2016–2017

Annual Report

QIMR Berghofer
Medical Research Institute
THE FUTURE OF HEALTH

Acknowledgement of country

QIMR Berghofer acknowledges the Turrbal and Yuggerah People as the traditional owners of the land where its buildings are located. The Institute also acknowledges the important role of Aboriginal and Torres Strait Islander people and their communities where research is conducted.

Communication objectives

The QIMR Berghofer 2016–2017 annual report provides a record of the Institute's performance in the 2016–2017 financial year and audited financial statements. All achievements are documented against the goals and corresponding key performance indicators of the Institute's Strategic Plan (2016–2020).

To provide your feedback or request copies of this annual report, contact the Department of External Relations, QIMR Berghofer, by telephoning +61 7 3362 0222 or by emailing enquiries@qimrberghofer.edu.au.

The report is also available online at www.qimrberghofer.edu.au/about-us/annual-reports.

QIMR Berghofer is committed to providing accessible services to people from culturally and linguistically diverse backgrounds. If you have difficulty understanding the annual report, contact the Department of External Relations, QIMR Berghofer, by telephoning +61 7 3362 0222 to arrange an interpreter to effectively communicate the report to you.

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LETTER OF COMPLIANCE

QIMR Berghofer
Medical Research Institute

30 August 2017

The Honourable Cameron Dick MP
Minister for Health and Minister for Ambulance Services
PO Box 15033
CITY EAST QLD 4002

Dear Minister

I am pleased to submit for presentation to the Parliament the Annual Report 2016-17 and financial statements for the Council of the Queensland Institute of Medical Research (trading as QIMR Berghofer Medical Research Institute).

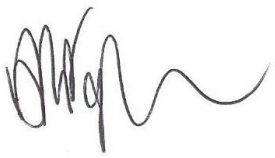
I certify that this Annual Report complies with:

- the prescribed requirements of the *Financial Accountability Act 2009* and the *Financial and Performance Management Standard 2009*, and
- the detailed requirements set out in the *Annual Report requirements for Queensland Government agencies*.

A checklist outlining the annual reporting requirements can be found on the final pages of this Annual Report or accessed at the Institute's website:

www.qimrberghofer.edu.au/annualreport

Yours sincerely



Dr Douglas McTaggart
Chair
QIMR Berghofer Council

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HIGHLIGHTS

Cancer

- Showed that breastfeeding for recommended durations is associated with a reduced risk of endometrial cancer
- Demonstrated that smoking increases the risk of developing the common skin cancer, squamous cell carcinoma
- Began a phase I clinical trial to test an EphA3 antibody-based therapy in recurrent adult glioblastoma (brain cancer)
- Demonstrated that blocking the protein CD96 with a monoclonal antibody is a new and complementary immunotherapeutic strategy to reduce the spread of tumours
- Found that conducting immunotherapy before surgery, rather than after, could be more effective for treating some metastatic cancers
- Led an international study which confirmed that two rarer subtypes of melanoma are not caused by sunlight
- Showed that the declining incidence of ovarian cancer is likely explained by increasing use of the oral contraceptive pill since its introduction in the early 1960s
- Showed that forearm hair density is associated with development of common skin cancers
- Continued the D-Health trial – the largest clinical trial ever conducted in Australia
- Identified 12 new genetic variants that increase a woman's risk of developing epithelial ovarian cancer
- Identified that cooperation between sub-populations of cells in melanoma is required for metastatic growth
- Demonstrated that TR1 immune cells play a crucial role in preventing graft-versus-host disease and identified the protein that causes the cells to develop, allowing them to be produced in large numbers in the laboratory
- Successfully completed a clinical trial of a new immunotherapy treatment for nasopharyngeal carcinomas (a form of head and neck cancer) associated with the Epstein-Barr virus
- Launched a new clinical trial to test a T cell therapy as a supplementary treatment for brain cancers associated with cytomegalovirus
- Published the world's largest study to date on inherited contributions to oesophageal cancer

Infectious diseases

- Conducted three clinical trials of experimental anti-malarial drugs
- Discovered that the molecule PD-L2 cures malaria infection in mice and protects against re-infection
- Synthetically re-created Zika virus in the laboratory, providing an experimental model for the virus
- Showed for the first time that the multi-drug-resistant *Mycobacterium abscessus* infection, which is increasing in prevalence in patients with cystic fibrosis, is potentially spread by coughing
- Developed an experimental post-exposure treatment for Ebola virus, which, in animal models, prevented death after lethal exposure to the virus
- Collaborated on an international study that sequenced the genomes of the final two species of malaria parasites; these findings have important implications for malaria eradication worldwide and will help researchers to develop new drugs and a vaccine

Chronic disorders

- Conducted the world's largest genetic study of allergic disease, which examined the DNA of 360 000 individuals
- Demonstrated that serum ferritin is a better predictor of hepatic fibrosis progression in haemochromatosis patients than hepatic iron concentration
- Conducted a detailed study of obesity in Queensland children, finding different factors are linked to obesity in boys and girls of different ages
- Identified new genetic variants influencing the risk of endometriosis, which highlight the important role of hormone metabolism

Mental health

- Launched the Australian Genetics of Depression Study, which is the Australian arm of the world's largest investigation to date of the genetic factors influencing depression
- Launched the Prospective Imaging Study of Ageing, which will use advanced neuroimaging and biological markers to develop diagnostic tools to identify Alzheimer's disease in its earliest stages and those at high risk of developing the disease
- Tested if family or school socioeconomic status (SES) moderated the heritability of literacy or numeracy performance in Australian middle school children, finding that heritability is stable across different levels of SES
- Discovered an imaging biomarker for bipolar disorder

Dr Christine Guo, co-investigator on the Prospective Imaging Study of Ageing, at the Herston Imaging Research Facility

VISION AND VALUES

Vision

To be a world-renowned medical research institution that translates discoveries into clinical practice.

Values

In pursuit of its vision, the Institute is committed to:

- Translation—the ability to bring research discoveries from the laboratory bench to the hospital bedside
- Scientific quality—delivering high-quality research aimed at preventing and curing disease throughout Queensland, Australia and the world
- Commercial consequence—connecting with industry to boost health outcomes and economic benefits
- Societal impacts—demonstrating the value in improving health and quality of life by addressing the major health needs of society
- International reputation—attracting researchers, funding and collaborators from around the world to cement international recognition
- Community engagement—working with the community to address health issues affecting their wellbeing through community education and fundraising programs

MESSAGE FROM OUR PATRON

GOVERNMENT HOUSE
QUEENSLAND

Message from the Governor of Queensland
for the QIMR Berghofer Medical Research Institute Annual Report

It gives me enormous pride as Governor of this great State, as a former Chairman of the Council of the Queensland Institute of Medical Research, as Patron of this extraordinary Queensland institution, and above all as a proud Queenslander to acknowledge the exceptional achievements of QIMR Berghofer Medical Research Institute over the past year.

The Institute's researchers have continued to unravel genetic factors contributing to a range of cancers and conditions; immunology studies have revealed potentially dramatic improvements in survival rates of patients with certain cancers; mental health researchers are developing tools to identify young people at risk of bipolar disorder; and rigorous infectious disease research is producing a better understanding of the Zika virus.

In addition to this significant, life-saving work, much of it undertaken through international collaborations, QIMR Berghofer has continued its founding commitment to deliver practical research that is relevant to Queensland. The focus on melanoma and mosquito-borne diseases has produced positive outcomes for all Queenslanders and research into diseases such as scabies is producing significant benefits for our Indigenous communities.

In 72 years, QIMR Berghofer has grown from just seven scientists in temporary premises to a world-renowned research hub employing more than 600 staff and delivering results of significant economic value. I congratulate the scientists, support staff, management and members of the Council on this long and continuing record of achievement.

I also thank both government and private benefactors for their continued support. Their generosity, particularly that of Mr Clive Berghofer AM, ensures that Queensland will remain at the forefront of medical research.

Paul de Jersey

His Excellency the Honourable Paul de Jersey AC
Governor of Queensland

CHAIR'S REVIEW

It is my great pleasure to report on the achievements of QIMR Berghofer Medical Research Institute in 2016–2017.

As a world-renowned medical research institute, QIMR Berghofer is a major contributor to Queensland's reputation as an internationally significant hub for science and biotechnology. The Institute's mission is *Better health through medical research* and in the last year we have continued that quest with great success:

- We continued several world-first immunotherapy clinical trials. Along with collaborators, we completed a phase I trial of an immunotherapy treatment for nasopharyngeal carcinoma and found it prolonged average survival. We also achieved promising interim results in a phase I trial of an immunotherapy treatment for multiple sclerosis, with three of the six participants showing improvements.
- Clinical depression carries the third highest burden of disease in Australia, with one in seven people experiencing it at some time during their lives. Our scientists have launched the Australian arm of the world's largest and most rigorous genetic study of depression to date. This ground-breaking international collaboration aims to detect the genetic factors that contribute to clinical depression in order to develop better treatments and, ultimately, find a cure.
- Malaria continues to be a scourge in the developing world, claiming the lives of hundreds of thousands of babies and small children each year. Our researchers are discovering new ways of harnessing the immune system to fight this insidious disease. They have developed a protein, which, in laboratory experiments, completely cured malaria and prevented reinfection.
- In the field of chronic disorders, we continued a world-first clinical trial, in partnership with the Princess Alexandra Hospital, to test whether a drug that inhibits the immune system's response to the protein IL-6 could be useful in treating asthma.

As we continue to produce this globally significant research, one of our highest priorities remains retaining and recruiting world-leading scientists, including women. The challenges for women working in science are well documented. To ensure that they can reach both their potential and senior positions within the Institute, we have introduced a new policy to support women scientists with young children. These financial incentives will help ensure we do not lose highly experienced women researchers and will also help us attract the best talent from around Australia and the world. We were also proud to receive the highest possible rating in a recent review of our gender equity policies by the National Health and Medical Research Council (NHMRC).

As we strive to improve the health of humankind, QIMR Berghofer is also contributing to Queensland's economic health. In the last year we have continued to introduce and implement strategies to translate more of our scientific research into new treatments and diagnostics. Our SEEDBox® (Scientific Exploitation and Entrepreneurial Development) initiative has formally started operating and will ensure that promising research receives the necessary support and expertise to move it towards the clinic. The SEEDBox® is already achieving success with QIMR Berghofer recently announcing the first

start-up company to emerge from it. genomiQa Pty Ltd will be the first company in Australia to offer whole genome analysis of cancer. In doing so, it will improve healthcare by using precision medicine so treatments can be tailored to each patient's cancer. We anticipate genomiQa's high-quality analysis of data from whole genome sequencing will become available to hospitals, clinicians and companies later this year. We have also launched an initiative to give our researchers the opportunity to work in the biotechnology sector for up to two years. This will allow our scientists to follow their innovations through to the commercial stage and return to the Institute with significant new skills and experience from the commercial sector.

I take this opportunity to thank the Queensland Government for their continued support, which allows us to attract vital research grants. But of course, the scale and scope of our research would also not be possible without the generosity of our fundraisers and philanthropic supporters. This year our biggest philanthropic donor, Mr Clive Berghofer AM, has been declared a Queensland Great. It is a fitting recognition for his support of charities, community groups and the emergency services. We are tremendously grateful to him, and to all of our wonderful supporters, for helping us to deliver better health through medical research.

Dr Douglas McTaggart

Chair, QIMR Berghofer Council

DIRECTOR AND CEO'S REVIEW

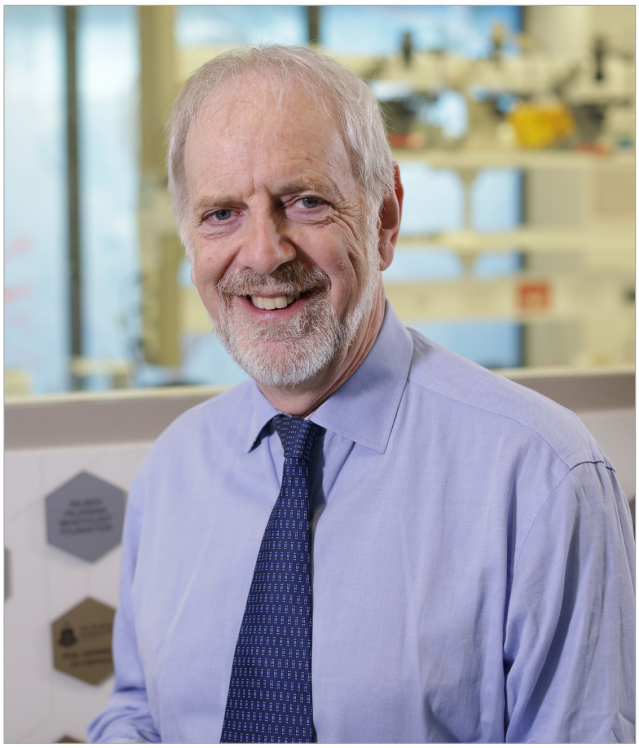
2016–2017 has been another year of impressive achievements for QIMR Berghofer. We have continued to push the boundaries of scientific knowledge through discovery research, while also ensuring it leads to translational research that will produce new diagnostics and treatments to save, prolong and improve lives.

Although Australia's per capita melanoma rates are now falling (in part as a consequence of our earlier research, which provided some of the evidence behind primary prevention campaigns), Queensland still carries the unenviable title of the world's highest rates of this potentially deadly disease. In 2016–2017, our researchers led a landmark, global study which confirmed that two rarer subtypes of melanoma are not caused by sun exposure. This finding opens the way for our researchers to look for more targeted treatments for those melanomas and is part of our engagement in what is now referred to as precision medicine.

In keeping with our overriding goal of producing research with consequences, our population health researchers continued to deliver research with immediate value for the community. They found that breastfeeding is associated with a lower risk of developing uterine cancer, and provided the best evidence to date of a link between smoking and the common skin cancer, squamous cell carcinoma. Many more research outcomes are noted in the *Research highlights* section of this report.

While funding for medical research in Australia remains highly competitive, in 2016–2017 QIMR Berghofer was the highest-ranked medical research institute in Australia in obtaining funding from the National Health and Medical Research Council (NHMRC). With an award total of $45.5 million, we were ranked sixth of all institutes in Australia (including universities). Included in that funding were two program grants for research into tropical diseases (including malaria) and immunotherapy. Program grants are the highest level of recognition of the quality of research and during 2016–2017 we were the lead institute, or were announced as the lead institute, on four program grants and were participants in three others.

We are very much aware that translating research so it can benefit the community generally requires it to be developed in a pharmaceutical or biotechnology company; hence our message of B2B2B (Bench to Business to Bedside). Our



Chair has highlighted some of the structural changes we have made to capture opportunities for commercialisation. Examples of success are beginning to flow. Our research received a further investment boost with the signing of an expanded agreement with US-based biopharmaceutical company Atara Biotherapeutics Inc. In 2015, QIMR Berghofer entered into agreements to develop and commercialise off-the-shelf cytotoxic T-lymphocyte therapies for certain cancers and conditions using technology developed by the Institute. Under the updated agreement, we have expanded our collaboration to include research and development of new cellular therapies which target human papilloma virus and BK virus.

In another boost for our commercialisation activities, we have entered into an agreement with global biotherapeutics company CSL, aimed at turning more of our scientific discoveries into innovative, new medical technologies. Under the agreement, CSL will advise and support us on the key steps that need to be taken to commercialise our research, and the commercial opportunities that exist in promising research.

And finally, in the commercial space, a new CEO has commenced at our wholly owned clinical trials facility, Q-Pharm. Dr Tufail Syed will steward the company through a new and ambitious phase while retaining the company's focus on reliability and quality.

We have continued to attract and retain high-quality research teams with the establishment of eight new groups, including Health Economics, Neurogenomics and Translational Cancer Immunotherapy. QIMR Berghofer is actively recruiting researchers in areas of high importance to Queensland – including tropical diseases, vaccine development, cancer and genomics – to ensure that our skill base continues to match the rapidly evolving needs of today's research.

In 2016–2017 our staff have been honoured with many awards and accolades. The Coordinator of the Immunology Department, Professor Mark Smyth, was elected as a Fellow of the Australian Academy of Science. And the Deputy Coordinator of the Immunology Department, Professor Rajiv Khanna, was recently appointed an Officer of the Order of Australia in the Queen's Birthday Honours list for distinguished service to medicine in the field of immunology.

Finally, I take this opportunity to honour the achievements of QIMR Berghofer's long-serving entomologist Professor Brian Kay, who died at the age of 72. Professor Kay worked in our Mosquito Control Laboratory for more than 50 years before retiring in 2014. His crucial and enduring contributions will always be remembered.

Professor Frank Gannon
Director and CEO, QIMR Berghofer Medical Research Institute

GOVERNANCE

Basis of authority

The Institute was established as a statutory body under the *Queensland Institute of Medical Research Act 1945.* Controlled entities have been established under the authority of the State Treasurer and Minister for Health and Minister for Ambulance Services in accordance with the *Statutory Bodies Financial Arrangements Act 1982.*

Institute Council (governing body)

The Council of the Queensland Institute of Medical Research

In accordance with Part 2, Section 4A of the *Queensland Institute of Medical Research Act 1945*, QIMR Berghofer is controlled and governed by The Council of the Queensland Institute of Medical Research (The Council). Under the *Statutory Bodies Financial Arrangements Act 1982*, the Council is a statutory body.

Under the *Queensland Institute of Medical Research Act 1945*, the functions of the Council of the Queensland Institute of Medical Research are to:

- control and manage the Institute
- raise and accept monies for the purposes of the Institute
- invest monies raised or accepted by the Council for the purposes of the Institute
- invest monies derived from any property or other invested monies of the Council for the purposes of the Institute.

The Council met eight times in the 2016–2017 reporting year.

Dr Douglas McTaggart

Council Chair

BEc (Hons) (ANU) MA PhD (Chicago) Hon DUniv (QUT) FAICD SF Fin

Dr Douglas McTaggart was appointed Chair of the Council on 27 November 2014.

Dr McTaggart brings strong leadership to the Council of QIMR Berghofer, having held various senior positions in the public and private sectors as well as on industry bodies and public interest groups.

He is a director of the Suncorp Group and Chairman of the Audit Committee, Chairman of Spark Infrastructure and of Suncentral Maroochydore, and is a member of the Australian National University Council. In March 2012 he was appointed to the Queensland Government Independent Commission of Audit and Chairman of the Public Service Commission, retiring in 2015. He was a member of the Prime Minister's Expert Advisory Panel for the White Paper on Reform of the Federation. He continues to serve in advisory roles to governments as well as having held positions on, including chairing, various industry representative bodies.

Dr McTaggart has broad experience in financial markets and funds management. He was Chief Executive of QIC Limited for 14 years until his retirement in June 2012. Prior to joining QIC, he was the Under Treasurer and Under Secretary of the Queensland Department of Treasury and had a distinguished academic career as Professor of Economics and Associate Dean at Bond University.

Dr McTaggart also chairs the QIMR Berghofer Investment Committee, the Executive Employment and Remuneration Committee and the Commercialisation Committee and is a member of the Finance and Audit Committee.

Mr Christopher Coyne

Deputy Chair

Mr Christopher Coyne is a solicitor of the Supreme Court of Queensland and an accredited specialist in the field of commercial litigation, specialising in insurance law, health law, corporate governance and risk management. Following his admission as a solicitor in 1979, he practised law in Brisbane and was a partner in the national law firm, Clayton Utz, from 1984 to 2004.

Mr Coyne now practices on his own account. He is a member of the Council of the Queensland Law Society. Mr Coyne is a Director of the Incorporated Council of Law Reporting for the State of Queensland, a past president of the Medico-Legal Society of Queensland and the Australian Insurance Law Association and a former legal member of the Australian Health Ethics Committee.

Mr Coyne is a member of the QIMR Berghofer Executive Employment and Remuneration Committee and a Director of Q-Pharm Pty Ltd (a wholly-owned subsidiary of QIMR Berghofer).

Emeritus Professor John de Jersey

AM BSc (Hons 1) PhD

Emeritus Professor John de Jersey enjoyed a long career as an academic staff member of The University of Queensland, from 1971 until retirement in 2007. Before 1971, he gained his PhD from UQ and undertook research and teaching at the University of Sydney and the Pennsylvania State University. As well as maintaining an active research program funded largely by the Australian Research Council and NHMRC, Emeritus Professor de Jersey served as Head of the Department of Biochemistry, Head of the School of Molecular and Microbial Sciences and Deputy Dean of the Faculty of Biological and Chemical Sciences. In addition, he served for several years as a member of the UQ Senate elected by the Academic Board. He was actively involved in the Australian Society for Biochemistry and Molecular Biology for many years, serving as President of the Society in 2001–2002, and was Secretary-General of the Federation of Asian and Oceanian Societies of Biochemistry and Molecular Biology from 2006 to 2011.

Emeritus Professor de Jersey has undertaken various research projects in protein chemistry and enzymology and currently is part of a team seeking to develop biotechnological uses for components of Australian snake venoms.

Emeritus Professor de Jersey is a member of the QIMR Berghofer Appointments and Promotions Committee.

Mr Ian Fraser

BComm FCA FAICD

Mr Ian Fraser is a chartered accountant practising as a non-executive company director with more than 45 years experience as a business and accounting professional, including 10 years as a company director of listed and unlisted public companies and 27 years as a partner with KPMG. He retired as an audit and corporate advisory partner in 2004.

Mr Fraser is Chairman of Asia Pacific Data Centre Trust, a publicly listed real estate investment trust.

Mr Fraser is Chair of the QIMR Berghofer Finance and Audit Committee and a member of the Investment Committee.

Associate Professor Paula Marlton

MB BS (Hons I) FRACP FRCPA

Associate Professor Paula Marlton is the Head of Leukaemia and Lymphoma Services at the Princess Alexandra Hospital, where she is also Deputy Director of Haematology. Her previous appointments include three years at the MD Anderson Cancer Centre in Houston, Texas. She has extensive experience in clinical research, including the role of principal investigator for national multi-centre trials and supervisor of molecular translational research associated with trials. She was the founding Chair of the Australasian Leukaemia and Lymphoma Group (ALLG) Laboratory Science Committee and has established and continues to direct the ALLG Tissue Bank. Her other professional roles include medical advisor and board member of the Leukaemia Foundation, member of government and college advisory committees and several drug advisory boards, as well as a wide range of academic and clinical service roles.

Associate Professor Marlton is a member of the QIMR Berghofer Appointments and Promotions Committee.

Professor Alan Pettigrew

BSc (Hons) PhD FAICD

Professor Alan Pettigrew is a Fellow of the Australian Institute of Company Directors. He has held senior academic and executive appointments at the universities of Sydney, Queensland and New South Wales. He was Vice-Chancellor and CEO of the University of New England from 2006 to 2009. From 2001 to 2005 Professor Pettigrew was the inaugural CEO of the NHMRC.

Professor Pettigrew has served on many government and other committees, including an Advisory Committee for the Australian Law Reform Commission (2003–2004), the Board of the Australian Universities Quality Agency (AUQA) Ltd (2006–2010) and the Cooperative Research Centres Committee (2010–2015).

Professor Pettigrew is a Professorial Fellow of the L.H. Martin Institute at the University of Melbourne. He is Chair of the Board of the Western Australian Data Linkage Infrastructure Project, and Chair of the Board of the Illawarra Health and Medical Research Institute. Professor Pettigrew has served as a consultant on projects supported by the World Bank and the OECD, as well as advising on leadership, management and research at a range of Australian universities.

Professor Pettigrew is Chair of the QIMR Berghofer Appointments and Promotions Committee and a member of the Executive Employment and Remuneration Committee.

Mr Michael Sargent

Mr Michael Sargent was a Brisbane-based stockbroker and financial planner with over 45 years experience with some of the world's leading financial groups.

