIOLOGIST HAS RETURNED TO HIS HOME TOWN TO IMPLANT THE FIRST PACEMAKER FOR THE MID-NORTH COAST OF NEW SOUTH WALES.

Dr Austin May, who was born and raised in Coffs Harbour, has recently joined the team at Baringa Private Hospital as an interventional cardiologist and cardiac devices specialist.

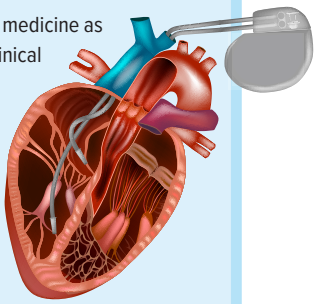
"Before Baringa Private Hospital's new services, people could not receive a pacemaker anywhere between Newcastle and the Gold Coast," Dr May said.

"The local cardiology services were excellent, but for pacemakers, the Coffs residents had been travelling to Newcastle or Sydney and it's a long way for people to go, especially the elderly."

"I'm excited that we can now offer the latest pacemaker and defibrillator services in Coffs Harbour."

Dr May returns to Coffs Harbour with his wife and their two young sons. Having witnessed people travelling a significant distance for health care, he felt that with dedication and long-term commitment, he could give something back to the community.

Dr May studied medicine as part of the Rural Clinical School Program, which encourages doctors to return to regional areas of Australia.



TAVI & AORTIC STENOSIS

AORTIC STENOSIS IS THE abnormal narrowing of the aortic valve, which prevents the heart from pumping blood efficiently. Approximately one in eight older Australians has aortic stenosis. It is currently the most common valvular heart disease in the world.

TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) is a minimally invasive alternative to open heart surgery for patients with aortic stenosis. Surgeons replace the narrowing aortic valve with an artificial one, using a catheter inserted through a small incision in the groin. The procedure gives patients a good chance of recovering quickly after the procedure.

Fixing hearts & lives with TAVI

More than 50,000 Australians are living with severe aortic stenosis: a serious condition that restricts blood flow from the bottom left chamber of the heart into the aorta.

One treatment making a difference is Transcatheter Aortic Valve Implantation. The procedure, known as TAVI, is a minimally invasive alternative to open heart surgery, and one that is changing lives throughout the country.

Seven Ramsay hospitals now offer TAVI to certain cardiac patients: Greenslopes Private Hospital, John Flynn Private Hospital, Lake Macquarie Private Hospital, North Shore Private Hospital, Peninsula Private Hospital, St George Private Hospital and Sunshine Coast University Private Hospital.

Here's a snapshot of how TAVI is helping Ramsay patients across these hospitals regain quality of life.

Cardio team is weatherman's ray of sunshine

FORMER CHANNEL TEN WEATHERMAN, RAY WILKIE, IS BACK TO ENJOYING HIS WELL-EARNED RETIREMENT AFTER A TAVI PROCEDURE AT GREENSLOPES PRIVATE HOSPITAL OPENED THE WAY FOR LIFE-CHANGING GUT SURGERY.

Ninety-five-year-old Mr Wilkie was being treated for a painful intestinal condition, but his colorectal surgeon, Dr Bradley Morris, could not operate because of the status of Mr Wilkie's heart.

"He was as animated as he still is; it was only his heart that was letting him down," said Dr Morris. "We had to get him in a condition where he was fit for an operation."

To improve the condition of his heart, cardiologist Dr Karl Poon and cardiac surgeon Dr Christopher Smith replaced Mr Wilkie's heart valve with a TAVI procedure.

Traditionally, this would have to be done with open heart surgery, which would have been highly risky for the patient. With TAVI, Mr Wilkie was able to recover quickly so that he could have the gut surgery he needed.

The meteorologist returned to Greenslopes Private after his procedure to thank his specialists. "I'm singing the praise of those professional specialists and for the hospital staff who put up with me, off and on, for four months," he said.

To improve the condition of his heart, cardiologist Dr Karl Poon & cardiac surgeon Dr Christopher Smith replaced Mr Wilkie's heart valve with a TAVI procedure.

One in four TAVI patients go home the next morning

A 90-YEAR-OLD AVOCADO FARMER FROM THE SUNSHINE COAST IS ONE OF THE FIRST 100 PEOPLE TO BE TREATED WITH TAVI AT SUNSHINE COAST UNIVERSITY PRIVATE HOSPITAL.

According to cardiologist Dr Peter Larsen, the 'heart team' at the hospital has treated 102 patients in the first year of launching the potentially life-saving treatment.

"In the past year, our data shows approximately one in four TAVI patients was able to leave the hospital the following morning. The average length of stay in hospital [for TAVI patients] was three days, and the average stay in the intensive care unit was 20 hours," said Dr Larsen.

The TAVI program involves close collaboration between the patients, their GP and the 'heart team'. This streamlined model aims to reduce stress for patients and their families, and saves a long trip beyond the Sunshine Coast for treatment.

TAVI offers quality of life in Sydney's south

ST GEORGE PRIVATE HOSPITAL NOW COMPLETES, ON ESTIMATION, MORE THAN 50 TAVI PROCEDURES EACH YEAR.

The hospital started offering the treatments in 2019. One of the first to undergo the procedure was Cornelis Witjes. The retired architect was diagnosed with a heart murmur when he was 45 years old, but it wasn't until recently that he started to struggle with physical activity.

His GP referred him to interventional cardiologist Dr James Roy for management of aortic stenosis. Further testing revealed an additional diagnosis of coronary artery disease.

"Cornelis was offered open heart surgery or the TAVI procedure, and he chose the latter non-invasive option. He was able to go home two days after the operation," said Dr Roy.

"For patients who have a good quality of life, and want to maintain a good quality of life, this is a great advance. The average stay in hospital is three days," Dr Roy said.

Major milestone cause for celebration

PAUL HARTLEY WAS GREETED WITH A CHEERY BOUQUET OF BALLOONS AND A PERSONALISED CUPCAKE WHEN HE WAS LED INTO THE INTENSIVE CARE UNIT AT JOHN FLYNN PRIVATE HOSPITAL. THE OCCASION? HE HAD JUST SUCCESSFULLY UNDERGONE THE SPECIALIST CARDIAC TEAM'S 200TH TAVI PROCEDURE.

"It was a surprise that morning," said Mr Hartley. "Someone mentioned I was going to be the 200th and I didn't put much stock in it, but then I scored a chocolate cupcake...it was a lot of fun."

Cardiothoracic surgeon Dr Ben Anderson, who was part of the team that performed the operation, agreed that celebrating the 200th TAVI was "an absolute blast."

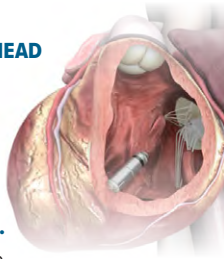
"It was very difficult to establish a TAVI program for many cardiac units around the country, outside of the major metropolitan centres, and I think it is incredibly significant to reach this milestone at John Flynn," he said.

According to Dr Anderson, TAVI helps patients recover quickly and can be a safer option for high-risk patients than open heart surgery.

John Flynn Private now performs approximately 10 TAVI procedures each month, and Mr Hartley couldn't be happier to be one of their patients. "They really are just a wonderful team. Wonderful people, and they were really interested in making me as comfortable as possible."

Fixing hearts & lives with TAVI

LEADLESS CARDIAC PACEMAKER A FIRST



IN A FIRST FOR WESTMEAD PRIVATE HOSPITAL, A CARDIOLOGIST HAS PERFORMED A PROCEDURE USING A TINY LEADLESS CARDIAC PACEMAKER.

Most pacemakers are placed in the patient's chest with leads running to the heart.

Instead, Dr Gopal Sivagangabalan delivered the Medtronic Micra Transcatheter Pacing System (TPS) via a catheter, attaching the device directly to the heart wall without the need for thin wires or leads.

The pacemaker is the size of a large vitamin and weighs less than a coin. Unlike conventional pacemakers, its placement does not result in a chest incision, scar or bump.

The first patient at Westmead Private Hospital to receive the device had previously undergone a bilateral mastectomy, which made recieving the leadless pacemaker the best option available.

Image courtesy of Medtronic


relief
recovery
better
us.
Ramsay Pharmacy
HydraMyte
Orange Flavoured
Electrolyte Ice Blocks

FEATURE

Behind the scenes of Ramsay's pharmacies

RAMSAY PHARMACY IS CONSTANTLY INNOVATING TO DELIVER A BETTER CUSTOMER EXPERIENCE. HERE ARE SIX WAYS TECHNOLOGY HAS MADE A DIFFERENCE ACROSS THE BUSINESS IN 2020.

Walk into one of Ramsay Health Care's 60 pharmacies around Australia, and you most likely won't notice the IT team – or the countless hours that go behind supporting the staff and honing your customer experience.

Khristien Fanderlinden, Senior Service Desk Analyst at Ramsay Pharmacy, believes that's exactly how it should be.

A lot of the work we do is behind the scenes and hopefully not seen by anyone," he said. "If you don't see what we're doing, it means we're doing our job."

Supporting pharmacists has been especially important throughout the COVID-19 pandemic. On top of ensuring medicine is distributed safely and equitably, Ramsay pharmacies administered close to 17,000 flu vaccinations, and delivered medications to more than 3,800 vulnerable people under the federal government's Home Medicines Service.

To help make this work possible, the IT pharmacy support team has undertaken several initiatives – from implementing innovative software platforms, to providing alternatives to the traditional fax machine.

Here are six ways technology has made a difference across Ramsay's pharmacies in 2020.

1. Standardising IT equipment across all pharmacies

In the past, Ramsay pharmacy's digital networks were not centrally managed, which made it difficult to troubleshoot and protect equipment from cyber attacks.

"[Standardising IT equipment] was a big win that came to a conclusion this year," said Mr Fanderlinden.

"The value is providing protection from ransomware and corporate fraud. We can also start to be reactive to sites. We monitor the networks, and if a network goes down we're alerted to it, as opposed to waiting for someone to call us."

Having a centrally managed secure network also means pharmacy staff can now access Ramsay's corporate resources, such as the intranet and the MyTime app. The IT team can also install updates and applications on desktops without manually visiting each site.

"It's a lot quicker in this environment," explained Mr Fanderlinden. "It's centrally managed, so we package the application and send it out to PCs."

2. Fully paperless controlled drug administration

This year Ramsay's pharmacy group rolled out a new electronically controlled drug register across 36 of its hospital sites in Australia.

HS8, developed by Melbourne vendor Modeus, is a software platform that provides a paperless solution for controlled drug administration.

By integrating with Pharmacy dispensing and hospital software systems, it can assist with controlled drug governance, compliance and efficiencies throughout the entire hospital.

General Manager of Operations at Ramsay Pharmacy, Michelle Lynch, said Ramsay places great importance on ensuring drug safety and security, especially with pharmacists being "custodians of medication".

"Modeus' HS8 programs provides functionality to further enhance medication governance, and a safety and quality focus," she said.

3. Saving money with cloud calling

Traditional phone systems are fast becoming a tool of the past. The IT team is the process of updating each pharmacy's phone line to a more efficient cloud-based system.

Cloud phone systems (or 'cloud calling') are phone services that are delivered over the Internet and managed off-site. They are significantly more cost-effective than a traditional PBX phone system, and integrate different marketing features into your phone network.

"We've now got really smart ways of dealing with our phones," said Mr Fanderlinden. "You can set your on-hold messages to advertise your seasonal...

The 'Click & Collect' service allows customers to order products from the comfort of their couch using a digital catalogue on the Ramsay Pharmacy website, a much-needed service for those in the community who are in quarantine during the pandemic.

"Behind the scenes of Ramsay's pharmacies" continued...

catalogue, or put after-hours messages to say, 'we're closed at the moment, but please attend our 24-hour pharmacy'."

4. Upgrading pharmacies for better efficiency

This year Ramsay Pharmacy's IT team installed communication technology for 49 retail stores, and updated medication dispensing and POS software on 369 systems.

Some of these retail sites are pharmacies which Ramsay has purchased and on-boarded. To bring them up to speed, many of these sites have also been given an Internet connection upgrade, helping pharmacists to work more efficiently.

"Instead of having their existing small business or consumer grade internet connection, we've put Ramsay Health enterprise grade connection into these retail stores," said Mr Fanderlinden.

"This is an ongoing process; we're not all there yet. The vast majority are moving to enterprise grade NBN connections, which they've never had before."

"We've also got 4G...so if the main NBN connection falls out, their system clicks over to the 4G network."

5. Providing a fax machine alternative

One of the challenges faced by modern pharmacies is integrating the use of traditional fax machines, often from GP surgeries and aged care homes.

To sidestep the need to have a fax machine in their retail sites, Ramsay Pharmacy's IT team implemented electronic faxing: a system which automatically converts a paper fax message into an email. This reduces the risk of losing paper messages, and allows important notes to be sent to the staff member who needs the information.

"It comes to us by fax, [the message] gets converted into an email, and the staff at the pharmacy receive that email, " said Mr Fanderlinden. "They're not printing or wasting paper; they can file it away in their email system to keep."

6. Improving the customer experience

Technology has also been used to improve the customer experience at Ramsay pharmacies.

The pharmacy group's 'Click and Collect' service allows customers to order products from the comfort of their couch using a digital catalogue on the Ramsay Pharmacy website. This provides convenience, but also a much-needed service for those in the community who are in quarantine during the pandemic.

Electronic prescriptions or eScripts are also available at most Ramsay Pharmacies. Patients receive a code sent to their phone by their GP, which they can share with their pharmacist in lieu of a paper prescription.

This provides a safe, eco-friendly and mostly contactless way to obtain medication, and prevents paper scripts from being lost en route to the pharmacy. **F**

Bringing hospital care into the comfort of home

FROM WEARABLE TECH TO EXERCISE APPS, RAMSAY HEALTH CARE IS IMPLEMENTING INNOVATIVE SOLUTIONS TO DELIVER CARE IN PATIENTS' OWN HOMES.

Ramsay Connect, a joint venture between Ramsay Health Plus and Remedy Healthcare, helps patients recover after a hospital stay by providing health care in the home and community environment.

