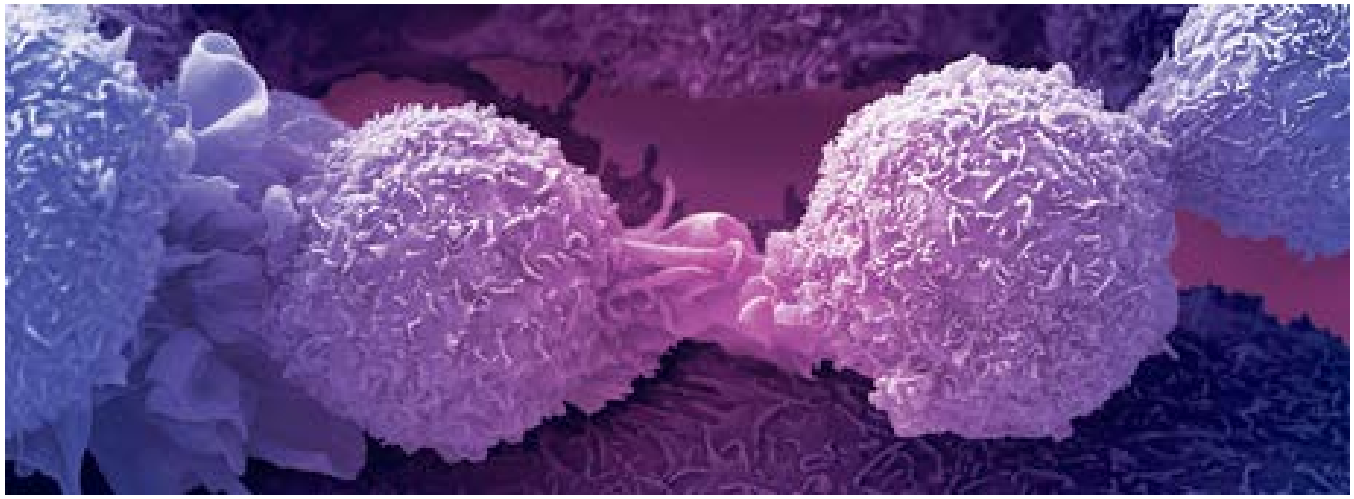
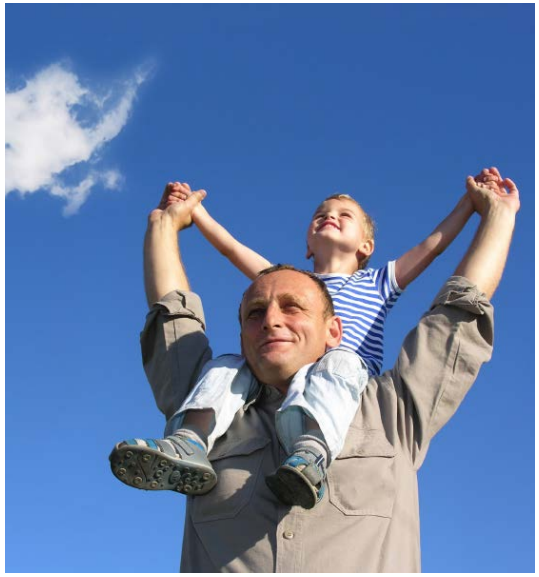
What is Health & Medical Research?

Research Australia





Health and medical research is research that aims to improve the health and wellbeing of people

Australia is home to world leading research, and our researchers collaborate with researchers from across the world.

Our research seeks not only to address the health problems faced by Australians, it also contributes to global research as well as assisting our neighbours in the Asia Pacific region.

Australian health and medical research is supported by Commonwealth and State governments, and by companies which are developing new medicines, devices and instruments. Individual Australians support health and medical research by making donations and participating in clinical trials to test the effectiveness of new drugs and therapies.

What is health & medical research?