He began his career with SGIO (now Suncorp) and continued with JB Were and Son, Hall Chadwick Chartered Accountants, the State Bank of South Australia and Wilson HTM, where he was responsible for setting up their money market and fixed interest operations.

Mr Sargent was the State Manager for ANZ Stockbroking and retired as Senior Client Advisor for Morgan Stanley Smith Barney, where he oversaw investment in equities and fixed interest and other investment categories. His clients included superannuation funds, institutions and local and overseas private clients.

Mr Sargent was a Fellow of the Certified Practicing Accountants FCPA and a Fellow of the Securities Institute of Australia FSIA – known as Finsia. He has been an active supporter of the community as a charter member of the Rotary Club of Brisbane-Mid City and Club President and Rotary District Treasurer, board member and former President of the Royal Automobile Club of Queensland, Chairman of RACQ Insurance LTD and former State President and Australian Vice-President of the Securities Institute of Australia.

Mr Sargent is a member of the QIMR Berghofer Finance and Audit Committee, the Investment Committee and the Commercialisation Committee.

Professor John Shine AC

BSc (Hons 1) PhD DSc (Honoris Causa) FAA

Professor John Shine was Executive Director of the Garvan Institute of Medical Research from 1990 until the end of 2011 and is Professor of Medicine and Professor of Molecular Biology at the University of NSW and Chairman of CSL Limited. He is a past Chairman of the NHMRC, past president of the Australian Genome Research Facility, and a Fellow of the Australian Academy of Science. Until 2011, he was a member of the Prime Minister's Science, Engineering and Innovation Council. Until mid-2016, he was President of the Museum of Applied Arts and Science (Powerhouse Museum and Sydney Observatory).

Professor Shine obtained his PhD from the Australian National University in 1975. From 1975 to 1978, at the University of California, San Francisco, Professor Shine was instrumental in the development of many of the techniques of genetic engineering. He was a central figure in the cloning of the insulin and growth hormone genes and was the first to clone a human gene. He also determined the first sequence responsible for replication of a cancer-causing virus.

In early 1984, Professor Shine was appointed Director of Research of a newly formed biotech company, California Biotechnology Inc. He was appointed President of the company in 1986 and guided it from a staff of some 15 scientists in 1984 to over 200 in 1987.

In 2010, Professor Shine was awarded the Prime Minister's Prize for Science, the nation's highest scientific award.

Professor Shine was made a Companion (AC) in the General Division of the Order of Australia in the Queen's Birthday Honours List 2017 for eminent service to medical research.

Professor Shine is a member of the QIMR Berghofer Appointments and Promotions Committee and the Commercialisation Committee.

Dr Jeannette Young

PSM MBBS MBA FRACMA FFPH FCHSM (Hon)

Dr Jeannette Young has been the Chief Health Officer of Queensland since 2005 and since August 2015 she has also held the role of Deputy Director-General Prevention Division. Previously, she worked in a range of positions in hospitals in Queensland and Sydney. She has specialist qualifications as a Fellow of the Royal Australasian College of Medical Administrators and as a Fellow by Distinction of the Faculty of Public Health of the Royal College of Physicians of the United Kingdom. She is an Adjunct Professor in the Centre for Environment and Population Health at Griffith University and an Adjunct Professor in the School of Public Health and Social Work at QUT.

Her role includes, among other things, responsibility for health disaster planning and response; aero-medical retrieval services; environmental health responses; managing communicable disease planning and outbreaks; licensing of private hospitals and schools of anatomy; organ and tissue donation; blood, poisons and medicines; cancer screening; preventive health programs and initiatives; and medical workforce planning and leadership. Dr Young produces a report every two years on The Health of Queenslanders to report on the health status and burden of disease of the Queensland population.

Dr Young is a member of numerous state and national committees and boards including the NHMRC, the Australian Health Protection Principal Committee, the Domestic and Family Violence Death Review and Advisory Board, the Jurisdictional Blood Committee, the Organ and Tissue Jurisdictional Advisory Committee, the National Screening Committee and the Queensland Clinical Senate.

Dr Young is a member of the QIMR Berghofer Commercialisation Committee.

Donna Hancock

BComm MBA MAICD

Chief Operating Officer (Council Secretary)

Council membership

The Council consists of at least seven members, but not more than 11 members, appointed by the Governor-in-Council. Under the *Queensland Institute of Medical Research Act 1945*, the Minister is to recommend persons to be appointed as members of the Council. The Minister may have regard to the skills, experience and expertise of a person in any of the following areas:

- corporate governance
- public or academic administration
- health or clinical research
- health ethics
- financial management
- fundraising
- any other area the Minister considers to be relevant to the functions of the Council.

The Council membership, terms of appointment and meetings attended for the 2016–2017 reporting year were as follows:

POSITION	COUNCIL MEMBERS	TERM	MEETINGS ATTENDED
Chair	Dr Douglas McTaggart	27/11/14-26/11/18	8 of 8
Deputy Chair	Mr Christopher Coyne	27/11/14-26/11/17	6 of 8
Members	Emeritus Professor John de Jersey AM	27/11/14-26/11/18	7 of 8
	Mr Ian Fraser	8/10/15-26/11/17	8 of 8
	Associate Professor Paula Marlton	27/11/14-26/11/18	6 of 8
	Professor Alan Pettigrew	27/11/14-26/11/18	6 of 8
	Mr Michael Sargent	27/11/14-26/11/18	6 of 8
	Emeritus Professor John Shine AC	27/11/14-26/11/18	6 of 8
	Dr Jeannette Young	27/11/14-26/11/17	5 of 8
Secretary	Donna Hancock	N/A	8 of 8

Council committees

Finance and Audit Committee

The role of the Finance and Audit Committee is to provide independent assurance and assistance to the Council on:

- risk, control and compliance frameworks
- QIMR Berghofer's external accountability responsibilities as prescribed in the relevant legislation
- the appointment of the internal audit function and communications with internal and external auditors.

The Committee meets quarterly to review business and financial risk, financial operating performance and audit performance. The committee reviews all issues and recommendations arising from internal audit and the Queensland Audit Office, along with agreed management actions implemented to address any issues found.

The Finance and Audit Committee has due regard to Queensland Treasury's Audit Committee Guidelines. Its membership was comprised of:

- Mr Ian Fraser (Chair)
- Dr Douglas McTaggart
- Mr Michael Sargent
- Mr Mitchell Petrie (external member)

Appointments and Promotion Committee

The Appointments and Promotions Committee assists Council with the maintenance of academic standards at QIMR Berghofer. This is done by reviewing proposals for the appointment and promotion of Faculty staff. Its membership was comprised of:

- Professor Alan Pettigrew (Chair)
- Emeritus Professor John de Jersey
- Associate Professor Paula Marlton
- Professor John Shine
- Dr Joanne Aitken, Head of Research and Director of Cancer Registries, Cancer Council Queensland
- Professor Susan Charman, Centre for Drug Candidate Optimisation, Monash Institute of Pharmaceutical Sciences
- Professor Alan Cowman, Walter and Eliza Hall Institute of Medical Research
- Professor Andrew Grulich, The Kirby Institute
- Professor Michelle Haber, Children's Cancer Institute
- Professor Glenda Halliday, Neuroscience Research Australia

Investment Committee

The Investment Committee is responsible for overseeing the investment of Council funds. Its membership was comprised of:

- Dr Douglas McTaggart (Chair)
- Mr Ian Fraser
- Mr Michael Sargent
- Mr John Allpass (external member)

Executive Employment and Remuneration Committee

The Executive Employment and Remuneration Committee is responsible for reviewing the terms and conditions relating to the appointment and remuneration of senior management. Its membership was comprised of:

- Dr Douglas McTaggart (Chair)
- Mr Christopher Coyne
- Professor Alan Pettigrew

Commercialisation Committee

The Commercialisation Committee advises Council and management on innovation and potential commercialisation opportunities. Its membership was comprised of:

- Dr Douglas McTaggart (Chair)
- Mr Michael Sargent
- Professor John Shine
- Dr Jeannette Young

Human Research Ethics Committee

The Human Research Ethics Committee, on behalf of Council, ensures the maintenance of ethical standards in human research and compliance with regulatory guidelines. The committee is comprised of 14 members.

Animal Ethics Committee

The Animal Ethics Committee, on behalf of Council, ensures the maintenance of ethical standards in animal research and compliance with regulatory guidelines in the use of animals in medical research. The committee is comprised of 10 members.

ORGANISATION

Institute leadership

Director and CEO, Professor Frank Gannon

Professor Frank Gannon is QIMR Berghofer Medical Research Institute's seventh Director and CEO, joining the Institute in January 2011. Previously, he was Director-General at the Science Foundation Ireland (SFI) from 2007.

From 1994 until 2007, Professor Gannon was the Executive Director of the European Molecular Biology Organization (EMBO) and Senior Scientist at the European Molecular Biology Laboratory (EMBL), based in Germany. He was Director of the National Diagnostic Centre and Associate Professor in the Department of Microbiology at University College Galway, Ireland between 1981 and 1994.

He obtained a Bachelor of Science from the National University of Ireland, Galway in 1970; a PhD from the University of Leicester, England in 1973; was a post-doctoral fellow at the University of Madison Wisconsin, USA from 1973 until 1975; and Chargé de Recherche in INSERM at the University of Strasbourg, France from 1975 until 1981. He has been awarded honorary doctorates by the University of Jozsef Attila, Szeged (Hungary), The University of Queensland (Australia) and Queens University Belfast (Northern Ireland).

His major research interest is the regulation of gene expression by the oestrogen receptor, which plays a major role in breast and endometrial cancer. These studies have provided leads to novel treatments or therapeutic approaches to these and other cancers.

Professor Gannon has authored more than 200 research articles published in international journals. In addition, between 2000 and 2008, he contributed to a monthly editorial on topics that connect science and society in EMBO Reports, of which he was founding senior editor.

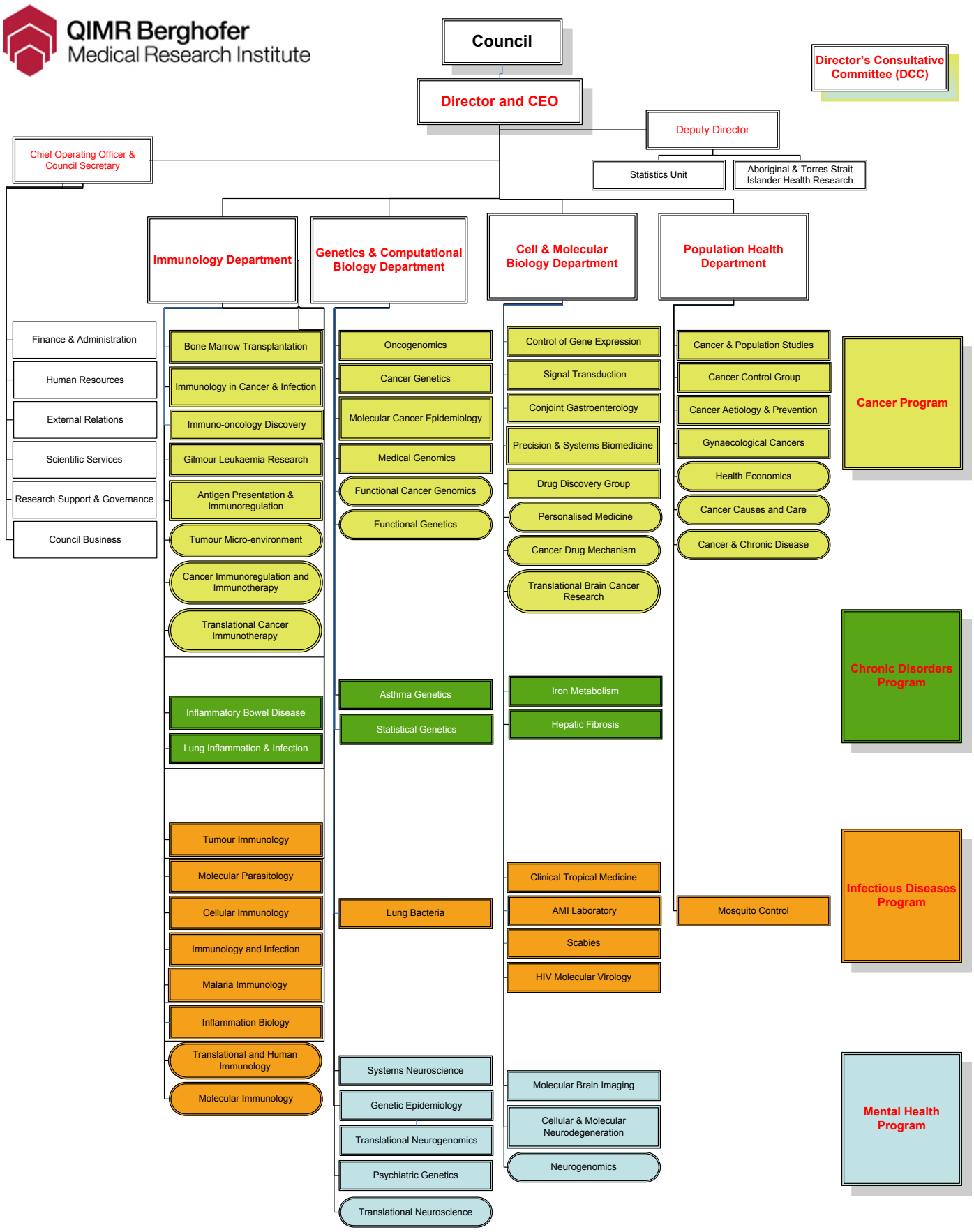
Professor Gannon has seven patent applications, four of which are active at present, and he was the founder of both Bimini Ltd (1990) and Elara Pharmaceuticals (2006). He was a member of the interim Board of Science Foundation Ireland from 2002 until 2004 and was elected as a Member of EMBO in 1989, Academia Europea in 2004, the Royal Irish Academy in 2007, the Mexican Academy of Medicine in 2008 and The European Academy of Cancer Sciences in 2009. In 2012, Professor Gannon was appointed as a Queensland Academy of Arts and Sciences Fellow. In 2015, he was elected a Fellow of the Australian Academy of Health and Medical Sciences.

He has served on a range of high-level scientific advisory boards at institutes throughout the world and was co-founder of the European Life Sciences Forum (ELSF) and the Initiative for Science Europe (ISE), which played significant roles in the establishment of the European Research Council (ERC). He was Vice President of the European Heads of Research Council and an advisor to the European Union Commissioner for Research and Innovation prior to his move to Brisbane. Currently, he is a board member of the Australian Association of Medical Research Institutes and member of the Advance Queensland Expert Panel.

Organisational structure

The structure of QIMR Berghofer is that of a matrix where each research group is a member of a program and a department. The departments are designed to cross over the different programs based on its members using a single scientific approach or interest.

Overleaf is the organisational structure as at 30 June 2017.


QIMR Berghofer
Medical Research Institute
Council
Director's Consultative Committee (DCC)
Director and CEO
Deputy Director
Chief Operating Officer & Council Secretary
Statistics Unit
Aboriginal & Torres Strait Islander Health Research
Immunology Department
Genetics & Computational Biology Department
Cell & Molecular Biology Department
Population Health Department
Finance & Administration
Human Resources
External Relations
Scientific Services
Research Support & Governance
Council Business
Bone Marrow Transplantation
Immunology in Cancer & Infection
Immuno-oncology Discovery
Gilmour Leukaemia Research
Antigen Presentation & Immunoregulation
Tumour Micro-environment
Cancer Immunoregulation and Immunotherapy
Translational Cancer Immunotherapy
Inflammatory Bowel Disease
Lung Inflammation & Infection
Tumour Immunology
Molecular Parasitology
Cellular Immunology
Immunology and Infection
Malaria Immunology
Inflammation Biology
Translational and Human Immunology
Molecular Immunology
Oncogenomics
Cancer Genetics
Molecular Cancer Epidemiology
Medical Genomics
Functional Cancer Genomics
Functional Genetics
Asthma Genetics
Statistical Genetics
Lung Bacteria
Systems Neuroscience
Genetic Epidemiology
Translational Neurogenomics
Psychiatric Genetics
Translational Neuroscience
Control of Gene Expression
Signal Transduction
Conjoint Gastroenterology
Precision & Systems Biomedicine
Drug Discovery Group
Personalised Medicine
Cancer Drug Mechanism
Translational Brain Cancer Research
Iron Metabolism
Hepatic Fibrosis
Clinical Tropical Medicine
AMI Laboratory
Scabies
HIV Molecular Virology
Molecular Brain Imaging
Cellular & Molecular Neurodegeneration
Neurogenomics
Cancer & Population Studies
Cancer Control Group
Cancer Aetiology & Prevention
Gynaecological Cancers
Health Economics
Cancer Causes and Care
Cancer & Chronic Disease
Mosquito Control
Cancer Program
Chronic Disorders Program
Infectious Diseases Program
Mental Health Program

Operating environment

The Council of the Queensland Institute of Medical Research, known as the QIMR Berghofer Medical Research Institute (QIMR Berghofer), is a world-leading translational research institute, where research develops from the laboratory bench through to the patient's bedside.

QIMR Berghofer's research strategy focuses on the research areas of cancer, infectious diseases, mental health and chronic disorders. In developing its research, the Institute promotes and develops industry linkages. The Institute's research supports different Queensland scientific and medical sectors by researching and creating new and improved treatments and screening programs for various diseases and disorders.

QIMR Berghofer aims to improve health by developing prevention strategies, new diagnostics and better health treatments. Its strategic objectives for 2016–2020 are to:

- foster scientific excellence
- build scientific, institutional and international connectivity
- undertake research with economic, clinical and community consequence
- strengthen enabling mechanisms.

The realisation of QIMR Berghofer's strategic objectives is dependent on its success in securing funding from both government and non-government sources, including community and philanthropic donations and income from commercialisation activities. In 2016–17, QIMR Berghofer received $18.9 million from the Queensland Government, representing approximately 17.5 per cent of total revenue. This, together with competitive peer-reviewed medical research grants, is QIMR Berghofer's most significant source of funding.

QIMR Berghofer is able to leverage the Queensland Government grant, and the support operations it finances, to secure competitive, peer-reviewed medical research grants and other income in an increasingly competitive environment.

Government objectives for the community

QIMR Berghofer contributes to the Queensland Government's objective of creating jobs and a diverse economy. The Institute is actively recruiting researchers in areas of high importance to Queensland, including tropical diseases, vaccine development, cancer and genetics. Each of the four programs – Cancer, Infectious Diseases, Mental Health and Chronic Disorders – has been selected to align with the needs of Queensland.

QIMR Berghofer directly contributes to the Queensland Government's objectives relating to a stronger public health system and delivering quality frontline services. It does this by translating the knowledge produced and discoveries made into improved clinical practice, thereby strengthening the public health system. By advancing medical knowledge and improving public health, the Institute also contributes to the Queensland Government's objective of building safe, caring and connected communities.

Research into cancer is particularly important given Queensland's ageing population. Work on infectious diseases, especially tropical diseases, is vital given the increasing numbers of people living in the tropics and the pole-ward migration of species due to climate change bringing tropical diseases closer to major population centres. Research into mental health and neurodegeneration – such as dementia, Alzheimer's disease and depression – addresses rises in the incidence of these diseases due to demographic and social changes. Work in the newly established Chronic Disorders program addresses many of the health impacts associated with changes in our demographics and lifestyles. This work is helping to broaden and deepen Queensland's economic base, especially in the high-value, high-growth health and medical sector.

Strategic framework

The Institute's strategic plan provides the framework for operational activities over a five-year period. The strategic plan is available online at www.qimrberghofer.edu.au/about-us/strategic-plan and is updated on 1 July each year in accordance with Queensland Government requirements. Approved by The Council of the Queensland Institute of Medical Research, the revised Strategic Plan (2016–2020) was implemented from 1 July 2016.

Annual review of operations

As a review of its operations each year, QIMR Berghofer measures its progress according to the objectives and performance indicators consistent with the Strategic Plan (2016–2020), and the service areas and service standards consistent with the Service Delivery Statement (2016–2017) State Budget documentation. The review of achievements is detailed on the following pages.

Professor Rajiv Khanna was appointed an Officer of the Order of Australia

REVIEW OF PERFORMANCE

Review: Foster scientific excellence

In 2016–2017, QIMR Berghofer researchers won many prestigious awards. For example:

- Coordinator of the Immunology Department, Professor Mark Smyth, was elected as a Fellow of the Australian Academy of Science.
- Deputy Coordinator of the Immunology Department, Professor Rajiv Khanna, was appointed an Officer of the Order of Australia in the Queen's Birthday Honours list for distinguished services to medicine in the field of immunology.
- Associate Professor Sarah Medland received the Ruth Stephens Gani Medal from the Australian Academy of Science.
- Coordinator of the Mental Health Program, Professor Michael Breakspear, received the Senior Research Award from the Royal Australian and New Zealand College of Psychiatrists and was named Researcher of the Year by Metro North Hospital and Health Service.
- Dr Andrea Hendon won the Baikie Medal from the Australia and New Zealand Haematological Society.
- Associate Professor Steven Lane was awarded one of biotherapeutics company CSL's first two Centenary Fellowships to try to find new and better ways of treating leukaemia in older patients.
- Associate Professor Lane was also named Cure Cancer Australia Researcher of the Year 2017.
- Professor Nick Martin and Professor Mark Smyth were included in the international list of the top one per cent of cited authors for 2016.

The Institute holds its annual Council Awards ceremony in December. The recipients of its research awards were:

- Bancroft Medal – Professor James McCarthy
- Ralph Doherty QIMR Berghofer Prize for Outstanding Achievement and Leadership in Research – Professor Rajiv Khanna AO
- Post-doctoral Prize – Dr Puya Gharahkhani
- Long Service Award – Professor Kum Kum Khanna
- 29 researchers were identified in the 1000 Club, meaning their papers have been cited more than 1000 times
- 20 researchers were identified in the 500 Club
- 18 researchers were acknowledged as Successful Inventors, meaning they have had an accepted disclosure in the past 12 months.

The following QIMR Berghofer scientists have been inducted into the Institute's 1000 Club and 500 Club, celebrating the number of their publications that have been cited more than 1000 and 500 times respectively:

1000 CLUB		500 CLUB	
Author	Number of publications cited more than 1000 times	Author	Number of publications with 500 to 999 citations in first or last author position
Nick Martin	5	Mark Smyth	12
Georgia Chenevix-Trench	4	Nick Martin	5
Nick Hayward	4	Barbara Leggett	3
John Pearson	3	Kum Kum Khanna	3
Lisa Simms	3	Adele Green	2
Manuel Ferreira	3	Don McManus	2
Mark Smyth	3	Frank Gannon	2
Bill Dougall	2	Geoff Hill	2
Frank Gannon	2	David Duffy	1
Graham Radford-Smith	2	David Frazer	1
Greg Anderson	2	David Whiteman	1
Nic Waddell	2	Grant Ramm	1
Stuart MacGregor	2	Kelli MacDonald	1
Adele Green	1	Lisa Simms	1
Amanda Spurdle	1	Manuel Ferreira	1
Ann-Marie Patch	1	Penny Webb	1
Anthony White	1	Rajiv Khanna	1
Ashraful Haque	1	Siok-Keen Tey	1
Barbara Leggett	1	Stacey Edwards	1
David Whiteman	1	Stuart MacGregor	1
John Whitfield	1		
Jonathan Beesley	1		
Kum Kum Khanna	1		
Michelle Lupton	1		
Nigel Waterhouse	1		
Penny Webb	1		
Sarah Medland	1		
Scott Gordon	1		
Xiao Qing Chen	1		

Publications

Publications are a key indicator of scientific excellence. In 2016, the Institute published a record 800 scientific papers which were cited by other researchers worldwide more than 30 000 times. These figures are higher than any other medical research institute in Australia. There has been a 10-fold increase in citations of our papers by researchers worldwide in the past 10 years (indicating the quality of our papers as judged by other researchers). Average h-Index (an integrated measure of quality and quantity of a scientist's output) of our Faculty is 42 (considered to be outstanding).