Since launching in March 2020, the provider has helped more than 1,200 patients across 40 Ramsay hospitals seamlessly integrate their hospital care with in-home services, such as rehabilitation, complex wound care, IV therapies and cancer support.

One factor that has helped make this possible is the clever use of technology.

According to Ramsay Connect CEO Ian Galvin, digital health solutions are helping nurses, doctors and allied health care workers stay connected with their patients and deliver flexible care.

One example is an app-based interactive digital program for rehabilitation exercises.

"[Patients] can get video content of the exercises that they have been prescribed. They can also enter information into the platform saying what level of exercise activity they have been doing, and track basic things like their pain levels. Because our patients aren't in front of us 24/7, being able to get that information from them can help inform the care we provide," said Mr Galvin.

"On the clinicians' side, they can remotely update the exercise program as someone progresses through."

Another technological application recently deployed by Ramsay Connect is a comprehensive digital platform for staff.

Traditionally, managers relied on a healthcare worker's diary or a buddy calling system to ensure their safety – "a pretty inefficient, impractical solution when you're talking about hundreds of staff across four different states," explained Mr Galvin.

With the new platform, staff can easily check in and out of appointments with a GPS tracker function that automatically updates their location.

"While they are working, we know exactly where they are at any point of time. This provides more surety from a staff safety perspective," said Mr Galvin.

"Within that one system, staff can also use clinical records remotely, so they have an efficient way to complete all of their documentation while they're out on the road, and are always able to access those functions as they're providing telehealth consults."

Virtual hospital: the future of in-home care

Ramsay Connect also has its eyes set firmly on the future, especially cutting-edge technology that opens doors to caring for a wider variety of patients in their own homes.

Currently there are limitations on home hospital care services. Patients with more complex needs, such as respiratory conditions or heart failure, have not yet been able to access the service, as they need to be monitored closely between consultations.

To help these patients get back into the community sooner, Ramsay Connect is developing a 'virtual home hospital': a care model which involves using wearable technology to remotely monitor a patient's vital signs and physiological features, such as their body temperature, oxygen levels and heart rate.

The data is fed back to Ramsay Connect's command centre, where it informs whether the patient's doctor needs to check in, provide a telehealth consultation or push their scheduled home visit forwards.

"It would allow people to be cared for in their homes more comprehensively," added Mr Galvin. "If we can prevent the number of times they go into hospital, it can reduce the total cost of care."

Ramsay Connect is piloting a virtual home hospital service in early 2021. According to Mr Galvin, the intention is to develop a broad system approach to home health care that can be scaled.

"It's exciting for clinicians because it can help them provide far more precise medicine in the community setting than they are able to currently," he said.

"For doctors and nurses, there's just a general sense that this model will help promote overall wellness, and provides a broader level of support to patients than what they're able to do at the moment, which is exciting them."

Caring for mental health in the community

USING IPADS TO REACH TROUBLED TEENS

JOONDALUP HEALTH CAMPUS IS USING IPADS TO SCREEN ADOLESCENTS FOR PSYCHOLOGICAL WELLBEING, OPENING THE DOOR FOR LIFE-CHANGING EARLY INTERVENTION.

The mental health screening tool is dubbed HEEADSSS: an acronym for 'home, education and employment, eating, activities, drugs and alcohol, sexuality, safety and suicide'. Each question in the screening tool is related to these areas, which are considered by experts to be key psycho-social environmental indicators.

Paediatrician Dr Alide Smit, who is also co-lead for the WA Child and Youth Health Network, said HEEADSSS identifies adolescents who might benefit from early intervention to improve their mental health.

"Research shows young people are much more likely to be honest if they are answering questions on a computer or iPad than when speaking with others," said Dr Smit.

"Over the past six months we've been screening patients on the Telethon children's ward [at Joondalup Health Campus] aged between 12 and 16."

"With consent from their parents, the children are invited to complete questions using an iPad...Once the questions are complete, a report is generated which flags any areas of concern – and we then act by providing the appropriate referrals and support."

Joondalup's Deputy Chief Executive, Dr Amanda Ling, said the hospital was keen to support the development of adolescent mental health services in the northern suburbs of Perth.

"We know that mental health issues are prevalent in young people," Dr Ling said.

"It's therefore important to direct efforts towards proactively improving the mental wellbeing of our children and young adults as early in life as possible."

Online triage provides discreet mental health care

WHEN YOU ARE STRUGGLING WITH YOUR MENTAL HEALTH, IT CAN BE HARD TO TALK ABOUT IT OR ASK SOMEONE FOR HELP.

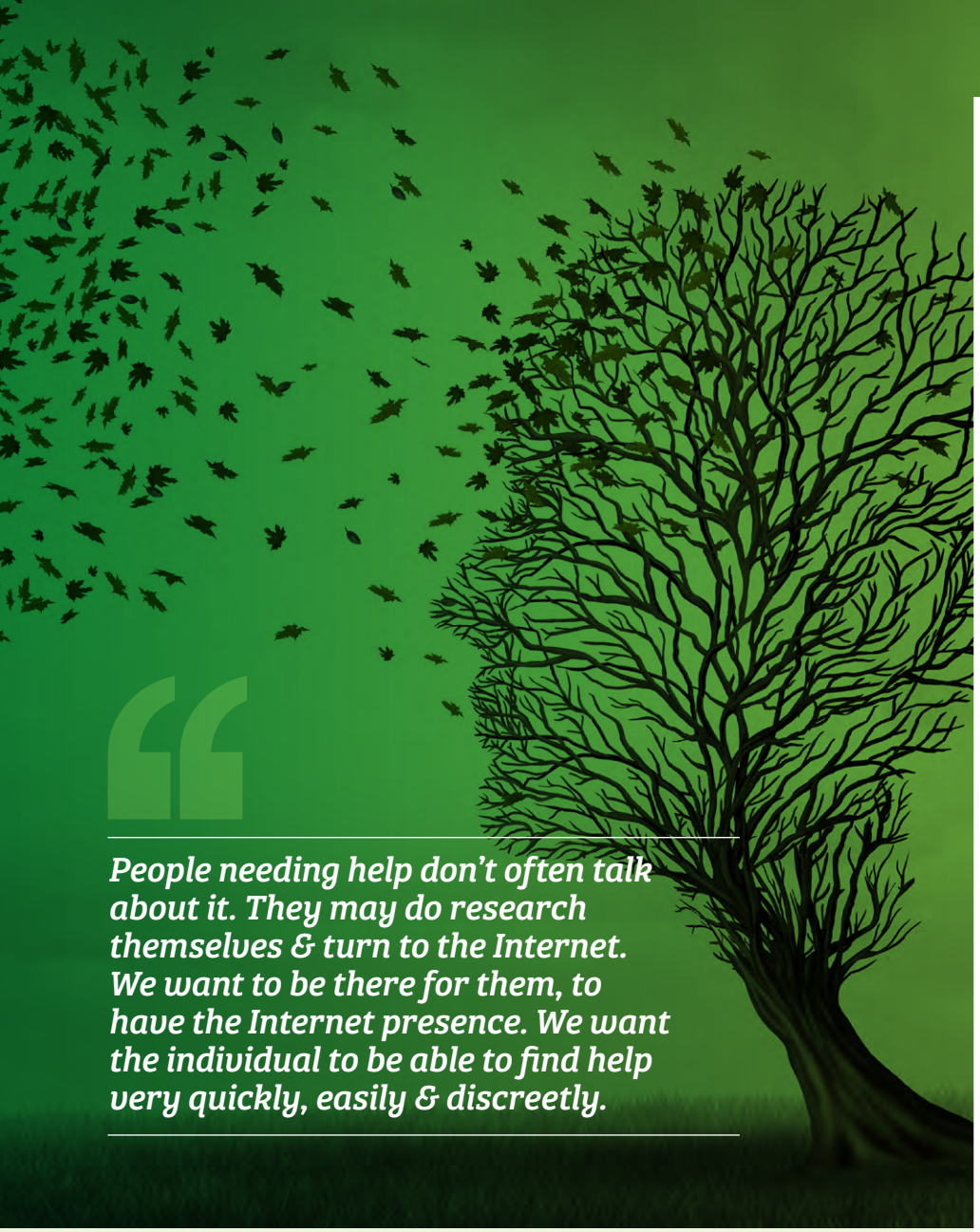
To address this need, Ramsay has launched a new mental health service where people can discreetly and quickly find the support they need.

Ramsay Psychology is an out-patient mental health service with a broad range of psychologists from different disciplines under the one roof. Mental Health Service Line Director, David McGrath, said patients could get help for conditions such as anxiety, depression, general mood disorders, trauma and addictions.

"People know and trust the Ramsay brand because we've been in the business of mental health care since 1964, so by launching Ramsay Psychology, our clients know they're getting access to the best care," Mr McGrath said.

To make the service highly accessible, plans are underway to create an online triage questionnaire that allows people to discreetly answer questions and book themselves an appointment with a psychologist.

According to Ramsay Chief Technology Officer Anthony Wang, the aim is to provide a digital channel where patients can essentially "triage themselves".



People needing help don't often talk about it. They may do research themselves & turn to the Internet. We want to be there for them, to have the Internet presence. We want the individual to be able to find help very quickly, easily & discreetly.

"People needing help don't often talk about it. They may do research themselves and turn to the Internet. We want to be there for them, to have the Internet presence. We want the individual to be able to find help very quickly, easily and discreetly," said Mr Wang.

"They can answer a couple of questions [on our portal] to 'triage' themselves. Once they pass the triage, they can go ahead and book a session themselves – without the need to go through a GP or friends."

"In the future, we want to bring on more technology to help patients, such as the use of artificial intelligence. Instead of concrete types of questions, there will be some AI involved to talk a little bit more in depth, go down different paths and let people answer some of the clinical questions for different problems."

"We want to make sure people are triaged and assessed properly, so there is a lot of work done up front, and our psychologists can skip that step and pick up where they left off digitally without going back to the same questions."

Ramsay Psychology is planning to launch the online triage service early 2021. The service is operating on Sydney's North Shore, with more practices due to open throughout New South Wales and Queensland.

PRESERVING BUSHFIRE SURVIVAL STORIES

STORYTELLING PLAYS AN ESSENTIAL ROLE IN HONOURING THOSE WHO HAVE FACED TRAUMA, AND HELPING THEM HEAL FROM THEIR EXPERIENCES.

To preserve the stories of communities devastated by the 2019-20 bushfires, the Paul Ramsay Foundation has jointly funded a podcast created by the Community Broadcasting Association of Australia (CBAA) in partnership with nine community radio stations.

From the Embers, a nine-part radio series that takes listeners to the heart of communities devastated by the bushfires, premiered on community radio stations on 21 April 2020.

Each episode explores a different theme. The first episode of the series, 'Radio Saves the Day', reveals just how important local radio can be for communities, delving into exactly what occurs if a transmitter burns down during a crisis.

Chief Executive of the Paul Ramsay Foundation, Professor Glyn Davis, said it was a privilege to partner with the CBAA and the Judith Neilson Institute for Journalism and Ideas.

"For this series, they went out into their communities – despite COVID-19 – allowing people to give their own first-hand experiences of the fires. This is an important and moving record of these experiences."

The series is available online as podcasts on Apple Podcasts, Spotify, YouTube, TuneIn and iHeart Radio.

Lifeline

If you are experiencing a personal crisis, help is available. No one needs to face their problems alone.

TEXT 0477 13 11 14
or CALL 13 11 14

DIGITAL CONTACT CENTRE BOOSTS RESPONSIVENESS

CUSTOMERS WANTING TO KNOW MORE ABOUT RAMSAY SERVICES NOW HAVE EASY ACCESS, THANKS TO THE NEW NATIONAL DIGITAL CONTACT CENTRE.

The Digital Contact Centre is a streamlined and responsive central point of contact for all enquiries lodged through Ramsay websites across Australia. It uses new Salesforce Customer Relationship Management (CRM) technology to track and categorise enquiries.

Research shows online enquiries are expected to grow significantly over the coming years, as consumers take greater control over their health care and competition between providers grows.

The Digital Contact Centre team aims to deliver prompt responses to enquiries, and provide a better understanding of Ramsay services and specialists to people seeking information about their health care options.

The centre is also expected to make it easier for GPs to access timely and relevant information regarding referrals for Ramsay Health Care services.

The Digital Contact Centre is a streamlined & responsive central point of contact for all enquiries lodged through Ramsay websites across Australia.

3D printer creates unique pregnancy memento

3D SCANS ARE A ROUTINE PART OF A VISIT TO THE OBSTETRICIAN, BUT DR KEN LAW HAS TAKEN IT TO THE NEXT LEVEL.

The Greenslopes Private Hospital obstetrician has started offering his patients a 3D mould of their babies' faces. Made using a 3D printer, the technology has proved very popular with expecting parents.

"Just like a normal scan, the baby has to be in a good position in order to capture a good 3D image," said Dr Law.

"It's a bit more realistic when you can print something that the parents can actually hold onto, and a 3D mould of a baby's face is a unique memento of the pregnancy."

The technology, initially created for vision-impaired expectant mothers, takes about three hours to print the model.

Brisbane mum Nikki Aylward, who gave birth to her third daughter in early August 2020, jumped at the chance to get a sneak peek of her daughter's face.

"We wanted to see what she looked like, so when Dr Law said he could print a mould, we thought 'why not?'" said Mrs Aylward.

"And because I wasn't able to take my husband, Josh, or my other daughters with me to the appointments [due to COVID-19], it was wonderful be able to show family and friends the mould before she arrived."

Digital pathology improves results accuracy

RAMSAY IS IMPROVING THE EFFICIENCY AND ACCURACY OF PATHOLOGY COLLECTION AT ITS HOSPITALS, THANKS TO ITS HIGH SPEED WI-FI NETWORK.

In 2020, a collaboration with Sullivan Nicolaides Pathology led to the launch of eCollect: a fully digital process which tracks a patient's pathology sample from the moment it is collected to when the results are delivered.

Historically, a pathology sample has only been visible once it has been logged into the computer on arrival at the laboratory. There was no way to trace its progress before that point.

With the introduction of eCollect to Ramsay's data framework, collection teams now have real-time access to patient details from the moment they are digitally entered into the Laboratory Information System (LIS) after collection – usually by a patient's bedside.