Research that draws on our knowledge of the human body and the world around us to better understand:

- How the human body is formed before birth and how it functions normally throughout life
- What goes wrong when ill-health and other medical problems occur
- What causes these problems
- How health problems impact on communities or particular groups in the population
- How to effectively prevent, treat and management health conditions.

This knowledge is translated into action and applied to develop ways to:

- Detect problems early to improve treatment outcomes
- Create new treatments or cures
- Improve and maintain healthy lifestyles
- Prevent or avoid the causes of disease
- Help individuals, carers and the community deal with the social and emotional impact of disease and disability
- Improve the safety, quality, effectiveness and efficiency of our health system



Who does research?

Research occurs in our universities and hospitals, health services and medical research institutes. It also occurs in government agencies and Australian pharmaceutical, biotechnology and medical device companies.

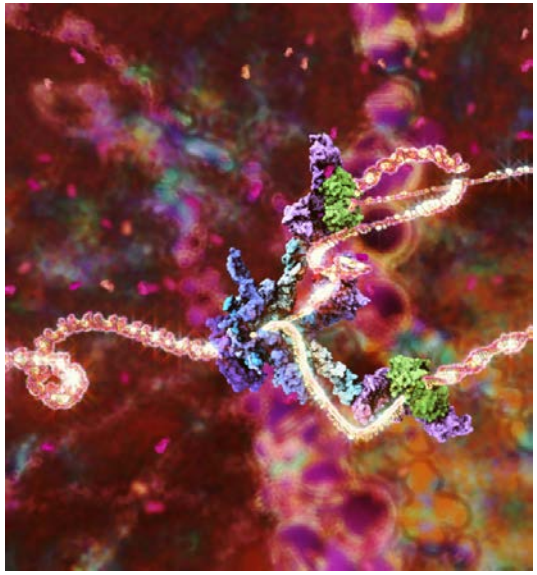
The researchers include scientists, medical specialists, nurses, GPs, allied health professionals and many other occupations. Some are full time researchers and others undertake research as part of their job.

Research is frequently a collaborative endeavour with national and international networks of researchers working together to share infrastructure, knowledge and expertise.

Major achievements in Australian health & medical research

Australian health and medical research has led to many new discoveries and advances, including:

- The world's first pacemaker
- The manufacture of penicillin
- The world's first IVF baby
- The Bionic Ear
- The use of Lithium in the treatment of bipolar and similar disorders
- The development of Aspro
- The Humidicrib, which has saved millions of premature babies
- Spray on skin for burns victims
- The identification of bacteria as the cause of gastric ulcers
- The importance of Folate in pregnancy
- The development of Relenza and Gardasil vaccines





Types of research

Health and medical research embraces a range of different disciplines including biology, engineering, biotechnology, epidemiology, medicine, psychology, nursing, allied health, population studies, IT, mathematics, economics and health services research.

For any one disease or health issue different disciplines will be working together.

Basic scientific research

Is the study of molecules and cells in the laboratory to understand the very essence of living organisms.

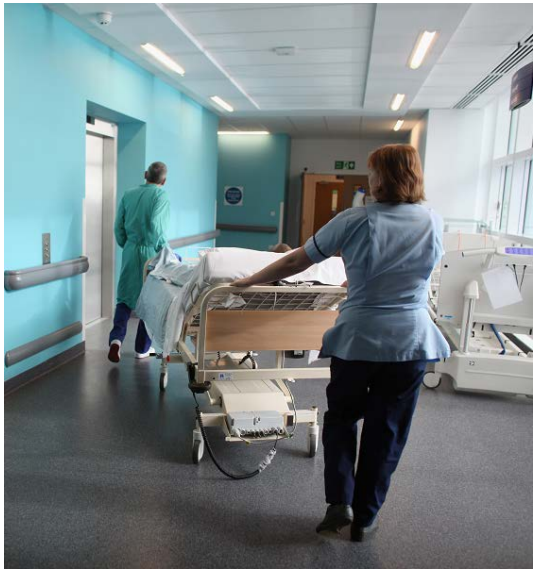
Applied clinical research

Converts bench-top discoveries to direct patient care and develops and trials new patient diagnostics tools, vaccines, drugs, devices, care procedures and treatment protocols.