Review: Build scientific, institutional and international connectivity

In 2016–2017, QIMR Berghofer:

- welcomed the establishment of Chinese genome sequencing company BGI's research and development and commercialisation headquarters for the Asia Pacific region at the Institute
- entered into an agreement with BGI that will promote collaboration on a genomics-based research and education program
- hosted the second Immunotherapy@Brisbane conference, attracting around 230 delegates from across Australia and overseas
- was a member of the Brisbane Diamantina Health Partnership that was accredited as an Advanced Health Research and Translation Centre by the National Health and Medical Research Council
- hosted more than 100 visiting scientists, affiliates and honorary/emeritus appointees
- contributed to the development plans of the Herston health precinct as a member of the Herston Precinct Governance Committee
- collaborated with international researchers on more than 60 per cent of the Institute's publications.

In addition, Professor Frank Gannon was appointed to the Advancing Health 2026 Oversight Committee.

From L to R: Minister Grace Grace, Professor Frank Gannon, Deputy Premier Jackie Trad, Professor Jian Wang, Dr Bicheng Yang, Minister Cameron Dick, Ye Yin and Duncan Yu at the announcement that BGI was establishing a regional headquarters at QIMR Berghofer.

Engaged in collaboration

QIMR Berghofer is an active participant in many formal collaborations. These include the Brisbane Diamantina Health Partners, Herston Imaging Research Facility, Australian Infectious Disease Research Centre, Australian Skin and Skin Cancer Research Centre, Queensland Tropical Health Alliance, Queensland Head and Neck Cancer Centre of Excellence, Queensland Emory Development, and Queensland Mental Health Alliance. In addition, QUT researchers are located at the Institute and we are partners in the Herston Precinct Collaborative Committee. We also have members on the Advance Queensland Expert Panel, the Advancing Queensland Health 2026 Monitoring Committee, the Board of the Australian Medical Research Institutes and the Council of the Australia Academy of Health and Medical Sciences.

Review: Undertake research with economic, clinical and community consequences

In 2016–2017, QIMR Berghofer:

Cancer

- demonstrated that reversing the order of treatment for patients with certain cancers by administering immunotherapy ahead of surgery could dramatically improve survival rates
- led an international study that found removing a particular enzyme and protein from the immune system significantly reduced the spread of breast cancer and melanoma
- found that unlike melanoma of the skin, melanomas on the hands and feet (known as acral) and internal surfaces (known as mucosal) are not linked to ultraviolet (UV) radiation
- found the strongest evidence yet of a link between smoking and a common form of skin cancer, squamous cell carcinoma
- led an international study that found women who have breastfed at least one child have a lower risk of cancer of the uterus
- collaborated on an international study that revealed genetic changes normally linked to breast, colon and ovarian cancers could also drive a rare form of pancreatic cancer
- co-led a major international collaboration that identified new genetic drivers of ovarian cancer
- co-led an international collaboration that identified several new genes involved in oesophageal cancer and collaborated on another international study that found some patients with oesophageal cancer should receive a combination of treatments, due to multiple genetic changes or mutations contributing to their disease
- unlocked the secrets of a little-understood immune cell, possibly paving the way for an easier way to treat and prevent graft-versus-host disease, a potentially fatal complication that affects up to 70 per cent of patients who receive a stem cell transplant to treat blood cancer.

Infectious diseases

- synthetically re-created Zika virus in the laboratory – a breakthrough which will help to understand the virus and the foetal brain defects it causes
- developed a protein which completely cures mice of malaria and protects them against re-infection; this breakthrough could lead to a new and more effective way of treating the deadly disease, which the World Health Organisation estimates killed 438 000 people worldwide in 2015, mostly children under the age of five
- collaborated on an international study that sequenced the genomes of the final two species of malaria parasites; these findings have important implications for malaria eradication worldwide and will help researchers to develop new drugs and a vaccine
- co-led an international collaboration that tracked how the immune system responds to malaria and found that a particular family of biological messengers in the immune system hinders the fight against malaria infection.

Mental health

- launched the Australian Genetics of Depression Study, the local arm of a groundbreaking international scientific collaboration designed to detect genetic factors that contribute to clinical depression
- co-led an international study that re-created human brain systems in the laboratory, to pinpoint the different responses to brain activity between patients with schizophrenia and unaffected people

- identified weak connections in the emotional areas of the brains of young people with bipolar disorder and those at high genetic risk of developing it, possibly allowing researchers to develop a tool to identify and manage those at risk before the onset of the disorder and help reduce its impact once it develops
- through the Australian arm of the major international Anorexia Nervosa Genetics Initiative (ANGI), studied the progression of the disease and found that Australians who develop anorexia start fasting at an average age of 15.

Chronic disorders

- conducted a detailed study of obesity in Queensland children, finding different factors are linked to obesity in boys and girls of different ages.

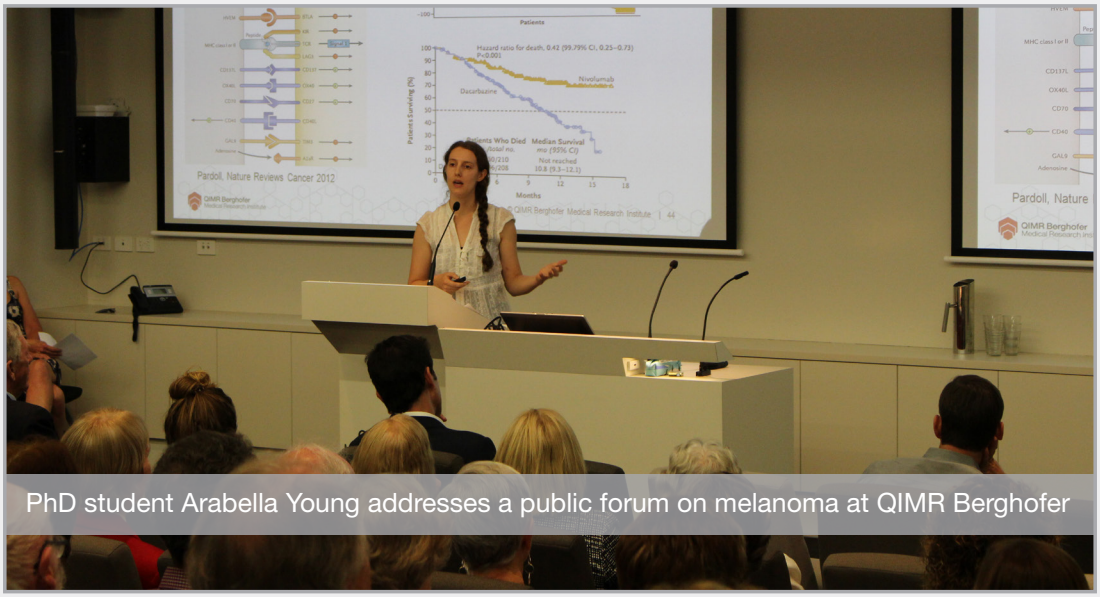
Clinical trials

There are currently 17 clinical trials underway that are a result of research undertaken at QIMR Berghofer. QIMR Berghofer scientists are involved in a further 35 trials that are led by other researchers or clinicians.

Community engagement

In 2016–2017, QIMR Berghofer:

- delivered the QIMR Berghofer education program, offering approximately 2670 Queensland students from around 85 schools the opportunity to participate in the Institute's High School Lecture Series (497 students, 14 schools), Regional Roadshow (1100 students, 16 schools), Work Experience Program (55 students, 23 schools), Day in the Life of a Scientist hands-on laboratory experience (914 students, 32 schools) and World Science Festival activities (103 students)
- participated in the second World Science Festival Brisbane, hosting Apprentice Programs for the Festival, providing expert speakers, and putting on sun safety and microscope activities in the Street Science! precinct at Southbank and also at the community days held in Gladstone and Chinchilla
- was awarded, in partnership with the University of the Sunshine Coast, an Engaging Science grant from the Queensland Government to offer the Day in the Life of a Scientist program to low socio-economic high schools in the Moreton Bay Regional Council area
- convened three community reference groups to enable 42 community representatives to be involved in the research and public engagement activities of the Institute, and to facilitate feedback to the Institute of community points of view when making decisions
- hosted free public forums on the latest research into skin cancer and immunotherapy
- delivered more than 52 tours and speaking engagements to more than 1220 members of the public
- opened its doors to the public through the Brisbane Open House program
- recognised community supporters of the Institute by awarding two Clive Berghofer Humanitarian Awards and one Fellowship of the Institute at the annual Council Awards ceremony (a full list of QIMR Berghofer Fellows is available on the website)
- saw scientists from across the Institute contribute more than 845 hours to community engagement and school education activities
- shared its research with the community via the media; the Institute published 46 media releases and media coverage of the Institute reached an estimated audience of more than 36 million.



PhD student Arabella Young addresses a public forum on melanoma at QIMR Berghofer

Aboriginal and Torres Strait Islander Health Research Program

QIMR Berghofer has a long-established dedicated research program examining health problems affecting Aboriginal and Torres Strait Islander peoples. The Aboriginal and Torres Strait Islander Health Research Program is supported by the Institute's Indigenous Health Research Advisory Group. This group's members meet biannually to provide feedback and support to the Institute's activities that serve to further the spirit of collaboration and partnership for the proposal, conduct and communication of research for Aboriginal and Torres Strait Islander health.

Key supporters

QIMR Berghofer acknowledges its key supporters:

- Estate of Norma Alcorn
- Clive Berghofer AM
- Biniris Pty Ltd
- In Loving Memory of Kenneth George Blackburne
- Breast Friends
- Estate of Deidre Brown OAM
- Jan Brown - Buck Off Melanoma
- BT Financial Group
- Calcino Corporation Pty Ltd
- Stewart Coggins and Barbara McKay
- Rebecca L Cooper Medical Research Foundation
- The Curavis Fund
- Estate of Betty Davies
- Lorraine Duckwitz
- Faithfull Investment Group Trust
- John and Paulette Goodell
- The GPT Group
- The Hanwright Family
- Glenn and Margaret Hentschel
- Estate of Patricia Hennessy
- George Landers
- Drs Richard Charles & Esther Yewpick Lee Charitable Foundation
- Keith Maher
- Bob and Evelyn Marshall
- Centenary Foundation - The Nancy May Mckenzie Bequest
- McLeod Country Golf Club
- Ivan and Sandra Mitchell
- Peter and Jill Millroy
- Brian Needham on behalf of Carmel Kneen
- Nelumbo Trust Fund
- Selwyn Thomas Fassifern Ozanne & Doreen Elaine Ozanne Trust
- Jacqueline Pascual
- Rae L Peacock
- Perpetual Foundation - The John Thomas Wilson Endowment
- Perpetual Foundation - E M Squires Charitable Endowment

- Queensland Community Foundation
- Tim and Kym Reid
- J J Richards & Sons Pty Ltd & Invitro Technologies Pty Ltd
- Henry Cyril & Stella May Robjohns Memorial Trust
- Rotary Club of Townsville Central
- Estate of Eileen Ryan
- The John and Margaret Schneider Charitable Trust
- Sirromet Winery
- David and Elisabeth Stanton
- Maureen Stevenson
- John and Georgina Story
- Supporters of 65 Roses Inc
- Estate of Mary Tennant
- Bob and Debbie Thompson
- Luciana Uren
- Walking on Sunshine Foundation
- Wilgarning Trust
- The Lawrence Edward Welkins Foundation
- Donald and Joan Wilson Foundation
- Winchester Management
- Estate of Patricia Woollam

Clive Berghofer AM meets Jennifer Parry at the end of her walk to raise money for brain cancer research at QIMR Berghofer

Review: Strengthen enabling mechanisms

In 2016–2017, QIMR Berghofer:

- instituted a range of policies, including an innovative financial assistance policy for working mothers, designed to help more women scientists to move into, and stay in, scientific leadership roles
- expanded the Institute's existing agreement on novel immunotherapies with United-States-based biopharmaceutical company Atara Biotherapeutics, Inc.
- established genomiQa, the first company in Australia offering whole genome analysis of cancer; genomiQa will improve healthcare by using precision medicine so treatments can be tailored to each patient's cancer
- expanded Q-Gen Cell Therapeutics, the Institute's TGA-certified GMP facility, to accommodate an increase in manufacturing of cellular therapeutics
- transferred the first project to the Institute's SEEDBox® laboratory for support through to commercialisation
- awarded more than $29 million in National Health and Medical Research Council (NHMRC) program grants for research into tropical diseases and immunotherapy; QIMR Berghofer-led programs captured more than 30 per cent of all funding in this award scheme, making it the lead medical research institute for program awards in the February 2017 round of NHMRC funding
- excluding the University of Queensland, the Institute's income from NHMRC awards was greater than the total sum of NHMRC awards to all other Queensland universities and institutes.

STATUTORY OBLIGATIONS AND COMPLIANCE

Risk management

The review and management of risk at QIMR Berghofer is undertaken by the QIMR Berghofer Council through the Finance and Audit Committee. QIMR Berghofer management maintains a register of potential risks applicable to functions of the Institute. A schedule of quarterly reviews incorporates the actions required to improve any identified gaps in controls. Refer to page 17 for details of the Finance and Audit Committee. Details of the audit function within the Institute are set out below.

Ethics, code of conduct and public service values

Based on the principles set out in the *Public Sector Ethics Act 1994*, QIMR Berghofer has a Code of Conduct for expected workplace conduct, relationships and behaviour of staff, in order to foster a safe and productive work environment at the Institute. The Code of Conduct was last reviewed by Council in October 2016.

The ethics principles in the Code of Conduct are:

1. Integrity and Impartiality
2. Promoting the Public Good
3. Commitment to the System of Government
4. Accountability and Transparency

Ethical procedures and practices are embedded into finance, procurement and human resources operations. Staff are given access to appropriate education and training about public sector ethics and the code of conduct, including their rights and obligations in relation to contraventions, as part of the staff induction program and at regular intervals during their employment. In addition to online training modules, Human Resources also schedules workshops and team training sessions on request.

In addition to the Code of Conduct, the Institute also operates in consideration of the Queensland Public Service Values: customers first; ideas into action; unleash potential; be courageous; and empower people.

Audit

Internal audit is a fundamental part of corporate governance to ensure QIMR Berghofer operates effectively, efficiently and economically. The role of internal audit is to provide independent, objective assurance and advice designed to assist QIMR Berghofer in accomplishing its objectives by bringing a systematic, disciplined approach to evaluating and improving the appropriateness and effectiveness of risk management and internal control.

The Finance and Audit Committee oversees the planning, performance and reporting of the internal auditor under the guidance of an annual internal audit plan. The internal audit contractor (KPMG) met with the Finance and Audit Committee at each quarterly committee meeting. The internal audit function has observed the terms of its charter and has due regard to Queensland Treasury's Audit Committee Guidelines.

Identifying areas of significant risk combines a focus on both cyclical reviews of core business processes as well as reviews of key risk areas. KPMG's integrated governance, risk and controls framework builds on a traditional internal audit model to take a holistic view of QIMR Berghofer's key objectives, risks, controls and supporting structure across the organisation.

The internal audit plan is presented to the Finance and Audit Committee for approval prior to the commencement of the financial year, with consideration given to past internal audit findings, recent and forthcoming changes in systems and processes, key business risks and the period since the last internal audit of each core business process.

Workplace health and safety

QIMR Berghofer operates in compliance with Queensland's *Work Health and Safety Act 2011*. The Institute has a Safety Committee and a Safety Team.

Staffing

At 30 June 2017, QIMR Berghofer had:

- 525 full-time equivalent staff (including fixed-term, permanent, part-time and casual staff)
- 58 members of Faculty, including the Director, 11 Senior Scientists, 31 Group Leaders and 15 Team Heads
- 158 students
- 95 casual staff

QIMR BERGHOFER STAFFING	NOTES	2016–2017 ESTIMATE	2016–2017 ACTUAL
Full-time equivalent (FTE)	1, 2	561	525

Notes:

1. The 2016–17 estimate reflects the forecast full-time equivalents (FTEs) as at 30 June 2017, the 2016–17 actual reflects the FTEs as at 30 June 2017.
2. The staffing figures do not include visiting scientists/affiliates, students or external collaborators on site.

Workforce planning and performance

The majority of QIMR Berghofer staff are employed under the QIMR Enterprise Agreement 2014. Seventy-one per cent of the Institute's employees are employed on fixed-term contracts, as research funding relies on short-term grants. Historically, QIMR Berghofer has maintained a low rate of voluntary staff turnover; in 2016–2017 from a FTE staff of 525 the voluntary separation rate was 10.37 per cent.

QIMR Berghofer's workforce planning and performance is supported by a range of policies, procedures and initiatives designed to foster a high-performance culture. This includes a formalised induction program for new staff, annual online induction refresher training, annual performance reviews, an extensive annual program of scientific seminars for staff (including dedicated seminar series for PhD students and early-career researchers), conference attendance/participation, and opportunities for staff development and career progression.

Equal opportunities

Women are strongly represented at QIMR Berghofer, with 59 per cent of the total workforce, 65 per cent of research staff and 62 per cent of students being female. Women hold senior management roles at the Institute, including 33 per cent of the Support Management Team and two of the eight key scientific leadership positions.

QIMR Berghofer operates in consideration of the guidelines endorsed by the Council of the Australian Academy of Science to ensure both women and men have equal opportunities to pursue a successful career in science. The Institute has a Gender Equity Committee, flexible work hours, and job-share and part-time employment options to help staff balance their personal and professional lives. Women account for the majority of staff with part-time and job-share arrangements.

Supporting women at QIMR Berghofer

The challenges for women working in science have been well publicised in recent years.

At QIMR Berghofer we are actively supporting women to pursue careers in medical research.

We have a strong representation of women in our workforce. Forty per cent of lead research positions (Faculty) are held by women and 52 per cent of new faculty appointments in the last five years have been women.

While these figures are positive, QIMR Berghofer wants to get even more women into scientific leadership roles. One of the biggest challenges for women scientists is taking time out of the workforce, in a fast-moving and competitive industry, to have children.

In late 2016, the Institute introduced a policy to help more women scientists move into, and stay in, scientific leadership roles. Women scientists employed at the level of senior research officer and higher, who have at least one child below high-school age, can apply for up to $10 000 in financial assistance in addition to their salaries. These funds can be used at the scientist's discretion.

Under the policy, women scientists employed at the slightly lower level of research officer, who have at least one child below high-school age, can apply for financial assistance for particular expenses. This could include covering the cost of childcare while the scientist attends a conference, for example.

This forward-thinking policy is a first in the Australian research sector and will make it easier for women with young children to keep publishing research and advance their careers.

The Institute also has several other measures in place to make it easier for mothers to return to work, including securing places for children under two at a local childcare centre, and having a designated room for nursing mothers.

We offer flexible working hours, job-sharing and part-time work arrangements. We also offer parking at our premises for all pregnant women in their final month before maternity leave.

Information systems and recordkeeping

QIMR Berghofer's recordkeeping is in accordance with the *Public Records Act 2002*, Information Standard 40 and Information Standard 31. The Institute keeps physical and electronic documents as full and accurate records of its activities, and uses the Total Records and Information Management (TRIM) document management system. This single, standardised system promotes file sharing and secures access to the Institute's records, and improves accessibility, reduces duplication and promotes information sharing across the organisation.

Records are not disposed of, or archived, unless duly authorised under the *Public Records Act 2002* or by reference to the Retention and Disposal Schedule (RDS) approved by Queensland State Archives (QSA). All QIMR Berghofer records are registered into TRIM before transfer to the off-site storage provider or QSA. All QIMR Berghofer hardcopy records stored off-site are managed under legislatively appropriate risk management standards and guidelines. Work continues on ensuring that all record types are identified, and are managed under the retention and disposal schedule, and that all other legislative and funding body requirements for records management are satisfied.

Records management is undertaken by suitably skilled staff, and all new staff to QIMR Berghofer receive an overview from Records Management as part of the formal induction process.

Open data

For information on overseas travel for QIMR Berghofer, visit the Queensland Government Open Data website: https://data.qld.gov.au.

RESEARCH ACHIEVEMENTS

CANCER PROGRAM

COORDINATOR: PROFESSOR GEOFF HILL

Cancer is a disease which is caused by abnormal cell growth and eventually spreads to other parts of the body. Some cancers are common within a family and are clearly inherited, while others are caused by factors in the environment interacting with genetic susceptibilities. While many forms of cancer can be treated successfully if detected early, cancer is one of the major causes of illness and death in Australia and the developed world.

Cancer research is the largest research program at QIMR Berghofer, accounting for approximately half the Institute's research. The cancer program includes:

- identification of the genetic, epigenetic and environmental factors affecting an individual's risk of cancer
- study of the molecular changes that are precursors to cancer or that occur during tumour formation and metastasis
- development and testing of novel therapies in the laboratory and in clinical trials
- the program has a strong focus on skin cancers, including melanoma; hormone-related cancers such as breast, ovarian, endometrial and prostate cancer; leukaemia and lymphoma; brain cancer; and tumours of the gastrointestinal tract.

The Institute is a world leader in immunotherapy, which is emerging as the fourth pillar of cancer treatment, alongside surgery, chemotherapy and radiotherapy.

Antigen Presentation and Immunoregulation

Group Leader: Kelli MacDonald

Research is primarily focused on using pre-clinical murine models to dissect the immune mechanisms underpinning both the acute and chronic forms of graft-versus-host disease (GVHD). The overarching goal is to identify and translate novel effective therapies. Driven by the increasing prevalence and severity of chronic GVHD in clinical stem cell transplantation patients, and the paucity of useful therapies for this disease, this group's research in the past five years has centred on determining the mechanistic mediators of the fibrotic manifestations of chronic GVHD. Extending these studies, in a secondary complementary stream of research, the group is using murine models of liver fibrosis to determine common fibrogenic pathways for the translation of new therapeutics to a broader patient cohort.

Highlights:

- Made significant advances in the understanding of the mechanisms that drive pathology in chronic GVHD.
- Found that acute GVHD leads to defective major histocompatibility complex (MHC) class II antigen presentation by donor dendritic cells, leading to a failure of peripheral regulatory T cell (Treg) homeostasis.
- Found that impaired Treg homeostasis results in chronic GVHD directly and can be alleviated by adoptive Treg transfer.
- Showed that Treg expression of the chemokine receptor CXCR5 is required for the effective control of chronic GVHD following adoptive Treg transfer.
- Found that memory Treg are exquisitely autophagy-dependent and that Treg-specific autophagy deficiency results in systemic inflammation and skin fibrosis.
- Demonstrated that autophagy-dependent Treg are critical for the control of graft-versus-host disease, that they are enriched in the bone marrow and are mobilised by the stem cell mobilising agent G-CSF, resulting in a stem cell graft enriched in highly suppressive Treg.
- In parallel with their role in chronic GVHD, confirmed the requirement for CSF-1-dependent macrophages for the development of fibrosis in a murine model of chronic liver disease, identifying the blockade of the CSF-1 signalling pathway as potential anti-fibrotic in multiple disease settings.

Bone Marrow Transplantation

Senior Scientist: Geoff Hill

Coordinator, Cancer Program

This laboratory seeks to understand the pathophysiology of GVHD and the graft-versus-leukaemia (GVL) effect in pre-clinical and clinical bone marrow transplantation (BMT). Its work focuses on cellular and cytokine biology in transplantation. The group is increasingly translating findings into patients at the RBWH bone marrow transplant laboratory and enrolled approximately 100 patients into clinical trials across four centres in Australia.

