PHOTO: This is a multicellular liver organoid which is a ‘miniature’ liver generated outside the body in the laboratory. This liver organoid retains many of the complex features of the whole liver from which it is derived enabling researchers to study disease development and response to treatment without exposing patients to unnecessary or toxic therapies. This image was generated by UNSW PhD scholar Scott Collins in the laboratory headed by Professor Shackel.
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Message from the SWSLHD Board Chairman and Chief Executive

Mr Sam Haddad, SWSLHD Board Chair
Ms Amanda Larkin, SWSLHD Chief Executive

The South Western Sydney Local Health District (SWSLHD) Board and Executive are extremely proud to recognise the achievements of our researchers over the past 12 months.

Research promotes inquiry and importantly, attracts clinicians who are more willing to implement these findings into best clinical practice. Our involvement in research is changing the care we give our patients which continues to contribute to better outcomes for people in our community and beyond.

Our Research and Teaching Committee updates the Board on research achievements and innovation. It has also been integral in the implementation and monitoring of the District’s Research Strategy 2019-2023.

Over the next five years, our District has committed to further develop its robust research culture, directly responding to the needs of the local area’s growing and culturally diverse population.

Professor Les Bokey, who was appointed the District’s Director of Research in 2018, will be instrumental in implementing the Research Strategy, and continuing to build on our achievements in order to respond to the rapidly changing research environment. The strategy has five important strategic directions aimed at supporting the District’s vision of Leading Care – Healthier Communities.

The District has demonstrated its commitment to research and innovation through the funding of its prestigious Academic Unit Program. This year, four new groups have received grants to support their research activities.

The new and enhanced Academic Units have made excellent progress in their first year of funding. The program addresses the District’s most important health issues and inspires staff to achieve ground-breaking health outcomes.

The 2019 Health Beyond Research and Innovation Showcase on 5-6 June, not only set an attendance record, it showed the flourishing health and medical research culture in South Western Sydney. We were impressed by our staff’s thirst for discovery which has established South Western Sydney as a hub of world-class health research.

The Liverpool Health and Academic Precinct, currently in schematic design, will create a research hub for South Western Sydney in a unique, collaborative environment for researchers and practitioners.

The Board and Executive would like to thank all staff, research partners, patients, community members, and consumer representatives for their support in developing programs that support research, innovation and better healthcare in South Western Sydney.
Since the restructure in 2018, the Research Directorate now consists of nine very highly motivated and committed team members.

The teams assist researchers in three different areas – Clinical Trials Support, Ethics and Research Governance, and Research Development Support.

With the redevelopment plan for SWSLHD, there are plans to establish and expand research facilities across the District with the new Macarthur Medical Research Centre at Campbelltown, and plans to establish a research centre at Bankstown-Lidcombe Hospital. These plans are thanks to our significant contributors from our university partners, the District, and the Ingham Institute.

All efforts will continue to focus on collaboration with our partners throughout SWSLHD. The 2019 Health Beyond Research and Innovation Showcase was held on the 5-6 June at the William Inglis Hotel in Warwick Farm, in partnership with the Ingham Institute for Applied Medical Research.

The theme was ‘Our Research = Healthier Communities’ with over 1000 attendees joining us on both days. It was a very successful event and we are still receiving such great feedback.

The 2019-2023 Research Strategy was launched at the 2019 Health Beyond Research and Innovation Showcase. It consists of five strategic directions for SWSLHD — vibrant research culture; consumer and community partnerships; agile, responsive systems; evidence, knowledge and translation; and strategic collaborations.

We are now looking forward to the 2020 Health Beyond Research and Innovation Showcase, which will be held on the 3-4 June 2020. The theme is ‘Dedicated to Discovery, Committed to Care’. We have some exciting themes and topics planned for both days. It will be an event not to be missed.

The first round of the enhanced and new Academic Units completed their three years of funding in June 2019. The second round of new and enhanced Academic Units completed their first year of funding in June 2019.

The units have already started collaborating across the District and with other partner organisations, and have received several grants to assist in sustaining their units after the funding is completed in 2023. They are already making a difference within our District.

Message from the SWSLHD Director of Research
Professor Les Bokey
South Western Sydney Local Health District (SWSLHD) has many successful partnerships across non-government organisations, industries and businesses. These partnerships managed by the SWSLHD Clinical Innovation & Business Unit have led to some of our proudest achievements, as well as working to improve health care. Some examples of these partnerships include telehealth research and development with Tunstall Telehealth Solution; clinical robot technology with Device Technology; machine learning and artificial intelligent (AI) opportunities with APPLE, Deloitte Consulting and Pricewaterhouse Cooper (PwC) Consulting; and, business solution initiatives with TATA Consultancy Services.

SWSLHD’s international partnerships include collaborations with Samsung SDS, South Korea in Australia’s first clinical research project on the Samsung mobile application for electrocardiogram and its AI analytics cloud service. This has led to the successful proof for concept and launch of commercial products.

SWSLHD for Asia Pacific Project is a means to strengthen our global presence in the Health Care Industry. It also aims to establish and solidify new partnerships within a global industrial market, with potential investors and business stakeholders based in the Asia Pacific Ring. This has leveraged opportunity and pre-established relationships with Asia-Pacific businesses and other entities.

In 2018, an Intent to Collaboration Agreement was executed between SWSLHD and the Beijing Huatong Guokang Foundation (BHGF) in which over 34 Senior Hospital Presidents/Chief Executive Delegates from 30 provinces in China attended the ‘Healthcare System Academic Exchange Program’ at Liverpool Hospital.

This has subsequently secured a revenue opportunity for the annual Academic Exchange Program and a 12-week Clinical Observership Program for the senior medical, nursing and administrative delegates commencing late 2019, over the next three years.

Finally, further collaboration with Samsung, Liverpool Innovation Precinct partners and PwC will position the precinct as a leader in innovation, looking to integrate smart infrastructure and smart city technology into a master plan. It will also include finding a way to use block-chain technology in the health and education precinct.
BestSTART-SW (System Transformation and Research Translation - South West Sydney) brings together world-class clinicians, researchers, and policymakers, working with families, children and youth to create a Centre of Excellence in child-health translational research in South West Sydney (SWS).

We aim to optimise the health, development and wellbeing of all children residing in SWS including the culturally diverse, refugee and Indigenous child and youth population – ensuring healthy and productive lives for them and future generations.

Our research is informed by the views and needs of children, young people and families living in SWS to ensure that it is locally relevant, nationally significant, and has a global impact.

Research Highlights
Research Flagship Program
BestSTART-SW Flagship Program is a multigenerational research platform that embeds local research activities within clinical services to create a healthier and connected community of children and families. There are four components to this project:

1. Developing a biobank and databank, and connecting data to improve evidence base and health outcomes.
2. Embedding research into clinical care, and adopting a research culture that works for health professionals.
3. Ensuring real-time feedback at the point of care, and data intelligence that has translational impact, linking bench to bedside.
4. Enabling community ownership to ensure children and young people are at the centre of care, wrapping the health system around families to anticipate and address their needs.

Grant Highlights
BestSTART have secured an additional $2,128,399 in grant funding in the 2018-19 period.

Publication Highlights
- American Psychiatric Association TV, ‘Watch Me Grow’ program: South West Sydney at the University of New South Wales & Ingham Institute, https://youtu.be/9fY6AcQKJbk (The ‘Watch Me Grow’ program was showcased at the Ingham Ladies Luncheon, International Women’s Day. It will also be viewed at the APA Annual Meeting in San Francisco, CA).
Over the past 12 months, the unit has recruited a new research coordinator to increase its capacity to be involved in clinical trials and research collaborations.

Sample acquisition for the immune profile of the Inflammatory Bowel Disease (IBD) project has commenced. The unit has also designed and received ethical approval for its first national clinical trial of therapeutic drug monitoring (TDM) in Crohn’s disease.

Progress continues to be made with the units models of care. The national cluster randomised controlled trial investigating the implementation of myAID, an ulcerative colitis patient decision aid, has recruited 95% of its target participant numbers. Crohn’s Colitis Care (CCCare) clinical management software has been implemented in the inflammatory bowel disease (IBD) service at Liverpool Hospital ahead of schedule and already changed clinical practice. In addition, a study into the utilisation of clinician support tools has identified areas for improvement.