According to Sullivan Nicolaides Pathology Business Development Manager Brendan Halter, this makes eCollect an important tool for improving patient identification and reducing errors such as the double entry of data.

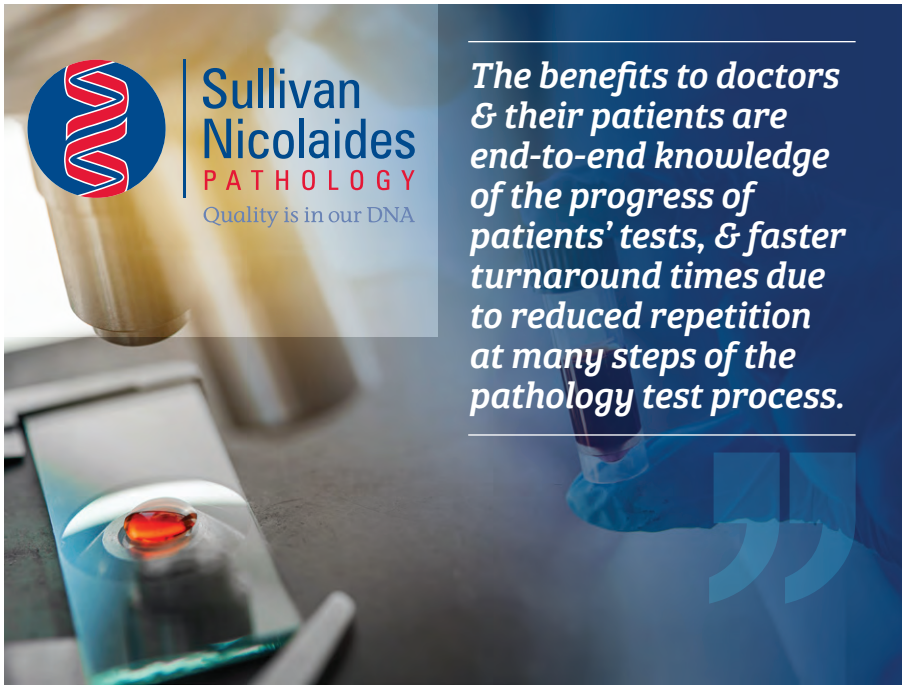
"The benefits to doctors and their patients are end-to-end knowledge of the progress of patients' tests, and faster turnaround times due to reduced repetition at many steps of the pathology test process," he said.

Alongside the new eCollect service, Visual Management Wallboards have also been strategically placed around the hospital, in locations such as in emergency departments and intensive care units.

The boards show clinical staff the progress of a patient's pathology sample through the laboratory. This not only improves efficiency, but helps them make decisions regarding patient transfers between wards – especially in areas of the hospital where bed turnover is important, such as in emergency departments.

"By providing doctors and nurses with information quickly and easily at each step in the pathology pathway, they can make important decisions about patient care," said Mr Halter.

Collaborating with Sullivan Nicolaides Pathology has only been possible with Ramsay's fast, secure and reliable Wi-Fi service, which was rolled-out 18 months ago across all sites in Australia. Previously, the pathology company were using 4G to perform their services at Ramsay hospitals, which did not provide optimal coverage.



Cairns' new menu goes digital

IPADS ARE BEING USED TO TAKE PATIENT MEAL ORDERS IN A FIRST FOR CAIRNS PRIVATE HOSPITAL, REDUCING KITCHEN PAPER CONSUMPTION BY 60 PERCENT.

Thanks to Ramsay's high speed Wi-Fi service, patients can view menus on the iPads which are taken into their rooms before mealtimes. Orders are then sent straight to the hospital kitchen, which helps to improve efficiency and reduce paper waste.

Catering manager Rohan Ekanayaka said the menu has received positive feedback from patients.

"Previously, hospital patients filled out paper menus, but their orders now come to a central computer which we use to collate all the details for kitchen production. It is great for everyone."

The changes coincide with the rollout of the hospital's new contemporary menu which now includes different international cuisines, including soba noodle salad, vegetable tagine and butter chicken.

Mr Ekanayaka oversees the service of more than 360 meals each day, which are all allergy tested and approved by a dietitian.

We can see things better, we have much better coverage, less black spots & all the enterprise-grade benefits that we only ever dreamed of before.

FEATURE

Wi-Fi at Ramsay just keeps getting better

IPAD MENUS, AUTONOMOUS ROBOTS AND DEFIBRILLATORS ARE JUST SOME OF THE 20,000 DEVICES THAT HAVE BEEN SECURELY CONNECTED TO RAMSAY'S HIGH SPEED WI-FI NETWORK THIS YEAR.

From far north Queensland down to the Mornington Peninsula in Victoria and across the desert to Perth, Ramsay now hosts the largest and most comprehensive Wi-Fi system of any health organisation in Australia.

Following its rollout 18 months ago, the network provides up to 600 percent faster internet and a thousand times more data than the previous system.

From the beginning, the new system was designed to be centrally managed and scalable for future growth. Paul Eaton, Senior Manager Infrastructure and PMO, believes the fruit of this vision is now evident. "We are now seeing the benefits of this investment, as we identify new opportunities to use Wi-Fi that can only be achieved due to the scalability we engineered into the system," he said.

IT Service Delivery Manager in Queensland, Andrew Chance, said it allows the IT team to make the best use of available resources.

"We can see things better, we have much better coverage, less black spots and all the enterprise-grade benefits that we only ever dreamed of before," he said.

The new network has also opened the door to more valuable services for patients, staff and doctors.

Patients have greater choice as to how they spend their time at hospitals, with over 115,000 patient devices connected securely in the 2019/20 financial year to stream content, browse the internet, or stay in touch with friends and family.

Doctors can now seamlessly connect to their consulting rooms and practice management software as they move between Ramsay facilities, while specialists can view their clinical notes and results online.

At sites like Hollywood Private Hospital in Perth, high-tech autonomous robots spend their days making deliveries and transporting patient meals, using Wi-Fi to navigate their way around the corridors.

Medical equipment can also be monitored remotely. "We've got a number of defibrillators that can now be monitored centrally to check the batteries are still full. Before, staff had to check then manually, so the benefit is the reduction in time taken to perform the same task, and consistency of performance," added Mr Chance.

In 2020, after monitoring usage of the Wi-Fi service, Ramsay's IT team increased bandwidth and data limits for patients, guests, practitioners and staff members.

"We looked at bandwidth usage, and explored whether we were using that effectively, and if we could give more back to patients, doctors and guests for their usage...without causing detriment to our services," said Mr Chance.

"It's about giving better service to our patients and doctors, and providing a 'value-add' for them." F

CONNECTING LOVED ONES DURING COVID-19

"We are now seeing the benefits of (investing in a scalable, centrally managed Wi-Fi system), as we identify new opportunities to use Wi-Fi that can only be achieved due to the scalability we engineered into the system."

PAUL EATON - SENIOR MANAGER, INFRASTRUCTURE & PMO

FAST WI-FI HAS PROVIDED AN UNEXPECTED BENEFIT THIS YEAR: CONNECTING PATIENTS WITH THEIR LOVED ONES IN TIMES OF SOCIAL DISTANCING.

For patients staying in hospital – especially COVID-19 patients in isolation – not having family and friends by your side can take an emotional toll. One solution that has brought comfort is using digital technology to connect with loved ones at home, whether through phone calls, text messages, social media, FaceTime or video apps.

At Joondalup Health Campus, for example, a reliable Wi-Fi network allowed COVID-19 patients from the Artania cruise ship – most of them overseas tourists – to contact their relatives back home while receiving care in a foreign country.

Dave Rankin, IT Service Delivery Manager for WA and SA sites, said the team was happy to enable patients to contact friends and family back home.

"Thanks to our previous project to replace the Wi-Fi nationally at all our hospitals, patients at Joondalup had access to high quality Wi-Fi, so they could FaceTime with friends and relatives, assisting with their mental health. We also did some minor work in setting up iPads with Zoom to assist with this need," said Mr Rankin.

Such efforts capture some of the art of caring not just for patients, but also for their families and friends. For those affected, COVID-19 can mean being separated from family and loved ones who may not make it out of isolation. But with the care and compassion of our dedicated staff, we have been able to help them experience some connection – while still keeping everyone safe.

Connecting online

CONNECTING WITH OUR PATIENTS STARTS WELL BEFORE THEY STEP FOOT IN OUR HOSPITALS. FOR MANY PEOPLE, IT BEGINS ONLINE.

Whether you are booking your admission from home, searching for a specialist on our websites, following our social media news feeds or providing feedback on your mobile phone, there are plenty of ways to engage with Ramsay online as our digital footprint continues to grow.

Our technology journey is made up of three aspects: supporting business performance, helping our doctors be more connected, and enhancing the patient experience. The last aspect – enhancing the Ramsay experience for patients and their families – has driven us to expand our digital channels. We are increasing our online presence across all our departments and businesses, from our hospitals, surgeries and maternity wards to our psychology services, pharmacies and allied health clinics.

This not only creates a more user-friendly and convenient service, but firmly puts the consumer at the centre of our health ecosystem, right from their very first interaction. It has also helped us stay connected to people in the community: a key benefit during a health crisis when digital connection is needed most.

336k
patients booked their admission online this year, an increase of 6% on 2019.

1.64m
people made online insurance checks thanks to our services & specialties being discoverable via major search engines.

65k
people search for a specialist via our websites per year, an increase of 10% on 2019.

2.7m
people visit our hospital websites per year, an increase of 24% on 2019 traffic.

112k
people engage with Ramsay via social media per month.

How Ramsay is enhancing the patient experience

MyCare **is our mobile-friendly, secure patient portal. Adoption rates are rapidly increasing, accounting for 44% of general admissions & 88% of maternity admissions.**

Online emergency department wait times are improving transparency and providing consumers with choice.

Real-time bedside meal ordering gives choice & improves the delivery of our meal services.

Fast and secure Wi-Fi services for patients, visitors and doctors allow them to remain connected with loved ones, and offer a range of entertainment options.

Ramsay online portal grows in popularity

IN JANUARY 2015, RAMSAY INTRODUCED A SECURE PATIENT PORTAL CALLED MYCARE FOR OUR PATIENTS TO USE IN THE PRE-ADMISSION STAGE OF THEIR CARE.

Each year since its inception, use of the MyCare online portal has increased, with the rate of online admissions typically being higher for maternity patients due to the well-planned nature of admissions and demographics.

At the end of each episode of care, Ramsay provides a secure digital copy of the patient's Discharge Summary report back down the referral pathway.

The Discharge Summary is also uploaded to the patient's My Health Record if they have one and have not withdrawn consent.

The My Health Record system is operated by the Federal Government. Today, 90.1% of Australians have a personally-controlled health record.

In 2020, more than 200,000 Discharge Summary records were provided to the patient's personal My Health Record for their use & future reference.

My Health Record uptake surges ahead

OVER 22.8 MILLION AUSTRALIANS NOW HAVE A DIGITAL MY HEALTH RECORD - AN INCREASE OF 300,000 SINCE JULY 2019.

According to the Australian Digital Health Agency, over 2.38 billion digital documents have been uploaded to people's records, including medical histories, blood tests, and pathology reports.

This has caused the number of records with data in them to increase by more than 50 percent – from 13.2 million in January 2020, to nearly 20 million as of October in the same year.

My Health Record brings all your health information together in one digital location. You can access your information from anywhere with an internet connection, and healthcare providers can see your record when they need to – including in an emergency.

Dr Elizabeth Jackson, a consultant obstetrician and gynaecologist at Cairns Private Hospital, describes My Health Record as an incredibly valuable tool for clinicians. "It allows 24/7 access to patient records, and allows us to work together as a team to deliver high-quality and cost-effective medical outcomes," said Dr Jackson.

Ramsay is well placed to make the most of the increased uptake in My Health Records, due to the introduction of the MyPatient+ app in 2016.

According to Chief Information Officer John Sutherland, the app – which gives clinicians real-time patient information on their mobile devices – allows Ramsay doctors to have easy access to patient records.

"One of the most important features in MyPatient+ is the ability to access the My Health Record system and allow doctors to view their patients' health records on an app – still a first for Australia," says Mr Sutherland.

"This has positioned Ramsay well, and we've seen a 69 percent increase in the number of patients' discharge summaries being uploaded to their record."

In an Australian first, MyPatient+ gives doctors the ability to access My Health Record & conveniently view their patients' health records on an app.

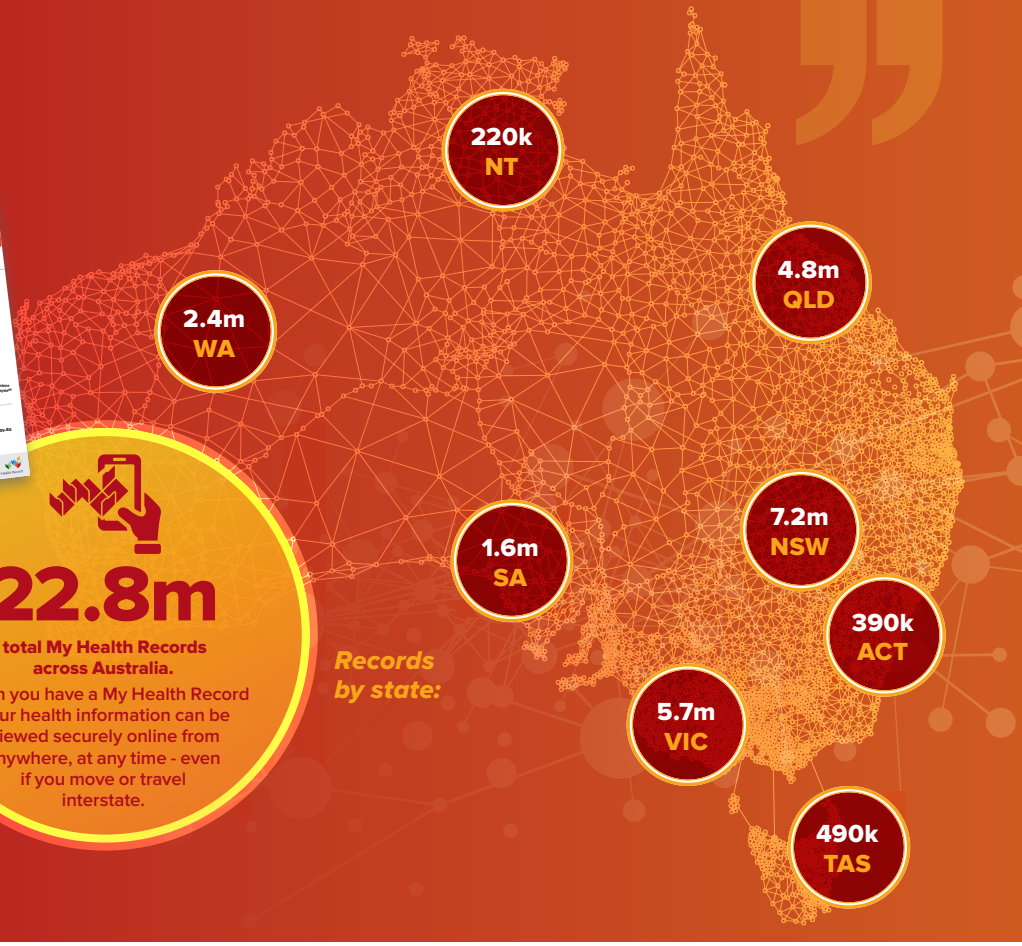
MHR fact sheets for patients & carers can be accessed from your GP:

22.8m

total My Health Records across Australia.