Highlights:

- Demonstrated that TR1 cells play a crucial role in preventing GVHD and identified the protein that causes TR1 cells to develop, allowing them to be produced in large numbers in the laboratory.
- Continued to lead an Australia-wide clinical trial investigating reducing the severity of GVHD by blocking an immune protein that expands pathogenic T cells after transplantation.
- Demonstrated the importance of IL-17 in maintaining healthy bacteria in the gut that prevent graft-versus-host disease.
- Identified that NK cells are paralysed during graft-versus-host disease, leading to infections and leukaemia relapse.

Cancer Aetiology and Prevention

Group Leader: Rachel Neale

Deputy Coordinator, Population Health Department

This group primarily focusses on delivering the milestones of the D-Health trial and publishing the results of its work exploring patterns of care and patient-reported outcomes among patients with pancreatic cancer.

Highlights:

- Published several papers highlighting the high supportive care needs, high distress and poor quality of life of pancreatic cancer patients and their carers. This work has been the impetus for a new RBWH Foundation grant to explore an intervention to help this vulnerable group.
- Developed a quality of care score for patients with pancreatic cancer and showed that this varies according to geographic location.
- Contributed to several large-scale pancreatic cancer genetic studies.
- Delivered extremely high-quality data for the D-Health trial – the largest clinical trial ever conducted in Australia.

Cancer and Chronic Disease

Team Head: Patricia Valery

This group focusses on three broad research areas:

- management of chronic liver disease and liver cancer
- patterns of care of Aboriginal and Torres Strait Islander people with cancer from diagnosis, use of health services, supportive care needs, cancer treatment and survival; and,
- descriptive epidemiology of cancer and chronic liver disease (such as incidence, trends and geographic distribution of disease).

A particular focus is the optimal management of cirrhosis. Appropriate patient management following clinical guidelines for cirrhosis care can improve patient outcomes. However, the extent to which Australian patients receive care according to guidelines for the management of cirrhosis is not known. Findings from this research will provide a better understanding of the treatment trajectory and quality of care of patients with cirrhosis in Queensland.

Highlights:

- Found that Indigenous people with lung cancer or cervical cancer in Queensland receive suboptimal treatment, reinforcing the need for action to reduce the impact of these two cancer types on Indigenous Australians.
- Found no significant difference in cancer survival between Indigenous and non-Indigenous people treated for colorectal and breast cancer in Queensland public hospitals; however, for breast cancer, Indigenous women were more likely to have serious comorbidity and more advanced cancer at diagnosis than non-Indigenous women.
- Showed that a large proportion of people with chronic liver disease who are accessing tertiary hospital liver services are clustered within specific geographic areas, with data also showing an apparent ecological association between liver disease and socio-economic and educational and/or occupational disadvantage.
- Showed that there is significant discrepancy between sources of patient medication information within the hepatology clinic. For example, more than half the patients with cirrhosis in the study have at least one discrepancy between their reported medicines and those documented in their medical records, which is a potential source of patient harm.

Cancer and Population Studies

Senior Scientist: Adele Green

The group's research looks at the causes, management and prevention of melanoma and other skin cancers in the Queensland population, including very high-risk groups.

Highlights:

- Showed that patches of actinic keratoses on the skin in renal and in liver transplant recipients are highly predictive of development of squamous cell carcinoma.
- Demonstrated through a systematic review of available literature that the immunosuppressant drug azathioprine is a cause of squamous cell carcinoma.
- In collaboration with the University of Queensland and Cancer Council Queensland, and using population-based data, showed that people who develop multiple invasive melanomas in 10 years have poorer survival than people with a single invasive melanoma.
- Showed melanoma risk is increased in patients with rheumatoid arthritis treated with tumour necrosis factor alpha inhibitors.
- In a cohort study, showed that plasma eicosapentaenoic acid is negatively associated with all-cause mortality.
- Showed that forearm hair density is associated with development of keratinocyte cancers.

Cancer Causes and Care

Team Head: Susan Jordan

The focus of research undertaken by this group is cancer epidemiology and patterns of care across gynaecological cancers, thyroid cancer and kidney cancer.

Highlights:

- Published a meta-analysis of individual-level data from 17 studies participating in the Epidemiology of Endometrial Cancer Consortium, which showed that breastfeeding for recommended durations is associated with a reduced risk of endometrial cancer.
- Participated in an international collaboration developing a tool for measuring quality of life for people diagnosed with thyroid cancer.
- Completed data collection for a case-control study of thyroid cancer, including information from 1010 people newly diagnosed with thyroid cancer and 1040 without cancer.
- Initiated data analysis for a large linked data project (approximately 100 000 women) investigating long-term health consequences of hysterectomy.

Cancer Control Group

Senior Scientist: David Whiteman

QIMR Berghofer Deputy Director

The Cancer Control Group focuses on research directed towards controlling the impact of cancer. The principal activity was continued surveillance, data collection and data analysis of the QSkin Study, a prospective cohort study of almost 45 000 Queenslanders, for which the principal outcomes are basal cell carcinoma and squamous cell carcinoma of the skin, and melanoma. The group completed the collection of 19 000 saliva samples from cohort participants and processed the samples to extract DNA. The resulting DNA samples are presently undergoing genetic analysis.

In other work, the group continued research into the causes of head and neck squamous cell carcinomas, with a special focus on the human papillomavirus (HPV) as a sexually transmitted infectious cause of these cancers. In addition to molecular studies seeking virus particles in tumour samples, the group performed field studies tracking the prevalence and clearance of HPV in the oral cavity in the general population.

The group continued to investigate the fraction of cancers in the population that are attributable to modifiable factors. This work is occurring in collaboration with researchers from the Cancer Council.

Highlights:

- Completed a saliva collection and DNA extraction from 19 000 participants in the QSkin Study and shipped the samples to a high-throughput facility for genetic analysis.
- Demonstrated that smoking is a risk factor for squamous cell carcinomas (SCC) of the skin.
- Confirmed that oral sex is a risk factor for SCC of the oropharynx.
- Completed a meta-analysis of genetic factors associated with Barrett's oesophagus.

Cancer Drug Mechanism

Team Head: Glen Boyle

The Cancer Drug Mechanism Group combines expertise in molecular and cell biology with studies understanding drug resistance of cancers. The group's cell and molecular biology work focuses on understanding the molecular mechanisms involved in the progression and metastasis of cancers of the skin (melanoma and cutaneous squamous cell carcinoma) and the oral cavity (head and neck cancer). These mechanisms also impact on drug resistance of cancers. The identification and understanding of aberrantly regulated pathways in these cancers is crucial prior to the design or identification of suitable agents to treat the diseases.

The group has found previously that two important factors for development and progression of melanoma are present in different cells and co-regulate each other, highlighting an important relationship between these key

molecules. The group has now identified that both of these cell types must be present in the population of melanoma cells for metastatic growth. This important finding opens a new direction in understanding melanoma metastasis, and may enable effective combination therapies to prevent this process.

Highlights:

- Identified that cooperation between sub-populations of cells in melanoma is required for metastatic growth.
- Found that expression of two key transcription factors within the cellular population is crucial for melanoma growth after metastasis.
- Elucidated that targets of a key transcription factor involved in melanoma progression or invasion also impact on drug sensitivity.
- Refined a model leading to identification of key molecules involved in perineural invasion of squamous cell carcinoma.

Cancer Genetics

Senior Scientist: Georgia Chenevix-Trench

Coordinator, Genetics and Computational Biology Department

The main purpose of this lab is to work within international consortia to find inherited genetic variants that influence risk of, or outcomes from, breast and ovarian cancer. The group has now found almost 200 such loci and the challenge is to find out how they act. So far it appears that most of the relevant genetic variants influence the expression of a gene in the vicinity but not always the gene closest to the variant. The group has developed a pipeline to predict the target genes are breast cancer risk loci, which can be used to plan the necessary experiments to validate them.

In addition, Professor Chenevix-Trench led an international consortium to find genetic variants that affect the cancer risk in men and women who carry high-risk mutations in the BRCA1 or BRCA2 genes. It has been recently shown that by combining the variants that are associated with risk of breast, ovarian or prostate cancer in the general population into a ‘polygenic risk score’, improved personal risk estimates for these cancers in female and male BRCA1/2 mutation carriers can be provided.

Highlights:

- Identified pan-cancer risk loci.
- Analysed the pathology of breast cancer that occurs in male BRCA1/2 mutation carriers.
- Undertook detailed analysis of the breast cancer risk locus around the estrogen receptor gene.
- Identified four novel susceptibility loci for estrogen receptor negative breast cancer.
- Elucidated the genetic basis of an inherited syndrome, gastric adenocarcinoma and proximal polyposis of the stomach.
- Found that variants in a putative enhancer at the 19p13.1 breast and ovarian cancer risk locus regulate ABHD8 expression.
- Identified 12 new susceptibility loci for different histotypes of epithelial ovarian cancer.
- Evaluated polygenic risk scores for breast, ovarian and prostate cancer risk prediction in BRCA1 and BRCA2 mutation carriers.

Cancer Immunoregulation and Immunotherapy

Group Leader: Michele Teng

Immunotherapies targeting immunosuppressive pathways have revolutionised cancer treatment. Use of the drugs Nivolumab and Ipilimumab in combination against advanced melanoma has produced impressive anti-cancer effects and may result in significant efficacy against multiple cancers. A key issue of targeting checkpoint

receptors, particularly in combination, is the appearance of immune-related adverse events. Furthermore, the dosing and scheduling for checkpoint inhibitors is still to be optimised. While checkpoint inhibitors have been effective in cancers that are T cell rich (melanoma), some cancers are T cell poor (e.g. prostate, colorectal). In these cancers, checkpoint inhibitors are generally ineffective and, even in melanoma, a large proportion of patients are non-responsive.

The Cancer Immunoregulation and Immunotherapy Group aims to understand the hierarchy of immunosuppressive pathways mediated by lymphoid and myeloid cells in T cell rich and poor cancers, and how they are regulated. This allows rational co-targeting of the dominant suppressive pathways specific to that tumour microenvironment to enable optimal release of endogenous anti-tumour effector function. Subsequently, their scheduling and safety can be evaluated to allow rapid translation into the clinic.

Highlights:

- Demonstrated that neoadjuvant immunotherapy is more efficacious than adjuvant immunotherapy for treating metastatic disease and discovered a biomarker of response; validation in the clinic may change clinical practice.
- Developed a pre-clinical model to assess a therapeutic index of novel combination immunotherapies and how molecular pathways can be targeted to improve clinical utility of agents with high toxicities. This model helps clinicians weigh up the risk/cost-benefit profile of testing new therapeutics in the clinic.
- Proposed that cancers should be based on T cell infiltration and PD-L1 (a transmembrane protein that is thought to play a major role in suppressing the immune system) to determine the type of immunotherapies patient should receive.

Conjoint Gastroenterology

Group Leader: Barbara Leggett

The focus of this research group is the molecular and clinical aspects of colorectal cancer development with the aims of reducing cancer incidence and improving outcomes. The group is particularly interested in a subtype of colorectal polyps called sessile serrated adenomas. These have only been recognised in the last decade and are now accepted to account for approximately one third of all colorectal cancers. The group has an extensive collection of human specimens and a well-characterised murine model that we are using to better understand the initiation and progression of sessile serrated adenomas to cancer. The group has used its intestine-specific, inducible BRAF mutant murine model to demonstrate that Braf mutation leads to the accumulation of locus-specific DNA methylation events over time, mimicking the human phenotype. The group is now using this model to develop chemoprevention strategies to reduce incidence of these polyps as well as to understand the mechanism underlying these methylation changes. With its collaborators, the group is also developing an organoid model to recapitulate serrated neoplasia in vitro, using CRISPR/Cas9 gene editing to target pathways we have identified as commonly altered in human serrated neoplasia.

Highlights:

- Characterised detailed morphological changes in the mouse intestine following mutation of BRAF, which mimics progression of human sessile serrated adenomas to cancer.
- Demonstrated in vivo that BRAF mutation leads to the accumulation of DNA methylation changes over a long period of time, similar to the molecular changes accompanying development of human sessile serrated adenomas.
- Demonstrated in vivo that BRAF mutation precedes DNA methylation changes in the intestine, clarifying the direct role of the MAPK pathway in modulating DNA methylation patterns.
- Identified frequent molecular alterations that were discordant in paired primary and metastatic colorectal cancers from individual patients, suggesting it is not sufficient to assess biomarkers in primary cancers to inform therapeutic decisions.

Control of Gene Expression

Frank Gannon

QIMR Berghofer Director and CEO

Epigenetic modifications change the pattern of expression of genes. In some cases, this can give rise to cancers. The Control of Gene Expression Group is using small molecule inhibitors to reverse some of these changes and block tumour progression. Having successfully identified combinations of epigenetic modifying enzyme inhibitors that stop the growth of tumour cell lines, making them more sensitive to clinical treatments or reversing the resistance of some cancers to some therapies, the group is now testing these combinations in animal models. The epigenetic studies target breast, melanoma, ovarian, head and neck, and lung cancers.

The group's previous studies have focused on cancers driven by oestrogens. The group has identified relevant differences between breast and endometrial cancer that explain why treatments that target the estrogen receptor in both settings have good outcomes for breast cancer and poor outcomes for endometrial cancer. Bioinformatic studies have been complemented by studies of the molecular details in cells.

In all of the studies, the group seeks to define the molecular mechanisms involved and this has led to a focus on autophagy as being important in some of the model systems.

Highlights:

- Showed that inhibitors of epigenetic modifying enzymes can be used to stop the growth of cancer cells and reverse their resistance to standard clinical treatments.
- Defined conditions where inhibitors of epigenetic modifying enzymes could stop growth of a number of different cancer cell lines.
- Demonstrated that some of these regimes were effective in pre-clinical models.
- Obtained a set of novel inhibitors and showed that they were effective in modifying cell growth.
- Defined differences between endometrial and breast cancers that explained the contrasting response of patients to treatments that have the same target in the two cancers.
- Highlighted the role of autophagy-mediating cell death caused by inhibitors of epigenetic modifying enzyme.

Drug Discovery Group

Group Leader: Peter Parsons

The mechanism of action of the novel anti-cancer drug EBC-46 was further investigated in tumour and endothelial cells, along with tumour models in vivo. Progress was made toward development of a topical treatment for chronic and infected wounds, including development of a suitable gel for delivery to such wounds. The keratinocyte-derived cytokine, endothlein 1, exacerbates nevogenesis.

The Drug Discovery Group used genetic mapping, in vivo loss-of-function analysis, gene and protein expression studies, and specific pathway antagonist drugs to identify and functionally validate Cdon, a regulator of sonic hedgehog in keratinocytes, as a modifier gene promoting the development of giant congenital naevi. Mechanistically, this occurs via the release from keratinocytes of the melanocyte mitogen endothelin-1. The group's findings suggest that keratinocyte-derived cytokines that exacerbate naevogenesis are targets for potential therapeutic approaches against giant congenital naevi.

On some strains, background UV exposure does not accelerate melanoma development. The group aims to map genes and thus discover mechanisms for this resistance to the development of UVR-induced melanoma. Currently the group finds that it may be correlated at least in part with a low level of inflammatory response after an incident of sunburn.

Highlights:

- Developed gel delivery of a novel wound-healing compound and extended its polypharmacology.

- Discovered a mechanism and potential therapeutic target for the prevention of naevus growth.
- Showed that melanocyte-specific loss of all three members of an important protein group – and not loss of each one singly, or in any dual knockout combination – is necessary to trigger melanoma development. Hence all three are potentially critical targets for therapeutic attack in melanoma.
- By systematically comparing sun-associated and non-sun-associated melanomas, found that there are peculiarities in DNA repair that favour the mutation of certain cytosines.

Functional Cancer Genomics

Team Head: Stacey Edwards

Genome-wide association studies (GWAS) have identified hundreds of DNA variants that are associated with an increased risk of cancer. However, for most risk loci, the causal variants fall in noncoding regions of the genome and therefore the target genes are not known. The Functional Cancer Genomics Group has focused on identifying the key target genes and underlying molecular mechanisms at GWAS-identified cancer risk loci. The ultimate aim of the group's research is to pave the way for future clinical trials for cancer prevention or treatment.

Highlights:

- Developed several new high-throughput technologies that will help identify all target genes from cancer risk regions.
- Identified two long noncoding RNAs, CUPID1 and CUPID2, that mediate breast cancer risk at locus 11q13 by modulating response to DNA damage.
- Identified the causal variants, target genes and mechanisms underlying breast cancer risk at the 6q25, 5p12, 14q32 and 19p13 cancer risk loci.
- Contributed to the largest genome-wide association study (GWAS) for breast cancer and identified 65 new risk loci.

Functional Genetics

Team Head: Juliet French

Until recently, the genetic basis of cancer has only been examined in coding regions, which excludes most of the genome as coding regions account for less than two per cent of the human genome. It is now apparent that most of the noncoding regions are functional and harbour genetic and epigenetic factors capable of triggering or promoting cancer development. To date, the contribution of the noncoding genome remains relatively unexplored, thereby providing a wealth of opportunities for new discovery. The Functional Genetics Group is therefore focused on identifying and assessing the impact of genetic variants in the noncoding genome. Specifically, the group is currently investigating:

- the role of acquired noncoding mutations in the development of breast cancer
- the role of common, inherited variants on breast cancer risk
- the role of noncoding RNAs in breast cancer aetiology
- the dysregulation of key breast cancer genes such as TERT.

Ultimately, the group's goal is to translate these findings into real clinical therapeutic options either by identifying novel targets of breast cancer therapy or by using existing therapies that can be repurposed for the treatment of breast cancer.

Highlights:

- Indentified two estrogen-regulated, long-noncoding RNAs transcribed from the 11q13 breast cancer risk locus. These lncRNAs are predominantly expressed in hormone-receptor positive breast tumours and play a role in modulating DNA double-strand break repair pathway choice.

Gynaecological Cancers Group

Group Leader: Penny Webb

Coordinator, Population Health Department

The Gynaecological Cancers Group investigates all aspects of gynaecological cancer from aetiology to diagnosis, patterns of care, quality of life and survival and also contributes to similar studies of other cancer types. A particular focus is on the role of environmental (non-genetic) factors in not only the causation of cancer but also the development of conditions which are the consequence of previous disease, and survival after a diagnosis of cancer. Most of this work is conducted within two national population-based studies, the Australian Ovarian Cancer Study (AOCS) and Australian National Endometrial Cancer Study (ANECS), and within two international consortia, the Ovarian Cancer Association Consortium (OCAC) and Epidemiology of Endometrial Cancer Consortium (E2C2). The group has also recently completed the 24-month follow-up for the Ovarian Cancer Prognosis and Lifestyle (OPAL) Study, which is investigating whether modifiable aspects of lifestyle are associated with outcomes following a diagnosis of ovarian cancer. This has included in-depth qualitative interviews with a subset of OPAL participants to ascertain their views on what helped them to get through their chemotherapy. We have also obtained approval for a new project using data-linkage to assess the relation between medication use and cancer risk and outcomes.

Highlights:

- Found that women who breastfeed their children have a significantly lower risk of developing endometrial cancer than women who do not breastfeed their children. A longer duration of breastfeeding per child was associated with lower risk, although there appeared to be some levelling of this effect beyond 6–9 months.
- Showed that the declining incidence of ovarian cancer is likely explained by increasing use of the oral contraceptive pill since its introduction in the early 1960s, while the dramatic changes in use of menopausal hormones since 2002 do not appear to have had a major influence on rates.
- Contributed to international pooled analyses showing that women who were inactive had a 30 per cent higher risk of developing ovarian cancer than active women and, once diagnosed, inactive women had significantly poorer survival.
- Contributed to Mendelian randomisation analyses using genetic markers associated with circulating vitamin D concentrations that showed, for the first time, an association between low vitamin D levels and risk of ovarian cancer.
- In an analysis of data from 811 Australian women with ovarian cancer, found that healthy components of diet pre-diagnosis were associated with improved survival, raising the possibility that dietary choices after diagnosis may improve survival.

Gordon and Jessie Gilmour Leukaemia Research Laboratory

Group Leader: Steven Lane

This laboratory researches myeloid blood cancers such as acute myeloid leukaemia (AML), myelodysplastic syndrome (MDS) and the myeloproliferative neoplasms (MPN). These are very aggressive and rapidly fatal blood cancers that are among the most common types of cancer affecting Australians. The group's efforts are concentrated on understanding how leukaemia stem cells in AML and MPN are able to regenerate leukaemia (or cause relapse in patients), even after cytotoxic chemotherapy. To achieve this, research has focused on generating robust models of leukaemia and dissecting the pathways of self-renewal in leukaemia stem cells and normal blood stem cells.

Highlights:

- Identified how blood stem cells drive progression from early-stage polycythemia to myelofibrosis.
- Identified new targets in acute myeloid leukaemia, in particular the telomerase inhibitor, imetelstat.
- Showed that acute myeloid leukaemia does not depend on autophagy, therefore directing clinical treatments in this disease.

Immunology in Cancer and Infection

Senior Scientist: Mark Smyth

Coordinator, Immunology Department

The Immunology in Cancer and Infection Laboratory is building a detailed picture of how networks of immune cells function to recognise, respond to, and destroy tumour cell masses and metastases. The group is interested in defining the importance, timing and nature of the natural immune response to transformation. The group has been examining the development and heterogeneity of natural killer cells and their potential to prevent tumour spread. The group has also been assessing the mechanism of action, safety and efficacy of antibodies to existing and new immune checkpoint molecules, alone and in combination. The findings are being used to develop more effective immunotherapies for human cancer, in particular melanoma, breast and prostate cancer, and haematological cancers.

Highlights:

- Demonstrated that blocking the receptor CD96 with a monoclonal antibody inhibited experimental metastases in three different tumour models and primary tumour growth in one model. The data demonstrate that blocking CD96 is a new and complementary immunotherapeutic strategy to reduce tumour metastases.
- Demonstrated that the receptor TIGIT predominately regulates cancer via regulatory T cells.
- Demonstrated that CIS is an important checkpoint in natural killer (NK) cell mediated tumour immunity.
- Showed that the cytokine TGFbeta inhibits NK cells by repressing the mTOR kinase pathway.
- Demonstrated that anti-CD96 could suppress tumour spread in mice, alone and in combination with other immune checkpoint blockade.
- Showed that the adenosine A2B receptor on breast cancer cells promotes metastasis.
- Showed that co-inhibition of extracellular adenosine generation signalling improved anti-tumour immune responses.
- Demonstrated that CD40 agonism reverses resistance to anti-PD1 cancer therapies.

Medical Genomics

Group Leader: Nic Waddell

Deputy Coordinator, Genetics and Computational Biology Department

The research of the Medical Genomics Group focuses on the use of next generation sequence data to improve our understanding of, and address clinical challenges in, cancer. The approaches the group takes include classification of samples into significant subtypes and the identification of driver mutations and mutational processes that underlie tumour development. The group uses this data to find alternative candidate therapeutic targets or markers of prognosis. These are important steps towards ‘personalised medicine’, where the diagnosis, management and treatment of patients will be based on their individual genomic data.

Highlights:

- Identified mutation patterns in the pancreatic neuroendocrine cancers, which enables the identification of new genes that predispose to these cancers.
- Described the mutational landscape of melanoma.
- Identified new germline events associated with pancreatic neuroendocrine cancers.
- Participated in the International Cancer Genome Project (ICGC).
- Became a core partner in the Queensland Genomics Health Alliance (QGHA).

Molecular Cancer Epidemiology

Group Leader: Amanda Spurdle

The Molecular Cancer Epidemiology Laboratory studies breast and ovarian cancer, endometrial cancer, colon cancer and prostate cancer, with a focus on identifying molecular signatures of normal and tumour tissue that can point to the genetic and environmental causes of these cancers. The laboratory covers a range of projects with the themes of cancer epidemiology and molecular pathology.