A Project Manager has been recruited to the unit in order to increase the capacity to be involved in models of care projects. Collaboration with NSW Health Pathology to develop a Therapeutic Drug Monitoring service at Liverpool Hospital has shown success and will be expanding to include mass spectrometry testing.

GUT and the Microbiome: Role in Health and Disease

Grant Highlights

GUT and the Microbiome have secured an additional $1,180,220 in grant funding in the 2018-19 period.

Publication Highlights

- Connor, S 2018, ‘What can Australian Inflammatory Bowel Disease Association achieve in the next 3 to 5 years?’, Journal of Gastroenterology and Hepatology, vol. 33, no. S3, pp. 35.
Over the past 12 months, the unit has appointed a Unit Coordinator, Research Podiatrist, and Post-doctoral Research Fellow/Scientist. It has also formed an Executive Committee and established Terms of Reference. Meetings will be held quarterly.

Currently, the unit supervises nine students, undertaking research for higher degrees including PhDs (WSU), Masters of Research (WSU & UNSW), Individual Learning Project (UNSW) and Community Research Projects (WSU).

During the year the unit acquired laboratory equipment to increase capacity to perform research in-house. Equipment includes: TissueLyser to extract DNA; MinION DNA sequencing platform; Genome Analysis Software; iMac computer with the capacity to run genome software; as well as a Hyperspectral imaging camera to be used for increasing in-house collaboration between health disciplines.

In addition, Dr Michael Radzieta completed specialist training in Copenhagen to increase the unit’s research capacity for Genomic research, laboratory testing as a fee service to industry, and supervision of students.

The unit has been actively presenting at conferences and contributing to published journal articles. Dr Matthew Malone presented at the following conferences: Diabetic Limb Salvage; New Zealand Wound Care Society; Japan Society of Plastic Surgery for Surgical Wounds; Symposium for Advanced Woundcare, with promising collaborations resulting from these meetings. Dr Varun Sharma, Vascular registrar presented ‘Clean bone margins in foot infection’ at RACS (NSW). Six members have had oral abstracts accepted at Diabetic Foot Australia, 2019, and S. Schwarzer had an abstract accepted for Diabetic Foot Global Conference, Los Angeles 2019. Six articles authored by members of the unit were published, with a further three currently under review.

The unit continues to undertake and plan a number of research studies, including three with the MARCS Institute, one in collaboration with the Garvan Institute & Department of Immunology at Liverpool Hospital, and one with the Gut Microbiome Academic Unit.

Grant Highlights

SW Limb Preservation and Woundcare have secured an additional $152,000 in grant funding in the 2018-19 period.
The overarching objective of WHITU is to create an internationally recognised women's health centre that maximises holistic women's health and well-being.

It will maximise equity, equality, health and empowerment for all women by practices guided by evidence, as well as women's lived experiences in a culturally respectful way. By providing transformative care a multidimensional, individualised model of care that is translatable and relevant to all communities.

WHITU has built strong infrastructure to support research. There are active clinical and research collaborations with the Respiratory, Sleep, Environmental and Occupational Health, Cardiovascular, Early life Determinants as well as the Maternal, Newborn and Women's Clinical Academic Group (CAG). The academic unit has also facilitated collaborations between the District and University of New South Wales, University of Technology Sydney and Western Sydney University. These collaborations have allowed for a unification of academic excellence with clinically relevant questions.

The unit has undertaken eight investigator-led trials as well as three external trials. Current research aims to facilitate earlier risk-stratified access to antenatal clinics to allow for the prevention of several complications in pregnancy. This will be done in a multicultural and patient-centred way using the latest smart-phone technology. Other work is investigating the optimal time for women to deliver their babies, and their journey through the health care system, especially for those women who have high risk pregnancies. The unit is developing a biobank of longitudinally assayed maternal, fetal and paternal samples.

WHITU has facilitated internal audits of current activity to optimise models of care for women with recurrent miscarriage, vaginal birth after caesarean, as well as usage of new angiogenic markers in management of preeclampsia. WHITU is facilitating a patient and community participation committee to inform practice and research. To date over $100,000 in funds have been generated in the form of grants and trials work.

**Publication Highlights**

SWSLHD Research – Ethics and Research Governance

Professor Jeremy Wilson, HREC Chair

The SWSLHD Human Research and Ethics Committee (HREC) is committed to protecting subjects involved in clinical research, ensuring that all studies are carried out in an ethical manner and are of sufficient merit and integrity. It comprises 20 members from a range of disciplines, including researchers, clinicians, lawyers, religious ministers and laypeople from the community.

The HREC is supported by the SWSLHD Research Directorate, which assists researchers in reviewing draft applications before formal submission, arranges the HREC meetings, and conducts Research Governance review.

In 2019, the Research Directorate has worked with the Office for Health and Medical Research to launch REGIS (Research Ethics and Governance Information System), which will be the ‘one-stop shop’ for Ethics and Research Governance requirements in NSW. REGIS is continuously being improved, and has enabled the process to be fully electronic with a birds’-eye view of the status of the applications at all times. The Research Directorate is continuously striving to streamline processes while upholding the requirements as mandated by the National Health and Medical Research Council (NHMRC) National Statement and NSW Health policies.

Due to streamlining processes and increased capacity in the Research Directorate, SWSLHD has been classified in the ‘Highly Performing’ category of Research Offices in NSW. This is despite SWSLHD receiving a large volume of applications compared to other Research Offices in NSW.

I would like to take this opportunity to thank the members of HREC for their dedication and thorough reviews over the past 12 months. Their dedication to human research and patient safety enables high-quality research to be undertaken at SWSLHD. I would also like to thank the Research Directorate for supporting the HREC, and supporting SWSLHD researchers. New members are invited to join the HREC, and researchers are invited to observe HREC meetings to learn more about our role in reviewing and supporting the governance of research projects in SWSLHD.

Number of submitted Ethics and Research Governance applications
Clinical Trials

The Clinical Trials Support Unit (CTSU) currently comprises a Clinical Trials Director, Clinical Trials Manager and Research Finance Officer. Following on from the extensive work completed and approved by SWSLHD Board of Directors in late 2018, key focus areas were identified. These focus areas also align with the SWSLHD Research strategy (2023) and are highlighted below.

In view of these focus areas, the CTSU has been working on the overall enhancement of clinical trial activity across SWSLHD. Firstly, the establishment of four new clinical trials units in specialty areas such as paediatrics, and women’s health, along with the expansion of current units such as the neurovascular and rheumatology clinical trial unit, highlights the growth of clinical trials and research activity in the region.

This growth has also prompted the expansion of clinical trial supporting units such as pharmacy and radiology; a fundamental resource allowing SWSLHD to continuously embed research into every day practice.

**Growth of Clinical Trials Units across SWSLHD**

Significant emphasis on the availability of clinical trial competency training such as Good Clinical Practice (GCP) and engaging orientation programs for new clinical trial coordinators has led to the improvement of overall trial management and compliance across SWSLHD. This support has led to improved clinical trial delivery, regulatory compliance and the increase in investigator-led trials. Positive steps are also being made towards assisting researchers in data capture and retention through secure digital platforms.

Further infrastructure improvements and support provided by the Clinical Trial Finance Officer has ensured efficient revenue recovery as well as expert advice on budgets and finance processes. These fundamentals will be enhanced with the proposed recruitment of the Clinical Trials Business Manager and a full-time Clinical Trials Director. This enhancement aims to further expand the clinical trial activity within SWSLHD, through the development of key partnerships with industry and academia.