When you have a My Health Record your health information can be viewed securely online from anywhere, at any time - even if you move or travel interstate.

Records by state:



What's inside My Health Record?

2.46 billion

documents have been uploaded to My Health Record.

From medical histories and the latest blood tests to pathology reports and advanced care plans, more vital health information is now securely stored and available when needed.

288m

clinical & medical documents have been uploaded by healthcare providers like hospitals, GPs, pharmacists & radiologists.

339k

documents have been uploaded by patients.

How are patients using My Health Record?

15m

patients had their Immunisation Register uploaded.

40+k

patients have placed advanced access controls on their records.

Remember, you can decide which healthcare providers can view or update your record. You can also choose what information you'd like to share.

230k

patients viewed their pathology reports in November 2020 – a 260% increase on the same time last year.

We rely on My Health Record to keep us updated on patient pathology, imaging, medication, dispensing and history records. We can see what other doctors have requested and performed, overcoming the delays waiting for records requested from other practices. We can also see what scripts were dispensed. This helped us a lot with the recent COVID-19 test results, where it was quicker to see the result on the patient's My Health Record than to join the phone queue to get the result.

DR YOLANDE KNIGHT
SENIOR MEDICAL OFFICER, WIRRAKA MAYA HEALTH SERVICE ABORIGINAL CORPORATION

How are healthcare providers using My Health Record?

96%

of public hospitals are now registered for My Health Record.

95%

of GPs are now registered for My Health Record.

99%

of pharmacies are now registered for My Health Record.

medicare

2.1b

Medicare documents uploaded by government agencies.

100%

Ramsay hospitals are connected to My Health Record.

Statistics on these pages were current at November 2020

Australian Government
Australian Digital Health Agency

My Health Record

IMPROVING MEDICATION SAFETY WITH MY HEALTH RECORD

EACH YEAR, 250,000 HOSPITAL ADMISSIONS OCCUR DUE TO MEDICATION-RELATED PROBLEMS. THE ANNUAL COST FOR AUSTRALIA IS $1.4 BILLION.

Digital health, including improvements to My Health Record, plays a large role in addressing this problem.

In 2018, the Medications Information View – a document which collates a patient's medication information in one place – was introduced to My Health Record. It is currently the most viewed document type in the system, used in clinical scenarios to benefit patients and health care providers.

In the following year, the Pharmacy Shared Medicines Lists (PSML) was added to the system, as well as Pathology and Diagnostic Imaging Information Views. Medication management solution provider Webstercare's pharmacy sites uploaded the first documents to the PSML in November. In 2020, new document types were added to the system to further support the coordination of care. Currently, 99 percent of community pharmacies in Australia are registered for My Health Record, signalling the approach of true widescale uptake in this sector.

MEDICATION SAFETY: 2020 AND BEYOND

To reflect on the current state of medicine safety in Australia and pave a path for the future, the Australian Digital Health Agency and its partners have co-produced the Medicines Safety Blueprint: a map of digital medicine safety initiatives across the country. The blueprint is currently in the process of targeted public consultation.

Electronic prescribing is also progressing in Australia. This capability allows prescribers and their patients to use an electronic Pharmaceutical Benefits Scheme(PBS) prescription, delivering convenience and choice to patients while improving PBS efficiency, compliance and drug safety.

The industry is poised to move forward with this initiative. Preliminary technical specifications for electronic prescribing have been co-developed and published. A contract has been executed with the Department of Health, and a national change and adoption program has also been developed. Software developers have also been supported to implement the technical changes needed to enable electronic prescribing, and a software conformance scheme has been implemented.

Helping our doctors be more connected

PATIENT OUTCOMES ARE BETTER WHEN A DOCTOR IS MORE CONNECTED.

Additionally, the easier it is for doctors to do business with us, the less likely they will be inclined to join the competition. Head of Digital Glen Smith said Ramsay Health Care is working hard to better connect doctors to their patients, their own clinical systems and to hospital systems. "We continue to enhance our doctor-facing tools to make it easier for doctors to refer and manage patients in a Ramsay facility," he said. "This includes access to My Health record data, and better connecting them back to their own systems."

Here are some of the ways we are enabling our doctors to be better connected:

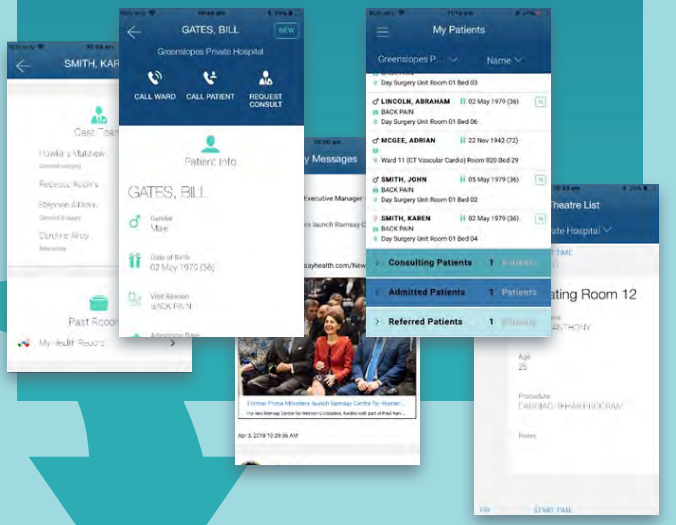
Stronger referral pathways

Practice Suite is an application developed by Ramsay and provided to our doctors to automate their referral processes. We have partnered with specialist software provider, Clinic to Cloud, to integrate their practice management system into the application. This means an admission referral can be transferred from Clinic to Cloud directly into Ramsay's admission systems, at the press of a button. Practice Suite is available to all specialists referring into Ramsay Hospitals. We will be releasing integration with secure messaging providers and other practice management solutions in the future.

Clinic to Cloud
is the largest cloud-based practice management vendor in Australia.

Real-time patient information

MyPatient+ is an app that allows doctors to track the location of their patient at any time, along with demographic information, theatre schedules and admission details. It keeps clinicians connected to their patients by providing doctor-centric, real-time information to mobile devices. This allows them to focus more of their time and effort on caring for patients, rather than being tied up with hospital administrative tasks.



Comprehensive reporting

Seamless, efficient and thorough reporting goes a long way towards enabling our doctors to do their job better. Ramsay is closing the clinical care loop by providing comprehensive and timely hospital discharge reports securely back down the referral pathway.

MyStayWell

The MyStayWell app is free to download and is available to anyone who might find this tool useful. To access this app, please search 'MyStayWell' on your app store.

Search "MyStayWell" on your app store

Available on the App Store

ANDROID APP ON Google Play

Being able to cast large webinars for hundreds of people was crucial, so it was important to have IT support setting it up, so we could do that uninterrupted. IT also developed some of the digital tools that we made available to our staff members.

Caring for Ramsay's frontline workers

TECHNOLOGY PLAYS A CRUCIAL ROLE IN SUPPORTING THE WELLBEING OF RAMSAY STAFF MEMBERS, ESPECIALLY IN TIMES OF SOCIAL DISTANCING.

The pandemic has taken a significant emotional toll on many Australians – particularly frontline health care workers who face its stresses on a daily basis.

In response, Ramsay's national COVID-19 Response Team worked closely with the Mental Health Care Service Line to support staff wellbeing.

According to Mental Health Service Line Director Dominique Robert-Hendren, the 12-week strategy provided immediate support to staff members – both through site visits and digital interventions using the MyRamsay app.

Staff members and their families in any part of Australia could attend online mindfulness, meditation and relaxation sessions. Live webinars were delivered twice a week, covering topics such as dealing with anxiety, grief and loss, facing the fear of wearing a face mask and pandemic fatigue.

Online resources such as an eBook on mental health and the Ramsay patient app MyStayWell were made available to staff, while managers were provided with eTools and training sessions to help them support their staff in times of crisis.

In areas like Victoria where COVID-19 outbreaks occurred, staff were supported with in-person psychological first aid sessions and targeted messages that were relevant to their specific situation.

Ms Robert-Hendren said Ramsay's IT department played a significant role in enabling staff members to access online support.

"The digital platform is the way to go – it's accessible and much easier for everyone to use," she added.

"Being able to cast large webinars for hundreds of people was crucial, so it was important to have IT support setting it up, so we could do that uninterrupted. IT also developed some of the digital tools that we made available to our staff members."

The mental health strategy has been well received so far. Live webinars were viewed more than 2,000 times, while resilience team-building sessions and 'leadership in crisis' tools have received positive feedback.

"The managers are really encouraging. I delivered a webinar for our leaders, and all of the Ramsay Pharmacy managers have invited us to deliver live webinars and digital support and mood and anxiety tracking tools," said Ms Robert-Hendren.

NSW Workforce Programs Coordinator at Ramsay, Kim Lally, used some of the wellbeing resources and found them "extremely beneficial" for her mental health.

"Although I was unable to join in the live sessions, I found the recordings particularly useful as I could access them when I needed to, or at a time more suitable for me (and I still do access them!). I found the multiple "mindfulness and relaxation" as well as the "resilience" sessions especially useful," said Ms Lally.

On the back of the program's success, the COVID-19 Response Team have developed a new strategy to support staff beyond the pandemic.

"Given the great feedback we received, we want to continue to design and put into place ongoing innovative strategies. This will mean developing an organisation-wide evidence-informed training framework and education package in mental health first aid in 2021," said Ms Robert-Hendren.

"IT will play an important role in the next phase of our wellness strategy, which will align and connect the pathways not only around Australia, but globally."

"Part of that will be tracking people's moods, and getting people to give direct feedback via the MyRamsay app. We are also hoping to develop more features in the app, and may well develop another app to complement this one."

‘Feel Good Friday’ is a hit

MORE THAN 2,500 RAMSAY STAFF HAVE SIGNED UP TO A DIGITAL CAMPAIGN DESIGNED TO PROMOTE GOOD MENTAL HEALTH.

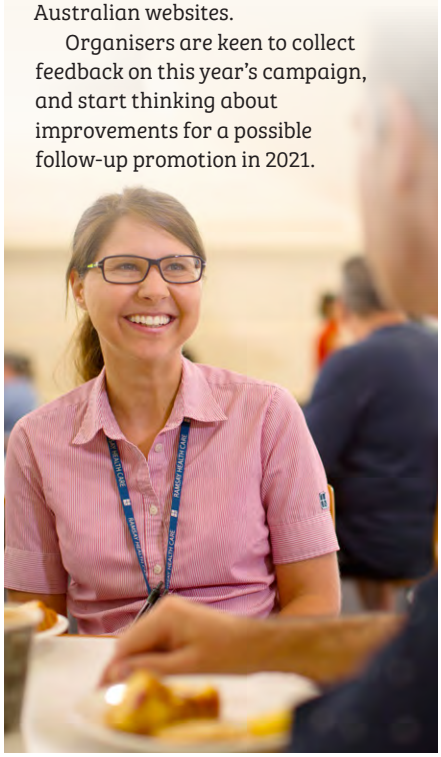
Ramsay’s inaugural mental health week challenge took the form of a seven-day email campaign, promoted widely through social media, providing simple tips to help sustain and boost people’s mental health.

From Stress Free Saturday to Feel Good Friday, subscribers were sent a daily email with some activities and a challenge to pay attention to good mental health.

The daily activities included shouting a stranger a coffee on Thoughtful Thursday or making note of the great things in your life on Three Good Things Tuesday.

Not only did the campaign get people thinking about their own mental wellbeing, it also sparked a 34 percent increase in traffic to the mental health sections of Ramsay’s Australian websites.

Organisers are keen to collect feedback on this year’s campaign, and start thinking about improvements for a possible follow-up promotion in 2021.



R U OK?™

RUOK? Day webinar inspires hundreds of Ramsay staff

PAT EACH OTHER ON THE BACK, GET PLENTY OF SLEEP, AND CELEBRATE THE LITTLE WINS.

This was just some of the advice Olympic swimming champion Brooke Hanson OAM gave Ramsay Health Care workers as part of a webinar to mark R U OK? Day on the 9th of September, 2020.

Ms Hanson told the hundreds of Ramsay staff who joined the webinar that it was important to celebrate small achievements, not just the big ones.

“You have all gone above and beyond during this COVID-19 pandemic and you’ve done so much for our country,” said Ms Hanson.

“So many times you’ve done fantastic things at work but you may not take time out with colleagues to pat yourselves on the back…you really need to reach out to each other and celebrate. It can just be as simple as saying ‘hey, well done’.”

Ms Hanson, an Olympic gold and silver medallist, world champion and former world record holder, delivered an inspirational hour-long presentation where she spoke of the immense challenges she has faced - not only in pursing her sporting dream, but also in her private life, with the loss of her second child Jack at just nine months old.

“There have been times where I haven’t been okay,” the 42-year-old-said.