Highlights:

- Developed new guidelines and modified existing ones for laboratory analysis and interpretation of disease gene variants, which led to altered splicing and, in particular, the need to carefully consider the background of naturally occurring splice variation.
- Identified seven new endometrial cancer risks and showed that the genetic influence on circulating estrogen levels is an important driver of endometrial cancer development.
- Used genetic association methods to demonstrate that body mass index, but not waist-hip ratio, is an important predictor of endometrial cancer risk.
- Published a method that will help prioritise any variant likely to alter splicing for further clinical and laboratory study.
- Demonstrated that a variant in a cancer syndrome gene which leads to altered splicing patterns is not associated with high cancer risk and determined that a high level of aberrant splicing is necessary to lead to disease development.

Oncogenomics

Senior Scientist: Nick Hayward

Deputy Coordinator, Cancer Program

A small proportion of individuals is at much higher risk of developing particular types of cancer than the general population because they carry an inherited mutation in one of many key cancer genes. The Oncogenomics Laboratory identifies and characterises novel cancer genes and studies the way in which defects in these genes are associated with cancer predisposition or development, particularly with a focus on melanoma and lung cancer. The group is interested in investigating the process of cancer development at the level of individual cancer predisposition genes, and by looking at the whole genome scale. A better understanding of the genetic events that cause cancer should lead to better ways of diagnosing or treating cancers.

Highlights:

- Led a ground-breaking, international study, published in *Nature*, which confirmed that two rarer subtypes of melanoma (acral and mucosal) are not caused by sunlight.

Personalised Medicine

Team Head: Fares Al-Ejeh

The Personalised Medicine Group focuses on breast cancer prognosis, treatment response prediction, and new and novel drug targets. Specifically, the group is involved in:

- development of prognostic/companion diagnostic tests for breast cancer as well as other cancer types
- identification of novel and new drug targets against breast cancer
- development of novel combination treatments against cancer.

Highlights:

- Validated a prognostic test in breast cancer patients.

- Patented the prognostic test for breast cancer.
- Filed patent applications for prognostic tests for several other cancers.
- Identified at least 15 new potential drug targets for aggressive breast cancer.

Signal Transduction

Group Leader: Kum Kum Khanna

Deputy Coordinator, Cell and Molecular Biology Department

The Signal Transduction Laboratory researches DNA damage response (DDR) pathways that are essential for survival of all organisms. Defects in DDR cause many diseases, including cancer. The group's work is to understand how dysregulation leads to development and progression of cancer, and to provide the basis for translation to the clinic. The group's major focus is on triple negative breast cancers but as DDR is of great relevance to other diseases, the group is also applying its expertise to understand DDR's role in maintenance of normal tissue homeostasis.

Highlights:

- Identified critical roles of two similar DNA repair proteins in genome maintenance through coordination of transcription and replication.
- Functionally characterised germline DDR variants associated with pancreatic neuroendocrine tumours.
- Identified dependency of KRAS-mutant cancers on homology-directed DNA repair pathway.
- Integrated multi-omics data to dissect mechanisms of DNA repair dysregulation in breast cancer.
- Functionally characterised the metastasis suppressor, RARRES3.
- Functionally characterised a breast cancer suppressor, FBX031, and how it maintains genome stability.
- Delineated the mechanisms that fine tune the functions of exonuclease 1 at sites of DNA damage.

Translational Brain Cancer Research

Team Head: Bryan Day

The Translational Brain Cancer Research Laboratory studies the most common and aggressive form of adult brain cancer, glioblastoma (GBM), and paediatric brain cancer, medulloblastoma. The research focus is on understanding the molecular mechanisms that are responsible for the initiation and recurrence of brain cancers and developing and testing new and effective therapies to treat these aggressive diseases.

Highlights:

- Developed a novel model to characterise brain cancer heterogeneity in great detail and define the cells that are responsible for tumour recurrence after therapy.
- Defined salinomycin as a novel radiomimetic agent for the treatment of adult brain cancer.
- Characterised an animal model to better understand both glioblastoma and medulloblastoma heterogeneity.
- Defined a novel role of the dystroglycan complex in brain cancer stem cell maintenance and plasticity.
- Characterised successful EphA3 antibody-based targeting in paediatric medulloblastoma.
- Successful developed a tissue slice assay to characterise DNA damage response mechanisms in brain tumour patient tissue.
- Began a phase one clinical trial to test the safety, tumour uptake and efficacy of an EphA3 antibody-based therapy in recurrent adult glioblastoma.

Tumour Microenvironment

Team Head: Andreas Moller

The Tumour Microenvironment Laboratory focuses on how specific processes between cancer cells and surrounding non-tumour stromal cells influence carcinogenesis and its metastasis to distant organs. In particular, the group aims to understand how low oxygen (hypoxic) environments and other stress conditions change the physiology between tumour cells and stromal cell lineages. Additionally, the group works to understand the role of hypoxia to generate receptive secondary metastatic sites (pre-metastatic niches).

Highlights:

- Established a predictive outcome biomarker for non-small cell lung cancer patients based on a blood test.

Statistics

Group Leader: Gunter Hartel

The Statistics Unit provides statistical consultancy and collaborates on research projects with scientists and clinicians at QIMR Berghofer, the Metro North Hospital and Health Service(MNHHS) and Wesley Medical Research (WMR). The unit has won renewal of the MNHHS contract for three years and won a new contract with Mater Medical Research.

The unit consists of a senior biostatistician, six independent biostatisticians, one support biostatistician and two students with financial support from QIMR Berghofer, MNHHS and WMR. It also received financial support from research grants where collaborative work was carried out on specific projects. In January 2017 Gunter Hartel was appointed Group Leader of the unit.

Highlights:

- Named as an author on 55 peer-reviewed publications and as an investigator on 11 ongoing research grants.
- Provided training on statistics through the ‘Making friends with statistics’ program and targeted statistics seminars for QIMR Berghofer and MNHHS groups.
- Provided methodological expertise on collaborative projects through development and use of advanced statistical methods, particularly mixed effects generalised linear models and pharmacometric modelling for malaria medicines.
- Provided statistical expertise as members of ethics and external research committees and as reviewers for granting bodies and journal editors.

INFECTIOUS DISEASES

COORDINATOR: PROFESSOR JAMES MCCARTHY

Infectious diseases claim millions of lives each year across the globe. They are caused by pathogenic organisms including viruses, bacteria and parasites. The research groups in QIMR Berghofer's Infectious Diseases Program are studying how these organisms cause illness, searching for better ways to diagnose and treat the diseases they cause, and developing vaccines and education strategies to prevent infections. These research groups have a strong focus on diseases that disproportionately affect developing countries and tropical regions.

QIMR Berghofer's Infectious Diseases Program includes research into viruses (including human immunodeficiency virus (HIV), cytomegalovirus, Epstein-Barr virus and mosquito-borne viruses), bacteria (including streptococci) and parasites (including malaria, intestinal protozoa and scabies). The program has a strong focus on collaborations with clinicians and pharmaceutical companies.

QIMR Berghofer is a founding member of the Queensland Tropical Health Alliance (QTHA), which is designed to enhance collaborations and networking in the field of tropical health. The Institute is also a founding member of the Australian Infectious Diseases Research Centre (AID), which supports research into diseases such as malaria, dengue fever and schistosomiasis.

Biomarkers and Biology of Infection Related Cancers

Team Head: Jason Mulvenna

This team used high-throughput molecular techniques – including proteomics, next generation sequencing, structural biology, bioinformatics and machine learning – to build a picture of system-wide biological activity and how this changes in the face of challenges from parasites, other infectious disease and cancer. This work not only provided insight into the biology underlying disease but also provided targets for drug and vaccine development, multi-molecule expression 'signatures' for the diagnosis and prognosis of disease, and potential novel treatments in the form of peptides or small molecules.

Highlights:

- Identified novel proteins from hookworm parasites that protect against experimental colitis.
- Discovered potential biomarkers for parasite-induced liver cancer.

Cellular Immunology

Group Leader: Scott Burrows

The main focus of this group is investigating the killer T cells of the immune system and understanding how they control viral infection. It is already known that killer T cells recognise virus-infected cells via small viral peptides that are presented on the surface of virus-infected cells. The group has established a new method to identify the target epitopes of T cells using random peptide libraries. This may aid the development of peptide-based vaccines or adoptive T cell therapy for viral infections.

T cells will not engage virus-infected cells unless another interaction occurs between the CD8 molecule on T cells and the human leukocyte antigen on the target cell. The group has also shown that T cells that recognise self-antigens, and potentially initiate autoimmune diseases, are more dependent on the CD8 molecule than virus-reactive T cells. This raises the possibility that autoreactive T cell recognition can be suppressed with blocking antibodies to CD8 in a relatively selective manner.

Highlights:

- Demonstrated the importance of CD8 molecules on autoreactive T cells for controlling their capacity to recognise healthy normal cells.
- Established a new method to identify the target viral epitopes recognised by human T cells.
- Initiated a phase I clinical trial of autologous Epstein–Barr virus specific T cell therapy as a treatment for progressive multiple sclerosis.

Clinical Tropical Medicine

Senior Scientist: James McCarthy

Coordinator, Infectious Diseases Program

The main focus of the Clinical Tropical Medicine Laboratory is the development and application of clinical trial systems entailing experimental human malaria infection. These trials are being used to improve understanding of the biology of malaria in humans and the immune response to malaria, as well as to develop new anti-malarial drugs and diagnostics. The group is studying the transmission of malaria from these experimentally infected human hosts to mosquito vectors. Other work is underway to investigate the effect of interventions to control intestinal parasite infections using a sensitive PCR to measure the burden of parasite infection.

Highlights:

- Conducted three clinical trials of experimental anti-malarial drugs.
- Achieved transmission of both *Plasmodium vivax* and *P. falciparum* from experimentally infected subjects to *Anopheles* mosquitos.
- Identified a marker of the first steps that malaria parasites undergo in their transition in the blood to the stages that are transmitted to mosquito.
- Sequenced the genomes of two species of malaria parasites, *P. malariae* and *P. ovale*, as part of an international collaboration, and undertook a clinical trial of experimental *P. malariae* infection. This finding will help researchers to develop new drugs and vaccines against minor malaria species.
- Obtained approval from the US Food and Drug Administration to test the first live attenuated blood stage malaria vaccine in humans.

HIV Molecular Virology

Group Leader: David Harrich

This group is focused on identifying critical interactions between viral and cellular proteins that are essential for virus replication. Successful research projects discovered the first two cellular proteins, eEF1A and eEF1G (components of the eEF1 complex), required for conversion of the viral genomic RNA to DNA by reverse transcription. The group showed that the viral reverse transcription complex (RTC), which includes many viral proteins, also includes eEF1A and eEF1G. These two cellular proteins are important for RTC stability and efficient synthesis of full length viral DNA. How eEF1 components support the viral RTC is currently unknown and is a major focus of research by the group.

The group has reported the discovery of powerful inhibition of HIV-1 replication in human T cells by Nullbasic, an antiviral protein. Nullbasic is a novel trans-dominant negative mutant protein of Tat. The group's studies showed that Nullbasic strongly suppresses HIV-1 in productively infected human T cells by blocking HIV-1 transcription. This transcriptional shutdown is associated with chromatin modification within LTR promoter characteristic of inactive heterochromatin. How Nullbasic affects this change of the HIV-1 promoter is unknown and is a second major area of investigation by the group. A small animal trial to test Nullbasic as a gene therapy agent is ongoing.

Highlights:

- Demonstrated that the HIV-1 reverse transcriptase direct interaction with eEF1A is a viable drug target and identified lead compounds.
- Demonstrated that the antiviral protein Nullbasic enforces complete shutdown of HIV-1 in human T cells.
- Demonstrated that Nullbasic antiviral activity is potent against multiple HIV-1 strains.
- Showed specific protein methylation by PRMT6 inhibiting nucleolar retention of Tat.
- Showed that an HIV-1 RT thumb domain acid patch is required for interaction with the cellular protein eEF1A.

Immunology and Infection

Group Leader: Christian Engwerda

Deputy Coordinator, Infectious Diseases Program

The Immunology and Infection Laboratory is focused on identifying immune checkpoint molecules that can be targeted to improve anti-parasitic vaccine efficacy and drug treatment. The group is interested in research on immune-regulatory mechanisms activated during malaria and visceral leishmaniasis (VL), two of the most important parasitic diseases.

The group uses established experimental models of disease and peripheral blood mononuclear cell samples from human volunteers deliberately infected with *Plasmodium falciparum*, as well as from malaria and VL patients.

The group is also focused on immune-regulatory mechanisms mediated by CD4+ T cells, as these cells play important roles during infection, cancer and autoimmunity. The group has generated several unique data sets that identify genes that are differentially expressed by human and animal CD4+ T cells during different parasitic disease conditions. These have enabled the group to identify new immune checkpoint molecules they can target to improve vaccines and/or drug treatment.

Highlights:

- Showed that immune checkpoint molecules play different roles during malaria and visceral leishmaniasis (VL) infection. These findings indicate that different immune-modulatory strategies will need to be adapted to different parasitic diseases.
- Identified several candidate immune checkpoint molecules in CD4+ T cells from malaria and VL patients.
- Established a cellular screen to test drugs aimed at targeting immune checkpoint molecules.
- Developed methods to genetically modify human primary CD4+ T cells using CRISPR/Cas9 techniques.
- Generated a novel transgenic mouse line to study the functions of NKG7, a molecule identified in the group's immune-regulatory studies.
- Discovered new roles for IL-27 in regulating CD4+ T cell behaviour during parasitic infection.

Inflammation Biology

Group Leader: Andreas Suhrbier

The Inflammation Biology Group continues its research on the arthritis/arthralgia caused by chikungunya virus. The group's adult mouse model of chikungunya virus infection and disease has been used to identify the enzyme granzyme A as a new key driver of arthritic inflammation, suggesting granzyme A might represent a novel target for anti-inflammatory interventions. The model has also been used in pre-clinical assessments of new drugs and vaccines as part of collaborative research and development with industry partners.

The group has also developed a new mouse model of foetal brain infection with Zika virus, which is currently being used to test a number of new vaccines in collaboration with Australian and international collaborators.

With collaborators, the group has developed an effective equine IgG post-exposure treatment for Ebola infection, which it is hoped will be developed into a human product.

Highlights:

- Illustrated that granzyme A has an important role in driving inflammation.
- Developed an equine IgG post-exposure prophylaxis for Ebola.
- Developed a foetal brain infection model for Zika virus.

Lung Bacteria

Group Leader: Scott Bell

The group's research is focused on the epidemiology of infection in people with cystic fibrosis (CF). This includes research into ways that people with CF become infected, including from the natural environment and person-to-person spread.

The group is also focused on understanding the changing prevalence, risk factors and impact of non-tuberculous (NTM) infection in people with CF in Australia, and on understanding antimicrobial resistance in gram-negative infection.

Highlights:

- Showed for the first time that the multi-drug resistant *Mycobacterium abscessus* infection, which is increasing in prevalence in patients with CF, is potentially spread by coughing.
- Contributed to an international genomics study of *Mycobaterium abscessus* in people with CF.

Malaria Immunology

Team Head: Ashraful Haque

The focus of the Malaria Immunology Group is investigating interactions between the malaria parasite, Plasmodium, and the human host using in vivo, computational and mathematical modelling techniques.

The group's research interests are focused on three main areas. Firstly, how immune responses are generated during the blood stage of infection. The group has employed single-cell genomics techniques to determine how T cell differentiation occurs in vivo.

Secondly, the group is working with colleagues on mathematical modelling to establish a novel mechanism by which malaria parasite growth can be controlled in the host.

Thirdly, the group is also seeking to determine what aspects of the innate immune system serve to control the onset of adaptive immunity to malaria.

Highlights:

- Showed how single-cell transcriptomic data can be used to examine how cellular decision making proceeds in vivo.
- Determined that Type I Inteferon cytokine signalling serves to impair the onset of antibody-mediated immunity to malaria.
- Used single-cell transcriptomics and computational modelling to determine, on a genomic scale, how CD4+ T cells 'decide' between two different cell fates in vivo.
- Used in vivo and mathematical modelling approaches to uncover a novel mechanism by which the growth of malaria parasites can be slowed in vivo.
- Discovered a transcription factor, expressed by the innate immune system, which controls CD4+ T cell differentiation in vivo.
- Used in vivo and mathematical modelling techniques to determine mechanisms of action for two first-line anti-malarial drugs, sodium artesunate and mefloquine.

Molecular Immunology

Group Leader: Michelle Wykes

The Molecular Immunology Laboratory is focused on investigating the role of immune checkpoint inhibitors, especially the PD-1 pathway in the immune system's response to malaria. In the last year, the group has made great strides in understanding the very important role that the molecule programmed cell death-1 ligand 2 (PD-L2) plays in protecting against malaria and cancer.

The group is also investigating the pathogenesis of malaria and is working to develop new treatments for malaria.

Highlights:

- Discovered that the molecule PD-L2 cures malaria infection in mice and protects against re-infection.
- Found that activating immune cells known as CD8+ T cells is crucial in protecting mice against malaria in the longer term.

Molecular Parasitology

Senior Scientist: Don McManus

The Molecular Parasitology Group is developing a multifaceted, intervention-based approach to the control of the neglected tropical diseases (NTDs) in Asia. This includes vaccination and health education, and the use of accurate diagnostics, mathematical modelling and precise surveillance, resulting in a greater and longer-lasting effect on disease transmission than current drug-based programs.

The group's research has informed policy and practice, promoting strong collaborations between Australia and the region, and providing significant and sustainable value to the medical research effort. The group's vision will continue to interweave best practice research approaches with translation into innovative and practical control strategies. The multi-skilled group includes leaders in molecular biology, immunology/vaccinology, diagnostics, modelling, field epidemiology and biostatistics, intervention trial design, and coordinating and monitoring parasite control programs.

The group aims to eliminate schistosomiasis and other NTDs from Asia by combining effective surveillance and monitoring with available diagnostic tools and public health interventions. This would result in substantial kudos and benefit to health and medical research in Australia and beyond.

Highlights:

- Characterised granuloma regression and liver recovery in a murine model of *Schistosomiasis japonica*.
- Conducted proteomic analysis of the *Schistosoma mansoni* miracidium.
- Reviewed the Tao survivorship of schistosomes: implications for schistosomiasis control.
- Described the potential of cell-free DNA as a diagnostic tool for human parasitic infections.
- Optimised a droplet digital PCR assay for the diagnosis of *Schistosoma japonicum* infection.
- Conducted comprehensive transcriptome analysis of sex-biased expressed genes revealing discrete biological and physiological features of male and female *Schistosoma japonicum*.
- Described genetic diversity and selection of three nuclear genes in *Schistosoma japonicum* populations.
- Showed the clinical diagnostic value of viable *Schistosoma japonicum* eggs detected in host tissues.
- Described the landscape epidemiology of echinococcoses.

Mosquito Control

Group Leader: Greg Devine

The Mosquito Control Group is focused on characterising, monitoring and manipulating the entomological determinants of arbovirus and malaria transmission. This includes looking at:

- the impacts of species or strain differences on vector competence and ecological and behavioural fitness (for example, vector complexes, *Wolbachia* infection and insecticide-resistant forms)
- the influence of environmental variables (largely temperature) on fitness, invasion and disease transmission
- novel means of insecticide delivery (for example, the auto-dissemination of larvicides, mosquito sterilants, and the volatilisation of potent but safe pyrethroids); and,
- the application of new technologies for monitoring and survey purposes. This work is facilitated by our unique PC2, PC3 and QC3 laboratories and insectaries.

Highlights:

- Showed the effects of environmental stress on *Wolbachia* density in mosquitoes.
- Continued to make progress on the auto-dissemination of insecticides with collaborators.
- Contributed to mouse-mosquito models for Chikungunya and Zika.

Scabies

Group Leader: Katja Fischer

Novel drugs and diagnostic tools to treat scabies are urgently needed. A central challenge is to comprehend mite biology and scabies pathogenesis, which are poorly understood, resulting in a lack of knowledge of specific drug targets in the parasite.

The Scabies Research Group is focused on understanding the molecular interactions of scabies mite molecules with host defence systems in the skin. The group, which has been working on scabies for more than 10 years, provides crucial molecular knowledge that will greatly accelerate biomedical research to produce new options for reducing scabies incidence and improving disease outcomes.

Highlights:

- Discovered scabies mite molecules that promote coagulation, causing aberrant clots.
- Extended scabies genome, proteome and transcriptome data.

Tumour Immunology

Senior Scientist: Rajiv Khanna

Deputy Coordinator, Immunology Department

The major goal of the Tumour Immunology Laboratory is to gain a deeper understanding of the mechanisms by which an immune response to tumours may be generated, augmented and applied to inhibit tumour growth. The group's aim is that its research will be applicable to the treatment and/or prevention of cancer.

Highlights:

- Successfully completed clinical trial of immunotherapy for nasopharyngeal carcinoma.
- Launched a new clinical trial to test a T cell therapy as an adjuvant therapy for brain cancer.
- Developed a novel immune-based therapy for BK polyomavirus.

- Initiated a new clinical research program on human-papillomavirus-associated cancers.
- Made progress in developing a prophylactic vaccine again human cytomegalovirus.
- Initiated a major collaborative program to develop off-the-shelf T cell therapies with US-based biotech company Atara Biotherapeutics Inc.

COMPLEX DISORDERS

COORDINATOR: PROFESSOR GREG ANDERSON

QIMR Berghofer is conducting research into a range of chronic disorders that affect people's quality of life and health prospects. These include asthma, eye disease, haemochromatosis, hepatic fibrosis, cystic fibrosis liver disease and inflammatory bowel disease. The incidence of some of these conditions is rising due to demographic and lifestyle changes and QIMR Berghofer is conducting research in this field in response to the community's changing needs.

The Institute's chronic disorders research groups are conducting wide-ranging investigations, including identifying the genetic variation associated with the risk of some of these disorders, as well as understanding the natural history of iron-related disorders.

Asthma Genetics

Group Leader: Manuel Ferreira

Deputy Coordinator, Chronic Disorders Program

The Asthma Genetics Group is focused on understanding the genetic basis of allergic disease, including asthma, hay fever and eczema. The group is also working to identify new drug targets for allergic disease using genetics and genomics, and is testing new drugs for asthma in phase II clinical trials.

Highlights:

- Identified hundreds of new risk genes for allergic disease, many of which have therapeutic potential.
- Conducted the largest genetic study of allergic disease in the world, which studied the DNA of 360 000 individuals.
- Validated, in animal studies, a new drug target for asthma.

Hepatic Fibrosis

Group Leader: Grant Ramm

Coordinator, Cell and Molecular Biology Department

The Hepatic Fibrosis Group investigates the interaction between two cell types – liver progenitor cells and fibroblasts – in the iron overload disease hereditary haemochromatosis. The group is also investigating the interaction between these two cell types in children with obstructive bile duct disease causing cirrhosis of the liver, including cystic fibrosis and biliary atresia. By investigating the mechanisms of cellular interaction, mediators of uncontrolled wound healing and regeneration (disease progression) can be identified. This may be detected in the blood, permitting development of early diagnostic tests, and may lead to novel therapeutic interventions to halt or reverse the disease process.

Highlights:

- Demonstrated that serum ferritin is a better predictor of hepatic fibrosis progression in haemochromatosis patients than hepatic iron concentration.
- Completed a trial of transient elastography in healthy children to establish population normal age and sex ranges of liver stiffness for subsequent trial in children with severe cholestatic liver diseases.
- Identified the hydrophobic bile acid-induced mechanism involved in early hepatic fibrogenesis in children with cystic fibrosis liver disease.

Inflammatory Bowel Disease

Group Leader: Graham Radford-Smith

This group's major research focus is the link between objective and quantitative clinical data and molecular data in subjects with inflammatory bowel disease (Crohn's disease and ulcerative colitis). The group has developed novel systems to extract and analyse longitudinal laboratory data on the group's research subjects and seeks to determine the relationships between specific subgroups within these datasets and both host genome and transcriptome. To this end, the group has generated extensive genotype data on both its Crohn's disease and ulcerative colitis populations, together with a detailed transcriptomic profile of both the small and large bowel. This will improve the group's understanding of intestinal biology in the healthy and inflamed gut, and support the development of novel therapeutic approaches.