These activities will further develop over time, enhancing the research footprint for the south west. Significant impacts on research development can be made through engaging with consumers helping to identify research priorities and facilitate the adoption of evidence-based practice.
Research Awards & Scholarships

**SWSLHD Early Career Researchers Program 2018-2019**

- **Dr Claudia Dobler**, ‘To improve patient-centred care for patients with COPD by using agenda setting for clinical consultations and a decision aid during clinical encounters’, $7,500.
- **Dr Jane Kohlhoff**, ‘Investigating links between oxytocin function in mothers, maternal sensitivity, maternal and infant attachment patterns, and mental health outcomes in early childhood’, $7,500.
- **Dr Amelia Walter**, ‘Children with ASD who have received early intervention using the ESDM will show superior transition to school outcomes relative to those who have received ‘treatment as usual’ in the community’, $7,500.
- **Dr Amy Walker**, ‘Ensuring geometric accuracy of MRI in radiotherapy and the Australian MRI-linac’, $15,000.
- **Dr Karen Wong**, ‘Evidence-based estimation of optimal number of radiotherapy factions and cost-effectiveness of radiotherapy’, $15,000.
- **Dr Michael Jameson**, ‘Implementation of MRI based Adaptive Radiotherapy utilising the TRAC tool’, $15,000.
- **Dr Matthew Malone**, ‘Massively Parallel DNA Sequencing and Transcriptomics to better define Diabetic Foot Infections (MaPS-To-DFI)’, $15,000.
- **Dr Shrikant Deshpande**, ‘Development of framework and QA tool for clinical implementation of Adaptive Radiotherapy’, $15,000.

**SWSLHD Mid-Career Support Program 2018-2019**

- **Dr Patsy Soon**, ‘Closing the information gap for culturally and linguistically diverse women with breast cancer: Phase II trial of a decision aid about breast reconstruction after mastectomy’, $30,000.
- **Dr Hima Vedam**, ‘Reducing avoidable complications and deaths among obese patients hospitalised with medical illnesses and undergoing surgery by improving the detection and management of obstructive sleep apnoea’, $60,000.
- **Dr Silvia Ling**, ‘Improving survival of cancer by targeting protein degradation pathways’, $60,000.

**Allied Health**

- **Sarah Dennis** - Ingham Institute and SWSLHD, 2018 Excellence in Teaching Award.
- **Matthew Jennings** - University of Sydney, Alumni Award for Professional Achievement.

**Complex Care and Internal Medicine**

- **Claudia Dobler** - Grading of Recommendations Assessment, Development and Evaluation network scholarship to attend the GRADE workshop in Cleveland, for best guideline innovation.
- **Professor Connie Katelaris** - Member (AM) in the General Division of the Order of Australia, for significant service to medicine in the field of immunology and allergy.

**Cancer**

- **Meera Agar** - University of Technology Sydney, Dean’s Academic Excellence Award.
- **Minoti Apte** - Gastroenterological Society of Australia, Distinguished Research Prize.
Research Awards & Scholarships

**Cancer**


**Girgis A and Delaney GP** – ‘PROMPT-Care: eHealth supporting patient-centred care.’ SWSLHD Board Award - Award selected from all award applicants across all categories, Sydney, Australia 2018.


**Afaf Girgis** - Australia Day Honours List, Member (AM) of the Order of Australia for Significant service to medicine and to medical education in the field of cancer control and psycho-oncology.


**Noonan K** - Doctor of Philosophy ‘Renegade Stories: A study of death workers using social approaches to dying, death and loss in Australia.’ 2018 Deans Doctor Award for PhD, Western Sydney University, Sydney, Australia.

**Pham T** - Best scientific paper that shows advances in the use of technology in radiation therapy. Elekta Award 2018 - Best Scientific Paper, RANZCR, Canberra, Australia 2018.


**Deshan Sebaratnam** - 24th World Congress of Dermatology, Rising Star Award 2019.


**Brendan Whelan and Paul Keall** – American Association of Physicians in Medicine, Best in Physics.


**Mei Ling Yap** - University of Toronto, Alumni Inaugural Award.
Research Awards & Scholarships

Gastroenterology, Gastrointestinal Surgery, Liver, Head and Neck & Urology

- Abstract awarded the T.S. Reeve Award for Best Basic Science Research Paper at the Royal Australasian College of Surgeons (RACS) Annual Scientific Congress, Bangkok, Thailand.
- Winner in the Video Category at the Western Sydney University Higher Degree Research Showcase, valued at $1,000.

Mental Health

- 2019 Western Sydney University Learning and Teaching Award for Excellence in Teaching (Lead by Prof Schmied) for Inter-disciplinary Teaching.

Oral Health

- COHORT - NSW Health Awards, Excellence in Provision of Care and Service to Aboriginal children.
- Ajesh George – Best Community & Population Health Paper Award, Ingham Institute for Applied Medical Research.
- Tiffany Patterson – Best image poster at the 2018 WSU Higher Degree Research Showcase.
- Amy Villarosa – 2019 NHMRC PhD Scholarship.

Population Health

- Professor Bin Jalaludin - University of New South Wales, Conjoint of the Year Award.

Women’s Health

- Dr Quang Phu Ho - Member (AM) in the General Division of the Order of Australia, for service to medicine in the field of obstetrics and gynaecology.
A record crowd attended the Health Beyond Research and Innovation Showcase on 5-6 June 2019, which featured fascinating keynote speakers including history-making Olympian Jana Pittman and ground-breaking research presentations.

The event highlighted the motivation, enthusiasm and commitment from clinicians, researchers and staff in finding new ways to provide care. Held at The William Inglis – MGallery by Sofitel, Warwick Farm, the two-day event put a spotlight on South Western Sydney as a centre of innovation, collaboration and medical advancement.

Proudly presented by the SWSLHD and the Ingham Institute for Applied Medical Research, the premier event highlighted how research and innovation projects will transform health care.

The keynote speakers captivated the audience, from National Mental Health Commission Chair Lucy Brogden, who was struck by the growth in Sydney’s South West, to University of Sydney Professor Iain McGregor, who outlined the six clinical trials underway using medicinal cannabis and plans for many more. Professor Meera Agar from the University of Technology, Sydney also spoke about cannabinoid clinical trials in palliative care. Professor Paul Glare from the University of Sydney gave a presentation on psychological dimensions of pain in cancer survivors.
On day two, Centre for Health Equity Training Research and Evaluation Director, Professor Evelyne de Leeuw explored the idea of creating a healthy airport by way of bees, used to measure air pollution.

The practical research by local high school students on diverse topics ranging from testing the strength of paper towels to evaluating the effectiveness of a family’s cold remedy.

Olympian and final year medical student at Western Sydney University, Jana Pittman helped the entire auditorium ‘feel’ her win gold in the 400m hurdles at the world championships by talking them through race day. She spoke about resilience and that it's “Ok not to be Ok”.

Highlights included NSW Health Secretary Elizabeth Koff launching the District’s Research Strategy to 2023. Professor Bokey, SWSLHD Research Director said by using ‘inquiring minds’, staff were helping discover the best health care.
Ingham Institute for Applied Medical Research

The Ingham Institute for Applied Medical Research is a world-class medical research centre for South Western Sydney that works in deep partnerships with SWSLHD, UNSW Sydney, Western Sydney University, and the local community.

The Institute’s 365 dedicated doctors, nurses and scientists are focused on exploring new medical approaches across multiple disciplines and have a translation focus. The Institute also currently coordinates up to 300 clinical trials across South Western Sydney.

Based in Liverpool, the Institute’s research involves many breakthrough technological platforms and research capabilities including:

- **Australia’s first Correlative Microscopy** facility uses an advanced 3D scanning electron microscope and a super-resolution laser scanning microscope to visualise and understand human disease.
- This technology enables researchers to zoom down from a tissue sample to a subcellular structure, pinpointing cancer protein position and interaction, in a human cell.
- The **NSW Brain Clot Bank** has been created and funded for the next four years. This is a world-first collaborative initiative that will establish an important resource for fast-tracking stroke research.
- **BestSTART SW** integrates the voice of young people into their research. Their translational research includes Healthy Beginnings. This program is focused on early interventions, as well as the monitoring and assessment of the health of young children in the early years of their life.
- The **Australian MRI-Linac** is a unique technology project that redefines radiation treatment for cancer. This next-generation cancer therapy modality combines real-time magnetic resonance imaging with a linear accelerator that will allow doctors to ‘see while they treat’ to directly target cancer tumours in the body.
- In addition, research proposals are being explored for the MR-guided interventional procedures.
- **The CONCERT Biobank** collects cancer tissue and blood samples to research the genetic, lifestyle and environmental factors linked to cancer.
- NSW’s first **Circulating Tumour Cell** research centre has specialised cancer scanning technology that measures single cancer cells in the small blood sample of a cancer patient to identify why some cancer cells spread and also provide doctors with an early warning system that allows them to start immediate treatment to stop the further growth and spread of the cancer.
- **CONCERT Biobank** collects cancer tissue and blood samples to research the genetic, lifestyle and environmental factors linked to cancer.
- In addition to the many research projects, the Ingham Institute is supporting medical staff and health professionals whose projects and innovative solutions require commercialisation.