Public health research

Is the development, implementation and evaluation of new public health programs or population based interventions. This may apply to discoveries from basic scientific research, new clinical research evidence or be based on epidemiological research outcomes.

‘Slip, Slop, Slap’ advertisements and the Sunsmart campaign to reduce rates of skin cancer are examples of a public health program built on research.





Health services research

Is a multidisciplinary scientific field that examines:

- where, when and how people use health care services
- barriers to access
- how much healthcare costs and who meets these costs
- what happens to patients as a result of this care.

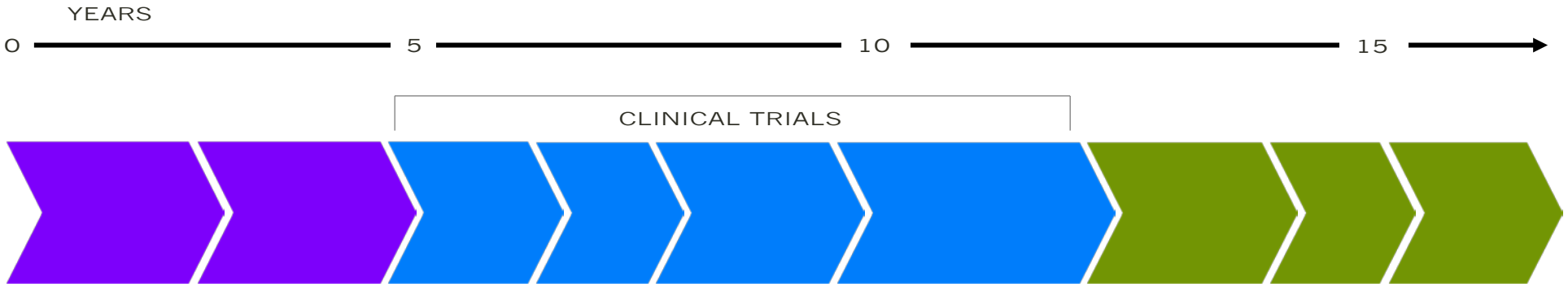
The aim of health services research is to improve the management and delivery of healthcare to promote safety, effectiveness, equity of access and efficiency. It is a relatively new field, and is an area in which Australia needs to develop greater capabilities.

The Diabetes Care Project provides multidisciplinary care and support to diabetes patients and is coordinated by their GP. A pilot project to be evaluated for its effectiveness, it is an example of health services research in action.

Medical research leading to new medicines

Development of new medicines

Is a process with a long lead time, taking on average 15 years. It starts with basic research discoveries made in a laboratory and ends with a new medicine available to patients.



BASIC RESEARCH
How biological processes work normally – and what goes wrong in abnormal situations to cause disease.

DEVELOPMENT
Applying new knowledge to work out ways to correct or overcome the abnormality – emergency of new therapy.

PRE CLINICAL
Lab and animal testing

PHASE I
Testing safety, activity and dose in 20-80 healthy people

PHASE II
Testing that the medicine has the desired effect in 100-300 patients

PHASE III
Testing significance of clinical benefits and side effects in 1,000-5,000 patients

REGISTRATION
Evaluation and registration by the Therapeutic Goods Administration

PBS
Application for listing on the pharmaceu-tical benefits scheme

MARKETING
Marketing and distribution to medical profession





For information about how to give to health and medical research, see these other resources:

- Donations and Bequests to Health & Medical Research
- Making Grants to Health & Medical Research

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AN ALLIANCE FOR DISCOVERIES IN HEALTH