“I held my son Jack for his last breath and it showed me how precious and short life can be.”

Ms Hanson also spoke of the importance of supporting each other, self-love and self-care – including eating a healthy diet, exercising and getting plenty of sleep.

“It’s one of those magical things: exercise, healthy living and eating can make a big difference,” she said.

The link to Ms Hanson’s webinar was made available to the Ramsay workforce on the intranet to watch at a convenient time.

RUOK? Day is a national day of action encouraging Australians to have conversations with their friends, family and colleagues about whether they are struggling with life.

For more information, visit ruok.org.au

Intranet refresh makes work life easier

LIVE VIDEO TRAINING, A CENTRAL SOURCE OF POLICIES AND A SLEEK DESIGN: THESE ARE JUST SOME OF THE FEATURES THAT MAKE RAMSAY'S STAFF INTRANET A STANDOUT.

The Intranet is an important source of information for staff in every organisation, none more so than Ramsay Australia, due to the size and complexity of our business.

Our Intranet has grown significantly since its inception, mirroring the expansion of our health services and portfolio of hospitals and clinics. It is also providing significant benefit to our employees, with the most common search terms relating to staff benefits, training and entitlements, and clinical topics such as medication and risk management.

In the first half of 2020, we launched a new Intranet to better serve the people in our organisation. It was developed in line with Ramsay's Evolve program, which is designed to enable growth and innovation through the creation of a standardised network of hospitals.

Staying close to the principles of Evolve, the Intranet simplifies processes and facilitates the sharing of best practice at Ramsay Health Care. Built with an emphasis on standardisation and consistency across all departments, it has a modern yet corporate look and feel. Consistent navigation is now a standard; news and communications are front and centre; live video training is easily accessed, and useful links are easily identifiable. These updates have been implemented to benefit our people, equipping them to do their jobs in the best way possible.

We have also taken steps to ensure important information is easily accessible by all staff members. All of Ramsay's policies, procedures and forms have been reviewed and are housed in a central library, ratified by the National Clinical Governance Unit and other heads of department. This makes it easier for people to navigate the system and find relevant information, whenever they need to access it.

98%
of eWaste is recycled at Ramsay.

9,600
workstations replaced or upgraded to Windows 10.

170k
helpdesk tickets received.

85k
phone calls for assistance.

1.1 days
average incident resolution time, 26% faster than in 2019.

3.0%
average call abandonment rate, 36% better than in 2019.

16 secs
average call answer time, down from 18s & 23s in 2019 & 2018.

74%
of calls answered within 10 seconds.

Computer problems? We're here to help

ONE CORE RESPONSIBILITY OF THE IT TEAM IS PROVIDING OPERATIONAL SUPPORT TO OUR 30,000-STRONG RAMSAY STAFF.

"Despite support requests being up by 23 percent in 2020, IT responsiveness has never been better, thanks to a combination of process standardisation, talent management, centralisation and re-tooling.

On top of this, IT has also supported around 4,000 employees as they make the change to remote working. This includes providing training on collaboration tools, maintaining a high level of responsiveness while minimising unnecessary travel between sites, ensuring Ramsay systems are safe from ransomware and delivering world-class call handling – even in extraordinary times."

KATHERINE WEGNER, NATIONAL IT SERVICE DELIVERY MANAGER

Ramsay's self-healing national data network

NETWORK OUTAGES ARE MORE THAN A MILD INCONVENIENCE WHEN YOU ARE SAVING LIVES. RAMSAY'S SELF HEALING SYSTEMS KEEPS THE LIGHTS ON, EVEN WHEN THE UNEXPECTED HAPPENS.

Telecommunications services connecting Ramsay's facilities are provided by our national carriers. From time to time, these services experience outages due to natural disasters, construction works, human error and technology failures. The impact can be significant, hampering staff from providing care to patients.

Ramsay's IT team strive to continually improve the resilience of our IT system – including implementing ways to reduce the impact of network outages on our hospitals, practitioners, patients and staff.

As part of this commitment, we have introduced a system that performs automated network failover in the event of an incident. Previously, if a Ramsay facility experienced a loss of telecommunications services due to a carrier fault, IT systems that relied on the network to connect to Ramsay's data centre were impacted, often resulting in staff reverting to manual procedures until the fault was resolved.

With the introduction of the automatic network failover system, Ramsay's network connectivity remains in place through an alternative diverse network path. According to Network Strategy and Operations Manager Rana Mustafiz, the transition between network paths is seamless, enabling Ramsay staff to continue to use IT services in the event of a network failure. "Implementing this technology across all of our facilities enables our staff to continue to perform their roles caring for patients when one of our telecommunications carriers experiences a failure," said Mr Mustafiz.

"The staff are often completely unaware that we have experienced a network outage, as their IT systems continue to operate and staff continue to use technology to deliver care."

Network pipe grows to meet demand

Ramsay's national network capacity can directly affect the performance of hospital IT systems, as well as staff efficiency. Over the past 18 months, our national network capacity has increased by over 200% overall, with some facilities gaining a 700%+ increase. This provides the capacity required, whenever and wherever it is needed.

Online campaign celebrates our nurses & midwives

Ramsay Health Care

Ramsay Health Care

@RamsayHealth · Hospital

International Year of the Nurse & Midwife

Home About Photos Instagram More Liked

Photos See all

Just some of our amazing Nurses & Midwives from Ramsay facilities around the world.

13K

13055 views · 1 min ago

Ramsay Health Care

December 2020 ·

PINNED POST

IN A YEAR WHERE THEY FOUGHT COURAGEOUSLY AGAINST A GLOBAL PANDEMIC, RAMSAY HEALTH CARE HAS CELEBRATED NURSES AND MIDWIVES FROM AROUND THE WORLD WITH A YEAR-LONG ONLINE CAMPAIGN.

2020 was named the International Year of the Nurse and Midwife by the World Health Organisation. To mark the occasion, Ramsay created a global digital campaign spanning 11 countries to highlight the vital roles these workers play in our communities.

Each week throughout the year, one nurse or midwife from a different part of the world shared their experiences, motivations and aspirations through a Q&A-style online profile.

The profiles were hosted on Ramsay's global website and shared on social media platforms such as Facebook, Instagram and Twitter, using the hashtags #YearOfTheNurseandMidwife and #YOTN.

Nurses and midwives make up more than two-fifths of Ramsay Health Care's global workforce: 54 percent in Australia, 39 percent in France, 37 percent in Asia, 25 percent in the UK, and 32 percent in the Nordics.

Ramsay Australia's National Communications Manager, Emily Fardoulys, said the digital campaign had highlighted the desire of Ramsay colleagues to hear from and connect with each other, both locally and overseas.

"Ramsay's Year of the Nurse and Midwife campaign was a fantastic opportunity to celebrate and share the contributions, motivations and aspirations of our nurses and midwives across the globe," Ms Fardoulys said.

Ramsay Australia CEO, Carmen Monaghan, added that the online initiative gave everyone an opportunity to "reflect on and celebrate the important contributions Ramsay nurses and midwives make to our patients, and to the overall health of the global population."

"2021 has been designated by the WHO as the International Year of Health and Care Workers, so we look forward to shining a light on the vital role these workers play," said Ms Monaghan.

207K 125K comments 122K shares

Like Comment Share

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Heart simulator close to the real thing for trainee nurses

A NEW SIMULATOR DEVELOPED BY A RAMSAY BIOMEDICAL ENGINEER IS GIVING NURSES HANDS-ON TRAINING IN CORONARY CARE.

The Pacemaker Interactive ECG Training Simulator replicates the behaviour of a real-life patient by generating an electrocardiogram (ECG) signal which mimics the strength and activity of a real heart.

This gives nurses practical training in using a temporary cardiac pacemaker to help get a person's heartbeat back to a normal pace.

The signal can be adjusted to replicate different patient scenarios during a simulation, giving nurses greater confidence in troubleshooting and adjusting the parameters on the attached pacemaker.

The technology was developed by Greenslopes Private Hospital biomedical engineer Jan Oksiuta, a former cardiac scientist with a particular interest in pacemakers.

Mr Oksiuta, who is an electronic hobbyist in his spare time, developed the technology over two years. "We can bypass nurses practising on a real patient by giving them a real-life experience that can be done over and over again which will enhance their textbook training," he said.

"There is still some room for improvement. At the moment, it just has analogue knobs on the front, so I would like to have a digital display, maybe a touch screen. But for the purpose of education, it's probably as close as you can get to the real thing."

Greenslopes Private Hospital is the only hospital in Australia to be using this simulator. It has already been used by 20 trainee nurses.

Clinical Facilitator Clare Foster asked for a simulator to be developed to provide nurses with practical training in addition to theory-based learning. She secured an innovation grant from the Gallipoli Medical Research Foundation which made this possible.

"Many nurses are visual learners and the simulator supports this way of learning," said Mrs Foster. "The simulator will allow regular exposure to temporary cardiac pacing, helping to ensure safe and competent care."

It is hoped the simulator will give nurses a better chance to retain knowledge in temporary cardiac pacing, with the ability to regularly refresh and practise their skills.

VISION BETTER THAN THE HUMAN EYE FOR PENINSULA SURGEONS

IN A FIRST FOR RAMSAY, MELBOURNE'S PENINSULA PRIVATE HOSPITAL HAS ACQUIRED A CAMERA PLATFORM THAT ALLOWS SURGEONS TO SEE BEYOND THE LIMITATIONS OF THE HUMAN EYE.

The minimally invasive surgical tower from Stryker, known as the 1688 Advanced Imaging Modalities (AIM) 4K camera platform, provides Peninsula surgeons with crystal-clear images for improved visualisation during surgery.

It features auto-light technology which adjusts automatically based on anatomy to provide consistent lighting, and provides real-time 4K fluorescence images during surgery. Studies show fluorescence imaging can assist surgeons in making better clinical decisions during colorectal, laparoscopic, cholecystectomy and other minimally invasive procedures.

Theatre Nurse Unit Manager Roxanne Wenn said the staff chose this system to give surgeons and staff access to cutting-edge technology.

"It is a true multispecialty platform and allows the surgical team to see beyond the limitations of the human eye," said Ms Wenn. "This translates to significant workflow improvements and overall better patient outcomes."

To further enhance workflow in the operating theatre, the tower is fully integrated with Stryker's Connected OR Hub, which enables seamless connectivity between devices.

This allows staff to easily stream, capture, record, and print surgical images and videos directly from the platform for later review.

Broadcasting live from Operating Theatre 9

GREENSLOPES PRIVATE HOSPITAL BROADCAST A SHOULDER SURGERY TO A GLOBAL AUDIENCE OF SPECIALISTS, THANKS TO A STATE OF THE ART MULTIMEDIA SYSTEM.

Operating Theatre 9 at the Queensland hospital previously had a low definition multimedia system which could only take photos during surgery and display images on screen in the theatre.

In 2020 the theatre was updated with new surgical booms, operating lights and 4K in-light and endoscope cameras from medical technology company Stryker.

The multimedia system was also replaced with a Sony Nucleus system, including 4K camera and screens.

The new platform streamlines the aggregation, management and distribution of 4K resolution video content across a hospital's network. It also allows photos to be taken on any three of the cameras, and operations to be recorded in high definition on two cameras at once.

IT project coordinator Jarrad Mahon said the new system, which is connected to the hospital's server room using fibre optic cables, opens new possibilities for specialist consultations and education.

"We now have the ability not only to view everything in the theatre in 4K as the doctor is operating, but also to take photos and record videos in high definition during operations," said Mr Mahon.

"We can also broadcast procedures – at the discretion of the surgeon along with a patient's permission – within the hospital to any main computer protected by logins in the hospital, such as to a conference room with students."

"We can broadcast securely by Virtual Private Network (VPN) to people on the other side of the world – whether to students or doctors who are working together. In advanced surgeries, doctors can consult together to learn specialist techniques."

Operating Theatre 9's first live broadcast event was a cuff tear repair by Prof. Ashish Gupta.

The surgery was broadcast to specialists from 12 countries as part of the fifth Toulouse Advanced Shoulder Course International event, '24h Le Mans Shoulder': a 24-hour non-stop surgical webcast featuring back-to-back procedures by experts from around the world.

Mr Mahon said it was an excellent opportunity to participate in a worldwide event.

"With COVID-19 restrictions there were a lot of hurdles to overcome. For example, we had to have equipment shipped around the country for partial assembly and testing before a final major install in Greenslopes, because we couldn't have technicians from NSW cross our borders and come into Queensland. This also involved remote support along with testing from Sweden and France across different time zones" he said.

"In the end, though, it was an exciting project, and it all came together really well."

Health professionals upskill from home

Osler Community is filled with free online learning content across a range of specialties, including hundreds of modules, journal reviews, simulations, data analyses & podcast interviews.

AN ONLINE LEARNING COMMUNITY DEVELOPED BY A RAMSAY INTENSIVE CARE SPECIALIST IS HELPING DOCTORS AND NURSES FURTHER THEIR EDUCATION FROM THEIR OWN HOMES DURING THE PANDEMIC.

Visiting medical officer at Noosa Hospital Dr Todd Fraser created Osler Community: an online portfolio now accessed by thousands of health professionals around the world.

Osler Community is filled with free online learning content across a range of specialties, including hundreds of modules, journal reviews, simulations, data analyses and podcast interviews.

These resources have recently been circulated to all Ramsay hospital educators as a way for staff to upskill from their own homes – particularly during the COVID-19 pandemic.

Dr Fraser felt excited to receive a wealth of positive feedback about the portfolio from his colleagues.

"Osler Community is effectively a place where you can go to organise your learning," he said. "We're all very busy and very time poor, but we need to be able to prove that we're trained and always learning – and this portfolio does exactly that."

Another strength of the online portfolio is the way it places health professionals in the driver's seat of their own learning.

"If you're already skilled at something, you can record that and access it for your personalised career development plan...or you can user Osler Community to access free online content and complete modules to further your Continuing Professional Development points," explained Dr Fraser.

"In health care, we generally struggle to maintain good records of our own, but users can access a self-reflection diary, personalised career development plan, feedback forms to give patients and peers – these all become part of your ongoing journey," he said.