Further details on the Ingham Institute can be found online at inghaminstitute.org.au.
South West Sydney Research (SWSR) operates as a broad collaboration between health, research and education entities in South Western Sydney that work together to improve individual and community health and wellness.

SWSR supports their members and stakeholders across the region by leading and strengthening multidisciplinary collaboration (with a particular focus on connecting large and smaller organisations for mutual benefit). It encourages a culture of research in health organisations and health practice, by communicating the value and impact of research with frontline clinicians and diverse communities.

SWSR is committed to building local research capacity and partnerships through the provision of targeted research funding and awards, promotion of career development opportunities (including mentoring), and easy access to health and medical research resources and information.

During 2018-19, the annual competitive SWSR Small Grant Scheme funded three novel grants (worth a total of $60,000).

These grants addressed the prescribed priority areas of improving community engagement in research and address local community needs OR increasing translation/implementation of research outcomes into policy/practice.

These grants proposed to:

i. Scope the prevalence and needs of people with disability from Syrian and Iraqi refugee backgrounds, and their knowledge and/or acceptance of supports and services in South Western Sydney (Mr Mariano Coello, STARTTS);

ii. Refine the development and validation of digital patient training manuals to improve peritoneal dialysis outcomes (Professor Josephine Chow, SWSLHD); and

iii. Train physiotherapists in SWSLHD to use high-quality clinical research to inform practice (Mr David Wong, SWSLHD).

In recognition of their outstanding program of collaborative research, Professor David Simmons and the Diabetes, Obesity and Metabolism Translational Research Unit (DOMTRU) team were awarded the SWSR Collaborative Achievement Award 2018.

For the second year, SWSR participated in the 2019 Franklin Women Mentoring Program by supporting two mentor-mentee pairs.

For more information about SWSR or to subscribe to the weekly e-newsletter, please visit their website or email info@southwestsydneyresearch.org.au.
UNSW Sydney continues to build academic engagement in South Western Sydney, through its partnerships with the South Western Sydney Clinical School, Ingham Institute for Applied Medical Research, The Sydney Partnership for Health, Education, Research and Enterprise (SPHERE) and research groups within SWSLHD.

More than 30 UNSW Sydney academics are based in South Western Sydney and 635 SWSLHD staff hold conjoint appointments with the university. In 2018, there were more than 534 articles published. The number of postgraduate students enrolled at the South Western Sydney Clinical School has continued to grow with 62 PhD and Masters by Research students enrolled at the South Western Sydney Clinical School.

In addition, 21 medical students undertook Independent Learning Projects in South Western Sydney and eight new scholarships were created to attract high calibre students to undertake their projects in the School.

The University continued to make a significant investment in research during the last 12 months. This has included contributing more than $1m to new equipment, research support staff, and database support at the Ingham Institute. In 2018, a total of $7.6m in grant funding was awarded to projects managed at South Western Sydney Clinical School. A number of UNSW Sydney academic staff were acknowledged for their efforts in the past 12 months. Visiting Professor Andrew Biankin was recognised as an Officer (OA) in the Order of Australia, Professor Afaf Girgis was named a Member (AM) of the Order of Australia, while Dr Amhed Alrubaie and Dr Quang Ho were recognised with Medals (OAM) in the Order of Australia. Professor Guy Marks was named a Scientia Professor, while Conjoint Associate Professor Murray Killingsworth received the Lady Mary Fairfax Distinguished Researcher Award.

UNSW Sydney is proud to be involved in a number of SWSLHD Academic Units and looks forward to working closely with the District to expand the research efforts of the South West.
The School of Medicine at Western Sydney University (WSU) at Liverpool Hospital works closely with all hospitals in SWSLHD and have been involved in several research projects across several disciplines. In the past 12 months, academic staff received a total of $6,325,461 in grants, published 70 articles in peer-reviewed journals, two book chapters and supervised 15 PhD students and one Masters of Research.

Anatomical pathology researchers in collaboration with research staff from the Discipline of Pathology, Western Sydney University and The Ingham Institute, continued to make progress on biomarker studies in the areas of colorectal, breast, prostate and head and neck cancers. Two students have completed their PhDs in Pathology. International research collaborations include University of Toronto, Duke University Graduate Medical School in Singapore, and University of Glasgow.

The Colorectal Unit at Liverpool Hospital conducted several research projects, including Transitional Research for Colorectal Cancer and circulating tumour cell project. The unit has published the results of an anatomically based surgical technique for resection of colon cancer and has demonstrated a significant improvement in long term survival. This technique is now acknowledged standard worldwide. The Colorectal Unit has developed Innovations in Technology, Robotics and Automation in Health in collaboration with SWSLHD, Ingham and The MARCS Institute. The unit has collaborated with the MARCS institute, to develop the Hand Surgical Glove. The Robotic Surgical and training program at Liverpool hospital was initiated with 227 patients operated to date for prostate, head and neck, and gynaecological malignancies.

The Microbiology and Infectious Diseases Unit has been involved in several projects including BDM-I development as a therapeutic, harnessing genomics to monitor Campylobacter outbreaks in the food-industry, the microbiome and role of biofilms in hidradenitis suppurativa, as well as the South West Sydney Limb Preservation and Wound research.

Medical Oncology Unit completed the world-first Phase 0 study, PLA001, in the newly-established early-phase clinical trials centre at Liverpool Hospital. The unit is currently developing a clinical and translational informatics platform (CTIS-Labmatrix) to better manage patient clinical data for research in a secure environment, with real-time data linkage with hospital eMR across both SWSLHD and ISLHD networks.

The Cancer and Inflammation Group has published results from a prospective clinical trial. This trial describes the utility of circulating tumour DNA as a method for monitoring lung cancer patients’ responses to treatment and next generation sequencing as a way of detecting drug resistance in circulating tumour DNA. They have further described a pair of mutations that when combined, cause increased DNA damage accumulation and resulting inflammation driving increased rates of blood cancer development. Additionally, they have demonstrated that the levels of a key immune regulatory protein in blood can predict the rate of disease progression in thyroid cancer patients.

The Obstetrics and Gynaecology Unit have continued focussing on improving the evaluation of pelvic floor dysfunction and also the understanding of the pathophysiology, prevention and treatment of pelvic floor dysfunction.
Sydney Partnership for Health Education Research and Enterprise - SPHERE

With strategy now set, and entering into its third year of operations, the scale and scope of activities within Maridulu Budyari Gumal (the Sydney Partnership for Health Education Research and Enterprise - SPHERE) is now substantial, and the Partnership continues to mature and strengthen.

Achievements by the clinical academic groups are growing and can be found in the News section of our website (www.thesphere.com.au). The Partnership works in an incremental fashion to set in place activities to enable and support programs and platforms that provide further healthcare improvements to partners and communities. Importantly, the SPHERE workforce platform, clinical trials platform, implementation science, and knowledge translation platforms are all delivering initiatives that would not have occurred without partnership governance and investment. The data-driven healthcare improvement and the innovation platforms are still in development.

SPHERE has now moved into a ‘tri-program’ structure with program managers leading our three key portfolio areas — clinical academic groups, enabling and support programs and platforms, and national network activities.

SPHERE is very pleased to welcome both Ms Celia Loneragan to the position of Program Manager, Clinical Academic Groups and Ms Ainslie Cahill as Leader in Community and Consumer Engagement and Involvement.

Ainslie will officially commence in July. Ainslie was recently the Chief Executive for Arthritis Australia and is a highly connected and influential individual in the national field of health consumer advocacy.

SPHERE’s Innovation Platform is now defining a niche where the Partnership can ‘add value’ to both healthcare and academic partners by identifying unmet clinical need and partnering with both academic and industry partners to address this need. A series of meetings are now in progress to define the precise details of this program that is aiming to adapt the Manchester innovation model (MIMIT) to the Sydney innovation ecosystem.