Highlights:

- As part of a collaboration, drove the development of a novel software program called *Crohn's Colitis Care* for managing inflammatory bowel disease. This will provide clinicians and scientists with the opportunity to assemble large phenotype and -omics datasets across the ANZ IBD Consortium.
- Published an important paper on the treatment of Crohn's disease, which generated a journal editorial and much interest in the field.

Iron Metabolism

Group Leader: Greg Anderson

Coordinator, Chronic Disorders Program

The Iron Metabolism Laboratory focuses on understanding the homeostasis of the essential trace element iron (and related metals), the natural history of iron-related disorders and potential therapies for treating them, and mechanisms of liver disease. Specific areas of interest include:

- Elucidating the basic mechanisms of intestinal iron absorption and its regulation, as increased absorption characterises most iron loading disorders. Emphasis is being placed on the ferroportin/hephaestin iron transport complex and its modulation by the iron regulatory peptide hepcidin.
- Exploring novel mechanisms of regulating iron intake in early postnatal life. This work has significant implications for infant nutrition and complementary feeding.
- Examining how iron homeostasis is regulated in iron loading anaemias such as thalassaemia. These studies are helping us to understand how changes in erythropoiesis regulated body iron intake.
- Using novel nanoparticle technology to develop better iron supplements and methods for delivering iron-removing agents.
- Studying the natural history of the iron-loading disorder hereditary haemochromatosis and exploring markers for monitoring the effectiveness of treatment.
- Examining the mechanisms underlying hepatic encephalopathy, the neuropsychiatric syndrome that often accompanies severe liver disease. This work takes a broad approach from basic molecular mechanisms to clinical applications.

Highlights:

- Identified novel modes of dietary iron intake in the intestine in early infancy.
- Developed and implemented a novel nanoparticle-based strategy for the delivery of the iron chelators.
- Assessed efficacy and safety of nanoparticulate oral iron supplements.
- Defined mechanisms of the erythroid regulation of iron metabolism.
- Continued studies into using nanotechnology to improve cancer drug delivery.

Lung Inflammation and Infection

Group Leader: David Reid

The Lung Inflammation and Infection Group is focused on lung diseases that are characterised by bacterial infections. The group is studying immune responses to bacteria and viruses in smoking-related chronic obstructive pulmonary disease (COPD) and the genetic disorder cystic fibrosis (CF). Immune defences in the lung rely on a robust, innate and adaptive immune system. The group has found abnormalities in lung iron homeostasis in CF and COPD, which is important as bacteria require iron for replication and their enzyme systems. As part of this research, the group is targeting bacterial iron acquisition systems therapeutically. They have also found that key innate T lymphocytes may not function normally in CF and COPD and they are investigating this further, as innate T cells are needed for healthy defences against bacteria and viruses. A key component of the group's work is the identification of biomarkers in blood that may be used to guide antibiotic therapy in COPD and CF.

Highlights:

- Discovered blood biomarkers that differentiate between bacteria and viruses in the lung.
- Confirmed, using mouse models and human airway epithelial cells, that lung iron homeostasis is abnormal in cystic fibrosis.

Statistical Genetics

Group Leader: Stuart MacGregor

This research group is focused on applying a range of statistical genetic methods to complex diseases. As well as identifying new, inherited variants contributing to disease risk, the group has used genetic data to identify overlaps between various diseases and traits. In the specific case of a disease and a modifiable risk factor, the group has used genetic data in causal inference (work aiming to determine if a risk factor really causes that disease).

The group continues to focus on two major disease areas: cancer (melanoma, ovarian cancer and oesophageal cancer) and eye disease (glaucoma, myopia and macular degeneration).

Highlights:

- Published the world's largest study to date on inherited contributions to oesophageal cancer. The study doubled the number of genes known for this deadly cancer and identified, for the first time, a genetic variant that influences a person's risk of transitioning from the pre-cursor condition Barrett's oesophagus to oesophageal cancer.
- Identified five new variants influencing risk of endometriosis. These highlighted the important role of hormone metabolism.
- Showed that pigmentation genes play an important role in skin ageing.
- Showed that low vitamin D levels are associated with ovarian cancer.
- Showed that low vitamin D levels are not associated with myopia – an important negative, emphasising that outdoor behaviour likely does not improve myopia through vitamin-D-related pathways.
- Developed and published software to allow pathway analysis to be run on results from genome-wide association studies.
- Generated new insights into the genetics of primary, open-angle glaucoma based on examining healthy individuals measured for intraocular pressure and optic disc characteristics.

MENTAL HEALTH

COORDINATOR: PROFESSOR MICHAEL BREAKSPEAR

The research groups in QIMR Berghofer's Mental Health Program are studying a range of conditions that arise from an interaction of genetic and complex environmental influences. These include Alzheimer's disease, dementia, depression, anxiety, bipolar disorder, schizophrenia, epilepsy and anorexia nervosa.

The focus of our Mental Health Program is to combine the existing strengths of our work in genetics and population health with new techniques in neurosciences. Our teams have strengths in the clinical aspects of mood disorders, which are complemented by their ability to use genetic, imaging and computational approaches to understand these debilitating disorders. The promise of this approach is personalised therapies for the mood disorders based on improved knowledge of pathophysiology and empirically validated clinical and/or biological phenotypes.

Our mental health researchers have comprehensively mapped the connections in the healthy elderly brain, laying the groundwork for new research into Alzheimer's disease and dementia, and have started using cutting-edge imaging and information technology to develop a diagnostic test for major depressive disorders.

Genetic Epidemiology

Senior Scientist: Nick Martin

Deputy Coordinator, Mental Health Program

The focus of the Genetic Epidemiology Group is identifying the particular genes that contribute to complex diseases. The group's current, major focus is the Australian Genetics of Depression Study, which is the Australian arm of an international research effort that aims to discover more about the genetic drivers of clinical depression and the genetic factors influencing the effectiveness of clinical treatments for depression. The group is recruiting a large sample of patients who are currently, or have previously, been treated for clinical depression.

The group is also in the early stages of analysing data from the Australian branch of the Anorexia Nervosa Genetics Initiative (ANGI), an international study that is seeking to identify the genes associated with anorexia.

In 2016–2017, the group began to conclude its Q-Twin study, which has been conducting research into more than 7000 twin pairs over the past 10 years in order to identify the genetic components of various traits.

Highlights:

- Launched the Australian Genetics of Depression Study, collecting 12 000 registrations and 8000 DNA samples to date.
- Finished collecting survey data and DNA samples as part of the ANGI study and began data analysis.
- Contributed to multiple international, genome-wide association studies examining the genetic components of different traits.

Neurogenomics

Team Head: Guy Barry

The Neurogenomics Laboratory was established in 2016–2017. The group currently has several research foci. The first of these is investigating whether schizophrenia is 'brain diabetes'. The second is determining whether there are transcriptional signatures between human adult stem cell populations and whether there are unique signatures in cancers that can be targeted to alleviate the side effects of chemotherapy. Thirdly, the group has started a project to show, for the first time, the mechanism of transgenerational inheritance. The group's fourth focus is a project on THC, the psychoactive ingredient in cannabis, and its effects on human neurons (brain cells).

Highlights:

- Published a paper in *JAMA Psychiatry*, the top psychiatry journal in the world, showing how human-relevant stem cells from schizophrenia patients can recapitulate, in a dish, phenotypes seen in the brains of patients.
- Discovered that a particular molecule in the nucleus of neurons plays an important role in brain function and, specifically, in de-activating excitability in the brain. The group believes that the molecule could also play a role in the onset of seizures.

Psychiatric Genetics

Group Leader: Sarah Medland

The Psychiatric Genetics Group applies statistical and epidemiological genetic methods to complex traits. The group works predominantly in the areas of mental health and women's health and focuses on common conditions that impact on individuals and their families. Most of the group's work focuses on identifying genetic and environmental risk factors that influence the development of disorders and the interplay between these factors. The group also conducts research on the financial, social and psychological impacts of these conditions.

Highlights:

- Using polygenic risk scores, confirmed the diathesis-stress model for depression, which states that stress activates a diathesis or vulnerability, transforming a predisposition into the actuality of depression.
- Set up a new collaboration with Brisbane-based clinical researchers to investigate the role of genetics in medication-induced addictive behaviours in Parkinson's disease patients.
- Designed and completed an addiction-related research project of the QIMR Berghofer Aboriginal / Torres Strait Islander Health Research Trainee.
- Tested if family or school socioeconomic status (SES) moderated the heritability of literacy or numeracy performance in Australian middle school children. Unlike findings in the United States, heritability was stable across different levels of SES. This suggests that, in Australia, the environments of children from lower SES families and schools are sufficient to allow for actualisation of genetic potential.
- Identified genetic variants influencing the size of the hippocampus (a brain region important for memory).
- Identified genetic variants influencing intracrantial volume (a measure of total brain size).

System Neuroscience

Senior Scientist: Michael Breakspear

Coordinator, Mental Health Program

One of the key research focuses of the Systems Neuroscience Group is precision psychiatry. These studies shift the focus of our work from finding correlates of risk and illness toward the deeper and more important issue of finding person-specific predictions of outcomes, based on clinical presentation, imaging markers and genetics. Achieving this goal will open new therapeutic windows for early intervention and allow clinical trials for those at risk of illness, before the development of full symptoms and their associated distress and risk of suicide.

Using neuroimaging and machine learning, the group has commenced a program of identifying a new diagnostic classification based upon neurobiology, genetics and phenotype. By exploiting the value of longitudinal studies, this approach allows prediction of the natural history of individual patients and their likely responses to treatment.

Another focus of the group is computational neuroscience. Imaging technology has accelerated tremendously in the last five years. The race is now on to exploit the unprecedented detail of the available brain images using cutting-edge modelling and analysis algorithms. Bridging the time gap between the validation of these techniques and their application to mental health disorders also represents a unique strategic advantage to those whose expertise spans basic and translational neuroscience.

Highlights:

- Discovered an imaging biomarker for bipolar disorder.
- Described neural correlates of human seizures.
- Described the role of the cerebellum in human emotion.
- Proposed a new model for the time scales of human cognition.
- Described the subtypes of bipolar disorder.
- Identified an imaging biomarker of melancholia.

Translational Neuroscience

Team Head: Christine Guo

The Translational Neuroscience Group uses advanced neuroimaging methods to improve the diagnosis and treatment of neuropsychiatric disorders. The group's main focus is using imaging and biological markers to develop tools to detect dementia in its earliest stages before any damage has been done to the brain. The group is also investigating the cognitive and socio-emotional changes that occur in dementia, investigating the neural basis of emotion and developing imaging markers to guide surgical treatment of refractory epilepsy.

Highlights:

- Launched the Prospective Imaging Study of Ageing (PISA), which will use advanced neuroimaging and biological markers to develop early diagnostic tools to identify Alzheimer's disease in its earliest stages and those at high risk of developing the disease.
- Provided unique and novel insights on the memory encoding in health and neurodegenerative diseases.

FINANCIAL REVIEW

Total comprehensive income in 2016–17 was a deficit of $1.9 million, including a favourable $0.4 million non-cash gain from building revaluation mandated by accounting standards. The operating result was a loss of $2.2 million, which includes depreciation and amortisation of $12.3 million. Competitive grant funding has reduced, while commercial activities have increased to bring in alternative funds. Investment returns for the year have also been favourable compared to 2015–2016 and the budget.

The Council's financial structure is mainly based on the management of operating, commercial and grant funds. Funding from competitive grants and commercial contracts spent on research in the 2016–17 financial year was $42.7 million (2015–16: $42.3 million), representing 40 per cent of total income from continuing operations. A portion of the Council's core funding is provided as an operating grant from Queensland Health (2016–17: $18.9 million; 2015–16: $18.9 million).

The Council's total funding resources, including amounts under management at 30 June 2017, totalled $152.7 million (2015–16: $144.7 million). The increase in funds held during the year was mainly due to increased commercial funding and reinvestment of returns on the funds invested.

The Council of the Queensland Institute of Medical Research Financial Statements 2016–2017

Contents

Statement of comprehensive income
For the year ended 30 June 2017

	Notes	2017 $'000	2016 $'000
Income from continuing operations			
Grants and other contributions	4	66,749	72,985
User charges and fees	5	25,709	19,746
Other revenue	6	7,272	8,062
Interest		861	973
Total Revenue		100,591	101,766
Gains/(losses) on sale/revaluation of assets	7	6,909	(2,419)
Total income from continuing operations		**107,500**	**99,347**
Expenses from continuing operations			
Employee expenses	8	57,325	55,950
Supplies and services	9	26,868	25,803
Depreciation and amortisation	15,16	12,257	12,048
Other expenses	10	12,627	11,341
Finance costs		633	582
Total expenses from continuing operations		**109,710**	**105,724**
Operating result from continuing operations		**(2,210)**	**(6,377)**
Other comprehensive income			
Items that will not be reclassified subsequently to operating result			
Increase in asset revaluation surplus	20	359	6,911
Total other comprehensive income		**359**	**6,911**
Total comprehensive (loss)/income		**(1,851)**	**534**

The accompanying notes form part of these statements

The Council of The Queensland Institute of Medical Research

Statement of financial position
As at 30 June 2017

	Notes	2017 $'000	2016 $'000
Current assets			
Cash and cash equivalents	11	21,394	29,020
Other financial assets	14	25,000	-
Receivables	12	7,412	4,674
Inventories	13	253	272
Other		482	561
Total current assets		**54,541**	**34,527**
Non-current assets			
Other financial assets	14	106,340	115,634
Intangible assets	15	511	459
Property, plant and equipment	16	288,453	296,450
Controlled and jointly controlled entities	3	23	23
Total non-current assets		**395,327**	**412,566**
Total assets		**449,868**	**447,093**
Current liabilities			
Payables	17	10,254	6,685
Accrued employee benefits	18	4,119	3,860
Unearned revenue	19	24,252	23,505
Total current liabilities		**38,625**	**34,050**
Non-current liabilities			
Accrued employee benefits	18	886	835
Total non-current liabilities		**886**	**835**
Total liabilities		**39,511**	**34,885**
Net assets		**410,357**	**412,208**
Equity			
Accumulated surplus		337,858	340,068
Asset revaluation surplus	20	72,499	72,140
Total equity		**410,357**	**412,208**

The accompanying notes form part of these statements

Statement of changes in equity
For the year ended 30 June 2017

	Accumulated surplus	Asset revaluation surplus (note 20)	Total
	$'000	$'000	$'000
Balance as at 1 July 2016	340,068	72,140	412,208
Operating result from continuing operations	(2,210)	-	(2,210)
Other comprehensive income			
Increase in asset revaluation surplus	-	359	359
Balance as at 30 June 2017	**337,858**	**72,499**	**410,357**
Balance as at 1 July 2015	346,445	65,229	411,674
Operating result from continuing operations	(6,377)	-	(6,377)
Other comprehensive income			
Increase in asset revaluation surplus	-	6,911	6,911
Balance as at 30 June 2016	**340,068**	**72,140**	**412,208**

The accompanying notes form part of these statements.

Statement of cash flows
For the year ended 30 June 2017

	Notes	2017 $'000	2016 $'000
Cash flows from operating activities			
Inflows:			
Grants and other contributions		65,940	77,534
User charges and fees		24,895	19,696
Other income		2,662	3,650
Interest income		910	973
GST input tax credits from ATO		2,858	2,603
GST collected from customers		1,751	2,111
Outflows:			
Employee expenses		(57,368)	(56,572)
Supplies and services		(22,901)	(24,411)
Finance costs		(633)	(582)
GST paid to suppliers		(2,798)	(2,797)
GST remitted to ATO		(1,838)	(1,933)
Other		(13,807)	(9,296)
Net cash provided by operating activities	CF1	**(329)**	**10,976**
Cash flows from investing activities			
Inflows:			
Sale of property, plant and equipment		7	92
Outflows:			
Investments in other financial assets		(4,011)	(8,914)
Acquisition of property, plant and equipment		(3,293)	(5,522)
Net cash used in investing activities		**(7,297)**	**(14,344)**
Net decrease in cash and cash equivalents		(7,626)	(3,368)
Cash and cash equivalents at beginning of financial year		29,020	32,388
Cash and cash equivalents at end of financial year	11	**21,394**	**29,020**

The accompanying notes form part of these statements

Notes to the statement of cash flows
For the year ended 30 June 2017

	2017 $'000	2016 $'000
CF1 Reconciliation of operating result to net cash from operating activities		
Operating deficit	(2,210)	(6,377)
Depreciation and amortisation expense	12,257	12,048
Investment distributions other financial assets	(5,453)	(5,179)
Loss on sale of property, plant and equipment	189	28
Net (gain)/loss on market value of other financial assets	(7,098)	2,391
Change in assets and liabilities:		
(Increase)/decrease in receivables	(2,738)	572
(Increase)/decrease in inventories	19	(19)
(Increase)/decrease in prepayments	79	247
Increase/(decrease) in accounts payable	3,569	3,209
Increase/(decrease) in accrued employee benefits	310	(492)
Increase/(decrease) in unearned revenue	747	4,548
Net cash from operating activities	**(329)**	**10,976**

The Council of The Queensland Institute of Medical Research

Notes to the financial statements
For the year ended 30 June 2017

ABOUT COUNCIL AND THIS FINANCIAL REPORT

1. Basis of financial statement preparation

General information

The Council of the Queensland Institute of Medical Research is a Queensland statutory body established under the *Queensland Institute of Medical Research Act 1945* and is controlled by the State of Queensland which is the ultimate parent.

The head office and principal place of business of the statutory body is:
300 Herston Road
Herston QLD 4006

For information in relation to the Council's financial statements please call +61 7 3362 0222, email enquiries@qimrberghofer.edu.au or visit the internet site www.qimrberghofer.edu.au.

Compliance with prescribed requirements

The Council has prepared this financial report in compliance with section 42 of the *Financial and Performance Management Standard 2009*.

These financial statements are general purpose financial statements, and have been prepared on an accrual basis in accordance with Australian Accounting Standards and Interpretations. In addition, the financial statements comply with Queensland Treasury Minimum Reporting Requirements, and other authoritative pronouncements including the Australian Charities and Not-for-profits Commission (ACNC).

With respect to compliance with Australian Accounting Standards and Interpretations, the Council has applied those requirements applicable to not-for-profit entities, as the Council is a not-for-profit statutory body.

The reporting entity

The financial statements include the value of all revenues, expenses, assets, liabilities and equity of the Council and the entities it controls where these entities are material (refer note 3).

Presentation details

Currency and rounding

Amounts included in the financial statements are in Australian dollars and have been rounded to the nearest $1,000 or, where that amount is $500 or less, to zero, unless disclosure of the full amount is specifically required.

Comparatives

Comparative information reflects the audited 2015-16 financial statements and has been restated where necessary to be consistent with disclosures in the current reporting period.

Current/non-current classification

Assets and liabilities are classified as either 'current' or 'non-current' in the Statement of Financial Position and associated notes.

Assets are classified as 'current' where their carrying amount is expected to be realised within 12 months after the reporting date. Liabilities are classified as 'current' when they are due to be settled within 12 months after the reporting date, or the Council does not have an unconditional right to defer settlement to beyond 12 months after the reporting date.

All other assets and liabilities are classified as non-current.

Basis of measurement

Historical cost is used as the measurement basis in this financial report except for the following:
- Buildings and heritage and cultural assets which are measured at fair value; and
- Inventories which are measured at the lower of cost and net realisable value.

Historical cost

Under historical cost, assets are recorded at the amount of cash or cash equivalents paid or the fair value of the consideration given to acquire assets at the time of their acquisition**.** Liabilities are recorded at the amount of proceeds received in exchange for the obligation or at the amounts of cash or cash equivalents expected to be paid to satisfy the liability in the normal course of business.

Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly derived from observable inputs or estimated using another valuation technique. Fair value is determined using the following approach below;

- The market approach uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business.

- The cost approach reflects the amount that would be required currently to replace the service capacity of an asset. This method includes the current/depreciated replacement cost methodology.

Where fair value is used, the fair value approach is disclosed.

Net realisable value

Net realisable value represents the amount of cash or cash equivalents that could currently be obtained by selling an asset in an orderly disposal.

Accounting estimates and judgements

The preparation of financial statements necessarily requires the determination and use of certain critical accounting estimates, assumptions, and management judgements that have the potential to cause a material adjustment to the carrying amounts of assets and liabilities within the next financial year. Such estimates, judgements and underlying assumptions are reviewed on an ongoing basis. Revisions to

accounting estimates are recognised in the period in which the estimate is revised and in future periods as relevant.

Estimates and assumptions that have a potential significant effect are outlined in the following financial statement notes:

- Useful lives of property, plant and equipment – note 16

- Valuation of property, plant and equipment – note 16

Authorisation of financial statements for issue

The financial statements are authorised for issue by the Chair of Council, Director & Chief Executive Officer and Secretary at the date of signing the Management Certificate.

2. Objective and principal activities of the Council

The objective of the Council is to control and manage the operations of the Queensland Institute of Medical Research in accordance with the *Queensland Institute of Medical Research Act 1945*. The Council has been established to conduct research into all branches of medical science. It operates predominantly in one geographical area, being Queensland, Australia, although it has research collaborations across Australia and overseas.

The majority of the Council's funding is generated from competitive, peer reviewed research grants, commercial and other earned revenue. The Council also receives an annual operational grant from the Department of Health, Queensland (Queensland Health). Further funding is generated from donations, fundraising and investment activities performed under the guidance of the Council. Refer note 26.

3. Controlled entities

(a) Q-Pharm Pty Ltd

In July 2015 Council acquired full ownership of clinical trials company Q-Pharm Pty Ltd, for-profit in nature. As at 30 June 2017, the Council holds 100% of the shares of Q-Pharm Pty Ltd (2016: 100%). Q-Pharm Pty Ltd's registered office is in Brisbane, Queensland, with its activities also being conducted there.

	2017 $'000	2016 $'000
Q-Pharm Pty Ltd		
Investment –at cost	23	23
	23	**23**
This is a summary of the financial transactions and balances for Q-Pharm Pty Ltd:		
Income	5,969	6,848
Expenses	(6,778)	(6,391)
Net (loss)/surplus	**(809)**	**457**
Current assets	1,197	1,877
Non-current assets	180	137
Current liabilities	(1,400)	(1,188)
Non-current liabilities	(50)	(90)
Net (liabilities)/assets	**(73)**	**736**

Q-Pharm Pty Ltd did not have any material contingent liabilities or commitments as at 30 June 2017.

Q-Pharm Pty Ltd is budgeting for a net surplus for the 2017-18 financial year.

As the results of Q-Pharm Pty Ltd are not consolidated into the results of the Council on the basis of materiality, the net loss for the 2016-17 financial year is not reflected in the Council's statement of comprehensive income. The Council continues to support Q-Pharm Pty Ltd through a letter of comfort which represents a contingent liability for the Council.

(b) Vaccine Solutions Pty Ltd

Vaccine Solutions Pty Ltd was established in 1998, for-profit in nature, to provide clinical trial sponsorship, intellectual property management and commercialisation services to the Cooperative Research Centre for Vaccine Technology (CRCVT). Following the winding up of the CRCVT, Vaccine Solutions manages a number of licensing arrangements for the benefit of the members of CRCVT Trust II.

3. Controlled entities (cont'd)

In July 2015 Council acquired full ownership of Vaccine Solutions Pty Ltd. As at 30 June 2017 the Council holds 100% of the shares of Vaccine Solutions Pty Ltd (2016: 100%). Vaccine Solutions Pty Ltd's registered office is in Brisbane, Queensland, with its activities also being conducted there.

Vaccine Solutions does not own any physical or intellectual property assets on its own and is required to return 97% of all commercial income received from licensing activities to the CRCVT Trust II for distribution to members of that trust. Refer note 29.

