Path West saves lives mid air

Patients in rural and remote communities of western NSW can now receive life-saving blood transfusions thanks to a partnership between NSW Ambulance, the Royal Flying Doctor Service (RFDS) and Pathology West - Dubbo.

Blood and blood products are being stored on RFDS planes, allowing flight nurses and retrieval doctors to perform blood transfusions on patients with persistent life-threatening bleeding, all whilst in the air.

The partnership is delivering out-of-hospital emergency intensive care treatment directly to patients at the time they need it most.

This type of emergency care is critical for people in remote areas who may have severe bleeding from incidents such as car crashes, farming accidents or complications during childbirth.

NSW Deputy Premier Troy Grant welcomed the collaborative approach when he helped officially launch the innovative partnership in Dubbo.

“The greatest success stories are those built from strong partnerships so congratulations to everyone involved.” he said at the launch event.

[continued on page 3]
Dr Brouwer is a senior forensic pathologist with 19 years experience at staff specialist level. She spent 13 years as a forensic pathologist in South Africa and six years as a senior staff specialist at our Department of Forensic Medicine in Sydney.

**What’s the best thing about your job?**

I like the challenges associated with establishing a statewide forensic medicine service that will make a difference to people – and that includes our employees, our major stakeholders, and most importantly the families and friends of those who have lost somebody close to them.

**What are you working on to strengthen the services FASS provides?**

A recent end-to-end review of forensic medicine services in NSW has given us a roadmap to provide more consistent, open and transparent services. We need to strengthen relationships with major stakeholders, improve our workflow processes and adapt to the introduction of new technology like CT scanners at our Newcastle and Sydney facilities.

**Who are the three people you admire most and why?**

My husband for his patience and providing stability and calmness in my busy life. I admire people like Mother Teresa who devote their life to the service of others. I would also like to mention the philanthropist and the business entrepreneur Richard Branson.

**What is your favorite holiday destination and why?**

I love to travel and explore new cities. Being an ex-Capetonian, Cape Town in South Africa is still one of my favorite places to visit. The city is just so unique, set against the backdrop of Table Mountain and surrounded by beautiful beaches, mountains and wine lands.

**What is your favorite word and why?**

Respect. We should respect each other as unique individuals in our culturally diverse Australian society.

**Change or status quo – which do you prefer and why?**

Change is the only constant feature of life whether we like it or not. It’s how we adapt to change that makes us successful human beings.
The NSW Deputy Premier said the partnership will significantly improve services for patients in our rural areas.

Pathology West Network Director Professor Dominic Dwyer agrees.

“This is a great example of our staff’s initiative and their commitment to provide the best possible services to patients,” he explained.

“Our Dubbo team has done a great job and I commend Brian Stephens, the lab manager, for his hard work and drive to literally get this project off the ground.”

For RFDS senior flight nurse Karen Barlow, being able to administer blood and blood products to patients mid-air is a great advantage.

“Because of the rural setting our patients come from, they might not be able to receive in-hospital care for several hours, so this fills that void,” she explained.

“Our 24/7 aeromedical emergency services are critical for bringing first-class health services to people in the bush and we’re very happy to be part of this project.”

Her thoughts are echoed by RFDS doctor, Peter Brendt.

“This was really needed because if you think about trauma care, you know you need to give blood as early as possible if necessary,” he said.

However, Doctor Brendt says the project isn’t without its challenges, as the team will need to recirculate blood products with other health services in the region to ensure a fresh supply.

It’s a challenge the Pathology West team is up for – and one they’ll work with their partners to overcome.

(See inset at right for more information on how the Pathology West team is managing the blood products.)
Public pathology in NSW is undergoing significant renewal. There have been a range of restructures that began about 15 years ago, when over 30 laboratories were integrated into four separate pathology networks. Today we operate more than 60 laboratories, provide 200 collection services, deliver highly specialised forensic services, employ over 4,000 staff and process roughly 61 million samples a year. The aim now is to create a truly integrated statewide service that delivers real value to our health and justice systems.

This can seem a daunting task given the size and scope of what we do. We are also an organisation with many perspectives, competing demands and the constant need to make the most of the finite resources we have.

Credit must go to the NSW Health Pathology executive, which foresaw discipline-focused groups as a key strategy for moving forward.