An additional specific initiative within the Innovation Platform is the translation into practice in of a proven effective model for prehospital acute stroke care. Mobile stroke units (MSU) - an ambulance vehicle equipped with a portable CT brain scanner and capable of administering acute stroke therapy in the field - are currently being deployed globally in metropolitan areas to provide acute stroke assessment and treatment of within the so-called ‘golden hour’ (the first hour after onset of an acute stroke).

Although the concept has been proven effective, one of the shortcomings of the existing MSUs is that the on-board CT scanning instruments are not ideal for identifying major large vessel occlusion and the viability status of the brain tissue. New generations of scanners are in development and, SPHERE, in partnership with the multinational imaging company, Siemens will be pioneering next generation mobile CT scanning instruments aiming for deployment in 2020.

A national consortium of clinical academics is looking to establish these new model MSUs across all capital cities in Australia. SPHERE is leading this initiative in NSW and part of this national consortium — the Australian Stroke Alliance. SPHERE also led the development of the nation’s first National Framework for Health Systems Improvement and Sustainability.

It has also played an important role in the development of a number of other national systems level initiatives as part of the Alliance of the nine NHMRC accredited translation centres (Australian Health Research Alliance – AHRA). These internal and external achievements have been recognised by the Commonwealth government via the allocation of $2 million per annum (2018-2020) from the Medical Research Futures Fund to the ongoing program and platform activities across Maridulu Budyari Gumal.
The Bankstown-Lidcombe Hospital Research Committee is co-chaired by Professor Shan Rajendra and Dr Manoj Saxena. A Research Forum held in Bankstown-Lidcombe Hospital in May 2019 providing the basis for developing the Terms of Reference for the Research Committee.

It serves to provide guidance to the Hospital Executive regarding a research vision, implementing and driving research across the hospital with measurable outcomes within set timeframes.

It is also actively developing a strategic plan for research within the facility and to utilise this as the basis for setting research goals within the Hospital and across the Network.

The Research Committee advises Bankstown-Lidcombe Hospital on developing policies in relation to research with particular reference for the new hospital build. It also identifies opportunities for cooperation and collaboration within the facility and across SWSLHD.

For more information, please contact the Bankstown-Lidcombe Hospital General Manager’s Unit on 02 9722 8225.
RESEARCH COMMITTEES

Bowral & District Hospital

The Bowral Innovation, Research & Redesign Committee is chaired by Mr Ken Barnett. The Committee supports the process of developing ideas that drives all elements of patient care and is fundamental to sustainability over the long term.

The Research Committee also advises on strategies to promote and support research at Bowral & District Hospital including implementing the District Research Strategic Plan. One highlight that the Bowral Research Committee would like to report on is the successful launch of the Early Detection Lymphoedema Service. In March 2019 a pilot project was launched over a two year period to provide lymphedema services (8 hours per week) to all clients who are undergoing treatment for breast cancer living in the Wingecarribee Health District. The commencement of the project was possible due to a generous donation by the Murray family in memory of Dr Robert John Murray to purchase a SOZO Body Fluid Analyser.

This is a machine that uses Bioimpedence spectroscopy (BIS) to accurately detect changes in fluid balance above the normal range for clients with, or at risk of developing lymphedema following mastectomy or surgery that involves radical excision of lymph nodes.

Camden and Campbelltown Hospitals

The Camden and Campbelltown Hospitals Research Committee advises the General Manager, Clinical Council and SWLHD Research and Teaching Committee on strategies to promote and support research at both hospitals. It is also responsible for developing and implementing the SWLHD Research Strategic Plan, which provides a foundation for research excellence.

During 2018-19, the Committee has focused on developing a research program that will help deliver quality care for patients through new models of care, access to new drugs, treatments, and management approaches; improved decision making; staff recruitment and retentions; and greater opportunities for engagement with our community and universities. The Committee developed the Camden and Campbelltown Operational Research Plan to build on staff engagement in research and capacity building and infrastructure, to support research and researchers.

The Committee has successfully incorporated research awareness into staff orientation and assisted with streamlining the quality improvement ethics approval process. The Committee hopes to embed research and teaching into clinical practice, engage cross-disciplinary teams and use clinical trials to build expertise and investigator led research. Research at Campbelltown and Camden Hospitals has been strengthened from one of the first academic units, the Diabetes Obesity and Metabolism Translational Research Unit (DOMTRU). Besides its own research, DOMTRU staff have helped both the local diabetes services and other local researchers with their work. Campbelltown and Camden Hospitals now have active research underway by two new academic units: the Women’s Health and Children’s Academic Units.
RESEARCH COMMITTEES

Fairfield Hospital

The Fairfield Hospital Research and Innovation Committee aims to support and promote research and innovation by Fairfield Hospital’s medical, nursing and allied health staff.

Fairfield Hospital’s goal is to increase the research expertise of its staff enabling them to provide the best possible care for their patients. Their patient orientated research goals are in collaboration with their local culturally and linguistically diverse community. To foster and encourage research within Fairfield Hospital the Committee publishes a bi-monthly ‘Research Connections’ newsletter showcasing the talent and diverse work of their staff in the ‘Congratulations’ section of the newsletter.

During 2018-2019 the research output at Fairfield has increased with achievement of ‘Best Presentations’ at 2019 Health Beyond Research & Innovation Forum for our staff in the Allied Health, Injury & Rehabilitation & Community, Child & Family Health concurrent sessions.

Committee members meet bimonthly, with meetings chaired by Dr Doan, Director of Medical Services.

For more information, please contact the Fairfield Hospital General Manager’s Unit on 02 9616 8102.

Liverpool Hospital

The Liverpool Hospital Research Committee is responsible for advising the Hospital Executive and Clinical Council on strategies to promote and support research at Liverpool Hospital.

This includes responsibility for overseeing the implementation of the SWSLHD Research Strategic Plan and addressing the research and governance components of the EQuIP National Safety and Quality Health Service Standards.

During the last year the Committee has had a major focus on developing strategies to increase the number of culturally and linguistically diverse participants in research projects being conducted across south western Sydney.

This has culminated in the development of seeding grant program. Other priorities have been to promote access to research resources including statistical software, database support and hot desks to provide local researchers with the tools they need to conduct research; and encouraging research projects led by nursing and allied health staff.

For more information, please contact the Liverpool Hospital General Manager’s Unit on 02 8738 6301.
Aboriginal Health

SWSLHD Aboriginal Health works in partnership with Aboriginal organisations and communities to meet the healthcare needs of Aboriginal people in a way that is holistic, culturally appropriate and sensitive.

In 2018-19, Aboriginal Health conducted research in a number of areas, including oral health, transfer of care, early childhood development, sexual health (focusing on the cultural and personal strengths of young Aboriginal people) and mental health. Evaluation of the impact of the Aboriginal Transfer of Care Program has taken place.

The Strengths Based Research Program will describe positive actions Aboriginal young people take to reduce their sexual risk and build sexual well-being, and identify the social, cultural and personal strengths and resources that they draw on.

The project will look at the available resources and programs, which are most effective and then aim to advance practitioner knowledge.

The Two to School program which supports Aboriginal families with children aged between two and five, was evaluated to determine specific developmental outcomes for families engaged in the program as well as the value for families engaging in a culturally responsive program.

A research partnership between SWSLHD and the Oral Health Research Centre with WSU was struck to develop a validated training package for Aboriginal health workers regarding oral health promotion for pregnant mothers.

The project will also support the creation of a range of training resources and the development of an oral health pathway for pregnant Aboriginal women.

SEARCH (Study of Environment on Aboriginal Resilience and Child Health) has been working in partnership with Tharawal and SWSLHD to learn more about how the local mental health service system is currently working for Aboriginal children and young people. The project will engage with service providers and consumers to map access and track patient experiences to support service redesign.
Research areas include robotics, assistive technologies, neurodegenerative diseases, molecular biology, aged care, and telehealth.

One research study into Parkinson’s disease (PD) may provide pathophysical information on the disease.

The study comparing α-synuclein and β-amyloid levels in plasma from Parkinson’s disease (PD) patients with those from non-PD patients might help to identify the potential blood-based biomarkers for the diagnosis of this disease.

A controlled trial looking at care among frail older patients, aims to demonstrate better readmission outcome of frail patients who receive residential Transition Aged Care Program (r-TACP) when compared to frail patients who cannot, after acute illnesses.

