

RESEARCH REVIEW 2017



ST VINCENT'S
CENTRE FOR APPLIED
MEDICAL RESEARCH

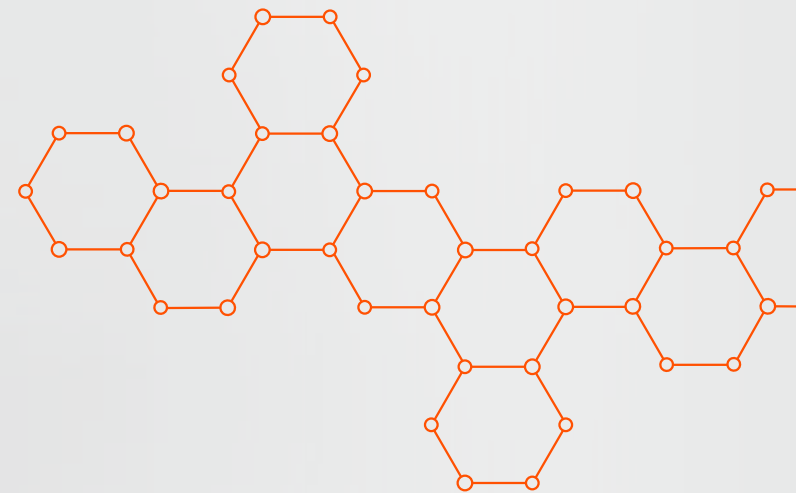


CONTENTS

SERVING SOMETHING GREATER.....	5
MESSAGE FROM THE CEO.....	6
MESSAGE FROM THE DIRECTOR OF RESEARCH.....	8
MESSAGE FROM THE CHAIR, RESEARCH EXECUTIVE COUNCIL.....	10
RESEARCH AT A GLANCE.....	12
AMR SUPPORT	14
COMMERCIALISATION AT SVH.....	18
RESEARCH ACTIVITY	20
RESEARCH INFRASTRUCTURE.....	24
WET LABORATORY RESEARCH PROGRAMS	26
AMR GRANTS 2017.....	30
SEEING SOMETHING GREATER	35
RESEARCH WEEK 2017.....	36
AWARDS	42
STRIVING FOR SOMETHING GREATER	45
BREAKING NEWS	48



SERVING SOMETHING GREATER



MESSAGE FROM THE CEO



The past twelve months have seen St Vincent's embark upon one of the most important future planning endeavours in our 160-year history. This culminated in the launch, in May 2017, of the Clinical Services Strategy for St Vincent's Integrated Healthcare Campus, Darlinghurst, by NSW Health Minister Brad Hazzard.

I am delighted to report that this strategy puts research front and centre of our endeavours, representing a future vision for the Campus to meet and adapt to the clinical, scientific, pastoral and financial challenges of healthcare in the 21st century. This planning process is critical in order for the Campus to continue to thrive.

After extensive consultation with staff and key stakeholders including our research and teaching partners, St Vincent's has formulated this Clinical Services Strategy which outlines six key strategic commitments.

Among these are precision medicine, new ambulatory models of integrated care, telehealth to reach rural patients and to be a destination for world-class treatment, research and training.

St Vincent's will also continue to advocate for and deliver compassionate care to the poor and vulnerable in the spirit of Mary Aikenhead and the Sisters of Charity.

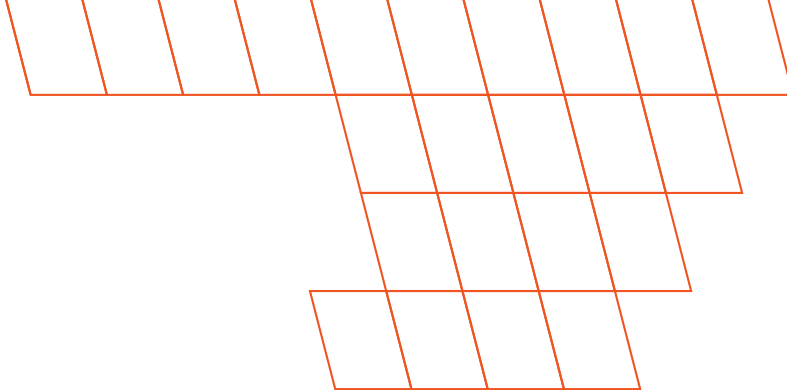
Currently on the Campus, our clinical research endeavours have been growing rapidly with a significant increase in clinical trials activity which has nearly doubled since 2013 from 147 clinical trials in 2013 to 247 clinical trials in 2017.

Much of this surge in clinical trial activity can be attributed to a variety of support factors including more efficient approval and funding processes for researchers, greater collaboration between departments and research entities with improved cross-pollination of ideas, and better sharing of resources from data management to bio-banking.

It is terrific to see a steep rise in the number of early-phase studies showing rapid access for our patients, particularly our cancer patients, to emerging new treatments. I am confident that our activity here will continue to rapidly grow. Of course this commitment to 'trials for therapy' is shared by our clinicians, researchers and Executive as being fundamental to patient care at St Vincent's.

One of our major research objectives is to harness the capabilities of precision medicine on the Campus. Last year, in collaboration with the Garvan, we launched Australia's first public Clinical Genomics Unit to provide whole genomic sequencing. One year on, the Unit is going from strength to strength.

The new Unit is enabling the application of whole genome sequencing to understand the basis for hereditary diseases, and pave the way for tailored



measures to minimise risk of disease. In doing so, suitable patients are now being offered a form of precision medicine leveraging recent advances in the field of genomics by bringing together existing and new expertise on the St Vincent's campus.

Also related to our precision medicine endeavours is the Campus' leadership role in theranostic prostate therapy trials which has recently attracted multi-million dollar State Government Funding through the Cancer Institute. We are also well poised to undertake some exciting cardiac precision medicine projects in partnership with the Victor Chang and Garvan.

In early 2017, St Vincent's joined many clinical, academic & stream members to participate in the launch of SPHERE – Sydney Partnership for Health, Education, Research and Enterprise. Importantly, SPHERE shares our central research mission in ensuring that impact – in transforming patient outcomes remains at the centre of all our research objectives.

Finally, I want to pay tribute to the late Professor David Cooper AO who as both an HIV researcher and clinician was a giant on the world-stage. David epitomised everything we are about in conducting highly relevant research

that can swiftly and seamlessly make its way to the patient bedside.

As a young social worker in the early 1990's I was privileged to work alongside David and had the opportunity to see first-hand the transformative impact he had – where his lab-based research breakthroughs were making an immediate life-saving transition to our patients.

I hope David's legacy will long serve as an important beacon for our Campus research endeavours as we seek to maximise our clinical impact on the patients and communities we serve.

Associate Professor Anthony Schembri
CEO, St Vincent's Health Network Sydney



MESSAGE FROM THE DIRECTOR OF RESEARCH



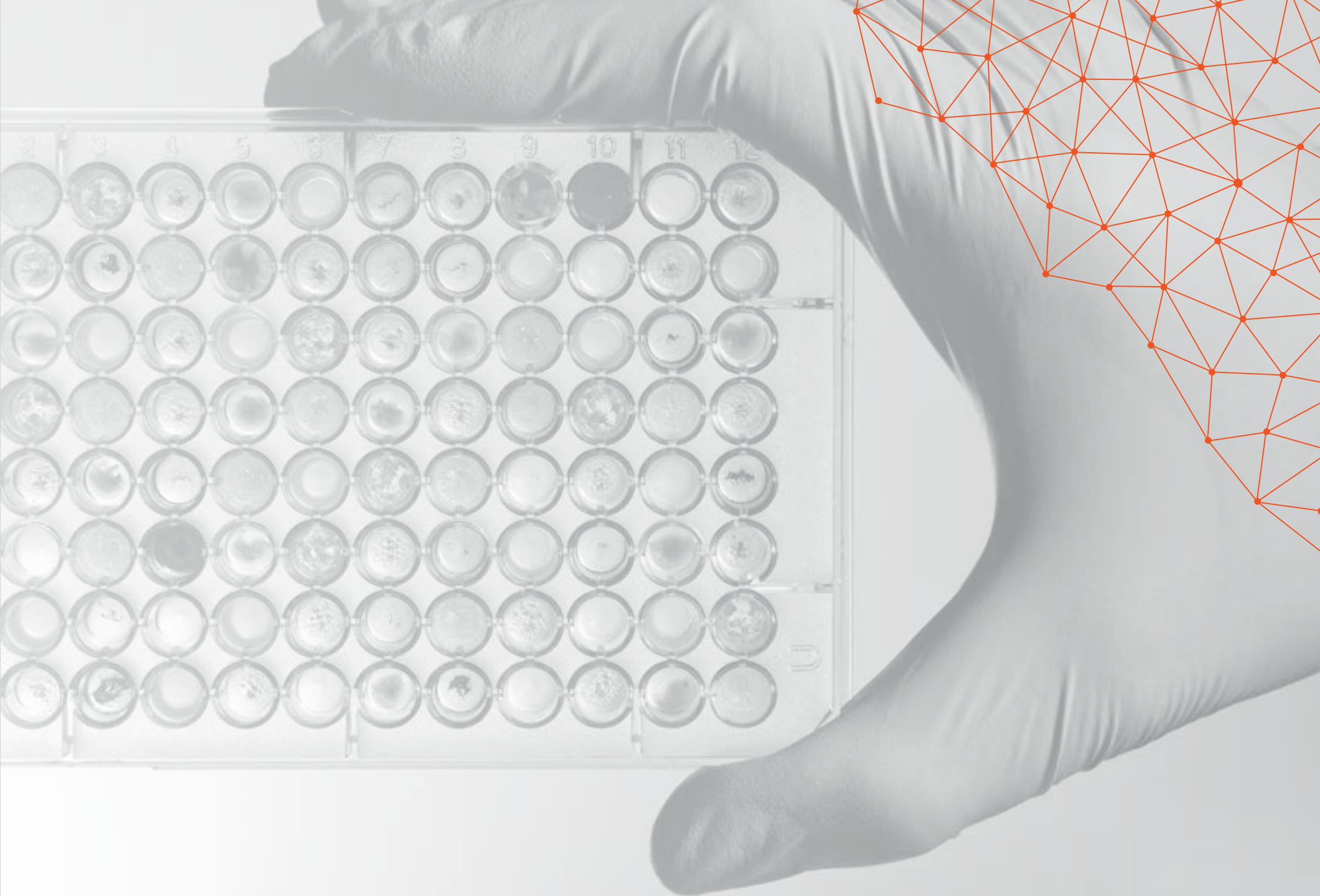
2017 has very much been a year of consolidation and review for Research in St Vincent's Hospital Network, Sydney. Once again Research Week formed a major showcase for our research activities in 2017 and was a major success thanks to all those committee members who worked so hard to bring it to fruition.

The current Strategic Research Plan finishes in 2018 and work has commenced in earnest on the next plan. This coincides with the new clinical services plan and the ambitious building plan for the whole campus. The Clinical Services plan is centred around six strategic commitments, namely precision medicine in all its aspects, new ambulatory models of integrated care, virtual healthcare delivery through telehealth and related methodologies, world class centres of excellence (beginning with the heart lung vascular service), continued advocacy and delivery of compassionate care and service for the poor and vulnerable, and continued development of more cost-effective models of care for patients using all of the above approaches.

It is important that the strategic plan for research we develop is synergistic with and supportive of these commitments. The implementation of our commitment to precision medicine has already begun. It is particularly focussed around cancer care and The Kinghorn Cancer Centre, along with the establishment of the Clinical Genomics Unit under Professor Jerry Greenfield and directed by Dr Katherine Wu. A major support structure required for precision medicine is a robust clinical trials service, and with this in mind, AMR commissioned consultants in 2017 to review Clinical Trials on Campus. This included a researchers' workshop and produced a scoping document which is now being considered for implementation – a process likely to lead to significant changes and improvements in the way we support clinical trials across the campus.

Professor Terry Campbell AM

Director of Research,
St Vincent's Health Network Sydney



MESSAGE FROM THE CHAIR, RESEARCH EXECUTIVE COUNCIL

Inspired by the mission of the Sisters of Charity, The Darlinghurst campus is about hope. Hope speaks about the future, a future where patients are able to access even better health care for even better outcomes. On the Darlinghurst Campus this hope, this better future, has its greatest expression through the diverse and extraordinary research activities spread across the campus linked to and informing our clinical treatment.

