

For 2009, 18 Research grants were awarded totalling \$690,000.

The Ladies' Committee Sr Mary Bernice Grant - \$100,000

"Optimising metformin dosing regimens in patients with diabetes"

Professor Richard Day - Principal Investigator

Type 2 diabetes mellitus is a chronic disease that affects more than one million Australians and is the leading cause of blindness and kidney disease. The current therapeutic strategy with metformin, the primary agent used in the treatment of Type 2 diabetes, is problematic. We aim to investigate new strategies to maximise the benefits of metformin, particularly for people with kidney impairment.

Research undertaken at St Vincent's Hospital

Adult Stem Cell Research Grant - \$100,000

" Reprogramming of pluripotent cells from adult cardiac stem cells in vitro without genetic modification"

Professor Richard Harvey - Principal Investigator

Recent research has demonstrated that it is possible to reprogram adult cells into embryonic stem cells in vitro. This approach has tremendous potential to eliminate the need for creation of human embryonic stem cells by destruction of human embryos, and would allow ethical deployment of patient-specific medical applications. However, many technical issues have legitimately been raised. Our laboratory has isolated an adult cardiac cell population that exhibits stem cell properties. The aim of this work is to reprogram these cells into pluripotent embryonic stem-like cells without genetic manipulation, reducing ethical and safety concerns associated with these discoveries.

Research undertaken at Victor Chang Cardiac Research Institute

Tancred Research Grant - \$50,000

Validation of the acceptability and reliability of anal swabs used for cytological screening, to detect Anal Squamous Intra-epithelial Lesions (ASIL) in HIV-positive Men who have Sex with Men (MSM)"

Dr Richard Hillman - Principal Investigator

Anal cancer often presents late and treatment typically involves surgery and chemo-radiotherapy. Five-year survival rates are around 60%. HIV positive men who have sex with men are at exceptionally high risk of anal cancer, and rates are rising. This project seeks to identify those at increased risk, and investigate the early detection of anal cancer and pre-cancerous lesions using self-collected anal cytology. Participants identified with anal cancer or serious pre-cancerous lesions will be offered appropriate clinical management.

Research undertaken at St Vincent's Hospital

K & A Collins Cancer Grant - \$50,000

"Identifying new therapeutic targets for basal-like breast cancer"

Dr Sandra O'Toole - Principal Investigator

There has been a significant decrease in deaths from breast cancer over the past two decades. Much of this improvement is due to the use of drugs which specifically target hormonal or growth pathways in the cancer. However, about 10 to 15% of cancers (called basal-like) do not respond to these treatments, and have a much worse prognosis. We plan to use a cell culture system to test new drugs that target a genetic pathway called Hedgehog to see if we can slow the growth of breast cancer cells. We hope that this might identify new treatments for basal-like breast cancers.

Research undertaken at Garvan Institute of Medical Research

Di Boyd Cancer Grant - \$30,000

"Involvement of the kynurenine pathway in the persistence of brain tumours"

Prof Bruce Brew - Principal Investigator

The use of stem cells isolated from adult tissues holds promise as a novel therapeutic approach in multiple sclerosis (MS). This project seeks to optimize adult stem cell proliferation and differentiation to facilitate therapeutic transplantation for MS. Our preliminary data allow us to hypothesize that activation of tryptophan metabolism is a key factor explaining the limited ability of adult stem cells to proliferate and differentiate. We will use inhibitors of tryptophan metabolism in cell cultures and animal models to test this hypothesis. If correct, the results will considerably advance the therapeutic use of stem cells.

Research undertaken at St Vincent's Hospital

Froulop Vascular Research Grant - \$40,000

"Development of an enhanced myocardial protection strategy in a porcine model of cardiac transplantation"

Prof Peter Macdonald & Dr Paul Jansz - Principal Investigator

A major obstacle to successful heart transplantation is the injury sustained by the organ during the period it remains outside the body; periods exceeding 4 hours are associated with an increased risk of death, and 6 hours is considered the maximum limit. This project evaluates a modification of the standard preservation technique using a unique combination of three drugs to protect the heart. The aim of the study is to successfully transplant pig hearts after 20 hours storage outside the body. If successful, the new technique may be considered for a clinical trial in humans.