It will also evaluate the economic cost of improving frailty in those successfully returning home from r-TACP, and to collect and compare other outcomes of frail patients in length of stay, functional improvement, nursing home placement rate and mortality in the two arms.

Research into vascular dementia (VaD) aims to analyse the combined effects of certain genotypes of tight junction proteins and environmental risk factors on the development of VaD. The research outcomes may identify an association between certain genetic factors and vascular dementia, and may also improve the understanding of a synergistic role of gene-environment interaction on the development of VaD.

Two papers achieved ‘firsts’ in the last 12 months.

‘Key issues to consider and innovative ideas on fall prevention in the Geriatric Department of a teaching hospital’ is the first to describe an innovative idea of using digital video clips to help communicate safety message across to cognitively impaired patients in acute hospital setting.

The paper, ‘Experience of establishing an acute geriatric outreach service versus subacute service to nursing homes’ is the first study that compared the impact on hospital emergency department of two models of outreach services to nursing homes in Australia (acute versus subacute, including frail patients).
**Publication Highlights**


**Grant Highlights**

Aged Care and Rehabilitation have secured $3,822,312 in grant funding in the 2018-19 period.
Allied Health comprises counselling, dietetics, diversional therapy, exercise physiology, genetic counselling, occupational therapy, orthoptics, physiotherapy, podiatry, psychology, sexual assault, social work, speech pathology, and welfare.

The depth, breadth and quality of research of allied health clinicians and researchers in SWSLHD has continued to increase in 2018. This year, six allied health clinicians completed their PhD and graduated. Most of these clinicians remain in SWSLHD and are now mentoring other clinicians who are starting to embark on their research journey.

The publications highlight several themes of our research for the last year. Our research aims to understand how to improve outcomes for people from birth to death. This year there has been substantial research published in the area of rehabilitation.

These include a better understanding of the outcomes for people who have had joint replacement surgery (nine publications) and a strong focus on improving outcomes for people undergoing rehabilitation following brain injury, spinal injury or stroke.

Grant Highlights

Allied Health has secured $1,688,645 in grant funding in the 2018-19 period.

Publication Highlights

Cancer Services provide a very broad range of research across the spectrum from laboratory to direct clinical care.

Cancer Services currently has over 200 clinical trials open to patients, been successful in $23,303,081 in grant funding and published 128 peer-reviewed publications, some in major international journals. The translational training program for the next generation of clinicians and researchers has steadily grown to 50 post-graduate students including 17 clinician-PhDs.

The Collaboration for Cancer Outcomes Research and Evaluation (CCORE) continues to collaborate with ESTRO (European SocieTy for Radiotherapy), UICC (Union for International Cancer Control) and others on the Global Impact of Radiotherapy in Oncology (GIRO) initiative to increase access to cancer treatment in low- and middle-income countries with the aim of saving one million lives annually by 2035.

At Liverpool work continues towards the first treatment with human imaging with the Australian MRI-Linac system. This system is one of only four in the world that are currently being developed.

PROMPT-Care, the first Australian fully integrated eHealth platform utilising patient reported outcomes to inform real-time clinical care and self-management of cancer survivors, has been implemented in four cancer centres, with plans for larger District rollout across all public cancer centres in NSW.

Research has identified language as a significant barrier to clinical trial participation by CALD patients in our District and beyond.

Significant funding of $2 million from Australian Cancer Research Foundation (ACRF) — with additional $1.94M leveraged support funds— was secured to build a research facility in Liverpool to support future cancer survivorship and wellness research by the Oncology Alliance for the Science of Integrated Survivorship (OASIS) Centre. The ACRF OASIS Centre will work in partnership with universities and research institutes to improve the care of cancer survivors.

Under the leadership of A/Prof Murray Killingsworth the Microscopy Research Facility at Ingham Institute will continue to develop ongoing studies relating to clinical imaging, colorectal cancer, and drug resistance in myeloma.

A total of 20,000 specimens from 1,572 donors were collected and 31 cancer projects supported, through the CONCERT Biobank.
Publication Highlights


Grant Highlights

Cancer Services have secured $20,227,674 in grant funding in the 2018-19 period.
The Cardiovascular clinical stream at SWSLHD comprises a broad range of clinical services including cardiology, cardiothoracic surgery, renal medicine and vascular surgery.

In 2018-19, cardiovascular researchers conducted research in the areas of cardiology, renal and cardiothoracic surgery.

Winning the 2018 Associate Dean’s Award, Southwest Sydney Clinical School, Faculty of Medicine, University of New South Wales, was a highlight.

The Cardiac and Vascular Health Clinical Academic Group continues to collaborate with Sydney Partnership for Health, Education, Research and Enterprise (SPHERE) and has now completed supervising three PhD students.

**Publication Highlights**


The Community Paediatrics research and policy agenda celebrates the axiom ‘think globally, act locally’ with a diverse range of locally relevant applied research projects, with international applicability.

In 2018-19, Community Paediatrics achieved 12 publications in peer-reviewed journals and a total of 25 international and national conference presentations.

During the past 12 months, a number of research studies have been conducted in the areas of disability in refugee and diverse populations; providing care and optimising health and wellbeing in refugee populations; building resilience and identifying risk factors influencing wellbeing; how to better identify children at risk of neglect or abuse; and improving pathways between housing, health and social services in the Aboriginal population.

Researchers conducted a study to describe the prevalence and burden of child disability in SWS using the best available data sources, in order to help with planning and service development. Findings were presented at the Health Beyond Research Showcase 2019 and are now being written up for publication. Results of a systematic review of latent tuberculosis screening in under two year-olds were also presented at the Health Beyond Research Showcase 2019, and are being written up for publication.

Results of a study into barriers and facilitators to accessing NDIS for children with developmental disabilities will provide timely and relevant information about the accessibility of the new disability funding and therapy model in SWS. This project was presented at the Health Beyond Research Showcase 2019.

Researchers conducted a study aiming to estimate the numbers and needs of people of all ages with disability from Syrian and Iraqi refugee backgrounds who are using SWS services. Quantitative and qualitative data have been gathered and analysed. The project is being presented at the Australasian Society for Intellectual Disability (ASID) conference in Adelaide in November 2019, and a paper is being written up for publication.

An arts-based knowledge-translation project flowed out of this research.

Publication Highlights


Grant Highlights

Community Paediatrics has secured $60,000 in grant funding in the 2018-19 period.
The Complex Care and Internal Medicine clinical stream includes a range of inpatient, outpatient and community services that aim to meet the needs of a growing and ageing population.

Complex Care and Internal Medicine researchers conducted a number of studies in 2018-19, in the areas of ambulatory care, wound care, stroke, neurology, respiratory and sleep medicine, interventional bronchoscopy, and diabetes.

A team of researchers conducted a poster presentation at the 5th European Stroke Organisation Conference in Milan, Italy from 22-24 May, 2019 on their research into endovascular thrombectomy with second generation thrombectomy devices in octagenerians with acute ischemic stroke.

Another team of researchers conducted a poster presentation at the Annual Scientific Meeting of the Australian and New Zealand association of Neurologists, Sydney, Australia, from 21-24 May 2019 on their work looking at the validity of the Queens Square screening test for visual deficits in patients with dementia.

Professor Guy Marks is currently working on a program to eradicate TB from Vietnam and then the world. He is leading a body of work to address screening and treating active cases of disease, to screening and treating latent tuberculosis. He is also studying the effects of air pollution on health and mortality. He was appointed Scientia Professor in 2019. Dr Jonathon Williamson has co-led an important study which will change the way interstitial lung disease is diagnosed, analysing the safety and efficacy of bronchoscopic biopsies compared with surgical lung biopsies.

Dr Claudia Dobler is working on burden of treatment for patients with common respiratory diseases. She has made major contributions to the area of evidence-based medicine, shared decision making, latent tuberculosis. She was also the recipient of the United States GRADE (Grading of Recommendations Assessment, Development and Evaluation) network scholarship to attend the GRADE workshop in Cleveland, Ohio, USA, May 2018, for best guideline innovation.

Ms Jacqui Robinson, Chief Vascular Sonographer was successful as the Limb Preservation Research Fellow and will undertake a PhD looking at the development of a novel vascular device to measure blood flow in the clinic.
Publication Highlights


Grant Highlights

Complex Care and Internal Medicine have secured $17,953,721 in grant funding in the 2018-19 period.
Critical Care provides emergency, intensive care, anaesthetic and pain services across SWSLHD.