Doctors, nurses and healthcare professionals can access the online learning modules on the Osler Community for free. An advanced version is available when you pay to subscribe to the portfolio.

In 2020, we blocked over 42,000 spam emails per day, while protecting over 30,000 staff, 12,000 computers & 27,000 other pieces of digital equipment.

FEATURE

The high stakes world of cybersecurity

AS THOUSANDS OF EMPLOYEES WORK REMOTELY AND RANSOMWARE ATTACKS CONTINUE TO RISE, RAMSAY IS WORKING HARD TO ENSURE ITS CYBER CONTROLS ARE UP TO THE TASK.

At any given time, Ramsay Health Care is entrusted with handling extremely sensitive information for over one million Australians.

This responsibility means cybersecurity is an essential part of our risk management strategy, especially as we face continual threats to data security.

In 2020, we blocked over 42,000 spam emails per day, expedited critical security updates across 99 percent of our technology assets and deployed 22 million security patches – 400 percent more than the previous financial year.

Insight spoke to Ramsay's Chief Information Security Officer, Christopher Neal, to find out how Ramsay strengthened its cybersecurity in 2020.

What has investing in cybersecurity looked like this year?

We had significant uptake in the number of people taking devices home this year because of the pandemic. This made a real change to our risk profile. Historically, as a health care company, we didn't worry too much about working from home because there were so few people doing that. After COVID-19 hit, we went from maybe a couple of hundred to three thousand remote workers on any given day.

Our staff are used to not having to worry too much about what links they click on because we have quite good controls internally. When they work from home, none of those controls exist anymore. We had to address that.

So we put controls in place that focused on filtering and being able to identify malicious or dangerous web addresses – on being able to block people from inadvertently accessing them. We deployed a bit of software on Ramsay devices that lets us manage all that centrally – whether staff work in an office, a hospital, from home, or from a café. It doesn't matter where they are; they have the same protection.

This was originally going to be a 4-month project in late 2020, but we brought it forward and achieved it in a week in the middle of June to protect staff working from home.

Tell us about the cybersecurity team at Ramsay.

We have a small team of five, and an external partner that provides 24/7 monitoring. We cover 30,000 staff, 12,000 computers and 27,000 other pieces of digital equipment like infusion pumps, surgical robots, pharmaceutical fridges, medical alarm systems, and environmental control platforms.

How do you ensure your cybersecurity team is effective?

Over the last few years we've moved from some older-styled tools to more current, and more effective, technical controls – largely without impacting users.

Also, while the team is small, we work with the broader Ramsay IT team. There is good support to...

"The high stakes world of cybersecurity" continued...

make sure we have all the right controls in place and are keeping things updated. All of IT understands the risks and the importance of cybersecurity, and we're all singing from the same song sheet.

Currently we have cyber threat coverage across 98 percent of our assets, which means out of all our infrastructure and key applications, 98 percent are feeding logs and alerts into the central management platform managed by our third-party partner. We have solid situational awareness of possible security incidents across our environment.

What global challenges have you recently faced?

There's been a real rise in ransomware attacks globally. One of our vendors shared that if you compare the first three quarters of 2020 to all of 2019, there's been a 300 percent increase in ransomware attacks.

There was an incident in September where ransomware hackers tried to target Düsseldorf University in Germany, but accidentally impacted the university's hospital. They stopped the attack and handed over the decryption keys to back out of it, but in the meantime, a critical patient had to be diverted and died en route to another hospital. Those are the risks.

Ramsay thankfully hasn't seen any of that, but the stakes can be very high when it comes to cyber security. This is why we constantly ask ourselves: how can we do everything we can to prevent this from happening?

What is your team working on at the moment?

We've currently working on deploying technology for segmentation. This is about being able to protect and monitor traffic in different parts of the network. If a cyber attacker got into North Shore Private's network, they could impact not just that hospital, but also Greenslopes Private Hospital in Queensland.

The first step of this project was being able to isolate individual sites so when there is an attack, we can see it.

The second phase is about being able to do things within the site. For example, if an attacker gets into Ward 3 at North Shore Private, we can identify they are there and stop them from getting into Ward 4. It's about being able to reduce the blast radius of a problem.

What have you got planned for cybersecurity in the future?

Over a number of years we have invested significant time and money deploying good controls; what we want to do now is focus on the automation side of things.

Most cyber-attacks are automated. If we're relying on humans to react, we're always going to be behind. This project is about working out how we automate this reaction. How do we make use of what we've already bought to automate response and protection? That's what we'll be working on in the second half of 2021. F

Whether staff work in an office, a hospital, from home, or from a café. It doesn't matter where they are; they have the same protection.

CYBERSECURITY AT RAMSAY IN 2020

1.3 days
how long it takes for a security incident to be resolved.

42,000
the number of emails blocked as spam each day.

98%
the proportion of assets covered against cyber threats.

3,700+
the number of security incidents investigated.

22m
the number of security patches deployed to our assets increased over 400% this year.

40%
how much our security vulnerability has decreased, compared to 2019.

99%
compliance rate to the latest security updates.

How to stay cyber-secure

Avoid doing secure work on insecure Wi-Fi networks.

Public Wi-Fi can pose a security risk, especially if you are accessing sensitive information.

Stay away from random USBs.

They could contain malware, ransomware or a virus that compromises your computer.

Change your password regularly.

This makes it harder for cyber criminals to gain access to your accounts.

Don't recycle your login credentials.

It's an easy trap to fall into, but don't use the same login or password for multiple accounts.

Don't procrastinate with operating system updates.

Companies roll out software updates to protect devices from being exploited.

Always choose two-factor authentication.

An extra layer of security to your accounts helps reduce your risk.

Punching above our weight

DEVOPS IS CHANGING THE WAY SOFTWARE IS DEPLOYED AT RAMSAY HEALTH CARE, DELIVERING VALUE TO STAKEHOLDERS AND HELPING SAVE LIVES DURING THE PANDEMIC. BUT WHAT IS DEVOPS? AND HOW DOES IT WORK?

When Australia's COVID-19 cases escalated in early 2020, the federal government made contact tracing mandatory at health care facilities.

Ramsay staff members were quickly deployed to perform virus risk assessments at hospital entrances: a process which involved individually interviewing and recording the details of every person entering each facility.

Patients had to queue outside hospitals; delays became common and staff productivity dipped. An alternative screening method was needed, so in July, well before check-in apps became ubiquitous in shops and restaurants, Ramsay's software development unit was asked to create a digital screening tool with a QR code.

The app had to be highly effective at streamlining the screening process, robust enough to handle thousands of visitors, and adaptable to the ever-changing landscape of government health orders.

Also, time was of the essence. With COVID-19 infection rates rising, the app's development process had to be completed in just a matter of weeks.

Well before check-in apps became ubiquitous in shops & restaurants, Ramsay's software development unit was asked to create a digital screening tool with a QR code.

How a team of developers punch above their weight

Some may be surprised to learn that Ramsay's software development capability is not a large department, but a small and nimble team that punches well above its weight.

Spread across the country, the team manages numerous software applications – most of them vital systems that keep Ramsay from grinding to a halt.

To do this effectively, they rely on DevOps: a set of practices and tools which help organisations create and deliver new software quickly and reliably.

Coined in 2007, the apt term combines the IT units 'Development' and 'Operations'. Traditionally, these sections work in isolation from each other, which often results in a lack of efficiency.

DevOps pushes against this structure by encouraging software developers to collaborate with IT operations staff. According to Ramsay's Head of Architecture and Development, Barry White, this partnership creates a fast and stable workflow. It also means that software can be continually monitored after it is deployed, allowing improvements to be made quickly based on user feedback.

"DevOps is like an assembly line, but instead of producing a physical product at the end, we're producing software," said Mr White.

"One of the key practices of DevOps is what we call an Agile approach, which is releasing many small and frequent updates. This gives the business the opportunity to start realising the value of the work sooner, and provides us with important usage data and feedback. We can identify and amplify what works well, and avoid over-investing time and effort in the wrong areas."

COVID-19 screening tool: DevOps in action

Following DevOps practices is what enabled Ramsay's development team to effectively create and deploy the COVID-19 screening app in just two weeks.

When someone enters a Ramsay facility, the app allows them to scan a QR code at the entrance using their smartphone. Once they have answered simple questions about their possible exposure to COVID-19, their phone will display a green colour to show they are safe to enter, or an amber colour to indicate that they need to speak to a staff member.

According to Mr White, if the team hadn't used DevOps practices, they would not have been able to deliver or adapt the app as quickly as they did. "An alternative approach to develop the tool would be 'waterfall', where all features and functions are designed upfront before they are built and eventually released," he explained.

"The downside is this takes a lot longer until you develop something people can use. You also potentially have software that needs quite a bit of alteration, as you have been working on the same assumptions for weeks and months about how the application is going to be adopted. These get challenged along the way, and then you need to change an awful lot."

DevOps follows a different path. Instead of developing the screening app using a linear process, Ramsay's developers and IT operations units worked...

Instead of developing the screening app using a linear process, Ramsay's developers & IT operations units worked together in a continual loop: building & testing the app, deploying it to the public, monitoring its useability & continually integrating any adjustments made. This allowed Ramsay's development team to effectively create & deploy the COVID-19 screening app in just two weeks.

"Punching above our weight" continued...

together in a continual loop: building and testing the app, deploying it to the public, monitoring its useability and continually integrating any adjustments made. **Being able to automate the building and testing process also played a big role, allowing the team to release software more reliably.**

"We were immediately able to determine how the app was being used, and how it could be improved," added Mr White.

"For the next several weeks after initially deploying the screening tool, we released new features and improvements to the app, on schedule every seven days, further streamlining the screening and data collection process."

DevOps practices also enabled the team to adjust the app in response to evolving requirements for contact tracing and risk assessments.

"Because of the extremely fluid situation in the early days of COVID, it was imperative that we were able to adapt quickly to new requirements, which were changing on an almost weekly basis due to the unprecedented nature of the pandemic."

Ramsay achieves high performance ranking

Ramsay's screening tool was successfully deployed in record time, with over 2 million visitors screened in 2020.

The app reduced COVID-19 screening times and freed up staff members without any errors, rollbacks or downtime to the system – a testament to the value of DevOps in a high pressure situation.

In the second half of 2020, the team started to research ways they could quantify their DevOps output, to find areas for improvement. They began to assess their DevOps performance based on four metrics: time taken to deploy software to production, deployment frequency, how often deployment failures occur, and the time it takes to restore service after an outage.

These benchmarks, developed by DORA's State of DevOps research program, are widely accepted as a robust measure of an organisation's performance. **Ramsay's results placed the team in the 'High Performers' category, which according to Mr White, "is punching well above our weight".**

Moving forward, the team plans to measure its DevOps performance in more detail, and identify more opportunities for streamlining the software delivery pipeline.

"Our goal is continuous improvement, and if you want to know if something is improving or not, you first need a way to measure it," said Mr White.

"The four metrics are useful as an indicator of performance, but they do not provide insight on how to improve. We are increasing our self-measurement in a more granular way to identify the areas of highest potential."

The hope is that the data collected will start to tell a story – about which areas of the software development pipeline need improving, where the team should focus their efforts, what offers the most benefits to patients and staff.

As the COVID-19 screening app has shown, those benefits can be immense.

"There have been a number of great ideas where relatively small changes to software can translate to higher productivity, better patient care or improvements to safety," added Mr White. "That's the work we want to prioritise."

The app reduced COVID-19 screening times & freed up staff members without any errors, rollbacks or downtime to the system – a testament to the value of DevOps in a high pressure situation.

DORA's (DevOps Research and Assessment) State of DevOps research report identifies four benchmarks that determine an organisation's DevOps performance:

- **Lead time** – the time it takes to go from completing code to successfully running that code in production
- **Deployment frequency** – how often application updates are released to end users
- **Change failure rate** – how often deployment failures occur in production, requiring immediate remedy (particularly rollbacks)
- **Time to restore service** – the average time it takes to restore service after a failure or outage

Ramsay's DevOps metrics put it in the 'High Performers' category.

Metric	Actuals	*Elite Performers	*High Performers (Our Target)	*Medium Performers	*Low Performers
Lead Time	2.2 days	<1 day	1-7 days	1-4 weeks	1-6 months
Deployment Frequency	4.5 days	Multiple per day	1-7 days	1-4 weeks	1-6 months
Change Failure Rate	1.8%	0-15%	0-15%	0-15%	46-66%
Time to Restore Service	1.9 hours	<1 hour	<1 day	<1 day	1-4 weeks

FINANCIAL SYSTEM HIGHLIGHTS

WITH A CONTINUOUS IMPROVEMENT MINDSET, WE HAVE BUILT UPON THE VIM CENTRALISED ACCOUNTS PAYABLE AND MYTIME PLATFORMS ESTABLISHED IN PRIOR YEARS:

Chris 21
Completed yearly upgrade, integrated 'Page-Up' & added new leave reporting suite.

VIM
Implemented OCR workflow & business rules for accounts payable.

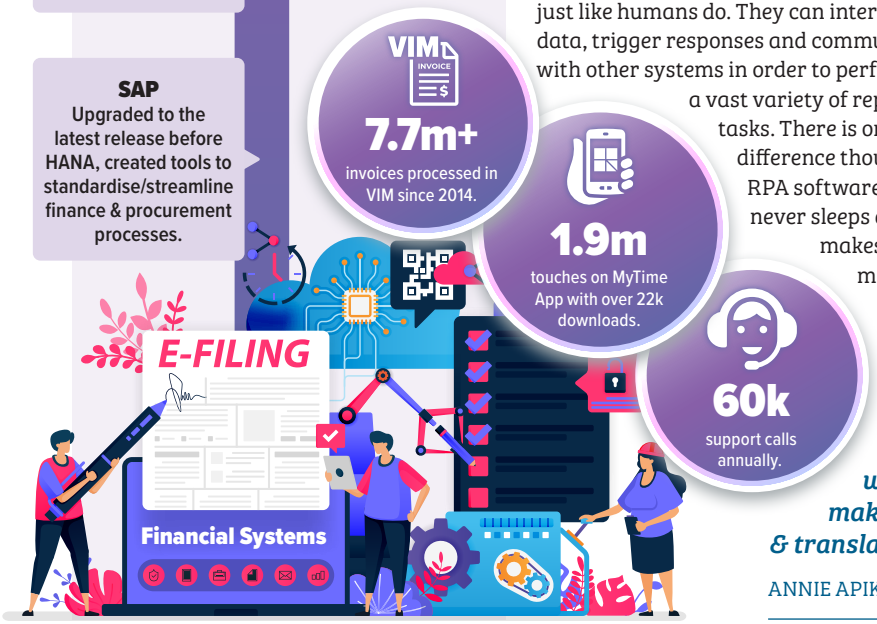
Pharmacy
Provided system & SQL support, & Accounts Payable transition.