The glue that will bind our services together in this new era is the Clinical Stream. Backed by enthusiastic and determined representatives from our networks, each clinical stream is working to improve the quality, safety and efficiency of our services. They’re also standardising and harmonising policies, practices and procedures across our facilities, with the aim of delivering the statewide approach envisioned.

In the two years since our Chemical Pathology Clinical Stream was formed, we have gained endorsement or in-principle support from the Executive Leadership Team on a number of important projects, including:

- a common vitamin B12 cut-off level for reflex testing of holoTranscobalamin testing (a marker of vitamin B12 deficiency)
- adoption of common reference intervals for a number of commonly reported tests (following the work done by the RCPA-AACB Harmonisation Project)
- a change over of drug reporting units from molar to mass units (following a recommendation from a number of learned societies).

Each of these advances is on track to be completed and in practice in our laboratories by the end of the year.

The Chemical Pathology Clinical Stream is working on other projects, each with a statewide focus. These include:

- working with our business analysts to identify potential improvements and efficiencies in chemical pathology testing across our labs
- developing a common critical alerts notification policy
- surveying clinicians about hyperglycaemia testing in pregnancy with the aim of standardising interpretative comments across our labs
- developing a common policy document and worksheet templates for setting analytical goals, calculating measurement uncertainty, verifying and validating new methods and verification of reagent lot number changes
- collaborating with the Point of Care Testing (PoCT) Clinical Stream to establish remote PoCT sites that offer testing for troponin, blood gases and other metabolic parameters – as well as developing a common approach to remote-site testing, reporting and documentation

The end game for each clinical stream is to achieve consensus and ensure our talented staff are working toward a common purpose – which is to continually improve all facets of testing and service provision.

Reflecting back on my 35 plus years in public pathology, I believe there has never been such an immense resolve to achieve a common good.
Shipping blood to shark attack victims

The transfusion team at Pathology North’s Lismore laboratory is seeing their life-saving work played out on the evening news.

Special ‘shippers’ of blood that are packed, prepared and monitored by the lab’s scientists are now being carried by emergency medicine specialists on Westpac Life Saver Rescue Helicopter missions.

The retrieval clinicians had been flying with the blood just four days before a near-fatal shark attack at Ballina on July 1. Blood products provided by Pathology North were administered to the patient on the beach immediately after the attack.

Those involved have attributed the patient’s survival to the swift action of his companion, the assistance of bystanders and the availability of blood at the scene.

Since July, the ‘shippers’ have been used in other incidents, including another shark attack at Evans Head.

Transfusion team leader Maureen Jacobsen said the initiative stemmed from a 2014 NSW Health directive requiring rescue helicopters to carry two units of blood.

Dr Richard Mahoney, the Director of Retrieval Medicine for the Northern NSW Local Health District, championed the project, and the local retrieval service received funding to implement the directive.

However it was up to Pathology North to determine how to provide the daily blood packs and manage them at the right temperature and quality and within existing resources. They also wanted to ensure they could provide O-negative blood, which can be universally used but is often in short supply because of the demand for it.

“We have to thank the team at John Hunter Hospital which performed the validation on the shippers,” Ms Jacobsen said. “Our Point of Care Testing team also gave us essential data support.

“I’m extremely proud of our team which has gone the extra mile make this happen. We’re a small group but we’ve stretched ourselves to provide this life-saving service to our community on a daily basis.”

TB trackers play vital role in public health

Tuberculosis (TB) has few places left to hide in NSW thanks to the genotyping capabilities at one of our Pathology West laboratories.

The Mycobacterium Reference Laboratory (MRL) receives and analyses every TB culture from patients in NSW.

Senior hospital scientist Peter Jelfs and his team determine the unique genetic makeup of each individual case and see how many are potentially related.

Results are logged in a database that informs public health investigations of possible clusters of transmission, translational research and expert opinion.

The lab’s work was highlighted in a recent Coronial inquest. Evidence provided by MRL supervising pathologist Associate Professor Vitali Sintchenko showed it was unlikely that a man infected with TB had passed his infection to others.

SEALS pathologist takes on Society role

Having joined the Human Genetics Society of Australasia in 1989, Dr Michael Buckley will now serve two years each as Vice President, President and Past President of the organisation.

The Society contributes to major human genetics debates as well as national and international initiatives.

