

# Health & Medicine

The University of Adelaide's research expertise in health and medicine encompasses a broad spectrum of research interests, from laboratory-based biochemical research to clinical research and the study of broader populations.

From its inception in 1885, Adelaide's Medical School has become one of Australia's most prestigious medical schools, with many of its graduates making a significant impact on world health through medical practice and research in Australia and overseas.

The University of Adelaide is a key training provider for the health workforce in South Australia, and home to the most high-tech medical teaching facility South Australia has ever seen - Bio Skills SA - complete with human simulator robots and a fully integrated audiovisual system for remote videoconferencing.

Health and medical research is spread over eight main sites in the Adelaide metropolitan area and the University is recognised as the lead site in Australia for many multi-centre international clinical trials.

This enables close interaction of researchers and students with the staff of our affiliated research institutes and hospitals. These include SA Pathology (IMVS, Hanson Institute), CSIRO Human Nutrition, Royal Adelaide Hospital, Queen Elizabeth Hospital, Women's and Children's Hospital, Women's and Children's Health Institute, Lyell McEwin Hospital and Modbury Hospital. Such co-location and the associated network of collaborations create an environment for learning, innovation and applied research ultimately for the benefit of the wider community.

## Areas of Expertise

- Reproductive health
- Early development
- Women's and children's health
- Men's health
- Nutrition
- Population health
- Oral health
- Cardiovascular research
- Neuroscience
- Pain and analgesia
- Primary care / general practice
- Diabetes and obesity
- Psychology

## New Strategic Focus

### Robinson Institute

The University of Adelaide has established a new research institute - the Robinson - focussing on reproductive health, intergenerational health and new stem cell research. Named after renowned obstetrician Professor Jeffrey Robinson CBE Emeritus Professor at the University of Adelaide, the Institute encompasses the University's Research Centre for Reproductive Health, the Centre for Stem Cell Research and the Centre for Early Origins of Health and Disease in a collaborative venture with our affiliated research institutes and hospitals. The Robinson Institute is led by University of Adelaide reproductive medicine expert, Professor Robert Norman and involves more than 200 research staff and students with

expertise ranging from epidemiology through to molecular biology and genetics. Bringing together these diverse disciplines will lead to strong clinical and commercial outcomes in human and animal health, including new treatments for infertility, stem cell production and novel interventions in diseases of pregnancy and cancer. It will also promote research in areas such as new treatments for stroke, cardiac disease, cystic fibrosis and translation into improved patient care.

### Adelaide Cancer Research Institute

One in three Australian men and one in four Australian women develop a major cancer before the age of 75 years, and cancer is the leading cause of premature death. Approximately 120,000 Australians are diagnosed annually with cancer. A recent report from the Australian Institute of Health and Welfare suggested that cancer

was likely to remain the largest contributor to the health burden in Australia over the next twenty years. In this context the University and its affiliated research partners, including SA Pathology and the Central & Northern Adelaide Health Service (CNAHS) have established the Adelaide Cancer Research Institute. The Institute brings together two major existing research centres: the Centre for Cancer Biology and the Centre for Breast and Prostate Cancer. Institute researchers are gaining fundamental insights into increasing our knowledge of cancer in general and are making substantial contributions to our understanding of the underlying causes of cancer growth and spread and also resistance to therapy.

### The Freemasons Foundation Centre for Men's Health (FFCMH)

With generous support from the Freemasons Foundation, the FFCMH was established with a goal of ultimately enabling men to live longer, healthier and happier lives. It seeks to do this by raising the public profile of men's health issues, conducting research into a wide range of issues that impact on men's health including reproductive health, obesity, prostate cancer, ageing and masculinity. This type of men's health centre is unique in the world and offers great potential to significantly improve health outcomes for men.

### **Centre of Clinical Research Excellence in Nutritional Physiology, Interventions and Outcomes**

This NHMRC-funded Centre investigates a broad range of nutrition issues including, diabetes and gastrointestinal regulation of glycaemia, obesity management, sustainable weight loss strategies, nutrition in the elderly and nutrition in critical illness. Research in these areas ranges from lab-based biochemical studies to pharmacological interventions and psychological correlates. Its strong clinical focus should also generate outcomes of direct clinical and public health relevance.

### **Neuroscience**

The University's capabilities in the neurosciences extend across multiple schools and two faculties with expertise ranging from mental function and health disorders to brain/head injury to human motor control. The University's psychiatrists are internationally recognised for their work on post-traumatic stress disorder. The breadth of research in the area of neurological disease has resulted in several exciting new approaches for clinical therapy. Our researchers are developing novel treatments that have the potential to improve the outcome and treatment window for several conditions associated with traumatic brain injury and new approaches for the treatment of Parkinson's disease. In addition, researchers in our Centre for Molecular Genetics of Development (CMGD) have developed a novel approach for evaluating adult stem cells capable of contributing to stem cell therapies for neurological disorders.