Billing Hubs
Commenced standardisation & automation project.

Outsystems development platform
Introduced MyCapex, AR Portal, Vendor portal Internal & External, New Inventory Management app, MyTime app, Covid Response app (RHS Skills Register & Equipment Register, Messenger app), finance systems change management.

Introduced UiPath RPA
Including invoice processing, Meditech (SMS reminders, finance reports & claim prints), VIM statement inbox & remittance run, user access (password resets & access changes).

SAP
Upgraded to the latest release before HANA, created tools to standardise/streamline finance & procurement processes.



What is Robotic Process Automation?

REPETITIVE FINANCIAL SYSTEM TASKS COULD BE A THING OF THE PAST, THANKS TO AUTOMATION 'ROBOTS' THAT NEVER TIRE OR MAKE MISTAKES.

Ramsay's financial and IT teams are working hard to unload staff from many mundane tasks, allowing them to focus on the jobs that add value to the business. A key part of this is introducing Robotic Process Automation technology to our organisation: an emerging practice that automates tasks, streamlines processes and increases employee productivity to ultimately deliver improved customer experiences.

What is Robotic Process Automation?

Robotic Process Automation (RPA) is technology that allows you to configure computer software to emulate and integrate the actions of a human interacting within digital systems to execute a business process. Essentially, RPA 'robots' can utilise the user interface to capture data and manipulate applications just like humans do. They can interpret data, trigger responses and communicate with other systems in order to perform on a vast variety of repetitive tasks. There is one difference though: an RPA software robot never sleeps and makes zero mistakes.

How does Robotic Process Automation work?

RPA robots are capable of mimicking many, if not all human user actions. They log into applications, move files and folders, copy and paste data, fill in forms, extract structured and semi-structured data from documents, scrape browsers and more. According to Ramsay Financial Systems Manager Annie Apikian, investing in automation will lead to consistent and accurate data. "This provides a basis for better decision making and process improvement opportunities, which translates into cost savings."

What can be automated?

Any high-volume, business rules-driven, repeatable process qualifies for automation. This includes tasks such as:

- Logging into any application
- Connecting to system APIs (An Application Programming Interface that allows two applications to talk to each other)
- Copying and pasting data
- Moving files and folders
- Extracting and processing structured and semi-structured content from documents, PDFs, emails and forms
- Reading and writing on databases
- Opening emails and attachments
- Scraping data from the web
- Making calculations

I believe that investment in automation will lead to consistent & accurate data which provides a basis for better decision making & process improvement opportunities & translate into cost savings.

ANNIE APIKIAN, FINANCIAL SYSTEMS MANAGER

Supporting business development with technology

FROM NEW OPERATING THEATRES AND EMERGENCY DEPARTMENTS TO MORE BEDS, RAMSAY IS INVESTING IN THE FUTURE OF HOSPITAL CARE IN AUSTRALIA.

Over the last ten years, Ramsay Australia has invested over $2b in new projects – including expanding our hospitals, creating much-needed services, upgrading existing infrastructure and in some cases, commissioning new facilities.

Each year, we undertake a large amount of activity to expand our business. In FY2020, we completed $255m of capital investment on brownfield developments - a figure that is expected to increase to between $250-$300m in FY2021. This goes a long way towards not only securing Ramsay's premier position as a private health care provider, but also meeting the ever-growing needs of local communities in Australia.

IT's role in development projects

Ramsay's IT team collaborates with business development teams and local hospital executives to help bring projects to fruition. Together we work to:

- identify growth opportunities
- prepare and cost the business case of each new project
- recommend technologies that need to be deployed in expanded or new facilities
- negotiate terms with suppliers
- oversee the installation and commissioning of new systems and – most importantly – securely integrate them into our ecosystem of existing systems and business processes.

Hollywood Private Hospital's recent expansion provides a clear snapshot of what collaboration looks like on the ground level. To support major development activities at the hospital, Ramsay's IT team replaced Hollywood's telephony system and core IT infrastructure over a six-month timeline. Over 23km of fibre and copper cabling was laid to establish a new hospital telephony and data centre – all to support the future needs of the large, complex and constantly growing hospital.

Improving care for local communities in Australia

Throughout 2020, Ramsay undertook a significant amount of development and expansion in order to better serve local communities around the country.

At North West Private in Brisbane's north, development activity included establishing new operating theatres and upgrading multiple units while down in Adelaide, Ramsay's boosted the Adelaide Clinic's mental health capabilities. In Victoria, Peninsula Private Hospital underwent work that saw the expansion of its car park, 72 new beds and new operating theatres. This is just a handful of the numerous projects that were undertaken next year, with more planned for the future as we continue to deliver the excellent service Australians have come to expect from Ramsay.

FEATURE

Research at Ramsay harnesses the power of technology

Since opening its doors in 2017, the Ramsay Hospital Research Fund and the Paul Ramsay Foundation have committed over $13m to 19 research projects and 200 clinical trials.

A number of these projects harness the power of technological innovation to improve the future of health care in Australia.

Here are just some of the Foundation's research projects featuring the application of technology in a health care setting.

World-first COVID-19 study

FUNDING PROVIDED: $197,371 **EXPECTED COMPLETION: EARLY 2021**

A world-first study into how cardiovascular disease affects a patient's ability to fight COVID-19 is now underway across Australia, thanks to funding and support from the Ramsay Hospital Research Foundation.

The new Australian Cardiovascular COVID-19 Registry, named AUS-COVID, is the first national registry of its type in the world, and aims to improve outcomes and lower complications in COVID-19 patients who also have cardiovascular disease.

Principal Investigator and Cardiologist, Professor Ravinay Bhindi, said cardiovascular diseases affects one in six Australians and the number of those patients admitted to hospital with COVID-19 is higher than any other co-morbidity condition, including respiratory disease.

"If you have cardiac disease, getting COVID-19 is more than twice as deadly as having a heart attack, and we are talking about millions of people here," he said.

How will this project change health care?

Prof. Bhindi said his team's research hopes to answer fundamental questions that will help clinicians triage and treat patients with COVID-19.

"There is an urgency to increase our knowledge of COVID-19 now so we can avoid the infection and death rates we have seen in Italy, Spain and the United States," Prof. Bhindi said.

"Early data from China and Europe suggests patients who had cardiac disease did quite badly when exposed to Coronavirus, so we need to better understand the effects of pre-existing cardiovascular disease on outcomes, plus how clinicians and health services can be better prepared to manage these patients".

Dr Kunwar Bhatia, who is coordinating the study, said more than 20 hospitals around the country are taking part in the AUS-COVID research.

Chief Executive Officer of the Ramsay Hospital Research Foundation, Nicola Ware, said the Board was excited to fund such an important and timely project.

Addressing frailty with smartphone technology

FUNDING PROVIDED: $734,070
EXPECTED COMPLETION: EARLY 2022

Our ageing population is a growing challenge for health services, especially when it comes to supporting people who experience frailty and pain.

This project will examine how a nurse-led volunteer program combines with a technology-driven pain assessment system to improve outcomes for frail patients at Hollywood Private Hospital in Nedlands, WA.

The PainChek app uses artificial intelligence, facial recognition and smartphone technology to provide healthcare workers with an accurate way of assessing pain in people who cannot verbalise what they are feeling.

As part of the study, more than 2,000 patients from Hollywood Private will receive a volunteer care plan tailored to their individual needs. Researchers will determine the effectiveness of volunteer support, the PainChek app, and the use of the two together in the first Australian study examining PainChek's application in a hospital.

How will this project change health care?

The resources developed from this study can be used to implement other volunteer programs and pain assessment interventions across Ramsay.

Project leader Dr Rosemary Saunders says the research is timely, "given the ageing population not only in Australia, but globally."

"This is a study that can actually improve patient wellbeing and maximise their function in hospital and after discharge," said Dr Saunders.

Harnessing the power of digital analytics

FUNDING PROVIDED: $70,000 PER ANNUM FOR AN INITIAL THREE-YEAR TERM
EXPECTED COMPLETION: EARLY 2022

The Digital Health Cooperative Research Centre (Digital Health CRC) is a multidisciplinary taskforce that aims to empower patients, improve system efficiencies, support clinical practice and develop Australia's future digital health workforce.

The Ramsay Hospital Research Fund has partnered with the Digital Health CRC, committing $70,000 per year for the next three years.

The first collaboration between the two organisations is a PhD scholarship as part of a broader project examining the role of patient-reported measures in the clinical decision-making process.

The project will use exercises and analytics to answer questions such as: "how extensively do generic patient-reported outcome and experience measures need to be tailored for individual clinical disciplines?" and "what patient-reported experience and outcome measures do clinicians see as valuable for informing reflective practice?"

The data gathered will help improve patient care and assist health care professionals with their clinical management.

How will this project change health care?

Innovation in digital health offers significant economic and business development opportunities, as well as a great promise for better health within our community.

Knowledge gained from this project – along with future collaborations with the Digital Health CRC – will lead us to develop better outcomes for patients and increase service efficiency. By taking advantage of the digital health market, it will solve complex problems within healthcare and deliver tangible change.

This project is a prospective study aimed at evaluating the effectiveness of closed-loop neurostimulation in treating chronic pain & relieving spasticity in CP.

Spinal cord stimulation to treat cerebral palsy

FUNDING PROVIDED: $180,000
EXPECTED COMPLETION: MID 2022

Cerebral palsy (CP) is an incurable disease that causes chronic pain and involuntary, unpredictable limb movements. While current therapies offer relief from symptoms, they provide little or no function improvement, and patients often suffer a number of side effects.

Previous clinical reports suggest spinal cord stimulation may have clinical benefits in CP patients, but fine-tuning the stimulation parameters is crucial to the therapy's success.

This project is a prospective study aimed at evaluating the effectiveness of closed-loop neurostimulation in treating chronic pain and relieving spasticity in CP.

The Saluda Medical Evoke Spinal Cord Stimulation System measures neural activity and automatically adjusts stimulation so that it remains in a therapeutic range. This means that the treatment is not subject to the same limitations as other devices, which require manual adjusting and programming.

Thirty patients will be implanted with the stimulation system at Sydney's North Shore Private Hospital and evaluated over a 24-month period.

How will this project change health care?

This study could offer a novel treatment for patients with CP. It could reduce drug intake and associated costs (currently $4,000 per year for Botulinum Toxin-A or $17,000 for a Baclofen pump), minimise the need for physiotherapy, reduce the number of hospital admissions and ultimately improve patient outcomes and independence.

A VISION FOR DATA COLLECTION

OVER THE PAST 18 MONTHS, THE RAMSAY HOSPITAL RESEARCH FOUNDATION HAS FOCUSED ON ESTABLISHING A WORLD-CLASS DIGITAL SYSTEM FOR COLLECTING PATIENT DATA.

The VisionTree Optimate Care (VTOC) platform, launched in partnership with US tech company VisionTree, is a web-based system that facilitates the collection of patient data for research and the randomisation of patients in clinical trials.

RHRF CEO, Nicola Ware, wrote in the Foundation's latest *Impact* Report that several research projects have been established using the VTOC platform.

"Importantly, as a web-based system, (the VTOC platform) has the capacity to capture data from both within and outside of Ramsay hospitals, enabling researchers to collect data beyond the point of care, and beyond Ramsay," said Ms Ware.

VTOC is currently used by over 2.5 million patients at approximately 600 sites around the world.

Designed to help improve quality and efficiency in patient care, the platform tracks and reports longitudinal patient outcomes, intake and follow-up forms, as well as delivering reminders, messages and education material.

Investing in the AI health care revolution

RAMSAY HAS BACKED AI HEALTH CARE PIONEER, HARRISON.AI, AS PART OF ITS INVESTMENT IN AUSTRALIAN START-UPS TRIALLING NEW MEDICAL TECHNOLOGY.

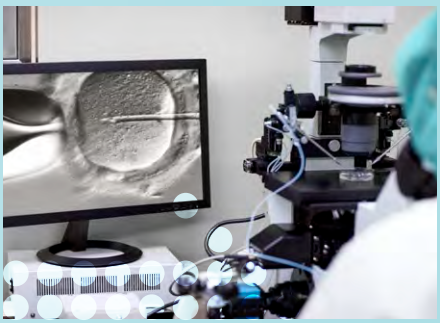
Founded by Dimitry Tran (former head of innovation at Ramsay) and his brother Aengus Tran, Harrison.ai is a Sydney-based healthcare company that empowers doctors with customised AI-enabled tools.

Their earliest achievement is building and deploying IVY: a patent-pending technology capable of predicting the likelihood of pregnancy by analysing time-lapse embryo videos. IVY has increased the clinical pregnancy success rate in IVF treatment by over 30 percent, as the success rate of an average embryologist selecting a successful embryo is around 65 percent, whereas IVY's success rate is 93 percent.

Harrison.ai closed its first capital raising in December 2019, landing $29m in a round led by Blackbird Ventures and joined by Horizon Ventures, Skip Capital and Ramsay Health Care. The company put the funding towards new hires in the field of data science and software engineering, as well as hiring experts with clinical and medical device backgrounds.

"Australia leads the world in many areas of healthcare," said Dimitry Tran. "We have home-grown organisations that went on to become the world's largest in their domains, such as Ramsay Health Care in hospital, Virtus Health in fertility, and I-MED in radiology."

"A key part of our strategy moving forward is to collaborate with such organisations to develop AI as medical device solutions that improve efficiency, accuracy and safety, ultimately enhancing patient outcomes."