This is a summary of the financial transactions and balances for Vaccine Solutions Pty Ltd:

	2017 $'000	2016 $'000
Income	4	-
Expenses	(2)	(3)
Net surplus/(deficit)	**2**	**(3)**
Current assets	29	26
Current liabilities	(10)	(10)
Net assets	**19**	**16**

Vaccine Solutions Pty Ltd did not pay a dividend in 2016-17 (2015-16: $0).

Vaccine Solutions Pty Ltd was not required to prepare financial statements for the years 30 June 2017 and 30 June 2016, however, the transactions disclosed above have been audited. The company did not have any material contingent liabilities or commitments as at 30 June 2017 (similar as at 30 June 2016).

(c) genomiQa Pty Ltd

The Minister for Health approved the formation of genomiQa Pty Ltd in May 2017.

genomiQa Pty Ltd is for-profit in nature offering high-quality precision analysis of data from whole genome sequencing. As at 30 June 2017 the Council holds 66% of the shares in genomiQa Pty Ltd. genomiQa Pty Ltd's registered office is in Brisbane, Queensland, with its activities also being conducted there. At 30 June 2017 no transactions or activity had been undertaken by this entity.

(d) Q-Gen Pty Ltd

During the 2004-05 financial year, the Council incorporated a wholly owned subsidiary, Q-Gen Pty Ltd. The operations of Q-Gen Pty Ltd were wound up as at 30 June 2009 with activities of the entity being taken over by the Council. The entity still exists as a shelf company but is dormant.

Accounting policy – Controlled entities
Controlled entities are entities over which the Council has the power to govern the financial and operating policies, generally accompanying a shareholding of more than one-half of the voting rights. Any controlled entities that are not considered as material are not consolidated with the Council's financial statements and the amount of the investment is recorded at cost.

As at 30 June 2017 the Council holds 100% (2016: 100%) each of directly controlled entities Q-Gen Pty Ltd, Q-Pharm Pty Ltd, Vaccine Solutions Pty Ltd and 66% of genomiQa Pty Ltd (2016: not applicable). As the amount of the investments and the transactions of all entities are not considered material, they are not consolidated within the Council's financial statements.

	2017 $'000	2016 $'000
4. Grants and other contributions		
Grants - National Health & Medical Research Council	26,834	24,502
Grants - Queensland Health	18,864	18,864
Grants - Other	8,574	12,864
Grants - NHMRC overheads support funding (IRIISS)	4,438	4,185
Grants - Australian Research Council	929	1,419
Grants - Bioplatforms Australia	-	835
Grants - Cancer Council Queensland	1,033	1,515
Donations and bequests	6,077	8,801
Total	**66,749**	**72,985**

Accounting policy - Grants and other contributions
Grants, contributions, donations, bequests, gifts and fundraising that are non-reciprocal in nature are recognised as revenue in the year in which the Council obtains control over them (control is generally obtained at time of receipt). Where grants are received that are reciprocal in nature, revenue is progressively recognised as it is earned according to the terms of the funding agreements. Contributed assets are recognised at their fair value.

Accounting policy - Services received free of charge or for nominal value
Contributions of services are recognised only if the services would have been purchased if they had not been donated and their fair value can be measured reliably. Where this is the case, an equal amount is recognised as revenue and an expense.

5. User charges and fees		
Commercial and contract research	23,158	18,872
Sundry tenants recoveries	439	434
Rent	2,112	440
Total	**25,709**	**19,746**

Accounting policy - User charges and fees
User charges and fees from commercial services, rent (licence fees) and recoveries of expenditure incurred by associated bodies which use the Council's laboratory consumables and services are recognised as revenue when it has been earned and can be measured reliably with a sufficient degree of certainty. This involves either invoicing for related goods/services and/or the recognition of accrued revenue. User charges and fees are controlled by the Council where they can be deployed for the achievement of Council objectives.

6. Other revenue		
Reimbursements	1,139	2,334
Investment distributions	5,453	5,179
Other	680	549
Total	**7,272**	**8,062**

6. Other revenue (cont'd)

Accounting policy - Reimbursements
Reimbursement from third parties for commercial and/or collaboration arrangements are recognised as revenue when the revenue has been earned and can be measured reliably with a sufficient degree of certainty. This involves either invoicing for related goods/services and/or the recognition of accrued revenue.

Accounting policy - Interest, dividends and distributions
Revenue for interest on cash and cash equivalents is recognised on an accrual basis. Revenue for dividends and distributions from managed funds classified as financial instruments held at fair value through profit or loss are recognised when the Council's right to receive payment is established.

Accounting policy - Imputation credits
As an endorsed income tax exempt charity, imputation credits attached to franked dividends received by the Council are refundable and may be claimed retrospectively after the end of the financial year. Imputation credits are brought to account when the right to receive the credits is established.

	2017 $'000	2016 $'000
7. Gains/(losses) on sale/revaluation of assets		
Net gain/(loss) on market value of other financial assets	7,098	(2,391)
Net loss on disposal of property, plant and equipment	(189)	(28)
Total	**6,909**	**(2,419)**

The Council holds financial assets including managed funds and listed shares. Refer notes 14 and 22.

Accounting Policy – Gains/(losses) on revaluation of other financial assets
Gains/(losses) arising from changes in the fair value of managed funds are included in the operating result for the period in which they arise.

8. Employee expenses		
Employee benefits		
Wages and salaries	44,387	43,258
Employer superannuation contributions	6,767	6,514
Annual leave expense	4,367	4,179
Long service leave levy	1,024	976
Other employee benefits	371	531
	56,916	55,458
Employee related expenses		
Fringe benefits tax expense	142	228
Workers' compensation premium	96	97
Other employee related expenses	171	167
	409	492
Total	**57,325**	**55,950**
The number of employees including full-time, part-time and casual employees measured on a full-time equivalent basis is:	525	521

8. Employee expenses (cont'd)

Employee benefits

Wages and salaries, employer superannuation contributions, annual leave expense and long service leave levies are regarded as employee benefits.

Accounting policy – Wages & salaries

Accruals for wages, salaries and annual leave expense due but unpaid at reporting dates are recognised in the Statement of Financial Position at current salary rates. For unpaid entitlements expected to be paid within 12 months, the liabilities are recognised at their undiscounted values. Entitlements not expected to be paid within 12 months are classified as non-current liabilities and recognised also at their undiscounted values.

Accounting policy – Sick leave

As sick leave is non-vesting, an expense is recognised for this leave as it is taken. Prior history indicates that on average, sick leave taken each reporting period is less than the existing accumulated entitlements and thus no liability for unused sick leave entitlements is recognised. This is expected to continue in future periods.

Accounting policy - Long service leave

Under the Queensland Government's long service leave scheme, a levy is made on the statutory body to cover the cost of employees' long service leave. The levies are expensed in the period in which they are payable. Amounts paid to employees for long service leave are claimed from the scheme quarterly in arrears.

Accounting policy – Superannuation

Employer superannuation contributions are paid to QSuper, the superannuation scheme for Queensland Government employees, at rates determined by the Treasurer on the advice of the State Actuary. Contributions are expensed in the period in which they are paid or payable.

The Council's obligation is limited to its contribution to QSuper. The QSuper scheme has defined benefit and defined contribution categories. The liability for defined benefits is held on a whole-of-government basis and reported in those financial statements pursuant to AASB 1049 *Whole of Government and General Government Sector Financial Reporting.*

Accounting policy – Workers' compensation premiums

The Council also pays premiums to WorkCover Queensland and inter-state QBE in respect of its obligations for employee compensation. Workers' compensation insurance is a consequence of employing employees, but is not counted in an employee's total remuneration package. It is not an employee benefit and is recognised separately as employee related expenses.

Key management personnel and remuneration

Key management personnel and remuneration disclosures are made in accordance with section 3C of the Financial Reporting Requirements for Queensland Government Agencies issued by Queensland Treasury. Refer note 30 for the disclosures on key management personnel and remuneration.

	2017 $'000	2016 $'000
9. Supplies and services		
Supplies and consumables	14,272	13,656
Consultants and contractors	5,148	5,030
Service contracts	2,189	1,821
Utilities	2,568	2,498
Travel	1,484	1,570
Minor equipment and software purchases	1,152	1,171
Rent	17	27
Operating lease rentals	38	30
Total	**26,868**	**25,803**

9. Supplies and services (cont'd)

Accounting policy - Leases
Operating lease payments are representative of the pattern of benefits derived from the leased assets and are expensed in the periods in which they are incurred.

	2017 $'000	2016 $'000
10. Other expenses		
Scientific collaboration distributions	11,575	10,384
Insurance	538	508
Audit fees - external *	65	68
Audit & other fees - internal	135	146
Legal expenses	227	140
Net (gain)/loss on foreign exchange transactions	19	(36)
Other	68	131
Total	**12,627**	**11,341**

* Total external audit fees to be paid to the Queensland Audit Office relating to the 2016-17 financial year are expected to be $65,000 (2016: $67,500). There are no non-audit services included in this amount.

Accounting policy - Insurance

The Council's non-current physical assets and other risks are insured through the Queensland Government Insurance Fund (QGIF), premiums being paid on a risk assessment basis. In addition, the Council has policies with private insurance companies to cover risks not included by QGIF.

NOTES ABOUT OUR FINANCIAL POSITION

	2017 $'000	2016 $'000
11. Cash and cash equivalents		
Imprest accounts	1	1
Cash at bank	2,396	362
Term deposits and cash on call	18,997	28,657
Total	**21,394**	**29,020**

The Council's cash and cash equivalents include $18.6m (2016: $23.7m) in unspent research grant funding. Refer note 19.

Accounting policy - Cash and cash equivalents
For the purposes of the Statement of Financial Position and the Statement of Cash Flows, cash assets include all cash and cheques receipted but not banked at 30 June as well as deposits at call with financial institutions.

12. Receivables		
Trade debtors	5,324	3,307
Accrued interest	106	138
GST receivable	214	98
Long service leave reimbursements	152	249
Other	1,616	882
Total	**7,412**	**4,674**

Accounting policy - Receivables
Receivables are measured at amortised cost which approximates their fair value at reporting date.

Trade debtors are recognised at the amounts due at the time of sale or service delivery i.e. the agreed purchase/contract price. Settlement of these amounts is required within 14 days of invoice date.

The collectability of receivables is assessed periodically with provision being made for impairment. Any known bad debts are written-off as at 30 June. All receivables within terms and expected to be fully collectible are considered of good credit quality based on recent collection history. Credit risk management strategies are detailed in Note 22.

Other debtors generally arise from transactions outside the usual operating activities of the Council and are recognised at their assessed values. Terms are a maximum of 30 days, no interest is charged and no security is obtained.

Disclosure - Credit risk exposure of receivables

The maximum exposure to credit risk at balance date for receivables is the gross carrying amount of those assets inclusive of any provisions for impairment.

No collateral is held as security and no credit enhancements relate to receivables held by the Council.

(i) Accounting policy – Impairment of receivables
The method for calculating any provision for impairment is based on past experience, current and expected changes in economic conditions and changes in client credit ratings. These economic and geographic changes form part of the Council's documented risk analysis assessment in conjunction with historic experience and associated industry data. This analysis has identified that none of the Council's financial assets are impaired and subsequently provisions for impairment have not been raised.

12. Receivables (cont'd)

No financial assets have had their terms renegotiated so as to prevent them from being past due or impaired, and are stated at the carrying amounts as indicated.

(ii) Disclosure - Ageing of past due but not impaired receivables

Ageing of past due but not impaired financial assets is disclosed in the following tables. No financial assets were assessed as being impaired as at 30 June 2017.

2017 Financial assets past due but not impaired

	Not Due	Overdue				Not due and overdue
	<30 days	30-60 days	61-90 days	>90 days	Total	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Financial assets						
Receivables	3,529	1,808	709	1,366	3,883	7,412
Total	**3,529**	**1,808**	**709**	**1,366**	**3,883**	**7,412**

2016 Financial assets past due but not impaired

	Not Due	Overdue				Not due and overdue
	<30 days	30-60 days	61-90 days	>90 days	Total	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Financial assets						
Receivables	3,684	323	575	92	990	4,674
Total	**3,684**	**323**	**575**	**92**	**990**	**4,674**

	2017	2016
	$'000	**$'000**
13. Inventories		
Supplies and consumables – at cost	253	272
Total	**253**	**272**

Accounting policy - Inventories

Inventories are represented by consumable laboratory supplies valued at the lower of cost and net realisable value.

Cost is assigned on a weighted average basis and includes expenditure incurred in acquiring the inventories and bringing them to their existing condition. During the 2016-17 financial year $1.1m of inventories (2016: $1.2m) were expensed.

Net realisable value is determined by estimating the selling price in the ordinary course of business, less the estimated costs of completion and selling expenses. No inventory assets have been classified as inventories held for distribution.

All inventories on hand at 30 June are expected to be utilised within 12 months.

	2017 $'000	2016 $'000
14. Other financial assets		
Current		
Managed fund investments	25,000	-
Total	**25,000**	**-**
Non current		
Managed fund investments	106,340	115,634
Total	**106,340**	**115,634**

Accounting policy - Other financial assets
Other financial assets held at fair value through profit or loss represent investments in managed funds and shares in listed companies. The investments are stated at current market value at the reporting date. Changes in the market value of these instruments, whether realised or unrealised, are recognised in the Statement of Comprehensive Income. These investments were originally classified at fair value through profit or loss upon initial recognition and the Council manages these investments and makes purchases and sales decisions based on their fair value in accordance with the Council's documented investment strategy.

All managed fund investments are categorised as level 1 investments in accordance with the fair value hierarchy which reflects the unadjusted quoted market price. Refer note 22 for liquidity risk management. The current portion of managed funds represents drawdowns approved by Council in the 2017/18 Budget which can be used for operational cash requirements if needed.

15. Intangible assets		
Software purchased: At cost		
Gross	679	679
Less: Accumulated amortisation	(517)	(450)
	162	**229**
Software internally generated: At cost		
Gross	474	172
Less: Accumulated amortisation	(125)	(107)
	349	**65**
Work in progress: At cost	-	165
	-	**165**
Total	**511**	**459**

Accounting policy - Recognition and measurement of intangibles
Intangible assets with a cost or other acquisition value equal to or greater than $100,000 are recognised in the Statement of Financial Position; items with a lesser value are expensed.

It has been determined that there is not an active market for any of the Council's intangible assets. As such, the assets are recognised and carried at cost less accumulated amortisation and accumulated impairment losses.

No intangible assets have been classified as held for sale or form part of a disposal group held for sale.

15. Intangible assets (cont'd)

Key Judgement: Council also controls a number of significant software assets that are not recognised as assets because they fail to meet the AASB 138 recognition criteria.

Accounting policy - Amortisation expense
All intangibles assets of the Council have finite useful lives and are amortised on a straight line basis over their estimated useful life to the Council. Straight line amortisation is used reflecting the expected consumption of economic benefits on a progressive basis over the intangible's useful life. The residual value of all Council's intangible assets is zero.

Useful life
Key estimate: For each class of intangible asset the following amortisation rates are used:

Intangible Asset	Useful life
Purchased software	10 years
Internally generated software	10 years

Accounting policy – Impairment
All intangible assets are assessed for indicators of impairment on an annual basis. If an indicator of possible impairment exists, the Council determines the asset's recoverable amount. Any amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss.
Intangible assets are principally assessed for impairment by reference to the actual and expected continuing use of the asset by the Council, including discontinuing the use of software. The recoverable amount is determined as the higher of the asset's fair value less costs to sell and depreciated replacement cost.

Intangible assets– balances and reconciliations of carrying amount

Intangibles reconciliation of carrying amount	Software internally generated	Software purchased	Software work in progress	Total
	2017 $'000	2017 $'000	2017 $'000	2017 $'000
Carrying amount at 1 July 2016	65	229	165	459
Acquisitions	-	-	140	140
Disposals	-	-	-	-
Transfers between classes	305	-	(305)	-
Amortisation	(20)	(68)	-	(88)
Carrying amount at 30 June 2017	**350**	**161**	**-**	**511**

	Software internally generated	Software purchased	Software work in progress	Total
	2016 $'000	2016 $'000	2016 $'000	2016 $'000
Carrying amount at 1 July 2015	82	297	-	379
Acquisitions	-	-	165	165
Disposals	-	-	-	-
Transfers between classes	-	-	-	-
Amortisation	(17)	(68)	-	(85)
Carrying amount at 30 June 2016	**65**	**229**	**165**	**459**

	2017 $'000	2016 $'000
16. Property, plant and equipment		
Buildings: At fair value		
Gross	338,877	336,978
Less: Accumulated depreciation	(73,198)	(66,450)
	265,679	**270,528**
Heritage & cultural assets: At fair value		
Gross	-	104
	-	**104**
Plant & equipment: At cost		
Gross	59,527	55,448
Less: Accumulated depreciation	(37,180)	(31,005)
	22,347	**24,443**
Work in progress: At cost *	427	1,375
	427	**1,375**
Total	**288,453**	**296,450**

* Work in progress includes various building improvement and renewal projects which are ongoing as at 30 June 2017.

Property plant and equipment – balances and reconciliations of carrying amount (including fair value level).

	Buildings (Research Facilities) Level 3	Heritage & cultural Level 3	Plant & equipment	Work in progress	Total
	2017 $'000	2017 $'000	2017 $'000	2017 $'000	2017 $'000
Carrying amount at 1 July 2016	270,528	104	24,442	1,375	296,450
Acquisitions	137	-	3,421	451	4,009
Disposals	-	(104)	(95)	-	(199)
Transfers between classes	1,399	-	-	(1,399)	-
Revaluation increments	363	-	-	-	363
Depreciation	(6,748)	-	(5,421)	-	(12,169)
Carrying amount at 30 June 2017	**265,679**	**-**	**22,347**	**427**	**288,453**

16. Property, plant and equipment (cont'd)

	Buildings (Research Facilities) Level 3	Heritage & cultural Level 3	Plant & equipment	Work in progress	Total
	2016 $'000	2016 $'000	2016 $'000	2016 $'000	2016 $'000
Carrying amount at 1 July 2015	269,691	104	25,334	1,136	296,265
Acquisitions	-	-	4,628	728	5,357
Disposals	-	-	(120)	-	(120)
Transfers between classes	489	-	-	(489)	-
Revaluation increments	6,911	-	-	-	6,911
Depreciation	(6,563)	-	(5,400)	-	(11,963)
Carrying amount at 30 June 2016	**270,528**	**104**	**24,442**	**1,375**	**296,450**

Accounting policy – Recognition
Items of property, plant and equipment with a cost or other value equal to or in excess of the following thresholds are recognised for financial reporting purposes in the year of acquisition:

Class	Threshold
Buildings	$10,000
Plant and equipment	$5,000
Other (including heritage & cultural)	$5,000

Items with a lesser value are expensed in the year of acquisition.

Expenditure on property, plant and equipment is only capitalised if it increases the service potential or useful life of the existing asset. Maintenance expenditure that merely restores original service potential (arising from ordinary wear and tear) is expensed.

The Council occupies three buildings situated on Crown land reserved and set apart for hospital purposes. The land is under the control of Metro North Hospital & Health Service (MNHHS) on behalf of The State of Queensland.

Leases for the land, occupied by the buildings known as the Bancroft Centre and the Clive Berghofer Cancer Research Centre (CBCRC) exist between the Council and The State of Queensland (represented by Queensland Health), at a nominal rental, terminating on 27 June 2066.

A new lease for the land occupied by Council is expected to be entered in between Council and MNHHS at nominal rental, terminating on 27 June 2066. Upon commencement of the new lease, the existing leases will be surrendered.

As the buildings are controlled by the Council, these assets are recognised in its financial statements, not in the financial statements of Queensland Health. Any revaluation increments or decrements associated with these assets are recognised by the Council.

Accounting policy – Cost of acquisition
Actual cost is used for the initial recording of all non-current physical asset acquisitions. Cost is determined as the value given as consideration plus costs incidental to the acquisition, including all other costs incurred in getting the assets ready for use.

Where assets are received free of charge from another Queensland Government entity, the acquisition cost is recognised as the gross carrying amount in the books of the transferor immediately prior to the transfer together with any accumulated depreciation.

Assets acquired at no cost or for nominal consideration, other than from an involuntary transfer from another Queensland Government entity, are recognised at their fair value at the date of acquisition in accordance with AASB 116 *Property, Plant and Equipment.*

16. Property, plant and equipment (cont'd)

Accounting policy – Measurement using historical cost
Plant and equipment is measured at cost in accordance with Queensland Treasury *Non-Current Asset Policies*. The carrying amounts for plant and equipment at cost should not materially differ from their fair value. Separately identified components of assets are measured on the same basis as the assets to which they relate.

Accounting policy – Measurement using fair value
Buildings are measured at fair value in accordance with AASB 116 *Property, Plant and Equipment*, AASB 13 *Fair Value Measurement* and Queensland Treasury *Non-Current Asset Policies* for the Queensland Public Sector. These assets are reported at their revalued amounts, being the fair value at the date of valuation, less reported accumulated depreciation and impairment losses where applicable. In respect of these asset classes, the cost of items acquired during the financial year has been judged by Council to materially represent their fair value at the end of the reporting period.

Buildings are measured according to the Council's valuation. The Council's valuation is reassessed, based on an independent valuer's replacement valuation, at least once every five years (refer note 21). The most recent valuation was undertaken as at 30 June 2017. Council resolved to adopt the gross value determined by the valuer and retain management's accumulated depreciation. Management's accumulated depreciation is based on the current depreciation policy adopting a 50 year life for the buildings as a whole, representing an average depreciation rate for the structure and the major components of buildings. The Council considers this approach provides a more practical and reliable estimate of the current replacement cost of buildings. The Council also ensures that the Council's valuation is within 5% of the independent valuation current replacement cost.

Interim valuations, using appropriate indices, are being otherwise performed by management on an annual basis, where there has been a material variation in the index. Where indices are used in the revaluation process the Council ensures that the application of such indices would result in a valid estimation of the asset's fair value at reporting date. In the absence of an appropriate published index by Queensland Treasury, the Council uses the CPI (*Consumer Price Index (a): All groups, Brisbane and weighted average of eight capital cities*) published by the Australian Bureau of Statistics.

The fair values reported by the Council are compared to appropriate valuation techniques that maximise the use of available and relevant observable inputs and minimise the use of unobservable inputs.

Any revaluation increment arising on the revaluation of an asset is credited to the asset revaluation surplus of the appropriate class, except to the extent it reverses a revaluation decrement for the class previously recognised as an expense. A decrease in the carrying amount on revaluation is charged as an expense, to the extent it exceeds the balance, if any, in the revaluation surplus relating to that asset class.

Accounting policy – Depreciation of property, plant and equipment
Property, plant and equipment is depreciated on a straight-line basis so as to allocate the net cost or re-valued amount of each asset, less its estimated residual value, progressively over its estimated useful life to the Council, consistent with the even consumption of service potential.

Assets under construction (work-in-progress) are not depreciated until they reach service delivery capacity. Service delivery capacity relates to when construction is complete and the asset is first put to use or is installed ready for use in accordance with its intended application. These assets are then reclassified to the relevant classes within property, plant and equipment.

Buildings including structure and components are treated for accounting depreciation purposes as a single asset and depreciated over 50 years. Council has adopted a 50 year life for all building assets. This life has been determined based on Council's assessment of componentised asset lives as provided by an independent valuer.

Whenever a reassessment of the Council's buildings is undertaken (usually every 5 years) by an independent valuer, Council undertakes a review of its building depreciation policy.

Any expenditure that increases the originally assessed capacity or service potential of an asset is capitalised and the new depreciable amount is depreciated over the remaining useful life of the asset to the Council.

16. Property, plant and equipment (cont'd)

For the Council's depreciable assets, the estimated amount to be received on disposal at the end of their useful life (residual value) is determined to be zero.