The Darlinghurst Research Executive Council aims to foster and facilitate the interaction of research across the Campus. The Council is a place of conversation and coordination to allow better leadership in research and better support of evidence based care on the Campus.

In this emerging era of precision medicine, where the clinical solutions are able to be more precisely tailored to the individual greater communication across research centres is more critical than ever.

The spirit of cooperation is embodied in the precinct affiliation agreement signed by the Chief

Executives of the different research groups on the Campus. The objective of the Council is to assist the various group executives in giving priority to research and innovation across the full suite of services on the Campus. In doing so we seek to ensure that the campus is fully prepared for the exciting period ahead in the development of medical knowledge.

Mr Nick Curtis

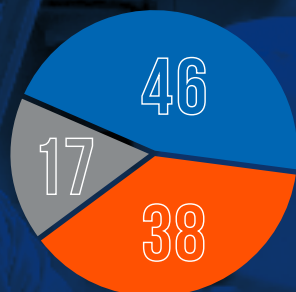
Independent Chair, Research Executive Council



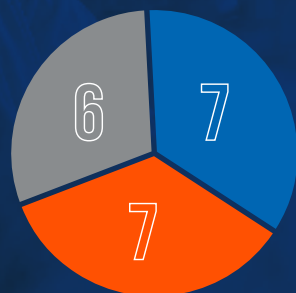
Prof Terry Campbell (AMR), A/Prof Anthony Schembri (SVHNS), Prof John Mattick (Garvan), Mr Tim Daniel (SVPH), Mr Nick Curtis (Chair), Prof Bob Graham (Victor Chang)



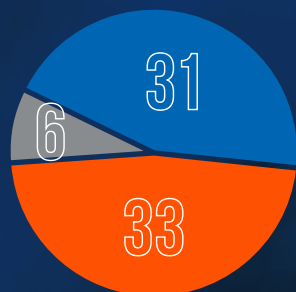
RESEARCH AT A GLANCE



PROJECTS INVOLVING
2 OR MORE SVHA
DIVISIONS



PROJECTS INVOLVING
VIC/QLD/NSW SVHA
COLLABORATION



MISSION FOCUSED
PROJECTS

2015

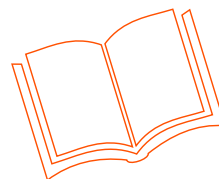
2016

2017



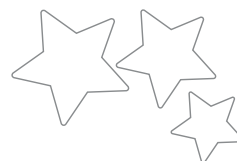
JOURNAL
PUBLICATIONS

2015	2016	2017
622	842	786



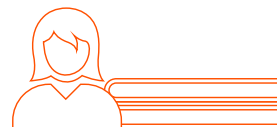
BOOK CHAPTERS
PUBLISHED

2015	2016	2017
16	15	19



PRIZES/
AWARDS

2015	2016	2017
12	20	18



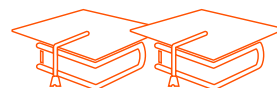
UNDERGRADS
(MEDICINE)

2015	2016	2017
444	444	416



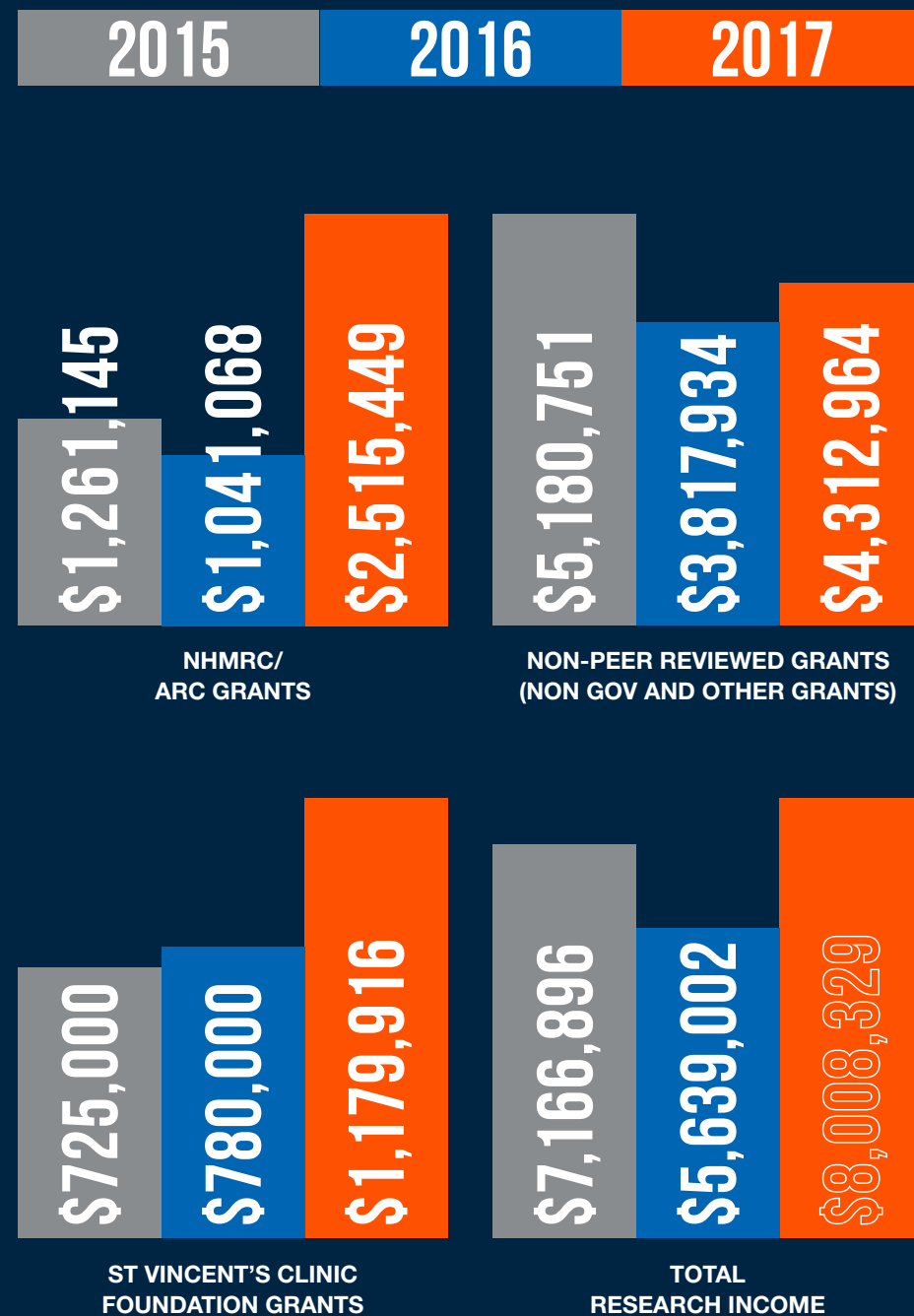
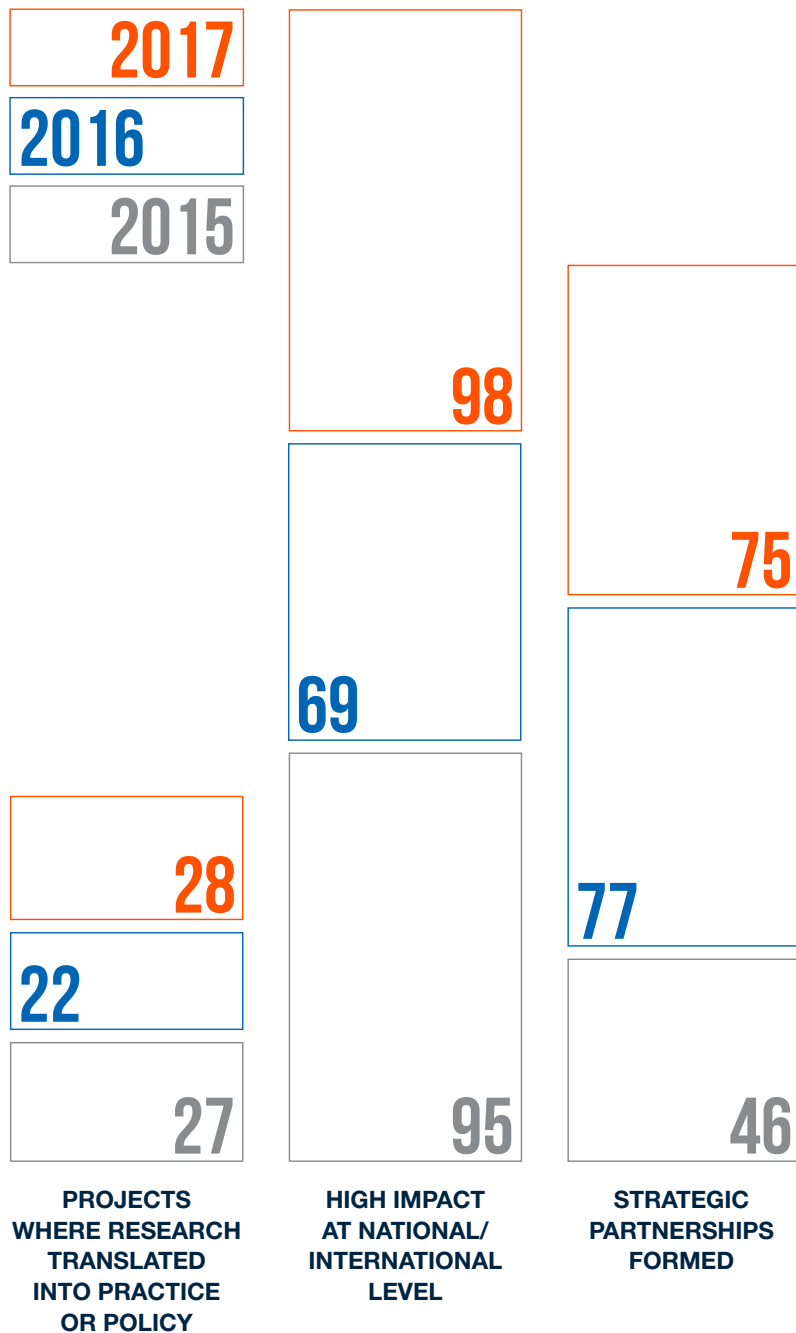
PHD
STUDENTS

2015	2016	2017
100	110	127



HIGHER DEGREE
STUDENTS

2015	2016	2017
45	48	39



AMR SUPPORT

OPERATIONS REPORT



In 2017, the organisation embarked on a strategic planning process to assess strengths and challenges and plan for the future of a truly integrated healthcare campus at Darlinghurst. Our aspiration for the campus to be recognised worldwide for excellence in key services across research and clinical care.

The next steps in our research strategic plan is to integrate a realistic research agenda into the six strategic commitments. These include precision medicine, ambulatory models of integrated care, telehealth and virtual care, creation of centres of excellence around a number of flagship clinical services and care to the poor and vulnerable.

Our peak research enterprise, St Vincent's Centre for Applied Medical Research (AMR), formed in 2008, brings together multidisciplinary laboratory scientists and clinician researchers under one structure. It provides support and purpose built facilities for all researchers across the network.

AMR Translational Research Centre continues to grow with new clinical research programs and clinical trials in HIV and viral hepatitis, neurosciences particularly in treatment of Alzheimer's disease, addiction medicine, rehabilitation and intensive care. Clinical research in neurodegenerative diseases has been hastened by the appointment of a medical research fellow to oversee medical aspects of experimental treatments outside of the traditional outpatient clinical environment.

The Translational Research Centre accommodates the St Vincent's Clinical Genomics Unit, UNSW Kirby Institute clinical academics and clinical trialists. It provides a community facing facility providing opportunities for public health prevention and population health research and the NSW State Reference Laboratory for HIV. The elements of the Translational Research Centre that have been highly successful will inform the design and development of the last remaining site of the Research Precinct. It is known as the West Street Redevelopment which forms part of the St Vincent's Campus Capital Masterplan vision.

The growth in clinical trials across the campus has been significant and with the NSW Ministry of Health review of early phase clinical trials in

NSW there was an opportunity to reform our clinical research activities to align with state wide priorities.

Our biostatistics and clinical trial design 'Clinic' has been enormously successful. A partnership between St Vincent's and StatsCentral (UNSW School of Mathematics and Statistics) has moved from an ad-hoc service to a weekly 'clinic' where researchers obtain expert statistical, trial design and data analysis advice from a consultant. There are numerous examples where this interaction has resulted in research results being published in much higher impact peer reviewed journals and led to further research work and funding.