### **Brain Cognition and Human Decision Making and Expertise**

This research concentration focuses on the neural underpinnings of mental function involved in perception, memory, decision making and problem solving. Theoretical understanding of how the brain undertakes these functions strives to build models that account for human behaviour in a variety of circumstances. These interests have resulted in close collaborative links with government departments and private businesses wanting to leverage better understanding of human cognition and behaviour to help them operate more efficiently in a competitive environment.



## Services & Facilities

### **Adelaide Health Technology Assessment (AHTA)**

Formed in 2001, AHTA assess medical services, pharmaceuticals and vaccines so that the government can make decisions on what should be funded under Medicare and the Pharmaceutical Benefits Scheme. These assessments are concerned with the safety, effectiveness and cost-effectiveness of the health interventions. This research is predominantly undertaken on behalf of the Australian Government Department of Health and Ageing. AHTA also runs the National Horizon Scanning Unit which identifies, monitors and assesses new and emerging health technologies on behalf of the states, territories, the federal government and New Zealand.

### **Pain Anaesthesia Research Clinic (PARC)**

PARC is a University-based research group conducting pharmacological research into Anaesthesia and Pain Medicine, founded by Professors Guy Ludbrook (Anaesthesia) and Paul Rolan (Clinical Pharmacology). PARC undertakes contract clinical research for pharmaceutical industry, and also provides a safe and suitable environment for the conduct of academic clinical pharmacology and other research studies.

### **Data Management & Analysis Centre (DMAC)**

DMAC is a group of skilled statisticians, programmers, system analysts, IT specialists and data managers with the facilities, equipment and experience to tackle almost any project that involves the management and statistical analysis of health-related data. Since 1993 DMAC has provided integrated support for clients undertaking research and data intensive projects in the health arena; particularly in clinical trials, registries and cohort and observational studies. The Centre is under the direction of Professor Philip Ryan, a medical biostatistician in the Discipline of Public Health. It has a strong academic base and is very experienced in assisting clients across all sectors; academia, business, government departments and non-government agencies.

### **Occupational & Environmental Health Laboratory (OEHL)**

Established in 1987, OEHL is at the forefront of occupational and environmental hygiene practice in Australia and is recognised by occupational and environmental professional groups and agencies, including the Australian Institute of Occupational Hygienists, the Australasian Faculty of Occupational Medicine, the Safety Institute of Australia, the Department of Health, Safework SA and the EPA. Its staff conduct extensive safety evaluations for the benefit of business and government.



**Joanna Briggs Institute (JBI)**

The JBI Research Unit is operated jointly by the Royal Adelaide Hospital and the University of Adelaide and is made up of staff with expertise in evidence review, health services research and clinical research that leads to improved health outcomes. The JBI Research Unit conducts competitively funded and commissioned research and evidence review; consultancy services to governments, health services and professional associations; and the development and maintenance of research and evidence review tools. Their research and development team has expertise across the fields of acute care, primary health care, community care, and aged care.

**Australian Research Centre for Population Oral Health (ARCPOH)**

ARCPOH is Australia's pre-eminent population oral health research body undertaking dental research and providing a broad range of dental and oral health statistics for Australia. Its stakeholders include government agencies, dental organisations, and private corporations. The hub of ARCPOH is the School of Dentistry of the University of Adelaide, with expertise in social and preventive dentistry and oral epidemiology, and incorporating the Australian Institute of Health and Welfare's Dental Statistics Research Unit and the Dental Practice Education Research Unit.

**World Health Organization Collaborating Centre for Research in the Treatment of Drug and Alcohol Problems (WHO Centre)**

The WHO Centre is a joint venture between the World Health Organization, Drug & Alcohol Services South Australia and the University of Adelaide's Faculty of Health Sciences. The Centre undertakes and coordinates major research activities throughout the world, particularly in the Asia-Pacific region, and has developed research-based collaborations with many countries in the Asia-Pacific interested in evidence-based treatment.

**Colgate Clinical Dental Research Centre**

This Centre is the most advanced dental research and clinical facility of its kind in the southern hemisphere. It enables the marriage of practising dentists and research with a focus on new, emerging and improved dental materials and an emphasis on periodontics and minimal intervention dentistry.

**Population Health and Clinical Practice**

The research programs in the area of population health and clinical practice are directed toward preventing disease and promoting health in populations with a specific interest in indigenous health. Researchers in this area work with state and federal government organisations to: identify and appraise the effectiveness of health services using evidence-based methodologies, develop guidelines for clinical practice and program implementation and assist in policy development.

'research that leads to improved health outcomes'