It advocates for the safe, ethical and effective use of genetic information in healthcare. Training genetic laboratory scientists and counsellors is another one of its major priorities.

Dr Buckley’s sought-after experience in medical genomics was forged with a Marie Curie Fellowship, his work in our SEALS network and his work with the Kinghorn Centre for Clinical Genomics.
All eyes are on Sydney South West Pathology Service and the team at the Department of Microbiology, Liverpool, which has invested $1.5 million on the first fully automated bacteriology system in NSW.

Staff are familiarising themselves with the new modular robotic technology (a Becton Dickinson Kiestra system) which went live in June.

Managers are busy adjusting workflows and other processes to maximise the system’s time-saving potential.

The system automates specimen processing and plate incubation and provides new digital imaging of bacterial cultures.

Automated incubation and image collection provide the capacity to improve turn-around times for many specimen and organism groups.

Laboratory Manager Stephen Neville said staff liked the images and the fact that they no longer have to manually move thousands of plates from the incubator to the bench for examination.

Mr Neville said automation transforms a fundamental area of microbiology which has changed little over the past century – the time-intensive manual examination of bacterial cultures.

“In the past, up to 10 staff a day might have been tied up with tedious manual procedures such as specimen preparation and culture review,” Mr Neville explained.

“The automation means roughly six staff will be required across a 17-hour day.

“This frees up other team members to focus on other essential work,” he said.

The first component of Liverpool’s modular Work Cell Automation system (the InoquA) was installed in 2014 – an Australian first at that time. An incubator and digital imaging units were added in May 2015.

Anecdotal evidence from the initial installation shows improved time to results and earlier identification of antibiotic resistant bacteria. Generally, more specimens are being processed within improved target times.

The first full analysis of the system is now underway. The team is hopeful that efficiencies, such as reduced time to detect growth of antibiotic resistant bacteria like MRSA, will quickly be achieved.

Our Pathology West network plans to introduce a Kestra automated bacteriology system at its Westmead facility later this year.
Website shows off our services and staff

NSW Health Pathology’s new website has been launched!

www.pathology.health.nsw.gov.au is only days old but is already getting a warm welcome from staff, customers and key partners.

This is just phase one of our website and more content, features and functionality will be added over time.

The main aim now is to boost awareness about who we are, what we do and to showcase the value we bring to our health and justice systems.

The website profiles each of our networks, provides key contacts and showcases our success stories.

Pathology test directories are available along with a location finder that lists every NSW Health Pathology site, contact details and opening hours.

Another key feature is our showreel – a short video that demonstrates how we’re working to create better health and justice systems. It was made with the help of dozens of staff from our labs and collection services.

Our website also provides useful information for people who want to work for us or partner with us on key strategic priorities.

Visitors can also check out news stories and updates on major projects.

Over time the site will feature more stories about key projects and staff accomplishments.

In the meantime, visitors can subscribe to our new monthly e-newsletter and start following us on Twitter.
Milking male spiders for all they’re worth

Next time you reach for a thong to whack a creepy crawly, take a moment.
The Australian Reptile Park needs more funnel web spiders and our pathology labs based at Westmead, Gosford, Wyong and John Hunter hospitals are key drop-off points.

“Our aim is to milk 3,000 funnel web spiders a year on behalf of CSL Bio, which creates the anti-venom for hospital vaccines,” said Ranger Mick.

“People deliver the spiders to the labs, which hold them in spider safety kits before we collect them for our anti-venom program which saves over 300 lives per year.”

Ranger Mick advises that adults should use a plastic ruler to guide a spider into a glass jar with air holes in the lid.

Pathology North’s Acting Quality and Work Health and Safety Manager Jacquie Moore said about 400 spiders are dropped off at the Newcastle-based laboratory every year.

“The park provided storage equipment and several staff were trained in spider acceptance. This comes in handy, especially when dealing with anxious security staff who may not be confident handing the drop-offs,” Jacquie said.

See Spider First Aid and Drop off Zones at www.australianreptilepark.com.au

Comment on Compass
Have a story you want to share? Contributions are welcome but may be edited for length and publication style.
To submit a suggestion contact:
Editor: Carina Bates
NSW Health Pathology
Phone: (02) 4920-4041
Email: carina.bates@health.nsw.gov.au