One of the evolving themes at St Vincent's is to promote collaboration between basic discovery laboratory researcher, clinician researchers within the organisation but with our independent medical research institutes and academic partners. A combined working group has commenced a review of the Precinct Affiliation Agreement which is an umbrella legal agreement between the Garvan Institute, Victor Chang Institute and St Vincent's Public and Private Hospitals on the campus. The agreement will be an instrument to streamline governance processes for research collaboration

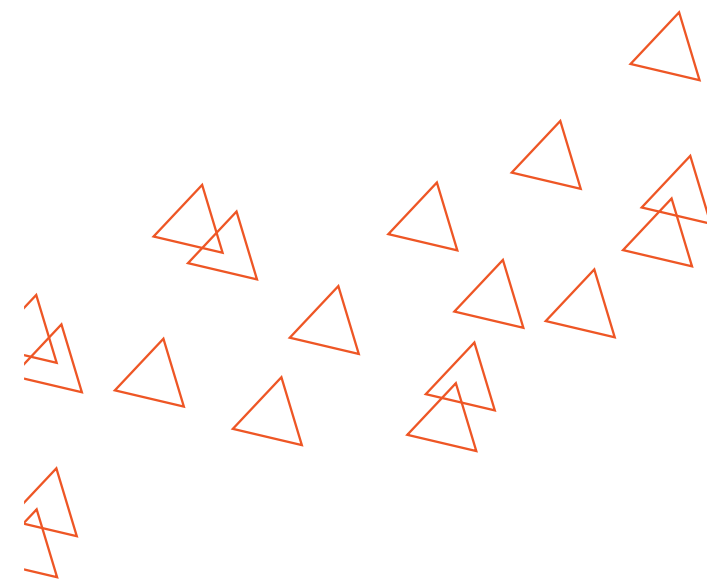
In July 2017, St Vincent's AMR and the University of Technology of Sydney (UTS) agreed to establish a joint collaborative research venture in translational neuroscience research that leverages the respective strengths of the Centre for Neuroscience and

Regenerative medicine at UTS with neuroscience medical research at AMR. The University's Professor of Neuroscience and Director, Centre for Neuroscience and Regenerative Medicine, Professor Bryce Vissel and AMR's Professor Bruce Brew, Professor of Medicine, Neurology, will lead research at AMR to foster interactions and specific collaborations between them and with other medical and research teams at St Vincent's.

2017 saw the SVHA Board place greater emphasis on Research and Education through the establishment of a Board Sub Committee for Research and Education Chaired by Dr Michael Coote. The Sub-Committee provides a forum to drive and promote research and education strategies across the organisation.

The research agenda at St Vincent's continues to evolve and AMR continues to adapt and respond to the changing needs of the campus. Our mission is to support our research community to provide the tools and world class facilities that fosters innovation and high quality work. I would like to thank our staff, students, visiting academics and collaborators for their commitment and contribution to a vibrant research culture that is safe, efficient and a great place to work.

Associate Professor Philip Cunningham
Chief Operating Officer



RESEARCH OFFICE REPORT

The St Vincent's Hospital (SVH) Research Office manages the St Vincent's Hospital Human Research Ethics Committee (HREC) and is responsible for research governance across the St Vincent's Health Network Sydney (SVHNS), the Darlinghurst Research Precinct and the Mater Hospital. The Research Office also oversees intellectual property management and technology commercialisation and provides secretarial support to the New Interventional Procedures Assessment Committee (NIPAC). The office is increasingly involved in the broad facilitation of research across the Darlinghurst Research Precinct and beyond in accordance with Research Strategic Plan 2013–2018.

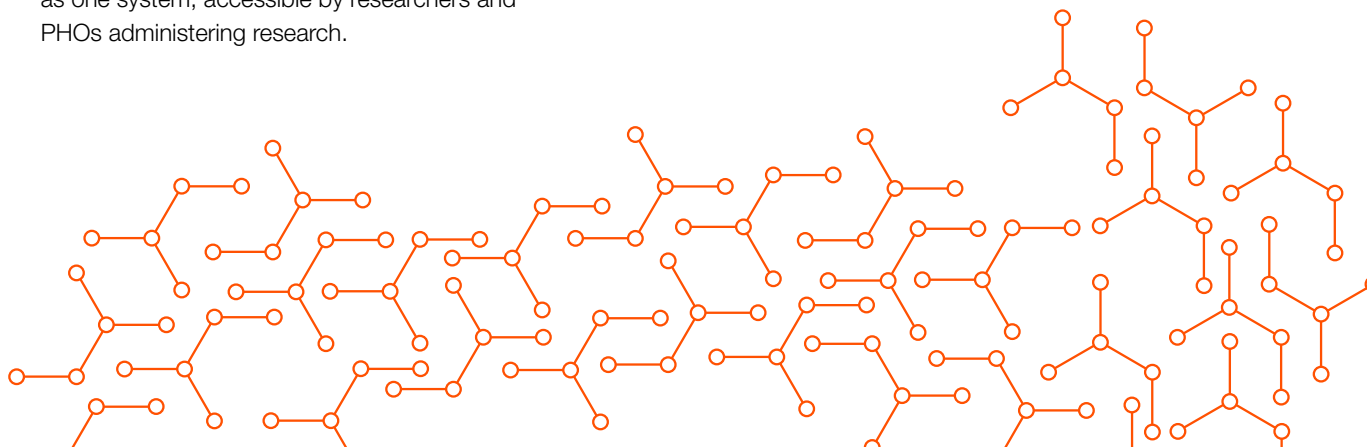
Research Office staff members have extensive experience preparing and reviewing submissions to the St Vincent's Hospital HREC and are able to provide advice and assistance with ethics and governance submissions. They regularly attend local and interstate events and conferences to keep up to date with the latest developments in clinical trials, health research policies and research ethics and governance initiatives and changes at a local, state and national level.

The Research Office is experiencing an exciting time of federal and state driven changes in the way human research studies are administered and managed by Public Health Organisation (PHO) Research Offices. These changes are designed to facilitate research and assist in the more efficient review, approval and monitoring of research studies. The new HREA (Human Research Ethics Application) form, which is a simpler and more user friendly version of

the NEAF, was launched in August 2017. The NHMRC Safety Reporting Guidance (2016) was adopted by the NSW Ministry of Health in October 2017 to align with national and international standards. We are looking forward to the implementation of REGIS (Research Ethics and Governance Information System) a web-based platform to assist in managing ethics and site governance of health and medical research projects in NSW and ACT PHOs. REGIS will replace AU-RED and the Online Forms portal as one system, accessible by researchers and PHOs administering research.

RESEARCH OFFICE METRICS

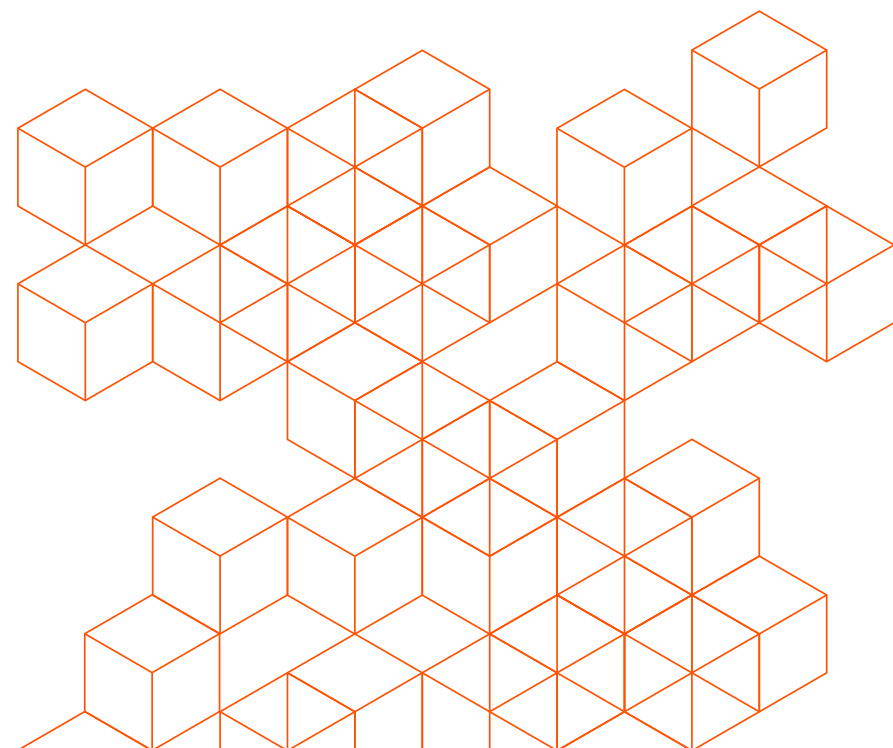
	2015	2016	2017
HREC full submissions	102	103	104
HREC Low/negligible risk submissions	129	84	83
Site Specific Assessment – full submissions	115	131	171
Site Specific Assessment for Low/Negligible Risk	111	80	76
Clinical Trials – new	54	61	92
Clinical Trials – continuing	222	217	268
Clinical Trials – completed	21	30	24
RO Gross Revenue	\$342,299.00	\$340,647.95	\$453,549.87





COMMERCIALISATION AT ST VINCENT'S SYDNEY

Commercialising intellectual property (IP) is about getting products or services into the marketplace. St Vincent's Hospital Sydney is a research-intensive hospital and has a wealth of experience in translating its groundbreaking research into solutions that benefit the community. In recent years, SVH has featured some significant successes in commercialising the outcomes of health research through technology licensing. These stories help illustrate the substantial impact the hospital can have in transferring both technology and expertise to external organisations for social and economic benefit.



For example, by leveraging on the experience, expertise and intellectual property assets driven by Professor Samuel Breit and co-workers at St Vincent's Centre for Applied Medical Research, St Vincent's Hospital Sydney has entered into global license agreements with three major pharmaceutical/diagnostic companies to develop and commercialise Macrophage Inhibitory Cytokine (MIC-1, or GDF-15) related technology in therapeutic and diagnostic fields. Macrophage Inhibitory Cytokine (otherwise known as Growth Differentiation Factor-15 (GDF-15)) is a member of the Transforming Growth Factor- β (TGF- β) cytokine family.

Of these global license agreements, a significant success story in which a diagnostic assay product has now reached the market, resides in the license agreement executed in 2009 between Roche Diagnostics and St Vincent's Hospital Sydney in the area of diagnosis or prognosis of cardiovascular diseases. Fundamental to the launch of this product was the ground-breaking information provided by Breit's research group to move GDF-15 from research to a clinically valuable diagnostic tool in cardiology.

The Roche developed cardiac assays, including GDF-15 technology developed at SVH, can improve decision making in cardiovascular disease thereby improving patients' lives, and provides a great example of a clinically valuable diagnostic tool in cardiology reaching the market from fundamental health research. In 2017, Roche Diagnostics introduced a new test into the market place that runs on its Elecsys® immunochemistry system for the lab and measures the level of a biomarker, GDF-15, in predicting a patient's risk of bleeding. GDF-15, a biomarker of cellular ageing, cellular

growth, oxidative stress, has been shown to be associated with bleeding risk in atrial fibrillation. Further, in launching the bleeding risk test, Roche Diagnostics has made important strides that will benefit patients at risk of stroke who need to decide whether to take oral anticoagulants for atrial fibrillation. Roche launched the test in August 2017, and it is available in certain European countries. More information on the fully automated Roche Diagnostic assay for GDF-15 can be found in the following article: Wollert et al, An Automated Assay for Growth Differentiation Factor 15, *The Journal of Applied Laboratory Medicine*, 2017, Volume 2, Issue 5, p1–12.

Throughout 2017, SVH has also continued the exploration of technology licensing opportunities of in-house developed health research in the area of cardiac function devices, with a view to providing meaningful rehabilitation for cardiac patients, as well as better-quality HIV diagnostic assays for improving patient outcomes living with, and being treated for, HIV.

INTELLECTUAL PROPERTY COMMITTEE

Name	Position
Professor Terry Campbell (Chair)	SVH Director of Research
Dr Heidi Boss	SVH Director of Medical Services
Associate Professor Philip Cunningham	Chief Operating Office St. Vincent's Centre for Applied Medical Research
Mr Steven Carr	SVH Chief Financial Officer
Ms Elyse Jeffress	SVH Senior Legal Counsel
Mr Jim Dwyer	General Counsel, Allens
Dr Pamela Blaikie	SVH Research Office Manager
Dr Karen Mongey	Business Development Associate

RESEARCH ACTIVITY



CLINICAL TRIAL ACTIVITY SOARS ON ST VINCENT'S CAMPUS

Research activity across the St Vincent's Research campus has been increasing rapidly in the past two to three years, particularly in relation to clinical trials activity which has more than doubled since 2013.