Ramsay specialist advances shoulder biomechanics research

A SHOULDER SURGEON FROM GREENSLOPES PRIVATE HOSPITAL HAS RECEIVED FUNDING TO DEVELOP A NEW RESEARCH CENTRE FOR IMPROVING OUTCOMES FOR PATIENTS WITH OSTEOARTHRITIS AND OTHER ORTHOPAEDIC CONDITIONS.

Dr Ashish Gupta, founder of Queensland Unit for Advanced Shoulder Research (QUASR), put in a bid alongside a leadership team to the Federal Government's Australian Research Council (ARC) to develop a centre for orthopaedic shoulder biomechanics.

The submission was successful and received a $4m grant from the ARC to help develop the Industrial Transformation Training Centre for Joint Biomechanics (ITTC).

The centre is a collaborative effort between QUT and several industry and university partners which has attracted a total of $7.7m in cash and in-kind support. Dr Gupta said it was a great honour to receive the grant, as there are only a handful of ITTCs in Australia.

"This is certainly a large impetus for shoulder research. It is a great win for the team and all our collaborators at QUASR," said Dr Gupta.

The ITTC aims to advance surgical training by developing a biomedical workforce and personalised medical solutions for patients with shoulder problems. The centre will also teach health professionals to develop the next generation of implants and orthopaedic solutions.

"The main arms of the grant are to look at rehabilitation of patients, 3D printing of implants, and biomechanics of the shoulder. This will improve our understanding of why implants fail, so it is a fairly large undertaking," Dr Gupta said.

Clinical data from Greenslopes Private Hospital will be used to help with research projects at the ITTC. Eventually, new techniques and new equipment developed at the centre will be trialled at the hospital.

"Greenslopes has been really good in supporting complex shoulder surgery procedures and the use of new technology. The hospital's CEO, Chris Went, and Ramsay Hospital Research Foundation CEO, Nicola Ware, have been very focussed on supporting research at Greenslopes," said Dr Gupta.

Brisbane MP Trevor Evans said the government's investment would be welcome news for Queensland's growing medical research community.

"Brisbane is home to some of the world's leading medical researchers and practitioners. This centre will provide amazing opportunities to leverage these strengths and further develop a hugely promising industry."

The ITTC aims to advance surgical training by developing a biomedical workforce & personalised medical solutions for patients with shoulder problems.

FEATURE

Ramsay recycles 98% of IT equipment

RAMSAY HEALTH CARE HAS RECYCLED MORE THAN 3,000 PIECES, EQUATING TO 2.8 TONNES, OF UNWANTED IT EQUIPMENT AS PART OF AN ONGOING NATIONAL PROJECT TO STOP E-WASTE FROM ENDING UP IN LANDFILL.

More than 98 percent of Ramsay Australia's unwanted IT assets across Ramsay hospitals and day surgery units – including mobile phones, laptops, computers and printers – have been remarketed, recycled or processed.

Ramsay's national IT services team started the project after identifying 4,800 out-of-date devices during a Windows upgrade project, and partnered with e-recycling vendor, Sims E-Recycling, to reduce the potential for wastage.

Items that have been saved from landfill include PCs, monitors, printers, scanners, notebooks, tablets, mobile phones and networking equipment. Some teams have also donated disused hospital equipment.

IT Service Delivery Manager Andrew Chance said the initiative has made recycling a "de facto standard" for IT items that are no longer useable.

"We've also collected old TVs and nurse call screens which no longer work," he added.

If an item cannot be resold, it is shredded and sorted into various commodity streams, including copper and gold, which are then used to create new base materials.

F

5 million plastic items saved from landfill ...& counting

RAMSAY TEAMS ACROSS AUSTRALIA HAVE PULLED TOGETHER TO SAVE OVER 5 MILLION PLASTIC ITEMS FROM GOING INTO LANDFILL.

Four months after former Ramsay Australia CEO Danny Sims pledged to remove 24 million single-use plastic items every year from its Australian operations, 5,147,333 plastic items had been saved from landfill, putting the company on track to reach its target.

Mr Sims acknowledged the contribution of Ramsay's procurement team, who launched the initiative despite the impact of COVID-19 on supply delivery around the world.

"Plastic waste takes a huge toll on our planet. From today, plastic drinking cups and lids, cutlery, plates, stirrers, straws, kidney dishes, denture cups with lids, and most medication cups are no longer available to order for use in our facilities...these items have all been replaced with environmentally friendly alternatives." said Mr Sims when announcing the pledge on World Environment Day, 5th June, 2020.

Ramsay will also begin phasing out single-use plastic water bottles across all of its Australian sites. In Western Australia, Hollywood Private Hospital and Joondalup Health Campus have made the move to reusable jugs and cups, joining more than 30 facilities that provide sustainable alternatives.

Using funding from Ramsay's Environmental Sustainability Fund, these two hospitals have collectively saved 830,000 single-use plastic water bottles from being produced, transported and added to landfill.

Joondalup's Sustainability Ambassador Calum McLeod said employees and patients had embraced the program.

"It's one of those things we knew we needed to do, and I think there's been a real shift where people seem to [be] more engaged with what happens to our waste. There's definitely an appetite for change," Mr McLeod said.

"Our people could see Ramsay Australia was committed to making the change, and people have been really accepting and want to do the right thing by removing those single-use plastic water bottles."

> ***From today, plastic drinking cups & lids, cutlery, plates, stirrers, straws, kidney dishes, denture cups with lids, & most medication cups are no longer available to order for use in our facilities.***

Electric shuttle bus a win for patients & the planet

PATIENTS AT CABOOLTURE PRIVATE HOSPITAL ARE TRAVELLING IN STYLE, THANKS TO THE PURCHASE OF AN ENVIRONMENTALLY-FRIENDLY ELECTRIC SHUTTLE BUS.

The Queensland hospital's main carpark was recently moved because of renovations at the neighbouring public hospital. With private patients needing to park approximately 400m away, the staff turned to electric automotive technology as a sustainable solution for getting to hospital.

According to the hospital's Commercial Manager Karen Steen, the new electric shuttle bus service is proving popular with both patients and staff.

"We're getting such great feedback, the bus is lovely and in Ramsay blue, of course! Our shuttle drivers often overhear patients saying, 'we feel like we're on holidays'," said Ms Steen.

National Environment Manager Sue Panuccio said the decision to purchase the fully electric bus – which plugs into a standard power point to charge overnight – was part of the organisation's commitment to reduce its environmental footprint.

"Electric vehicles produce zero greenhouse gas emissions, and that's a huge boost for air quality," said Ms Panuccio.

"Across Ramsay Australia we have more than 150 cars, buses, utes and vans, so, given the success of Caboolture Private's electric shuttle bus, we believe there is a great opportunity to switch to more electric vehicles across our fleet in the future."

Sustainability

Ramsay continues to reduce carbon footprint

RAMSAY HAS ALLOCATED AN ADDITIONAL $1.5M TO THE ENVIRONMENTAL SUSTAINABILITY FUND TO HELP REDUCE CARBON EMISSIONS ACROSS ITS AUSTRALIANS SITES.

Former Ramsay Health Care Australia CEO, Danny Sims, said the establishment of the Ramsay Environmental Sustainability Fund in 2019 was part of the company's commitment to making a positive impact on the environment and society.

"Our sites can apply for this funding for a range of projects such as upgrading to energy-efficient lighting, purchasing items to help phase out single-use plastic water bottles, and other innovative environmental sustainability initiatives," Mr Sims said.

Last financial year the fund enabled the purchase of sustainable technology like LED lighting, UV filtration of a rehabilitation pool, and the installation of dishwashers to facilitate the replacement of plastic water bottles.

Sites can apply for funding of up to $100,000 per project and all eligible applications will be considered and approved on a 'first come, first served' basis.

Bronchoscope donation helps sick wildlife

PINDARA PRIVATE HOSPITAL HAS DONATED A DISUSED BRONCHOSCOPE TO HELP CURRUMBIN WILDLIFE HOSPITAL CARE FOR INJURED OR SICK ANIMALS.

Nurse unit manager Tracy Kerker suggested the idea after noticing a STORZ bronchoscope was on the wildlife hospital's donation wish list. "I knew we had a similar bronchoscope in the storeroom which wasn't being used, and thought they could use it," she said.

"Quite a lot of Currumbin Wildlife Hospital's equipment is really dated, so they were really grateful for the scope and said the vets would be very excited."

A bronchoscope is used to check the airways and stomach in a human patient. It will be used in the same way at the wildlife hospital, which treats up to 50 animals a day.

To ensure the disused scope was in working order, Simon Kitto from Pentax Medical volunteered to service the scope and help install it at Currumbin.

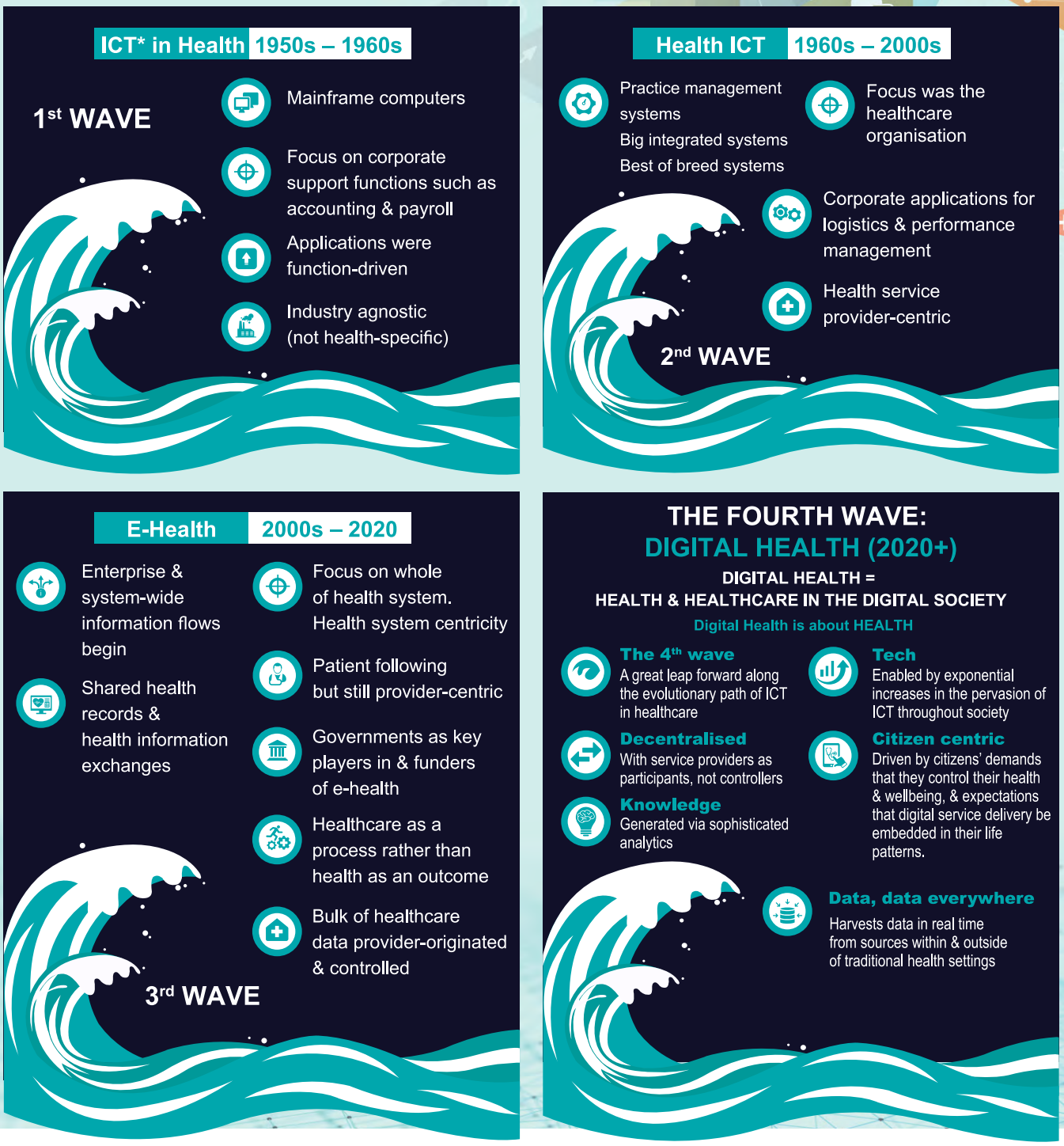
The animal hospital relies heavily on donations to treat injured wildlife, and accepts items such as x-ray machines, monitors, anaesthetic machines and expired and disused consumables.

"There are plenty of opportunities to help them out. We have also been collecting disused sterile items that we can't use to give to the wildlife hospital," said Mrs Kerker.

The era of digital health

THE ERA OF DIGITAL HEALTH IS UPON US. IT IS FUNDAMENTALLY DIFFERENT FROM WHAT HAS COME BEFORE, WITH PROFOUND INFLUENCES ON HEALTH & HEALTHCARE.

What has come before:



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*ICT: INFORMATION & COMMUNICATIONS TECHNOLOGY

THE DIGITAL HEALTH ERA IS CHARACTERISED BY 7 MAJOR SHIFTS

1. CITIZEN & CONSUMER CENTRICITY

Citizens choose where & how they store their data & who they share it with & expect service models to fit their life flows

2. NEW ENTRANTS

Big tech disruption with non-healthcare companies becoming health data companies

3. INDUSTRY CONVERGENCE

The boundaries of health service delivery overlapping with other sectors & industries

4. ROLE CONVERGENCE

Boundaries of clinical professional practice diverge & meld

5. ORIGIN OF DATA

Vast amounts of new health & health-relevant data captured outside of traditional clinical care settings

6. ANALYTICS & ALGORITHMS

New analytical capabilities drive new models of care

7. BROADER THAN HEALTH

Dissolving the arbitrary boundaries placed between health, aged care, mental health, social services & disability sectors

These shifts result in changes to

- Longstanding business & funding models
- Policy settings
- Professional structures
- The role of the citizen

DIGITAL HEALTH & ITS DISRUPTIVE IMPACT PROVIDES OPPORTUNITIES & CHALLENGES FOR

- Citizens
- Clinicians
- Policy makers and regulators
- Health executives
- Technology suppliers
- Media and influencers
- Universities / educators


Ramsay
Health Care