In 2018-19, the Critical Care and Surgical Specialties clinical streams focused on critical care, intensive care unit, and emergency research areas.

The Intensive Care Unit at Liverpool is currently involved in a number of global multi-centre clinical trials including a fluid resuscitation study for critically ill patients; a crossover, cluster randomised controlled trial of Selective Decontamination of the Digestive Tract in Intensive Care Unit Patients; and a randomised control trial comparing Post-ischaemic hypothermia, with normothermia and early treatment of fever.

Emergency – South Western Emergency Research Institute (SWERI) has completed seven Honours projects and four collaborative projects. It is currently working on another seven projects, most of which are collaborative. Two of these are PhD projects.

Publication Highlights

Drug Health Services operate across SWSLHD and provide a range of treatments and interventions for people who have problems associated with alcohol and other drug use.

During 2018-19, Drug Health Services conducted researchers have worked in collaboration with a number of universities and institutes, including University of New South Wales, La Trobe University, Kirby Institute, Western Sydney University, and NSW Drug and Alcohol Clinical Research and Improvement Network (DACRIN).

Over the past 12 months, the Drug Health Services Research Action plan was completed, and a permanent Research Coordinator was appointed.

The Comorbidity of Gambling (COG) Study was presented at the SWSLHD Research Showcase, where Dr Strauss won the Drug & Alcohol oral presentation session. The team also successfully presented ‘Assessing the needs of local youth to help guide AOD prevention and harm reduction strategies’ at Creating Synergy Conference in Wollongong with Funding partner Youth Solutions.

In addition, the following research projects were completed:

- ETHOS Engage study.
- ‘Narratives of alcohol and other drug use in the narratives of trauma survivors: Analysis of submissions to the Royal Commission into Institutional Responses to Child Sexual Abuse’.
- ‘Factors that enable high performance of health professionals in community settings: an exploratory study’.
- Surveys for The Horizons Project — ‘An empirical analysis of alcohol and drug treatment funding, purchasing and workforce mechanisms’.
This clinical stream operates under a multidisciplinary model incorporating medical, nursing and allied health. Services include gastroenterology, gastrointestinal surgery, liver, urology, and head and neck services.

2018-19 saw the establishment of the Gastroenterology and Liver Disease Laboratory aided by the Liver Cancer and Disease, New Academic Grant. Four students were also recruited — three PhD and one honours. The Biorepository was established and now has in excess of 700 samples.

Preclinical animal models of liver cancer and fatty liver disease have been established, along with organoid models of liver injury and liver cancer. The miRNA profiling, flow sorting and primary cell culture was also established.

Researchers are also proud of the 15 publications achieved during the year, along with three competitive peer-reviewed grants. They are also leading the preparation of the Australian Consensus Statement on the Management of Liver Cancer.

The clinical stream successfully developed multidisciplinary research capacities including a weekly liver cancer multidisciplinary tumour (MDT) meeting, clinical research into hepatitis, the establishment of a 600+ sample biobank, and the impact and operation of the National Bowel cancer screening service on the local community.

Work continues in the field of immunotherapy, in particular for patients with thyroid cancer.

Other highlights included:

- An abstract awarded the T.S. Reeve Award for Best Basic Science Research Paper at the Royal Australasian College of Surgeons (RACS) Annual Scientific Congress, Bangkok, Thailand.
- Finalist of the American Thyroid Association Trainee Poster Contest held in Washington D.C., October 2018.
- Winner in the Video Category at the Western Sydney University Higher Degree Research Showcase, valued at $1,000.
- Professor Nick Shackel was elected chair of the Australia Liver Association 2019-2021.
Publication Highlights

- Connor, S 2018, ‘What can Australian Inflammatory Bowel Disease Association achieve in the next 3 to 5 years?’, Journal of Gastroenterology and Hepatology, vol. 33, suppl. 3, p. 35.
Medical Imaging

The Medical Imaging clinical stream conducts cutting-edge research, supported by a comprehensive range of tertiary level six diagnostic, consulting, interventional and therapeutic services.

Strong relationships exist between Medical Imaging Services and all Clinical Services across the SWSLHD. Imaging specialists attend over 20 multi-disciplinary meeting per week, UNSW, WSU, Ingham Institute Applied Medical Research, NHMRC clinical trial groups.

The Molecular Science Cyclotron Facility located at Liverpool Hospital is a state-of-the-art facility comprising the latest cyclotron technology and radiopharmaceutical production laboratories. The facility has validated and started supplying novel molecular imaging biomarkers to meet current clinical service gaps in NSW and supports translational research and multicentre trials for various cancers and dementia both within NSW and nationally, including with research groups from various universities and Ingham Institute.

The Nuclear Medicine Department at Liverpool Hospital installed the first digital PET-CT in Australia in July 2018, and upgraded it to a 5-ring digital detector in June 2019, also the first in Australia. This new scanner offers significantly improved diagnostic capability, with reduced scan time and also much lower radiation exposure to the patients. This can lead to improved patient outcomes, particularly via better monitoring of early treatment response to guide adaptive therapy. It also reduces risk of secondary cancer in the future.

This new digital detector technology provided a key enabler and supports the novel tracer research program, including the multicentre trials in prostate cancer, glioma and dementia.

Current research interests include development and validation of novel molecular and multi-parametric cancer and dementia imaging, ‘theranostics’ of cancer-linking diagnostic and therapeutic radiopharmaceuticals, and health economics in medical imaging.

Examples of current multicentre trials include hypoxia imaging for head and neck and pancreatic cancer; imaging of amino acid transporter expressions for recurrent glioma; amyloid and Tau imaging for risk assessment of early dementia; novel PET/MRI multiparametric imaging biomarkers for prostate cancer; and Lutetium PSMA therapy for metastatic prostate cancer.

Grant Highlights

Medical Imaging has secured $2,000,000 in grant funding in the 2018-19 period.
Mental Health operates as a networked service through community mental health and inpatient services across SWSLHD. It provides assessment and treatment for a range of mental health needs and disorders.

The Mental Health Service conducted a broad range of research over the past 12 months, with a focus on infant and child mental health, developmental disorders, early interventions, autism, Tourette, eating disorders, refugee mental health, cross cultural mental health literacy and mental health care help seeking among refugee populations. It worked in partnership with a number of local and international organisations.

Research highlights included the Watch Me Grow (WMG) study for early identification of risk and autism. This flagship Developmental Surveillance project utilises the opportunistic contacts with children (e.g. going where children go) to improve equitable access to early identification of developmental risk.

The DILI Study was the largest cohort study of women and children in a conflict affected country. It found that exposure to violence – including past conflict-related traumatic events and more recent physical intimate partner violence – was instrumental in leading to depressive symptoms which represented the best predictor of functional impairment. Moreover, exposure to traumatic events was significantly associated with risks of subsequent intimate partner violence and family conflict.

These findings are critically important to informing policy and practice in all conflict-affected populations.

Professor Phillipa Hay was part of the team that won the 2019 Western Sydney University Learning and Teaching Award for Excellence in Teaching, led by Professor Virginia Schmied for inter-disciplinary teaching.

Professor Valsamma Eapen won the 2018 South West Sydney Clinical School Distinguished Research Prize, and was successful in obtaining enhancement funding from SWSLHD to establish BestSTART-SW Academic Unit, Mentor for a Discovery Early Career Research Award (DECRA), and a NHMRC Career Development Fellowship.
Publication Highlights


RESEARCH HIGHLIGHTS

Nursing and Midwifery

SWSLHD hosts the Centre for Applied Nursing Research and the NSW Centre for Evidence Based Health Care, which provide a supportive framework for transforming research into nursing practice.

A Nursing and Midwifery Office (NaMO) grant of $168,000 was awarded in September 2018 to implement the Safewards program. Safewards is an evidence-based, nurse-led program of 10 mental health nursing interventions to reduce conflict (e.g. aggression) and containment (e.g. seclusion) in mental health inpatient wards.

As part of improving the awareness, prevention, and management of delirium in the hospital setting, a multidisciplinary team designed and implemented evidence-based continence targeted strategies including local guidelines, education sessions and ward-based continence assessment tools to improve nursing practice regarding assessment and management of incontinence.

