

## **New South Wales**

### **Chief Investigators**

**CIA** Prof David E JAMES

**CIB** Prof Jennifer L MARTIN

**CIC** Prof Edward W KRAEGEN

**CID** Prof Donald CHISHOLM

**CIE** A/Pr Gregory J COONEY

**CIF** Dr Jiming YE

**Scientific Title** Pathways to Diabetes Prevention.

**Administering Institution** Garvan Institute of Medical Research

**Recommended Budget** \$10,596,960.00

### **Lay Description**

Type 2 diabetes (T2D) is threatening the health of this nation and if unchecked will cripple our health care system. There are several problems: (1) The incidence of T2D is growing and we do not fully know why; (2) T2D involves defective insulin action but how insulin works normally is still unclear; (3) Much research in this area is performed in laboratory cells or animals and the translation of this research to the human disease is yet to be fully realised; and (4) Current therapies and diagnostic markers for early disease prediction are inadequate. Our goal is to make progress in each of these areas.

## **Chief Investigators**

**CIA** Prof Roger J DALY

**CIB** A/Pr Elizabeth A MUSGROVE

**CIC** Prof Rob L SUTHERLAND

**CID** A/Pr Christopher J ORMANDY

**CIE** A/Pr James G KENCH

**CIF** A/Pr Andrew V BIANKIN

**Scientific Title** Molecular Markers of Phenotype, Therapeutic Responsiveness and Prognosis in Human Cancers.

**Administering Institution** Garvan Institute of Medical Research

**Recommended Budget** \$11,128,320.00

## **Lay Description**

This proposal aims to identify molecular markers that can be used to classify subtypes of particular cancers according to their prognosis and response to therapy. This will optimise selection of patients for the most appropriate treatment and lead to the development of new therapeutic strategies.

## **Chief Investigators**

**CIA** Prof Jeffrey BRAITHWAITE  
**CIB** Prof Johanna IM WESTBROOK  
**CIC** Prof Enrico W COIERA  
**CID** Prof William B RUNCIMAN  
**CIE** Prof Richard O DAY

**Scientific Title** Patient Safety: Enabling and Supporting Change for a Safer and More Effective Health System.

**Administering Institution** University of New South Wales

**Recommended Budget** \$8,400,000.00

## **Lay Description**

Internationally, patient safety is a growing concern. Patient harm occurs in 10% of hospital admissions. A million adverse events occur in general practice each year in Australia. Overseas data reports that patients receive recommended care only 50% of the time. We will significantly advance this work by investigating how and why this occurs, with a focus on the roles of teamwork, safe medication use and the application of information technology to support improved decision-making.

## **Chief Investigators**

**CIA** Prof Stephen W MACMAHON

**CIB** Prof John P CHALMERS

**CIC** A/Pr Bruce C NEAL

**CID** Prof Mark WOODWARD

**CIE** Prof Craig S ANDERSON

**CIF** A/Pr Anushka A PATEL

**Scientific Title** Generating the Evidence for New Strategies to Combat Cardiovascular Diseases.

**Administering Institution** University of Sydney

**Recommended Budget** \$12,119,660.00

## **Lay Description**

The Program brings together clinicians, epidemiologists and statisticians in a unique endeavour, combating heart attack and stroke. For the foreseeable future, these conditions will remain leading causes of death and disease in Australia and the world. While there are many established treatment and prevention strategies there remains great potential for further advances to avert large numbers of deaths and serious disabling outcomes. This Program will provide new information that will give patients, doctors, consumers and policy makers new options for disease prevention.

## **Queensland**

### **Chief Investigators**

**CIA** Prof Adele C GREEN

**CIB** A/Pr Penelope M WEBB

**CIC** A/Pr David C WHITEMAN

**Scientific Title** Gynaecological, Oesophageal and Skin Cancer in Australia: Developing the Evidence-base for Prevention and Control.

**Administering Institution** Queensland Institute of Medical Research

**Recommended Budget** \$5,752,320.00

### **Lay Description**

Our Program addresses cancers of the ovary, uterus, oesophagus and skin (both melanoma and non-melanoma skin cancers). The first three cancers together affect almost 4,000 people and cause more than 2,000 deaths every year while skin cancer affects almost 400,000 Australians each year. Our aims are, first, to understand better how these cancers are caused so that we can try to prevent them in the future; second, to enhance diagnosis of these cancers; and third, to improve the survival and quality of life for people who are diagnosed with these cancers in Australia.

## **Chief Investigators**

**CIA** Prof Perry F BARTLETT

**CIB** Prof Seong-Seng SS TAN

**CIC** Prof Trevor J KILPATRICK

**CID** Prof Pankaj SAH

**Scientific Title** Development and Refinement of Neural Connections in the Adult Brain in Health and Disease.

**Administering Institution** University of Queensland

**Recommended Budget** \$7,627,200.00

## **Lay Description**

Our group will use innovative approaches such as advanced imaging and cell-sorting and development of animal models to determine how new neurons are generated, how they travel to different parts of the brain and how they integrate into the existing brain.

## **Victoria**

### **Chief Investigators**

**CIA** Prof Patrick D MCGORRY

**CIB** Prof Anthony F JORM

**CIC** Prof Ian B HICKIE

**CID** Prof Christos PANTELIS

**CIE** Prof Alison R YUNG

**Scientific Title** Emerging Mental Disorders in Young People: Using Clinical Staging for Prediction, Prevention and Early Intervention.

**Administering Institution** University of Melbourne

**Recommended Budget** \$10,027,500.00

### **Lay Description**

Mental disorders are a major cause of disability in Australia, especially for young people. We have developed a clinical staging model covering the earliest symptoms through persistent disorder to chronic disability. We are investigating neurobiological, personal and social factors which increase the risk of progression through these stages, and novel treatment strategies which may prevent or delay onset and relapse, reduce the impact of illness, and promote recovery. Major public health benefits and better understanding of the onset and progression of illness will result.

## **Chief Investigators**

**CIA** Dr Philip D HODGKIN

**CIB** Dr David M TARLINTON

**CIC** Dr Stephen L NUTT

**CID** Dr Lynn M CORCORAN

**Scientific Title** The Regulation of Antibody: A Systems Approach.

**Administering Institution** Walter and Eliza Hall Institute

**Recommended Budget** \$7,674,240.00

## **Lay Description**

Antibodies are made by B-cells and are essential for a functional immune system. B cells circulate in the body, and, when they encounter an invader, they mature into antibody-producing cells (ASC). A small proportion of the cells become “memory” cells with the potential to become ASC should the same infection occur in the future. This is the basis of vaccination. This program aims to understand how a B cell changes into an ASC. We aim eventually to be able to improve vaccines and understand diseases such as allergy, lupus, arthritis and leukaemia to develop novel therapies.