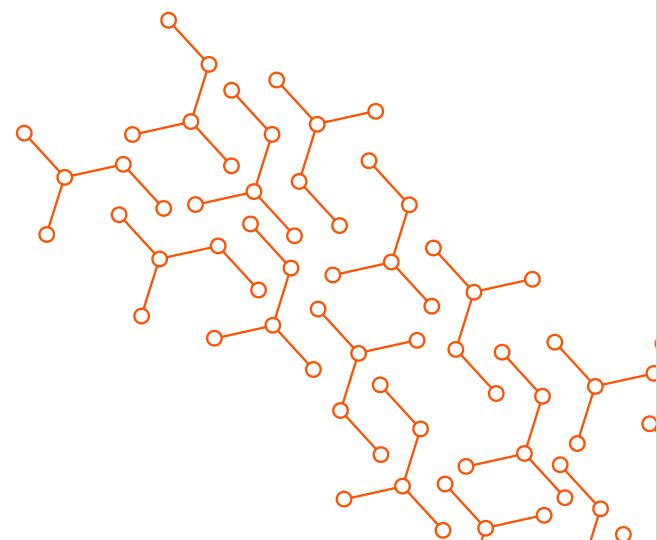
Owing to the huge impact biomedical research can have in transforming patient treatments, the Sisters have long ensured that research plays an integral role in the Campus' endeavours. Over the years, St Vincent's, along with its research partners including the Garvan and Victor Chang research institutes have developed a strong global reputation in translational research.

In relation to clinical trials, St Vincent's went from conducting 147 clinical trials in 2013 to 247 clinical trials in 2017. In terms of early phase trials, that figure went from 2–15 trials in the same years, phase 2 clinical trials surged from 32–57, phase 3 trials increased 74–100 and phase 4 trials activity went from 14–21 trials. The greatest surges in clinical trials has occurred within St Vincent's Medical Oncology which is fast becoming a major centre for early phase trials. Drug trials accounted for the vast majority of clinical trials making up 82% of all clinical trial activity.

Non industry-sponsored clinical trials witnessed the biggest increase – more than doubling since 2013. St Vincent's Director of Research, Professor Terry Campbell, attributes this major growth in clinical trial activity not only to our dedicated

and research-active clinicians, but also to a variety of support factors including more efficient approval and funding processes for researchers, greater collaboration between departments and research entities with improved cross-pollination of ideas, and better sharing of resources from data management to data banking.

"It is gratifying to see that the increases apply to both industry sponsored trials and to local, Investigator-initiated studies and we are particularly pleased to see a steep rise in the number of early phase studies showing rapid access for our patients, particularly our cancer patients, to emerging new treatments," says Prof Campbell.



ST VINCENT'S AMR CLINICAL RESEARCH PROGRAM

The St Vincent's Centre for Applied Medical Research – Clinical Research Program (AMRCRP) provides high quality clinical trials services on the St Vincent's Campus for the implementation of academic, pharmaceutical, and investigator initiated clinical studies. The areas of expertise in clinical trials at St Vincent's Hospital include Cancer Services, Heart/ Lung, HIV, Immunology, Anal Cancer, Viral Hepatitis, Neurology, Stroke, Gastroenterology, ICU, Rehabilitation Medicine, Pain Management, Drug and Alcohol and other specialties. Our vision is to broaden expertise and resources so we can collaborate more widely to appropriately support investigators and researchers across the campus.

Our clinical research team involves Medical Investigators, Project Managers, Study Coordinators, Clinical Psychologists, Occupational Therapists, Physiotherapist, Operations Manager and Financial Administration Officer. The aim of AMR CRP is to promote translational research, providing collaboration and applying discoveries to improve our patients' quality of life.

CLINICAL TRIALS 2017

SPECIALTY	NUMBER OF TRIALS
HIV	16
NEUROLOGY	18
HIV ONCOLOGY	3
VIRAL HEPATITIS	17
GASTROENTEROLOGY	2
REHABILITATION	18
PAIN	5
DRUG AND ALCOHOL	2
ANAL DYSPLASIA	4
ICU	6





HEART LUNG VASCULAR CLINICAL RESEARCH GROUP

The Heart Lung Research Group is involved in a variety of research projects, including clinical trials, interventional studies, and investigator led studies, national and local registries. The team has a wide experience in multiple research projects and are well respected and known on both a global and local level.

The Respiratory Research Unit is involved in the following research areas; Interstitial Lung Disease (ILD), Alpha 1 Antitrypsin Deficiency related Emphysema, Treatment of Chronic Lung Allograft Dysfunction, Respiratory Syncytial Virus, Fungal Infection Management Post-Lung Transplant. The Respiratory Research Unit contribute to the National Idiopathic Pulmonary Fibrosis Registry, maintains a Lung Transplant Database and developed and facilitate the ILD Multi-Disciplinary Meetings, in order that patients can access newly available anti-fibrotic therapies.

Pulmonary Arterial Hypertension (PAH) has been an intense area of research over the past 20 years and the PAH research team at St Vincent's has participated in many of the landmark global clinical trials, often the highest enrollers in these studies. Other areas of interest include exercise and PAH and the management of a local patient registry which contributes to an Australian and New Zealand Registry. Plus

an ongoing programme in Chronic Thrombo-Embolic pulmonary hypertension including follow up of data post Pulmonary Endarterectomy and Balloon Angioplasty.

The Heart Failure research team have been involved in numerous clinical, interventional and investigator led studies resulting in cutting edge therapy. Interventional studies include; Intra-Atrial Shunt Device, Biventricular Algorithm Study, Investigator collaborative studies; Left Ventricular Assist Device Exercise Study, 3D Modelling in Medicine and an Industry sponsored Cardiac CT Genome study. Other heart failure studies include clinical studies for the improvement of heart failure and the development of new therapies for heart transplant recipients and currently subjects are enrolling into a First Drug in a Novel therapeutic class that could benefit heart failure patients with left ventricle systolic dysfunction.

HEART LUNG RESEARCH GROUP TRIALS 2017

SPECIALTY	NUMBER OF TRIALS
Pulmonary Hypertension	14
Lung Research	7
Heart Failure	3
Interventional Heart Failure	7

THE KINGHORN CANCER CENTRE (TKCC)

This year has been very successful for the Kinghorn Cancer Centre for both patients and staff. We are excited for what the next year will bring and we hope to be able to continue to build and improve our service.

OUR KEY ACHIEVEMENTS IN 2017

- ◆ We have 153 trials in our profile, which is a growth of 140% in the last 12 months.
- ◆ The appointment of new Haematology Director of Research, Dr Nada Hamad. She is highly qualified and motivated, bringing new energy to the rapidly expanding research team.
- ◆ Investment of resources into developing a specialised Phase I unit for both Oncology and Haematology to meet the growing demands of our patients.
- ◆ We are the lead hospital in Australasia for Autologous Stem Cell Transplants for patient with Auto-Immune Diseases such as Multiple Sclerosis and Scleroderma.
- ◆ We are the lead site in NSW for the ILST Lung screening trial which entails the early detection and treatment of lung cancer. We have screened over 300 patients and are well on the way to reaching our target of 500 patients.
- ◆ For Breast Cancer we are leading the WINPRO Multi-Centre trial which offers an adjuvant endocrine therapy prior to surgery.
- ◆ The Kinghorn Cancer Centre is one of two sites currently piloting TeleTrials in collaboration with NSW Health and COSA, to improve healthcare access to rural and remote patients. To date, we have 65 trial patients who are currently living more than 200km away from St Vincent's Hospital, Sydney.

The Kinghorn Cancer Centre is a joint venture of St Vincent's Hospital, Sydney and the Garvan Institute of Medical Research. As one of Australia's leading teaching hospitals, St Vincent's aligns internationally acclaimed research with best cancer care practice. The key vision of our organisation is to realise the promise of innovative personalised medicine for people affected by cancer. The Centre aims to achieve its vision by:

- ◆ Maintaining world-class facilities and strategic collaborations to enhance advances in science that translate into improved cancer diagnosis, treatment and prevention.
- ◆ Developing integrated, multi-disciplinary, multi-institutional approaches to cancer research and patient care to reduce the impact of cancer in the community.
- ◆ Providing a holistic, compassionate approach to cancer care throughout the entire cancer journey, from diagnosis to full recovery where cure is possible, and supportive care and information to all, with preservation of patient dignity.
- ◆ Establishing world-class educational and training programs to develop high quality researchers and clinicians to optimise translational outcomes.

- ◆ Bringing together researchers and clinicians into a single site through a 'Bench to Bedside' model to improve cancer outcomes for all Australians.

If you would like more information about what the Kinghorn Cancer Centre offers patients, please visit this website: <http://www.tkcc.org.au/>

TKCC CLINICAL TRIALS IN 2017

DEPARTMENT	NUMBER OF TRIALS
Oncology	110
Haematology	43
PHASE	NUMBER OF TRIALS
I	28
II	56
III	58
IV	11



RESEARCH INFRA- STRUCTURE

BIOBANKING

The St Vincent's Clinical Trials and Biorepository team processed and stored a broad range of specimens from a total of 50 live studies conducted both on and off the Darlinghurst Campus in 2017. The team worked alongside the SVH AMR Clinical Research Program (CRP) on clinical trials spanning the fields of Immunology, Virology, Neurology, Gastroenterology and Cancer. A significant proportion of the studies from CRP require real time shipping resulting in over 256 same day shipments being consigned by IATA certified staff. The facility continued its role as a central repository for several Kirby Institute multi-site studies receiving incoming shipments from Thailand, Brazil and the USA. We also continued providing processing and shipping services for SVH ICU, the AMR Gastro-oesophageal Program, SVH Endocrinology and the Clinical Immunogenomics Research Consortium Australia (CIRCA). New relationships to provide future laboratory support were also formed with the SVH alcohol and drug service, GenomeOne and the Sydney Partnership for Health Education, Research and Enterprise (SPHERE). The Biorepository maintains memberships with the International Society for Biological and Environmental Repositories (ISBER) and the Australian Biobanking Network Association (ABNA).





AMR BIOSTATISTICS CLINIC

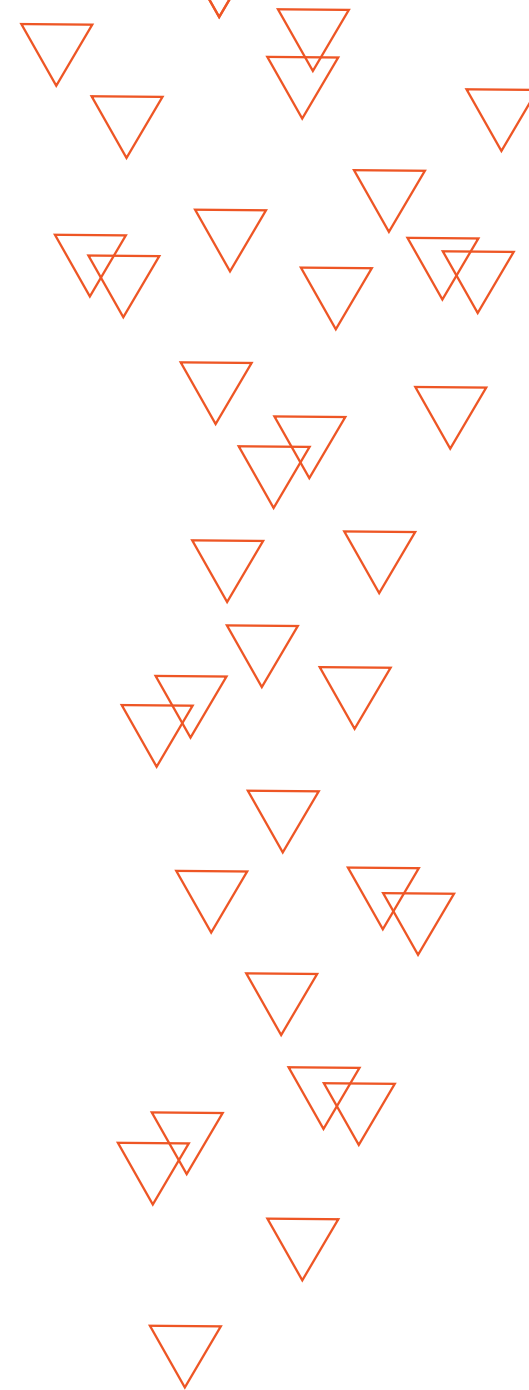
St Vincent's Centre for Applied Medical Research (AMR) announced in 2017 the establishment of a core facility on the Darlinghurst Campus to provide biostatistics and clinical trials design advice to our entire research community.