Research undertaken at Victor Chang Cardiac Research Institute

Annual Grant I - \$30,000

“Reactivation of cytomegalovirus in the critically ill patient: Is it an important cause of morbidity & mortality in the Intensive Care setting”

Dr Lewis Campbell & A/Prof Debbie Marriott - Principal Investigator

We aim to prove whether CMV makes sick people sicker. Cytomegalovirus (CMV) is a member of the herpes virus family and people whose immune system is damaged can become very unwell or die if CMV is reactivated in them. Nobody has proven whether CMV is a cause of organ failure or death in previously healthy people in the intensive care unit. Limited data suggest that it makes things worse and we aim to determine whether this is the case. If we find that reactivation of CMV causes clinical problems, we might be able to help people by treating CMV.

Research undertaken at St Vincent's Hospital

Annual Grant II - \$30,000

“Per mucosal transmission of hepatitis C virus in high-risk populations”

Dr Mark Danta - Principal Investigators

Hepatitis C virus (HCV) is usually transmitted by blood-to-blood contact. The risk of transmission by sexual contact has been thought to be low. However, in recent years increasing hepatitis C infection has been documented among HIV-positive gay men, with sexual contact the most likely means of infection. This grant will use established cohorts of patients to define the levels of hepatitis C risk through sexual contact among homosexual men to inform public health strategies to mitigate HCV transmission.

Research undertaken at St Vincent's Hospital

Annual Grant III - \$30,000

“Atrial endocardial endothelium: a substrate for atrial fibrillation?”

A/Prof Diane Fatkin - Principal Investigator

Blood vessels are lined by endothelial cells that mediate responses to a variety of signals including mechanical stretch. It is not generally appreciated that the atrium of the heart is also lined by endothelial cells. We propose to study the structure and function of atrial endothelial cells under resting conditions and with stretch and to compare these findings with peripheral vascular endothelial cells. We hope to identify novel factors that might be involved in the development of atrial rhythm abnormalities.

Research undertaken at Victor Chang Cardiac Research Institute

Annual Grant IV - \$30,000

"Comparison of anti-platelet therapies on left ventricular structure and function in severe congestive heart failure"

A/Prof Chris Hayward - Principal Investigator

Congestive heart failure represents an increasing burden on health care and is estimated to cost the Australian community more than \$1billion annually. Aspirin is extensively used in heart failure, but actually may interact with standard heart failure treatment, decreasing effectiveness, particularly when the heart failure is most severe. This study will use magnetic resonance imaging (a non-invasive heart scan) to accurately measure heart size and function in heart failure patients while on aspirin, and re-measure while on an alternate blood-thinning agent, Clopidogrel.

Research undertaken at St Vincent's Hospital

Annual Grant V - \$30,000

"Atrial Fibrillation Ablation: In Search of a Cure"

Dr Rajesh Subbiah - Principal Investigator

Atrial fibrillation (AF) is a major cause of illness and death. Drugs have been the mainstay of therapy but have proven to be ineffective in the majority of patients with the added risk of side effects. More recently a state-of-the-art procedure is available, which involves a minimally invasive approach using ablation targeting the triggers and drivers of AF. The current study aims to identify factors that predict success and identify key targets so as to improve long term outcomes.

Research undertaken at St Vincent's Hospital

Annual Grant VI - \$30,000

"Macrophage Inhibitory Cytokine-1 (MIC-1) for the prediction of prostate cancer outcomes"

Dr David Brown - Principal Investigator

Currently, low-risk cancers are actively monitored with regular repeat biopsy. Surgery may be required. However, some of these tumours will still spread. Early studies suggest that MIC-1 is the best predictor of low-risk tumours that spread and can identify patients who should have surgery even if categorized as low-risk by other methods. This project will confirm if the MIC-1 can be used to determine how prostate cancer will behave in the future and consequently, which treatment option would be best.