The Bridging Language Barriers for CALD Patients (BLEND) project was a collaboration between the Centre of Applied Nursing Research (CANR) and Clinical Nurse Consultants from Bankstown-Lidcombe Hospital, SWSLHD. The study found that patients requiring an interpreter spoke 38 different languages, highlighting the cultural diversity of the region. The study also identified that those who received an interpreter had hospital stays almost three times longer than those who required, but did not receive the service.

A multidisciplinary team designed and implemented evidence-based continence targeted strategies including local guidelines, education sessions and ward-based continence assessment tools to improve nursing practice regarding assessment and management of incontinence.

CUBIC is a culture change program aiming to improve safety attitudes in acute mental health setting SWSLHD-wide. Data collection has informed a positive workplace culture-focused intervention involving multiple on-site coaching sessions for nurses, district-wide. CUBIC has also supported development of two research papers, one from the quantitative and one from the qualitative findings of the project. Baseline quantitative findings were presented at the SWSLHD Health Beyond Research and Innovation Showcase in June 2019 and oral and poster presentations have been accepted for ACMHN Conference in October 2019.

The Delirium in Intensive Care Study (Deli Study) is investigating the implementation and dissemination of a nurse-led intervention to reduce the incidence, severity and duration of delirium among adults cared for in the intensive care setting. The team will also be investigating the relationship between frailty and the risk of an acute episode of delirium. The study over a 12-month period, including the four adult intensive care units across the local health district, is expected to be the largest nurse led study to date of delirium in the ICU setting.
**Grant Highlights**

Nursing and Midwifery have secured $218,729 in grant funding in the 2018-19 period.

**Publication Highlights**

Oral Health

Oral Health services aim to protect, promote, maintain and improve the oral health of people in SWSLHD, through affordable, evidence-based and consumer-focused dental services.

Oral health has a formal partnership with Western Sydney University (WSU), for the Centre for Oral Health Outcomes and Research Translation (COHORT) at the Ingham Institute. COHORT has a collaboration with Nepean Blue Mountains Local Health District (NBMLHD).

In 2018-19 research focused on areas of population oral health, and interdisciplinary oral health care. It worked in partnership with universities, state planning organisations, professional bodies, local health districts, Aboriginal Medical Services, and academic groups. Researchers also collaborated with the Departments of Dentistry and Community Medicine at the Baptist Hospital in India, and with the College of Nursing, New York University in New York, USA.

The oral health training program for midwives (developed by COHORT) was launched nationally by the Australian College of Midwives, while the oral health screening tool for midwives, also developed by COHORT was promoted among antenatal care providers by QLD Health.

The COHORT brochure on ‘Diabetes and Oral Health’ was endorsed by NSW Health, Diabetes Australia (ACT and NSW), Australian Dental Association (NSW) and consumers (SWSLHD CCP unit) for distribution state wide. The brochure will help raise awareness about the importance of oral health among patients with Diabetes.

A memorandum of understanding was signed between SWSLHD Oral Health Services and WSU School of Nursing & Midwifery to establish the Centre for Oral Health Outcomes & Research Translation - Australia’s first interdisciplinary oral health research centre.

COHORT has 10 higher degree research students (PHD and MRes) and 12 research affiliates attached to the centre.

A/Prof Ajesh George received 2018 Best Community & Population Health Paper Award- Ingham Institute Applied Medical Research Awards, while COHORT PhD student Tiffany Patterson, won best image poster at the 2018 WSU Higher degree research showcase. COHORT PhD Amy Villarosa received the 2019 NHMRC PhD scholarship.

COHORT was a project winner of 2018 South Western Sydney Local Health District Quality Awards-under the category- ‘Excellence in Provision of Care and Service to Aboriginal Clients’, as well as a project finalist in 2018 NSW Health Awards, under category: ‘Keeping People Healthy’.
**Grant Highlights**

Oral Health has secured $1,992,466 in grant funding in the 2018-19 period.

**Publication Highlights**

Population Health aims to protect and promote the health of the local population, with a comprehensive range of high-quality, evidence-based programs across SWSLHD.

Over the past 12 months Population Health conducted research in the areas of childhood obesity, translational research, environmental health, built environment, communicable diseases and vaccine preventable diseases, refugee health, and health services.

Research highlights included the Data Linkage study to assess hospital admissions and mental health interactions for up to 10,000 newly arrived refugees seen by the NSW Refugee Health Service. The results of this study will provide the first comprehensive assessment of health services used by newly arrived refugees in NSW.

The ‘Optimise’ project, in collaboration with University of New South Wales, Settlement Services International and South Western Sydney Primary Health Network, has targeted 12 general practices in South Western Sydney to improve the way general practices engage with patients of refugee background. The project is funded by the National Health and Medical Council.

The ‘Growing Healthy Kids in South Western Sydney’ initiative is a strategic response to reduce the overweight and obesity rates of children and young people through a number of state and local population-based programs. The prevalence of overweight and obesity is due to multiple interrelated causes that comprise of both nutrition and physical activity behaviours and environmental factors. Evaluation of oral health education sessions delivered by bilingual educators to newly arrived refugees showed an increase in knowledge which was retained after a six-month period.

NSW Refugee Health Service in collaboration with University of New South Wales, Community Paediatrics and other partners is undertaking a project to examine the extent of disability in newly arrived refugee children and young people.

Mapping of preventable hospitalisations in SWSLHD project has been completed with research showing hotspots of preventable hospitalisations are associated mainly with socio-economic disadvantage. Access to primary care was a less important factor.

The ‘Aboriginal Transfer of Care’ project is evaluating whether implementing a structured multidisciplinary transfer of care planning process will decrease the rate of hospital use among Aboriginal patients.

Professor Bin Jalaludin was awarded the ‘Conjoint of the Year’ in 2018 by the School of Public Health and Community Medicine, Faculty of Medicine, University of New South Wales.
Publication Highlights

Primary and Community Health provides a range of health screening, early intervention, post-acute care, chronic and palliative care services in a variety of community settings.

Over the past 12 months, Primary and Community Health were involved in a couple of emergency/general practice care integration projects. The first sought to better integrate care between Liverpool Hospital Emergency Department (ED) and local referring general practices. The second sought to better understand the issues surrounding GP follow-up after an ED attendance for older women. The third study will analyse and explore the communications challenges between Arabic-speaking patients and their ED doctors.

Studies into cancer/general practice are looking at improving written communication between cancer services and GPs about cancer survivorship.

Another study is aiming to better understand how GPs conceptualise and operationalise melanoma risk prediction and to explore the potential role of a risk tool.

A number of primary and community care integration projects also took place that focused on integrated care strategies between primary and hospital care in South Western Sydney. Integrated care entails the provision of person-centred, seamless, efficient and effective care from prevention through to end of life, across both physical and mental health, and in partnership with the individual, their carers and family. It focuses on individual needs; better communication and connectivity between healthcare providers in primary care, community and hospital settings. It also enables better access to community-based services close to home. SWSLHD is responding to these challenges by investing in new, innovative models of integrated care.

Medical education projects looked at the need for cultural safety training to medical educators; the most frequent (mis)conceptualisations made by doctors; and evaluation of research and evidence-based medicine training models which have been implemented in GP training in NSW/ACT.
Publication Highlights


Grant Highlights

Primary and Community Health has secured $250,000 in grant funding in the 2018-19 period.
RESEARCH HIGHLIGHTS

Surgical Specialities

The Surgical Specialties clinical stream supports a range of surgical services and works in partnership with local clinicians, Hospital Executives, and District Executives in the development of evidence-based models of care and service planning that is responsive to the needs of the community.

A collaborative partnership exists with the Whitlam Orthopaedic Research Centre (WORC) which is part of the Ingham Institute. Over the past 12 months, the surgical specialties stream has conducted research into orthopaedics and musculoskeletal areas.

WORC continues to publish studies relevant to rehabilitation after knee or hip replacement surgery. The research highlights the evidence practice gap in what is typically provided in Australia and how if practice aligned with the evidence, joint replacement surgery would be less of a burden on the health system.

Publication Highlights


Grant Highlights

Orthopaedics has secured $3,955,813 in grant funding in the 2018-19 period.