The program has led to the implementation of the common data management IT system REDCap that is hosted on health service servers which improves the quality, security and integrity and accessibility for analysis of any research data. The program is supported by the Centre for Applied Medical Research and is available to all St Vincent's Campus researchers.

In partnership with UNSW Statistical Consulting and Collaboration Unit (Stats Central), our expert biostatisticians provide one-on-one consultation and advice regarding the study design and analysis of research data.

Introducing our experts:

- ◆ A/Prof Stephen Kerr is Head of Biostatistics at the Thai Red Cross AIDS Research Centre. He has been the lead biostatistician in over 35 International Randomised Trials and Cohort Studies, and is an epidemiology/statistical reviewer for the Lancet group of journals.
- ◆ Dr Zhixin Liu is a statistical consultant at UNSW Stats Central with experience in statistical design and modelling in clinical trials, epidemiology/public health, behavioural sciences, and evaluation studies. Advanced survival analysis, recurrent event modelling, multi-level modelling, interrupted time series.



LABORATORY RESEARCH PROGRAMS

NEUROSCIENCE

The Peter Duncan Neurosciences Research Unit headed by Professor Bruce Brew is primarily concerned with research into regeneration of brain tissue in a variety of disorders including MS, and various forms of dementia. The unit brings together laboratory basic discovery research scientists and neurosurgical teams focused on the use of adult stem cells as therapy, and advanced neurosurgical procedures such as transplantation and research focussed on biochemical pathways that modulate stem cell growth and differentiation.

INFLAMMATION AND CYTOKINE BIOLOGY

Professor Samuel Breit leads the Inflammation and Cytokine Biology Research Program. He continues his internationally recognised research into chronic inflammatory diseases which has led to the successful commercialisation of years of basic discovery laboratory research into clinically relevant biomarkers that directly impact on patient clinical management of obesity and cancer.

NSW STATE REFERENCE LABORATORY FOR HIV — RESEARCH AND DEVELOPMENT

Associate Professor Philip Cunningham heads the NSW State Reference Laboratory for HIV developing innovative programs to improve rates of HIV testing, diagnostic assay development, providing insights into allergy, immunology and blood borne virus natural history. The laboratory supports a growing number of clinical trials through maintaining a large repository of biospecimens and performing a range of esoteric biomarkers. The laboratory is directly linked to the HIV diagnostic laboratory services embedded in St Vincent's pathology and has enabled the transfer of new biomarkers from the research bench into diagnostic service delivery.





CLINICAL RESEARCH PROGRAM

Professor Andrew Carr heads the Clinical Research Program (CRP), providing high quality clinical trials services across the St Vincent's Campus for the clinical implementation of more than eighty academic, pharmaceutical, and investigator-initiated clinical studies.

GASTRO-OESOPHAGEAL CANCER PROGRAM

The Gastro-oesophageal Cancer Program led by surgeon researcher Professor Reginald V Lord recently used whole transcriptome sequencing to identify novel molecular aberrations in Barrett's esophagus and esophageal adenocarcinoma (Mol Cancer Res 2017; 15(11):1558-1569). This large study, which was performed in conjunction with the Kinghorn Cancer Centre, is the world's first report of whole transcriptome sequencing for this cancer and its precursor disease. The laboratory undertakes studies to identify cost-effective methods to detect oesophageal cancers and precancers at an early stage, when cancer can be prevented or cured.

HIV GENE THERAPY PROGRAM

The HIV Gene Therapy Program led by Professor Geoff Symonds is evidence of AMR's partnership with biotechnology industry. With our growing portfolio of translational research industry and hospital based research programs, we can collaborate together and leverage ideas and infrastructure for a common goal.

RHINOLOGY AND SKULL BASE RESEARCH PROGRAM

Associate Professor Richard Harvey heads the Rhinology and Skull Base Research program. As our second surgical researcher led program A/Professor Harvey brings together a collective group of clinicians and researchers working on inflammatory and neoplastic diseases of the upper airways.

HAEMOPOETIC STEM CELL TRANSPLANTATION

Professor David Ma is a clinician researcher specialising in haemopoetic stem cell transplantation and haematological conditions. His research program focusses on advancing our knowledge of the genetics of normal and blood cancer stem cells aiming at improving the benefits and stem cell transplantation and survival of patients with blood related cancers. Another prime example of our expanding translational research portfolio directly impacting on the health of current and future generations.



AMR GRANTS 2017

The aim of the AMR Grants program is to promote translation research, particularly in its early phase. This is envisaged to support salary, equipment and research consumable costs to assist early stage healthcare researchers to participate directly in research projects as a component of their professional career. These grants are intended for early stage researchers to mobilise a translational research project to publication with a view to attracting further funding from other peer reviewed grant agencies (e.g. NHMRC, non-government organisations).

There were three grants intended to seed fund projects that had a clear project trajectory to improve clinical practice. There was a major grant (\$50,000) as well as two additional grants (\$25,000) awarded. Each grant was for one year duration. The Inclusive Health Innovation Fund (IHIF) supported a further five (5) grants of \$40,000 per annum for research projects involving social justice.

AMR GRANT 1 – \$50,000

A/Prof John Moore – St Vincent's Hospital Sydney

Determining the mechanisms of tolerance after autologous stem cell transplantation for Multiple Sclerosis – the role of CD39+ T regulatory cells

AMR TRANSLATIONAL GRANT 1 – \$25,000

Dr Ian Sutton – St Vincent's Hospital Sydney

Immuno-biological, radiological and clinical correlates in Haematopoietic Stem Cell Transplantation for Multiple Sclerosis.

AMR TRANSLATIONAL GRANT 2 – \$25,000

Dr David Connor – St Vincent's Centre for Applied Medical Research

Optimising care of patients with platelet-related disorders – integrating discrete research platforms into routine clinical practice.

CLINICIAN BUY BACK SCHEME 1 – \$50,000

Dr Winnie Tong – Immunology Department, St Vincent's Hospital Sydney

CLINICIAN BUY BACK SCHEME 2 – \$50,000

Dr Emily Stone – Department of Thoracic Medicine, St Vincent's Hospital Sydney

EQUIPMENT GRANT 1 – \$15,000

Prof Bruce Brew – St Vincent's Centre for Applied Medical Research

The Countess II Machine

EQUIPMENT GRANT 2 – \$15,000

Prof Sam Breit – St Vincent's Centre for Applied Medical Research

Leica Sliding Microtome



ST VINCENT'S CLINIC FOUNDATION – 2017

SVPHS LADIES' COMMITTEE SR MARY BERNICE RESEARCH GRANT – \$100,000

**Dr Peter Manders – Garvan Institute
of Medical Research**

“Dendritic Cell (DC) Nanovesicles: Novel highly active cancer immunotherapy”

ADULT STEM CELL RESEARCH GRANT – \$100,000

**Prof David Ma – St Vincent's Centre
for Applied Medical Research**

“Clinical significance of age-associated gene mutations in stem cells”

TANCRED RESEARCH GRANT – \$50,000

**A/Prof Andrew Jabbour – St Vincent's
Hospital Sydney**

“Randomised controlled study comparing long term clinical outcomes of patients with acute cardiac rejection diagnosed and treated based on cardiac MRI and Endomyocardial biopsy compared to Endomyocardial biopsy alone”

K&A COLLINS CANCER GRANT – \$50,000

**Prof Reginald VN Lord – St Vincent's Centre
for Applied Medical Research**

“Improving the classification and management of patients with Barrett's Oesophagus”

THELMA GREIG CANCER GRANT – \$50,000

**A/Prof Elgene Lim – Garvan Institute
of Medical Research**

“Metabolic effects of exercise on breast cancer”

FROULOP RESEARCH GRANT – \$30,000

**Dr Adam Hill – Victor Chang Cardiac Research
Institute**

“Modelling variable presentation of primary arrhythmia syndromes using induced pluripotent stem cell derived cardiomyocytes”

ANNUAL GRANT 1 – \$30,000

**Dr Tanya Applegate – St Vincent's Hospital
Sydney**

“Simplified HCV detection through self-collected capillary finger-prick samples”

ANNUAL GRANT 2 – \$30,000

**Dr Peter Macdonald – Victor Chang Cardiac
Research Institute**

“Pharmacological conditioning of the donor heart to normalise mitochondrial oxidative metabolism and function:
An approach to minimise ischaemia reperfusion injury and maximise heart recovery”

ANNUAL GRANT 3 – \$30,000

**Prof Anthony Kelleher – St Vincent's Centre
for Applied Medical Research**

“Contribution of T follicular helper (Tfh) cells to recrudescence from the latent HIV-1 reservoir”

ANNUAL GRANT 4 – \$30,000

**Prof Samuel Breit – St Vincent's Centre
for Applied Medical Research**

“The TGF- β superfamily cytokine Macrophage Inhibitory Cytokine-1 (MIC-1/GDF15) protects from development of prostate cancer”

ANNUAL GRANT 5 – \$30,000

**Prof Richard Day – St Vincent's Hospital
Sydney**

“The safety and pharmacokinetics of metformin in heart failure”

ANNUAL GRANT 6 – \$30,000

**Dr Tim Molloy – St Vincent's Centre for Applied
Medical Research**

“Preclinical in vivo testing of novel targeted therapies for the treatment of acute leukaemia”

ANNUAL GRANT 7 – \$30,000

**Prof Bruce J Brew, AM – St Vincent's Centre
for Applied Medical Research**

“The kynurenine pathway as therapeutic target for multiple sclerosis”

ANNUAL GRANT 8 – \$30,000

**Dr Carus Lau – Victor Chang Cardiac Research
Institute**

“Understanding drug-induced arrhythmias and structure of the Kv11.1 (hERG) channel”

ANNUAL GRANT 9 – \$30,000

Dr Joanne Joseph – St Vincent’s Centre for Applied Medical Research

“Investigating the effects of platelet extracellular vesicles and antiplatelet therapy on colorectal cancer”

KAVAN ORTHOPAEDIC BEQUEST – \$50,000

Dr Andrew Higgs – St Vincent’s Hospital Sydney

“Development of Post-Operative Rehabilitation Protocols: Outcomes, Gait Analysis and Compliance”

MULTIDISCIPLINARY PATIENT FOCUSED RESEARCH GRANT 1 – \$31,000

Ms Tania Gardner – St Vincent’s Hospital Sydney

“Can pain be managed from a distance? A randomised controlled trial of an innovative online multidisciplinary pain management program (Reboot Online) compared to usual care”

MULTIDISCIPLINARY PATIENT FOCUSED RESEARCH GRANT 2 – \$25,000

Ms Carissa Moroney – St Vincent’s Hospital Sydney

“The impact of the Mediterranean Diet in cardiac rehabilitation patients, a randomised controlled trial”

MULTIDISCIPLINARY PATIENT FOCUSED RESEARCH GRANT 3 – \$25,000

Mrs Leanna Woods – St Vincent’s Private Hospital Sydney

“The collaborative development of a smartphone application to promote self-management in out-patients with heart failure”

MULTIDISCIPLINARY PATIENT FOCUSED RESEARCH GRANT 4 – \$22,250

Ms Leanne Gregory – St Vincent’s Hospital Sydney

“Pilot study: Comparison of DAFNE program vs multidisciplinary type 1 diabetes clinic (standard care) for patients with type 1 diabetes.”