Research undertaken at St Vincent's Hospital

Annual Grant VII - \$30,000

"Epigenetic profiling in schizophrenia"

Dr Michael Buckland - Principal Investigator

This project will, for the first time, comprehensively examine a whole class of regulatory elements in the human schizophrenic brain. These newly described regulatory elements, microRNAs, are highly expressed in human brain. Recent data indicates that they are disturbed in a genetic syndrome that predisposes to schizophrenia. We will, for the first time, use exciting new high-throughput technology to provide a comprehensive overview of these elements in normal and schizophrenic brain in an aim to identify an underlying substrate for this debilitating and common disease.

Research undertaken at St Vincent's Hospital

Travelling Fellowship I - \$10,000

Master of Science (Orthopaedic and Rehabilitation Technology)

Dr Andrew Higgs

Department of Orthopaedic Surgery

Multi-disciplinary Patient Focused Grant I - \$50,000

"Improving management of fever, hyperglycaemia and swallowing dysfunction in acute stroke at St Vincent's Hospital"

Prof Sandy Middleton - Principal Investigator

Our project aims to determine how well multi-disciplinary health professionals (doctors, nurses and speech pathologists) at St Vincent's Hospital monitor, measure and treat episodes of fever, hyperglycaemia and swallowing dysfunction in the first 72 hours following acute stroke. We will develop St Vincent's Hospital as the lead research site for the state-wide Quality in Acute Stroke Care study. This will enable separate analyses of St Vincent's Hospital data to determine 90-day patient outcomes and benchmarking with state-wide data for outcomes of death, dependency, disability and health status.

Project undertaken at SVMH&S Nursing Research Unit

Multi-disciplinary Patient Focused Grant II - \$25,000

"St Vincent's Private Hospital Venous Thromboembolism (VTE) Prevention Project"

Dr Kim Walker - Principal Investigator

We aim to improve compliance with best practice venous thromboembolism prophylaxis in adult medical and surgical patients. Specifically, the project will adapt for the private sector the National Institute of Clinical Studies (NICS) 'Stop the Clot Program' which was implemented in public hospitals across Australia in 2005-2007.

Project undertaken at St Vincent's Private Hospital

Multi-disciplinary Patient Focussed Grant III - \$19,500

"Multi-disciplinary implementation of an evidence-based practice: Collaborative quality improvement in Intensive Care Unit (ICU) patient care"

Ms Serena Knowles - Principal Investigator

A multidisciplinary evidence-based protocol for bowel management will be implemented in the Intensive Care Units at SVH and SVPH. To maximise the uptake of the bowel management protocol, a targeted implementation strategy will be designed following survey and focus groups of the medical and nursing staff within the units. Rigorous evaluation will determine 1: the effect of the protocol on improving patient outcomes for bowel management and 2: the effectiveness of the implementation strategy in changing clinicians' behaviour to promote the use of evidence-based practice. The focus of the strategy will be on improving patient outcomes and increasing clinicians' use of evidence in making care decisions. Results from our study will provide valuable insight for implementing future practice change innovations.

Project undertaken at St Vincent's Hospital

Multi-disciplinary Patient Focussed Grant IV - \$5,500

"Orthopaedic Rehabilitation Outcome Comparison"

Ms Xanthe Jones - Principal Investigator

This project will examine the outcomes at three months post elective hip and knee replacement surgery conducted at St Vincent's Private Hospital for 3 models of post-acute care. The models of post acute care which will be compared are: Rehabilitation in the home, Inpatient rehabilitation and discharge to home without further multi-disciplinary rehabilitation input. Outcomes to be investigated will include: mobility, functional outcome, pain and analgesia requirements, complication rates, readmission rates and a cost comparison

Project undertaken at St Vincent's Private Hospital