TRAVELLING FELLOWSHIP 1 – \$10,000

Dr David Darley – St Vincent’s Hospital Sydney

“Research Fellow at the Toronto Lung Transplant Program, University of Toronto, Ontario, Canada”

TRAVELLING FELLOWSHIP 2 – \$10,000

A/Prof Cameron Holloway – St Vincent’s Hospital Sydney

“St Vincent’s Cardiology Team to go to Solomon Islands”

SVPHS THE JOHN AND DENISE COBCROFT CANCER RESEARCH GRANT – \$30,000

Prof Phillip Stricker – Garvan Institute of Medical Research

“DETECT Trial: Radioguided surgery with technetium99m-labelled PSMA to aid intra-operative lymph node metastases detection for patients undergoing robot-assisted radical prostatectomy and extended-pelvic lymph node dissection for prostate cancer”

Dr James Nadel – 2016 Clinical Excellence Award – JMO/Registrar – \$1,500

Ms Krista Siefried – 2016 Clinical Excellence Award – Nursing – \$1,500

Mr John Boland – 2016 Clinical Excellence Award – Scientist – \$1,500

Dr Jane Wu – 2016 Clinical Excellence Award – Emerging Researcher – \$1,000

Ms Elizabeth Pluis – 2016 Non-Medical Staff / Teaching



ST VINCENT'S CURRAN FOUNDATION

The St Vincent's Curran Foundation has proudly supported medical research at St Vincent's Hospitals for more than 30 years. In 2017 individuals and corporate supporters have contributed more than \$4 million to fund innovative clinical trials and medical research projects across the St Vincent's Darlinghurst Campus.

The Foundation is raising \$3.5 million for a state-of-the-art Advanced Cardiac Imaging Centre to be built at St Vincent's Hospital Sydney. This \$7 million project has been funded in partnership with the Victor Chang Cardiac Institute's Innovation Grant from the NSW Government, with this new facility to provide the fastest and least invasive assessments of heart conditions while also supporting world-class research to improve cardiac therapies for years to come. Research and patient care will commence once this new facility is opened towards the end of 2018.

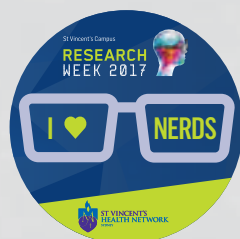
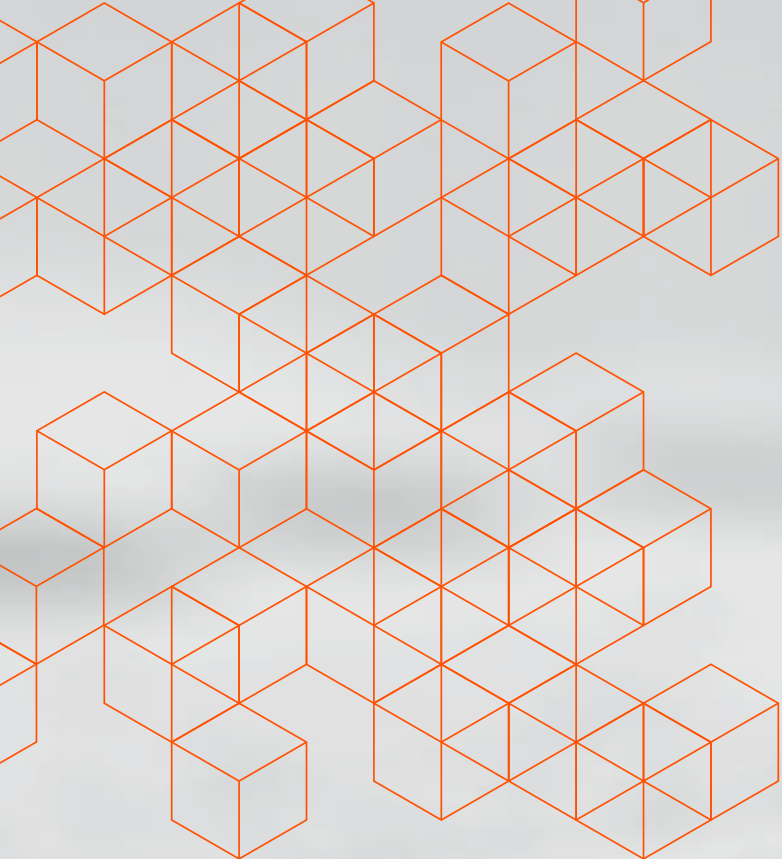
Over the last year the Foundation has granted more than \$250,000 through the Endowment Fund to support medical research projects at St Vincent's Hospital Sydney. Projects supported included the examination of the safety and efficacy of lisdexamfetamine in the treatment of adults with severe methamphetamine dependence; a study aimed at the implementation of genomic mainstreaming through providing targeted/tailored treatment based on an individual's genomic profile; and the examination of the metabolic profile of heart failure patients during treatment with metformin.

In addition to this the Foundation also began supporting an innovative trial led by A/Prof Steven Faux which uses virtual reality to alleviate pain among patients. Samsung have provided \$70,000 worth of hardware to support this trial, while the Foundation provided another \$50,000 to support the execution of the trial. The study is showing positive results with patients lowering their opioid use.

Through the generosity of individuals, community fundraisers and corporate partners we are able to fund this life-saving research to improve patient outcomes and allow people to live longer and healthier lives.

Shanthini Naidoo

CEO, St Vincent's Curran Foundation





SEEING SOMETHING GREATER

RESEARCH WEEK 2017



Research Week 2017 was an enormous success as it captured the remarkable translational health research undertaken across the Darlinghurst campus every day. It was an outstanding opportunity to celebrate some of the country's finest medical research and healthcare innovation. We are very proud of the quality and breadth of work emanating from our research community.

A video was compiled highlighting the spirit of Research Week and encouraging us to pause and reflect on the 25th anniversary of the St Vincent's Research Symposium which is a demonstration of the commitment this campus shows to celebrating our research successes and most importantly developments that will be life changing for so many people in the future. The video can be viewed on the St Vincent's Research Campus website (www.svrc.one).

There was a great atmosphere during Research Week which was aided and abetted by the free coffee cart! All of the talks and workshops were very well attended and the feedback was terrific. There were a number of events on offer including talks and seminars, fast forward presentations (5 minutes max), display booths, posters, displays and a photography exhibition.



Dr Sophie Stocker (SVH), Prof John Mattick (Garvan),
Dr Jane Carland (SVH)



Prof John Mattick (Garvan), Prof David Thomas (TKCC),
Prof Terry Campbell (AMR)

The winners of the Fast Forward Presentations (one for each day) were:

- ♦ James Wong, Victor Chang Cardiac Research Institute
- ♦ Sarah Alexandrou, Garvan Institute of Medical Research
- ♦ Cindy Lau, Pharmacy, St Vincent's Hospital

All of the success of this event would not have been possible without the participation of so many, especially the organising committee:

- ♦ Philip Cunningham (AMR)
- ♦ Anna Byrne (AMR)
- ♦ Trish Chronopoulos (AMR)
- ♦ Pamela Blaikie (AMR)
- ♦ Patricia (Trish) Kenny (AMR)
- ♦ Levina Saad (SVH)
- ♦ Carmen Herrera (SVH)
- ♦ Patty Zenonos (NRI)
- ♦ Joylynn Israel (NRI)
- ♦ Robert Kent (TKCC)
- ♦ Jane Carland (SVH)
- ♦ Sophie Stocker (SVH)
- ♦ Francoise Liepa (SVH)



James Wong



Quoc Ngo and Julie Williams
(Library Services, SVH)



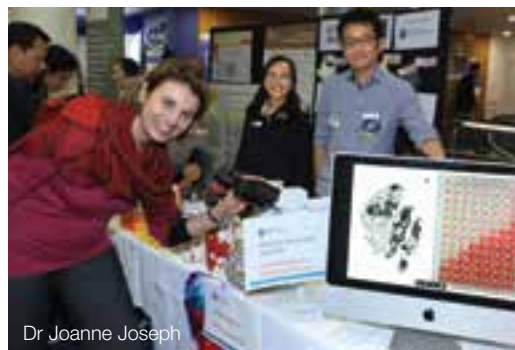
Prof John Mattick (Garvan), Cindy Lau (SVH)



Prof Jamie Vandenberg (Victor Chang), Sarah Alexandrou (Garvan)



Sr Anthea Groves, Sr Jacinta Fong



Dr Joanne Joseph



A/Prof Steven Faux and Christine Shiner



Staff using the Samsung VR booth

25TH ANNIVERSARY ST VINCENT'S RESEARCH SYMPOSIUM 2017

2017 marked the 25th anniversary of the St Vincent's Research Campus celebrating the enormous depth and breadth of research conducted on this campus. For 25 years, researchers have been encouraged to present their work to their colleagues to foster networking and collaboration within our local research community.

It was with much delight that the Organising Committee was able to invite Prof Anne deFazio to return as a guest speaker and to return to the Garvan, where she undertook her postdoctoral studies, and was one of the original organisers of this event in 1992. She was delighted to see that the symposium has become an annual event.

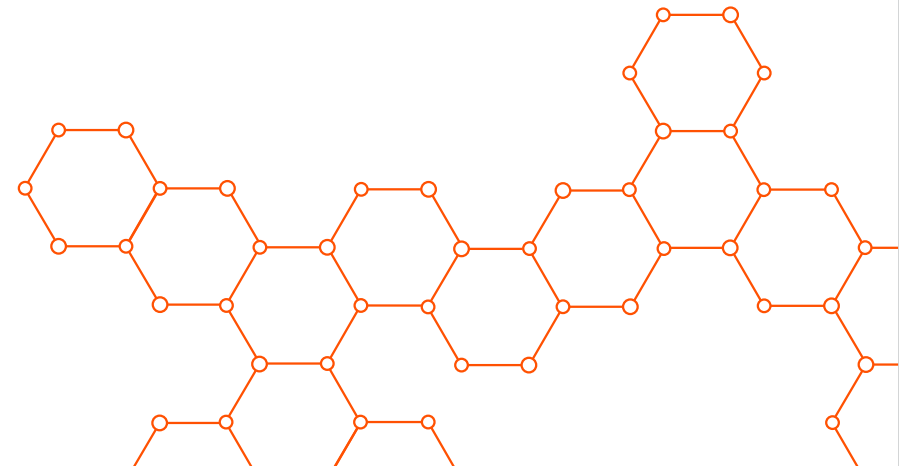
This year the Research Symposium joined with the Postdoctoral Symposium to become a special two day event held over Thursday 14 and Friday 15 September. As in previous years, it was a packed program with oral presentations and 'Flash Talks' (5 minutes) and 'Fast Forward Sessions' (3 minutes), poster displays, guest speakers and a panel discussion on 'Precision medicine and the future of science funding'. Again we recognised up and coming early career researchers across the campus with our 'Rising Star' awards. The 'Rising Star' Recipients in 2017 were:

- ♦ Dr Christine Shiner, St Vincent's Centre for Applied Medical Research
- ♦ Dr Eva Novoa, Garvan Institute of Medical Research
- ♦ Dr Alastair Stewart, Victor Chang Cardiac Research Institute

At the end of a very full two day programme, all attendees were invited to the Cocktail Function where the event could be celebrated and to be entertained by Dr Renee Lim who gave an entertaining and informative presentation on communication skills.



Dr Samantha Oakes (Chair, Organising Committee), Prof Kathryn North (Murdoch Children's Research Institute), Prof Terry Campbell (AMR), Prof Anna deFazio (The Westmead Institute for Medical Research), Prof John Mattick (Garvan)

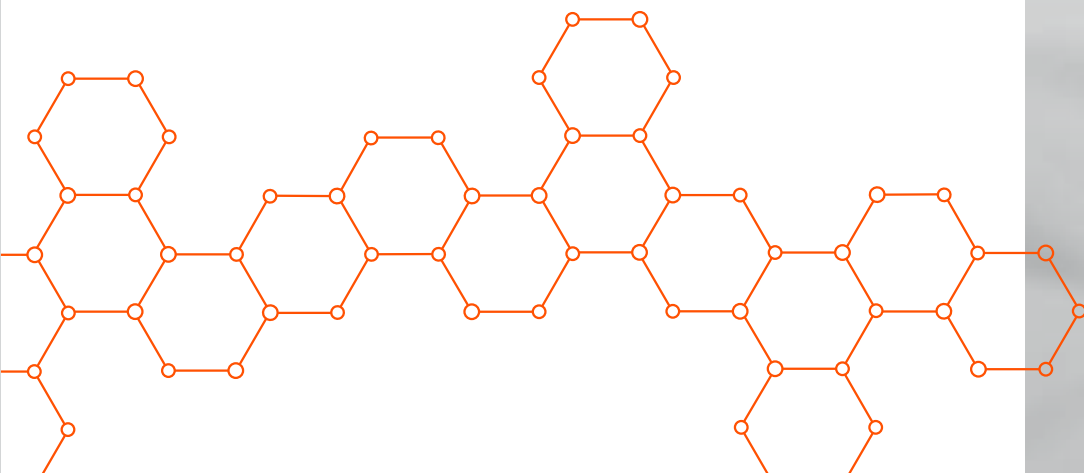
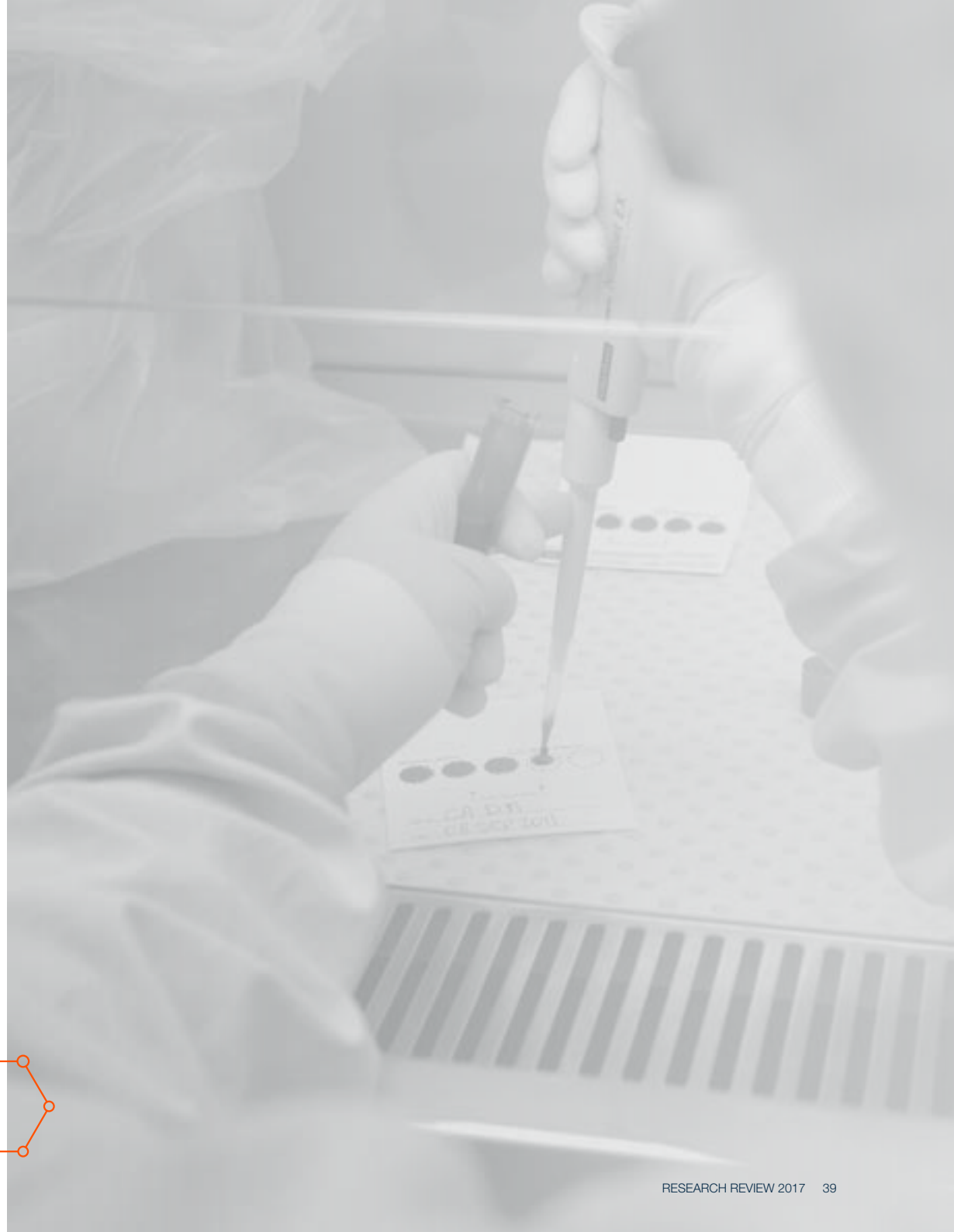


CLINICAL ETHICS FORUM 2017

CLINICAL GENOMICS

In June 2017, St Vincent's Hospital, Sydney, hosted a Clinical Ethics Forum titled "The ethical implications of clinical genomics".

This was a highly successful event, conducted in collaboration with the NSW Ministry of Health, which was attended by over 100 people from across Sydney. The discussion centred on the ethical issues relating to the handling of genetic information in patient care, a highly topical subject given the current Darlinghurst campus focus on genomic sequencing and precision medicine. The forum was a mix of presentations, case studies and interactive panel discussions informed by clinicians, researchers, clinical geneticists and bioethicists.



A grayscale background image showing various pieces of laboratory glassware, including test tubes, beakers, and a graduated cylinder, some containing liquids. The focus is soft, with the foreground glassware being sharper than the background.

SVH & KIRBY INSTITUTE PARTNERSHIP

Partnership between Kirby Institute and St Vincent's Clinical Research Program

St Vincent's has been a leading site of clinical research in HIV since the beginning of the epidemic and continues to adapt our research to the changing needs of people living with HIV. With new and effective antiretroviral treatments, people with HIV are living longer and healthier lives. However, they remain at increased risk of certain medical complications including cancer. Indeed, as people with HIV are now living into their 70s and 80s, the time of greatest risk of cancer, the rates of cancer are likely to increase.

There has been tremendous progress in new cancer treatments, including those targeting the immune system to boost the response to cancer, but people with HIV have not been included in these trials due to concerns about complications. St Vincent's in a partnership with the Kirby Institute is playing a leading role in changing that, opening the first trials in Australia for people with HIV who have cancer to enable them to access new and promising treatments, including immune therapies. We now have four trials for people with HIV and cancer open on campus, two as part of a partnership involving the U.S. National Cancer Institute. These include two early phase trials of immune therapies that have shown great promise in many cancer types, and for the first time can be assessed for their safety and suitability in people who also have HIV.

Dr Mark Polizotto

Head, Therapeutic and Vaccine Research Program

INCLUSIVE HEALTH INNOVATION PROGRAM

The St Vincent's Health Australia Inclusive Health Program focusses on addressing the health care needs of Aboriginal and Torres Strait Islander people, people experiencing mental illness, people with substance use disorders, people in prison and people who are homeless.

The program is supported by the Inclusive Health Innovation Fund and provides financial support for service innovation, research and advocacy projects both within SVHA and with our partner organisations.

“Being innovative and progressive is part of our organisational DNA,” says John Willis, SVHA Group Manager Inclusive Health who oversees the program with Group Mission Leader, Lisa McDonald.

“Our founders, the Sisters of Charity, established a tradition of radical loving care for people who are poor and vulnerable. The Inclusive Health Program is a continuation of this tradition of innovation in care. It's not the only way we serve the poor and vulnerable but it certainly enhances our Mission.”

The Fund started with a \$2.5 million distribution of grants in 2015–16 and has grown to a \$5 million distribution each year. Nearly 90 projects have been initiated over the life of the program. Some examples of these projects include:

- ♦ an innovative group-based therapy program that addresses substance use disorders and mental illness concurrently
- ♦ a partnership with an Aboriginal community controlled health service in Far North Queensland to develop a palliative care on-country service, and
- ♦ a research project to uncover patterns of vulnerability and health care needs through 'big data' analysis of hospital records.



Bringing palliative care to Cape York.



AWARDS

PROFESSOR BRUCE BREW DSC AWARD FROM UNSW

St Vincent's Neurologist Professor Bruce Brew AM, was recently awarded the degree of Doctor of Science from the University of NSW. A DSc is of higher standing than a PhD and has only been awarded to a total of 38 recipients in the last 24 years.

This was in recognition of his years of outstanding work in relation to how HIV causes brain damage and how disturbance in a particular biochemical pathway contributes to brain damage in multiple sclerosis and Alzheimer's disease, and how correction of that alteration can occur.



Professor Bruce Brew

ASSOCIATE PROFESSOR RICHARD HILLMAN WINNER OF THE 2017 SVHA INNOVATION & EXCELLENCE AWARD

Anal cancer disproportionately affects the poor, and occurs at very high rates in certain disenfranchised and vulnerable communities. Provision of care for people with anal cancer closely aligns with St Vincent's Health Australia's Mission values, and the Darlinghurst campus is located at the Australian epicentre of anal cancer.

The Dysplasia and Anal Cancer Services (DACS), St Vincent's Hospital, was established in 2016 and provides person-centred clinical services with the latest precision-guided interventions. Building on research conducted at St Vincent's, Associate Professor Richard Hillman and his team have been able to identify individuals with HIV who are at markedly increased risk of developing certain HIV-related cancers. By identifying such individuals at very early stages, targeted treatment is most likely to be effective and have fewer side effects. The team is a leader in the development of international benchmarks for the diagnosis of these conditions and is now globally recognised as providing high quality, evidence-based care.

The award was in the category of 'Leading Reputation'.



Don Chisholm, Mark Febbraio, Jerry Greenfield

AUSTRALIAN DIABETES SOCIETY AWARDS — PROFESSORS DON CHISHOLM, MARK FEBBRAIO AND JERRY GREENFIELD.

Three leading diabetes researchers from the Garvan Institute of Medical Research and St Vincent's Hospital Sydney were each awarded prestigious annual awards bestowed by the Australian Diabetes Society (ADS). The awards will be presented to Professors Mark Febbraio, Jerry Greenfield and Don Chisholm AO at the 2017 Annual Scientific Meeting of the ADS and the Australian Diabetes Educators Association (ADEA) in Perth in August 2017.

Professor Mark Febbraio (Garvan Institute) was awarded the 2017 ADS Kellion Award for his outstanding contribution to diabetes research.

Professor Jerry Greenfield (St Vincent's Hospital Sydney and Garvan Institute) was awarded the 2017 Ranji and Amara Wikramanayake Clinical Diabetes Research Award. This mid-career award recognises a clinician who has made

significant contributions to diabetes research, and provides funding to further advance those achievements.

Professor Don Chisholm AO (St Vincent's Hospital Sydney and Garvan Institute) was awarded the Inaugural ADS Lifetime Achievement Award which celebrates an individual who has made significant, fundamental and lasting contributions to diabetes research, clinical practice or leadership, and has demonstrated a lifetime commitment to diabetes.

"Don is a rare species in Australia as he represents the archetypal clinician-scientist. He is rare because while his knowledge of clinical medicine and endocrinology is extraordinary, his knowledge of basic research is unparalleled," Prof Febbraio says.

PROFESSOR PETER MACDONALD

Congratulations to St Vincent's cardiologist and Professor Peter Macdonald who was recently named one of the NSW nominees for 2018 Australian of the Year. Peter is part of the team behind what has been described as the most important global advancement in heart transplantation since the early 1980s. In a world first, Peter and his research team have successfully implemented a program of heart transplantation after circulatory death. This will increase the number of heart transplants that can be performed by at least 30%.

Peter has mentored dozens of postgraduate students, published over 300 research papers and is actively striving to close the gap in health inequality by providing outreach services to remote Indigenous communities.



Professor Peter Macdonald



STRIVING FOR SOMETHING GREATER



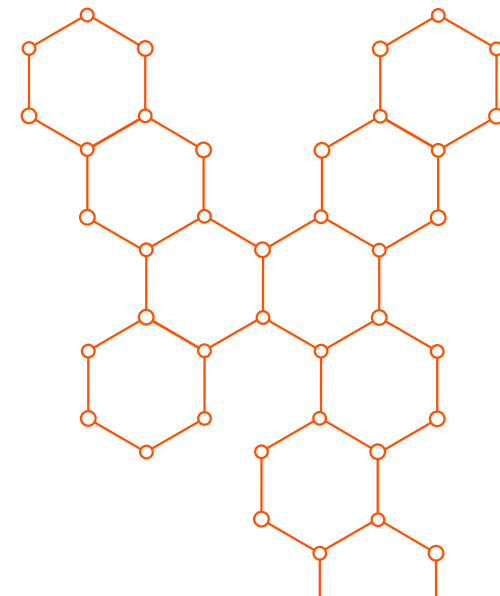
PARTNERSHIPS

ST VINCENT'S PARTNERS WITH SAMSUNG

In recent years, St Vincent's Director of Rehabilitation A/Prof Steven Faux has established an innovative partnership with UNSW Art and Design to deliver a state-of-the-art Virtual Reality (VR) experience for stroke rehabilitation patients – using the technology to enable them to see inside their own body to better understand their condition.

After seeing the benefits of the technology to our stroke patients, it was clear that this concept could be translated into other health applications, such as Pain Management. To facilitate this, St Vincent's has partnered with Samsung Electronics to perform a clinical trial to investigate the use of Virtual Reality for acute pain management. The trial will use Samsung's smartphones and Gear VR technology to evaluate their potential use as a treatment for acute pain. The study will also investigate potential side effects, cost efficiency, toxicity and ability to reduce risk of opioid dependency.

"We're thrilled to partner with Samsung on this innovative study," said A/Prof Anthony Schembri, CEO, SVHNS. "By harnessing the power of Samsung's virtual reality technology, we're proud to possibly uncover the potential of a pain management program that looks at new ways of helping our patients in their recovery."



THE FUTURE OF CLINICAL TRIALS AT ST VINCENT'S

“In our enVision 2025 strategy, we have committed to ‘Strive for Something Greater’ through clinical and research excellence which delivers the best clinical outcomes. An innovative clinical trials model will be essential to improving care and creating a vibrant future for St Vincent’s.” A/Professor Anthony Schembri, CEO, SVHNS.

At the end of 2017, a consultation process was undertaken to lay the foundation for developing a model for clinical trials at St Vincent’s.

St Vincent’s Hospital Sydney has a long history of clinical research with many world class achievements. Our performance from 2013–2017 has shown that we are one of the most research active networks in NSW and that trial activity is continuing to increase rapidly across the campus. The biggest increase in activity has been in early phase trials with the main areas of activity being in the Kinghorn Cancer Centre (TKCC), the Heart Lung Vascular program and the Clinical Research Program (AMR). To support this large body of work, there are approximately 50 staff across the campus in management and operational support roles.

The input from senior stakeholders at a workshop was used as a foundation on which to develop a model for clinical trials built on the operational support that is currently in place. The main objectives of a model at St Vincent’s would be to:

1. Create a vibrant research culture that informs clinical practice
2. Support the design and planning of high quality trials

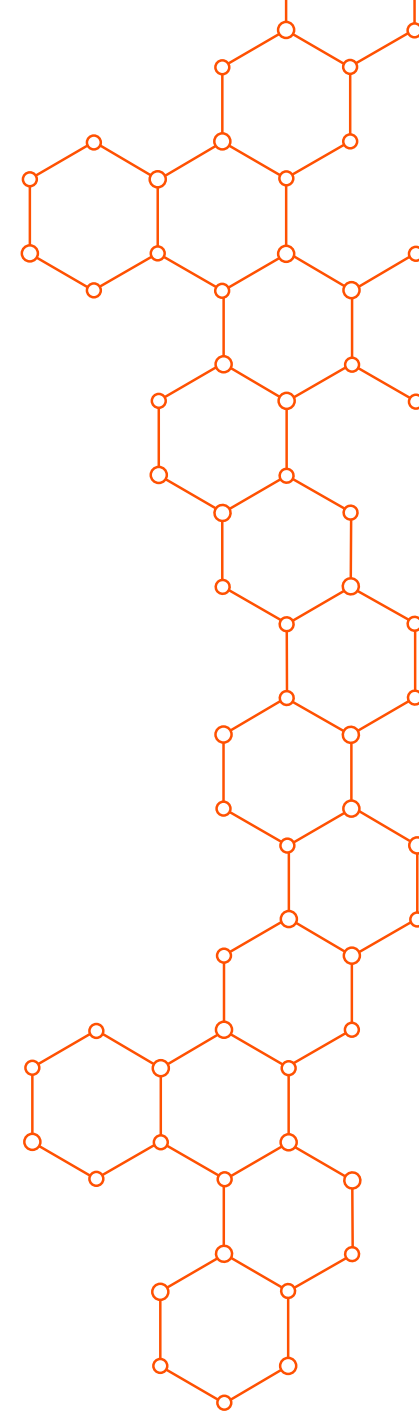
3. Support high quality operational conduct of trials

It became clear through the consultation process that maintaining the characteristics of each speciality and their research agendas is important and that any future clinical trials model will support investigators with their trials.

The key recommendations from the consultation outlined the following elements to develop a clinical trial model at St Vincent’s:

- ◆ Strengthen efforts to make clinical trials part of the Standard of Care
- ◆ Develop a Research Design Service
- ◆ Peer-review for investigator initiated trials
- ◆ Facilitation of governance requirements
- ◆ Standardised budget tools and tariffs
- ◆ Implement a quality system and appoint a quality manager
- ◆ Create user groups for trial coordinators and data managers
- ◆ Centralised support for data managers
- ◆ Regular reporting of clinical trials performance metrics

The model will need to be designed and implemented by a working group with advice from the Research Advisory Council and sponsored by the Research Executive Council.



BREAKING NEWS

OPIOID STEWARDSHIP

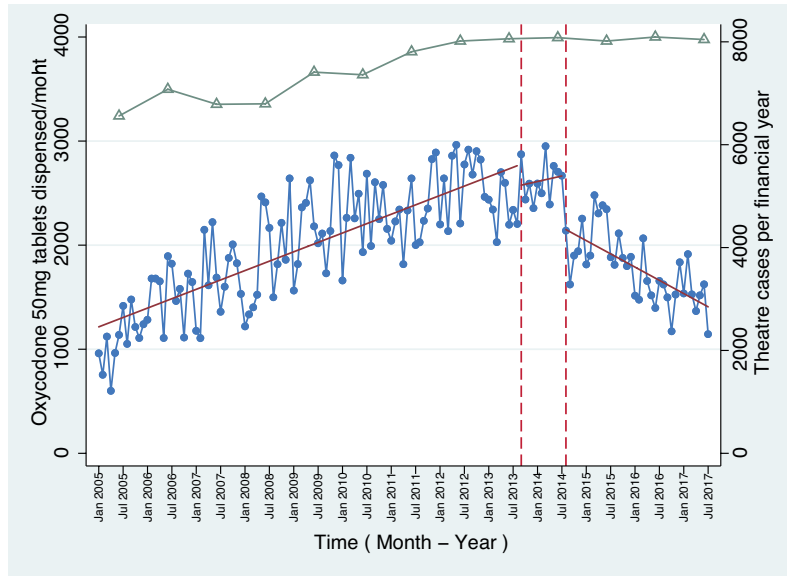
Dr Jennifer Stevens and Dr Erez Ben-Menachem have started a research program within the department of anaesthesia and pain medicine which has grown rapidly and been supported by the availability of A/Prof Stephen Kerr as a biostatistics resource. Within the last year the program has seen publication of eight articles, including one in the world's highest-ranking anaesthesia journal, and the completion of three book chapters.

One focus has been on reducing harms from medication. This led to publication of some of the first Australian data on conversion to long-term opioid use after surgery. In a sample of more than 1000 patients who did not use regular opioids before surgery at St Vincent's Private Hospital almost 25 per cent of back surgery patients and 15 per cent of joint replacement patients continued to use opioids 90 days after their operation. This has reinforced the concept of surgery as a gateway to inadvertent long-term opioid use. The number of deaths from prescription medication in Australia has

surpassed the road toll for a number of years now and deaths rise with increased supply of opioids into the community.

Reducing the amount of excess supply of opioids into the community after surgery has been tackled with team-specific audit and academic detailing. The research team devised an 'inappropriateness' tool to determine whether prescribing opioids on discharge was reasonable based on what the patient had taken in the last 48 hours. The number of patients being inappropriately supplied with oxycodone on discharge fell by an enormous 62 per cent and the amount of oxycodone being dispensed for discharge postoperatively has continued to fall. A collaboration with pharmacy has resulted in state-wide software for NSW hospitals to allow tracking of prescribing patterns by individual hospital teams.

OXYCODONE DISPENSED FOR DISCHARGE IN TABLETS PER MONTH



Publications have also covered alternative analgesics and the effect on depth of anaesthesia and cardiac function, the safety of an alternative anaesthetic agent for short procedures, and early detection of pneumothorax with lung biopsy after lung transplant.

ALLIED HEALTH RESEARCH IN INTENSIVE CARE

Dr George Ntoumenopoulos is currently Consultant Physiotherapist in Intensive Care at St Vincent's Hospital, Sydney. George has initiated bespoke training courses in diagnostic lung ultrasound for acute respiratory physiotherapists around the world (including Australia, UK, Europe, South Africa, Singapore and China).

Current research encompasses innovation through the use of novel diagnostic tools (diagnostic ultrasound) with plans to explore translation into practice.

Funded research projects include:

- ♦ An international collaboration on the use of diagnostic thoracic ultrasound imaging on the impact of clinical decision making in critical care patients with ICU at St Vincent's and our colleagues in France (funded through Australasian Society of Ultrasound In Medicine);
- ♦ Early markers of de-conditioning or muscle weakness of patients in ICU;
- ♦ The use of diagnostic thoracic ultrasound in patients who require extracorporeal membrane oxygenation;
- ♦ The tracking of diaphragm function using ultrasound imaging for patients who require extracorporeal membrane oxygenation – conducted with our colleagues at The Prince Charles Hospital (TPCH), Brisbane.

HIV TESTING INNOVATION

‘Reaching Out’ – Improving access to HIV and Hepatitis C testing – Dried Blood Spot (DBS)

For many years, our research laboratories at St Vincent’s Hospital have been developing tests that could be used to detect HIV and Hepatitis C antibodies in samples known as dried blood spots (DBS). DBS are alternative samples to regular blood samples. This means that DBS can be collected in rural and remote settings by using a ‘finger-prick’ blood collection. DBS testing for HIV is a self-collection method (rather than a self-test – so no results at home) that enables people to collect samples at a place of their choice, post back and receive results without having to attend a health service.

Last year, the NSW Ministry of Health in partnership with St Vincent’s Hospital Sydney and the NSW Sexual Health InfoLink developed a program to offer DBS testing to improve the access and uptake of HIV and HCV testing in people who may not otherwise test. Participation is made available to a dedicated website where people can register and receive a self-sampling dried blood spot (DBS) kit. The kits can either be posted out to participants to a nominated postal address or made available through various settings such as healthcare workers, community clinics or outreach services. The service is offered at no cost to the patient.

The State Reference Laboratory for HIV/AIDS at St Vincent’s Hospital (Sydney) is responsible for receiving and testing all DBS samples, and

clinical management and patient followup, result provision and follow-up will be provided by NSW Sexual Health Infolink (SHIL). In the early phase of the project, testing has been limited to men who have sex with other men, people who are from Africa or Asia or have (or have had) a sexual partner who is from those regions. The study was recently expanded to include HCV testing for those participants that identify a history of injecting drug use or identify as Aboriginal or Torres Strait Islander. We think this DBS test will improve access to people who may not test or test for HIV as frequently as they should. In particular, the DBS test for HIV is beneficial for patients who are concerned about known barriers to HIV testing in conventional health settings, including embarrassment, cost, transport or logistical issues or concerns about needles or traditional venepuncture sampling.

So far the project has attracted 730 participants with 5% of participants identified as Aboriginal and Torres Strait Islander people, 76% as men who have sex with men, 27% of people from Asia or Africa, 32% as partners of people from Asia or Africa and 5% of people who inject drugs.

Associate Professor Philip Cunningham
NSW State Reference Laboratory for HIV
at St Vincent’s Centre for Applied Medical
Research in Sydney



RESEARCH LEGEND RETIRES

Professor Gavin Andrews was named as a finalist in the Australian Mental Health Prize, recognising his career in mental health research spanning 60 years. The prize, in its second year, celebrates Australians who have made outstanding contributions to the promotion of mental health, or the prevention and treatment of mental illness. An innovative clinician and researcher, Prof Andrews has led the way in anxiety and depression research, founding CRUFAD (Clinical Research Unit for Anxiety and Depression) in 1964. During his career, he has published more than 600 papers and books, and has inspired and trained hundreds of young scientists and medical students. He is also responsible for designing and developing THISWAYUP, a series of online courses to treat people for anxiety and depression.



Contact information and acknowledgements
St Vincent's Centre for Applied Medical Research
Level 4 Lowy Packer Building
405 Liverpool St
Darlinghurst NSW 2010
P: +61 2 8382 4900
F: +61 2 8382 4901
www.amr.org.au

St Vincent's Centre for Applied Medical Research
extends its sincere thanks to all staff, patients,
volunteers and collaborators for their contribution
to this publication.

St Vincent's Centre for Applied Medical Research
Review 2017
Editor: Anna Byrne
Design: www.leadinghand.com.au