Heritage & cultural assets are not depreciated as the service potential of these assets is not expected to diminish with time.

Useful life
Key estimate: For each class of depreciable assets the following useful lives are used:

Property, Plant and Equipment Asset	Useful life
Buildings	50 years
Plant and Equipment	3-20 years

Accounting policy – Impairment of non-current assets
All non-current physical assets are assessed for indicators of impairment on an annual basis. If an indicator of possible impairment exists, the Council determines the asset's recoverable amount. Any amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss.
The asset's recoverable amount is determined as the higher of the asset's fair value less costs to sell and depreciated replacement cost.

An impairment loss is recognised immediately in the Statement of Comprehensive Income, unless the asset is carried at a re-valued amount. When the asset is measured at a re-valued amount, the impairment loss is offset against the asset revaluation surplus of the relevant class to the extent available.

	2017 $'000	2016 $'000
17. Payables		
Trade creditors	2,776	1,581
Accrued expenses	3,480	2,092
Accrued wages	1,146	850
Other	2,852	2,162
Total	**10,254**	**6,685**

Accounting Policy – Payables
Trade creditors are recognised upon receipt of the goods or services ordered and are measured at the nominal amount i.e. agreed purchase/contract price, gross of applicable trade and other discounts. Standard payment terms are end of month following month of invoice. Amounts owing are unsecured.

18. Accrued employee benefits		
Current		
Long service leave levy payable	277	269
Annual leave entitlements payable	3,659	3,461
Other	183	130
Total	**4,119**	**3,860**
Non current		
Annual leave entitlements payable	886	835
Total	**886**	**835**

18. Accrued employee benefits (cont'd)

Accounting policy – Accrued employee benefits

No provision for long service leave is recognised in the Council's financial statements, the liability being held on a whole-of-government basis and reported in those financial statements pursuant to AASB 1049 *Whole of Government and General*

Government Sector Financial Reporting.

Accruals for wages, salaries and annual leave expense due but unpaid at reporting dates are recognised in the Statement of Financial Position at the current salary rates.

For unpaid entitlements expected to be paid within 12 months, the liabilities are recognised at their undiscounted values. Entitlements not expected to be paid within 12 months are classified as non-current liabilities and recognised also at their undiscounted values.

19. Unearned Revenue

	Balance b/f 1July 2016	Funds received	Expenditure	Balance c/f 30 June 2017
	$'000	$'000	$'000	$'000
National Health & Medical Research Council	11,059	27,340	(26,834)	11,565
Australian Research Council	692	576	(929)	339
Cancer Council Qld	98	1,280	(1,033)	345
Medicines for Malaria Venture (MMV)	217	1,769	(1,807)	179
Commercial partners	3,743	7,614	(5,167)	6,190
Other granting bodies	7,696	4,865	(6,927)	5,634
	23,505	**43,444**	**(42,697)**	**24,252**

	Balance b/f 1July 2015	Funds received	Expenditure	Balance c/f 30 June 2016
	$'000	$'000	$'000	$'000
National Health & Medical Research Council	7,340	28,221	(24,502)	11,059
Australian Research Council	718	1,393	(1,419)	692
Bioplatforms Australia	332	500	(835)	(3)
Cancer Council Qld	191	1,422	(1,515)	98
Medicines for Malaria Venture (MMV)	-	2,561	(2,344)	217
Commercial partners	1,474	3,220	(951)	3,743
Other granting bodies	8,902	9,565	(10,768)	7,699
	18,957	**46,882**	**(42,334)**	**23,505**

Accounting policy - Unearned revenue

Where grants and funds from commercial partners are received that are reciprocal in nature, revenue is progressively recognised as it is earned according to the terms of the funding agreements. A liability has been recognised to show funds not earned at balance date.

20. Asset revaluation surplus by class

	Buildings	Heritage & Cultural	Total
	$'000	$'000	$'000
Balance as at 1 July 2016	72,136	4	72,140
Revaluation increments/(decrements)	363	(4)	359
Balance as at 30 June 2017	**72,499**	**-**	**72,499**

	Buildings	Heritage & Cultural	Total
	$'000	$'000	$'000
Balance as at 1 July 2015	65,225	4	65,229
Revaluation increments	6,911	-	6,911
Balance as at 30 June 2016	**72,136**	**4**	**72,140**

Accounting policy - Asset revaluation surplus

The asset revaluation surplus represents the net effect of upwards and downwards revaluations of assets to fair value.

NOTES ABOUT RISKS AND OTHER ACCOUNTING UNCERTAINTIES

21. Fair value measurement

Accounting policy – Inputs for fair values
Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly derived from observable inputs or estimated using another valuation technique.

Observable inputs are publicly available data that are relevant to the characteristics of the assets/liabilities being valued.

Unobservable inputs are data, assumptions and judgements that are not available publicly, but are relevant to the characteristics of the assets/liabilities being valued. Significant unobservable inputs used by the Council include, but are not limited to, subjective adjustments made to observable data to take account of the characteristics of the Council's assets/liabilities, internal records of recent construction costs (and or estimates of such costs) for assets' characteristics/functionality, and assessments of physical condition and remaining useful life. Unobservable inputs are used to the extent that sufficient relevant and reliable observable inputs are not available for similar assets/liabilities.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

Fair value measurement hierarchy
All assets of the Council for which fair value is measured or disclosed in the financial statements are categorised within the following fair value hierarchy, based on the data and assumptions used in the most recent specific appraisals:

Level 1	represents fair value measurements that reflect unadjusted quoted market prices in active markets for identical assets;
Level 2	represents fair value measurements that are substantially derived from inputs (other than quoted prices included within level 1) that are observable, either directly or indirectly; and
Level 3	represents fair value measurements that are substantially derived from unobservable inputs.

There were no transfers of assets between fair value hierarchy levels during the current or prior years.

Buildings

Key Judgement
The purpose-built research facilities operated by the Council known as the Bancroft Centre, the Clive Berghofer Cancer Research Centre (CBCRC) and QIMR Berghofer Central situated in Herston were valued at 30 June 2017 based on a Council valuation.

Valuation approach
The Council's valuation was taken, based on an independent valuation by Damien Hirst BSc (QS) (Hons) AAIQS from the firm AECOM. Council resolved to adopt the gross value determined by the independent valuer and retain management's accumulated depreciation. The revaluation of the three buildings resulted in an increment, net of accumulated depreciation, of $0.363m. Refer also to note 16.

As there is no active market for research facilities (on basis that the majority of building floor space is specialist research laboratories), the basis of the valuation is on a cost approach basis (level 3 categorisation used). The cost approach involves estimating the amount that would currently be required to replace the service capacity of an asset (referred to as Current Replacement Cost).

21. Fair value measurement (cont'd)

Inputs – independent valuation
The independent valuation used observable inputs such as published construction pricing books, and unobservable inputs including their professional opinion relating to construction costs and the remaining useful life of the assets.

Significant judgement is also used to assess the remaining service potential of the facilities, given local climatic and environmental conditions and records of the current condition of the facilities.

Current replacement cost
The valuer has deemed that the current use of the asset reflects the 'highest and best use' and has valued the Replacement Costs of the assets on their current use. The Replacement Cost for each asset is the total construction cost (including design fees and typical levels of contingency) if the asset was replaced on the valuation date with modern day equivalent applying the 'highest and best use' principles. A modern day equivalent asset is one that complies with current legislation (e.g. building code) using current typical building materials and methods that would be expected on similar buildings being constructed in 2017, and that has the same building form, i.e. the shape and size would be identical to the current asset.

Replacement cost is estimated by creating a cost plan (cost estimate) of the asset through the measurement of key quantities such as: Gross Floor Area, building footprint/girth/height and number of floors/lifts/staircases. The model developed by the valuer creates an elemental cost plan using these quantities and the model includes multiple building types and is based on the valuer's experience of the cost of managing construction contracts. The cost model is updated each year and tests are done to compare the model outputs on actual recent projects to ensure it produces a true representation of the replacement cost. The costs are at Brisbane prices and published location indices are used to adjust the pricing to suit local market conditions.

From the perspective of a market participant seller, the Current Replacement Cost is the price that would be received for the asset, based on the estimated cost to a market participant buyer to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence. Obsolescence is broader than just depreciation for financial reporting purposes (an allocation of historical cost); obsolescence encompasses functional (technological) obsolescence, economic (external) obsolescence and physical deterioration. Physical deterioration represents the loss in value due to the decreased usefulness of a fixed asset as the asset's useful life expires. This can be caused by factors such as wear and tear, deterioration, physical stresses and exposure to weather and other environmental factors.

The Council has elected to retain management's accumulated depreciation which is based on the estimated standard life of a mixed laboratory/office building which is generally 50 years. This life has been determined based on Council's assessment of componentised asset lives as provided by the independent valuer for the 30 June 2017 valuation. Whenever a complete re-assessment of the Council's Building Assets valuation is undertaken (usually every 5 years), by an independent valuer, Council undertakes a review of its building depreciation policy. The estimates of remaining life are based on the assumption that the asset remains in its current function and will be maintained.

Buildings have been valued on the basis that there is no residual value.

Heritage & cultural assets

Heritage & cultural assets consisting of research library monographs, Australiana and scarce items with a value of $0.104m have been disposed of during the year for no consideration (2016: included at current replacement cost as assessed by the Approved Commonwealth Valuer (Books) Jörn Harbeck as at 18 April 2012).

22. Financial risk disclosures

(a) Financial instrument categories

Accounting policy – Financial instruments

Recognition

Financial assets and financial liabilities are recognised in the Statement of Financial Position when Council becomes party to the contractual provisions of the financial instrument.

Classification

Financial instruments are classified and measured as follows:

i. Cash and cash equivalents - held at fair value through profit or loss
ii. Receivables - held at amortised cost
iii. Other financial assets - held at fair value through profit or loss
iv. Payables - held at amortised cost

The Council has the following categories of financial assets and financial liabilities:

	2017 $'000	2016 $'000
Financial assets		
Cash and cash equivalents	21,394	29,020
Receivables	7,412	4,674
Other financial assets	131,340	115,634
	160,146	**149,328**
Financial liabilities		
Financial liabilities measured at amortised cost:		
Payables	10,254	6,685
	10,254	**6,685**

No financial assets and financial liabilities have been offset and presented net in the Statement of Financial Position.

The Council does not enter into transactions for speculative purposes, or for hedging.

(b) Financial risk management

Risk exposure

Financial risk management is implemented pursuant to Government and Council policy. These policies focus on the unpredictability of financial markets and seek to minimise potential adverse effects on the financial performance of the Council.

All financial risk is managed by the Institute under policies approved by the Council. The Council provides written principles for overall risk management, as well as policies covering specific areas.

22. Financial risk disclosures (cont'd)

Council's activities expose it to a variety of financial risks as set out in the following table:

Risk Exposure	Definition	Exposure
Credit risk	Credit risk exposure refers to the situation where the Council may incur financial loss as a result of another party to a financial instrument failing to discharge their obligation.	The Council is exposed to credit risk in respect of its receivables (note 12).
Liquidity risk	Liquidity risk refers to the situation where the Council may encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.	The Council is exposed to liquidity risk in respect of its payables (note17).
Market risk	The risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk. Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.	The Council is exposed to currency risk in respect of its commercial contracts entered into denominated in US. It maintains a bank account in Hong Kong with an immaterial cash balance denominated in HK$ used to fund the operations of a local study. The Council is exposed to interest rate risk through its cash deposited in interest bearing accounts (note 11). The Council is exposed to market risk on its other financial assets (note 14).

Risk measurement and management strategies
Council measures risk exposure using a variety of methods as follows:

Risk Exposure	Measurement Method	Risk Management Strategies
Credit risk	Ageing analysis, earnings at risk	The Council manages credit risk through the use of a credit management strategy. This strategy aims to reduce the exposure to credit default by ensuring that the Council invests in secure assets and monitors all funds owed on a timely basis. Exposure to credit risk is monitored on an ongoing basis.
Liquidity risk	Sensitivity analysis	The Council manages liquidity risk through the use of a liquidity management strategy. This strategy aims to reduce the exposure to liquidity risk by ensuring the Council has sufficient funds available to meet employee and supplier obligations as they fall due.

22. Financial risk disclosures (cont'd)

		This is achieved by ensuring that minimum levels of cash are held within the various bank accounts so as to match the expected duration of the various employee and supplier liabilities. Funds held under 'Other Financial Assets' represent investments in managed funds that are the Institute's long term endowment type funds as well as funds invested in excess of short term operational requirements. These funds can, if required, be redeemed by Council, within a relatively short time, to meet operational cash requirements (note 13).
Market risk	Interest rate sensitivity analysis	The Council does not undertake any hedging in relation to interest risk and manages its risk as per the Council's liquidity risk management strategy articulated in the Council's policies. The Council is exposed to movements in interest rate risk through its investment in externally managed funds and its holdings in cash and cash equivalents.
	Currency risk	The Council does not undertake any hedging in relation to foreign currency risk and manages this through conservative exchange rate estimates when pricing commercial contracts. The Council places other financial assets with three separate fund managers. The Investment Committee (a committee of Council) oversees the performance of these funds.

23. Contingencies

(a) Contingent assets

Contributions to Queensland Community Foundation

The QIMR Trust established a fund with the Queensland Community Foundation (QCF) for the purpose to generate future income and donations. This fund was transferred to Council upon abolition of the QIMR Trust on 1 February 2011. All contributions made to this named fund within QCF are held in a charitable trust and invested in perpetuity with net income distributed to the Council at the discretion of the Trustee in accordance with the Queensland Community Fund Declaration of Trust. Council may, from time to time, become eligible to receive a distribution from the Foundation, but does not have a proprietary or legal interest in the Foundation nor does the Foundation hold property for Council's benefit. Based on previous distributions, Council expects any future income from the Fund to be immaterial.

(b) Contingent liabilities

Except for the contingent liability outlined in Note 3(a), the Institute does not have any other contingent liabilities at 30 June 2017.

24. Commitments

(a) Non-cancellable operating leases

Commitments under operating leases at reporting date are inclusive of anticipated GST and are payable as follows:

	2017 $'000	2016 $'000
Payable:		
Not later than one year	54	16
Later than one year and not later than five years	171	46
Later than five years	-	79
Total	**225**	**141**

24. Commitments (cont'd)

Operating leases have renewal options, however, no leases have escalation clauses other than in the event of payment default.

No lease arrangements create restrictions on other financing transactions.

	2017 $'000	2016 $'000
(b) Capital expenditure commitments		
Building works	89	21
Other capital commitments	328	18
	417	**39**

Building works represents 21% of capital expenditure commitments (2016 finalisation of Bancroft Centre building works 53%). The values shown are based on the committed contract value inclusive of anticipated GST.

Payable:		
Not later than one year	417	39
Total	**417**	**39**

(c) Operating lease receivable

Licence fees receivable for use of the premises are as follows:

Payable:		
Not later than one year	1,500	500
Later than one year and not later than five years	8,000	6,500
Later than five years	7,000	10,000
Total	**16,500**	**17,000**

The lease term is for 10 years from commencement date (1 January 2016). These amounts do not include licence fees which may become receivable under the lease on the basis of registered associates on the premises in excess of stipulated minimums and do not include any recovery of expenses such as scientific services, electricity and water costs.

25. Events occurring after balance date

There are no events occurring after balance date having a material impact on the figures reported in these financial statements.

26. Economic dependency

The Council's activities are predominantly funded by grants received from a range of funding agencies, the majority of which are Commonwealth and State Government bodies. The ability of the Council to source sufficient grant funding is dependent upon those entities continuing to have the ability to fund research activities and for the Institute to be successful in its funding applications. At balance date the Council had no indication that operational and research funding would not be provided as per the funding agreements. Should unforeseen fluctuations in the amount of available grant funding occur the Council would use its cash assets (refer note 11) and managed funds investments (refer note 14) to cover short term operational cash requirements.

27. Future impact of accounting standards not yet effective

At the date of authorisation of the financial report, the expected impacts of new or amended Australian Accounting Standards issued but with future commencement dates are set out below:

AASB 9 *Financial Instruments* and *AASB 2014-7 Amendments to Australian Accounting Standards arising from* AASB 9 *(December 2014)*

These Standards will first apply to the Council from its financial statements 2018-19. The main impacts of these standards on the Council are that they will change the requirements for the classification, measurement, impairment and disclosures associated with the Council's financial assets. AASB 9 will introduce different criteria for whether financial assets can be measured at amortised cost or fair value.

The Council has commenced reviewing the measurement of its financial assets against the new AASB 9 classification and measurement requirements. However, as the classification of financial assets at the date of initial application of AASB 9 will depend on the facts and circumstances existing at that date, the Council's conclusions will not be confirmed until closer to that time. At this stage, and assuming no change in the types of transactions the Council enters into, all of the Council's financial assets are expected to be required to be measured at fair value (instead of the measurement classifications presently used in note 14). In the case of the Council's current receivables, as they are short-term in nature, the carrying amount is expected to be a reasonable approximation of fair value. Changes in the fair value of those assets will be reflected in the Council's operating result.

Another impact of AASB 9 relates to calculating impairment losses for the Council's receivables. Assuming no substantial change in the nature of the Council's receivables, as they don't include a significant financing component, impairment losses will be determined according to the amount of lifetime expected credit losses. On initial adoption of AASB 9, the Council will need to determine the expected credit losses for its receivables by comparing the credit risk at that time to the credit risk that existed when those receivables were initially recognised.

The Council will not need to restate comparative figures for financial instruments on adopting AASB 9 as from 2018-19. However, changed disclosure requirements will apply from that time. A number of one-off disclosures will be required in the 2018-19 financial statements to explain the impact of adopting AASB 9. Assuming no change in the types of financial instruments that the Council enters into, the most likely ongoing disclosure impacts are expected to relate to the credit risk of financial assets subject to impairment of these items.

AASB 15 *Revenue from Contracts with Customers* and AASB 1058 *Income of Not-for-Profit Entities*

These standards will first apply to the Council from its financial statements for 2019-2020.

The Council has commenced analysing the new revenue recognition requirements under these standards and is yet to form conclusions about significant impacts. Potential future impacts identifiable at the date of this report are as follows:

- grants that are not enforceable and/or not sufficiently specific will not qualify for deferral, and continue to be recognised as revenue as soon as they are controlled. Council receives several grants for which there are no sufficiently specific performance obligations, so these grants will continue to be recognised as revenue upfront.
- depending on the specific contractual terms, the new requirements may potentially result in a change to the timing of revenue from sales of the Council's goods and services, such that some revenue may need to be deferred to a later reporting period to the extent that the Council has received cash but has not met its associated obligations (such amounts would be reported as a liability (unearned revenue) in the meantime). The Council is yet to complete its analysis of current arrangements for sale of its goods and services, but at this stage does not expect a significant impact on its present accounting practices.

A range of new disclosures will also be required by the new standards in respect of the Council's revenue.

AASB 16 *Leases* and AASB 1058 *Income of Not-for-Profit Entities*

These standards will first apply to the Council from its financial statements for 2019-20. When applied, the standard supersedes AASB 117 *Leases*, AASB Interpretation 4 *Determining whether an Arrangement contains a Lease*, AASB Interpretation 115

27. Future impact of accounting standards not yet effective (cont'd)

Operating Leases – Incentives and AASB Interpretation 127 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

Impact for Lessees

Unlike AABS 117 Leases, AASB 16 introduces a single lease accounting model for lessees. Lessees will be required to recognise a right-of-use asset (ROUA) (representing rights to use the underlying leased asset) and a liability (representing the obligation to make lease payments) for all leases with a term of more than 12 months, unless the underlying assets are of low value.

In effect, the majority of operating leases (as defined by the current AASB 117) will be reported on the statement of financial position under AASB 16. The impact on the reported assets and liabilities would be largely in proportion to the scale of the Council's leasing activities.

A ROUA will be initially recognised at cost, consisting of the initial amount of the associated lease liability, plus any lease payments made to the lessor at or before the effective date, less any lease incentive received, the initial estimate of restoration costs and any initial direct costs incurred by the lessee. The ROUA will give rise to a depreciation expense.

The lease liability will be initially recognised at an amount equal to the present value of the lease payments during the lease term that are not yet paid. Current operating lease rental payments will no longer be expensed in the Statement of Comprehensive Income. They will be apportioned between a reduction in the recognised lease liability and the implicit finance charge (the effective rate of interest) in the lease. The finance cost will also be recognised as an expense.

AASB 16 allows a 'cumulative approach' rather than full retrospective application to recognising existing operating leases. If a lessee chooses to apply the 'cumulative approach', it does not need to restate comparative information. Instead, the cumulative effect of applying the standard is recognised as an adjustment to the opening balance of accumulated surplus (or other component of equity, as appropriate) at the date of initial application.

Presently the Council has minimal non-cancellable operating leases with a term exceeding 12 months and as such it is not anticipated that the impact of changes to the accounting standards for leases will have a material impact.

The Council's buildings are built on land owned by Metro North Hospital & Health Services (MNHHS). It is anticipated that Council will enter into a peppercorn lease, for a 40 year term, with MNHHS in the reporting period ending 30 June 2018. Leases currently in place for the land occupied by Bancroft and CBCRC buildings (refer note 16) are to be terminated at this time.

With the introduction of AASB 1035 Income of Not-for-Profit Entities (AASB 1035) Council may be required to recognise a ROUA for this lease with MNHHS at fair value, as per AASB16. This will occur for the first time in the reporting period ending 30 June 2020. The potential impacts of this standard are yet to be fully determined.

All other Australian accounting standards and interpretations with future commencement dates are either not applicable to the Council's activities, or have no material impact on the Council.

NOTES ON OUR PERFORMANCE COMPARED TO BUDGET

28. Budgetary reporting disclosures

This section contains explanations of major variances between Council's actual 2016-17 financial results and the original budget which was approved by the Council on 22 March 2016.

Budget to actual comparison - Statement of comprehensive income

	Notes	Actual 2017 $'000	Original Budget 2017 $'000	Budget Variance 2017 $'000
Income from continuing operations				
Grants and other contributions	a	66,749	81,558	(14,809)
User charges and fees	b	25,709	14,695	11,014
Other revenue		7,272	7,388	(116)
Interest		861	731	130
Total Revenue		100,591	104,372	(3,781)
Gains on sale/revaluation of assets	c	6,909	4,750	2,159
Total income from continuing operations		**107,500**	**109,122**	**(1,622)**
Expenses from continuing operations				
Employee expenses	d	57,325	63,445	6,120
Supplies and services	d	26,868	28,586	1,718
Depreciation and amortisation		12,257	12,195	(62)
Other expenses	e	12,627	6,273	(6,354)
Finance costs		633	623	(10)
Total expenses from continuing operations		**109,710**	**111,122**	**1,412**
Operating result from continuing operations		**(2,210)**	**(2,000)**	**(210)**
Other comprehensive income				
Items that will not be reclassified subsequently to operating result				
Increase in asset revaluation surplus	f	359	2,000	(1,641)
Total other comprehensive income		**359**	**2,000**	**(1,641)**
Total comprehensive loss		**(1,851)**	-	**(1,851)**

Budget to actual comparison - Statement of financial position

	Notes	Actual 2017 $'000	Original Budget 2017 $'000	Budget Variance 2017 $'000
Current assets				
Cash and cash equivalents	g	21,394	28,688	(7,294)
Other financial assets	h	25,000	16,000	9,000
Receivables		7,412	5,647	1,765
Inventories		253	254	(1)
Other		482	808	(326)
Total current assets		**54,541**	**51,397**	**3,144**
Non-current assets				
Other financial assets	h	106,340	100,539	5,801
Intangible assets		511	207	304
Property, plant and equipment		288,453	287,312	1,141
Controlled and jointly controlled entities		23	23	-
Total non-current assets		**395,327**	**388,081**	**7,246**
Total assets		**449,868**	**439,478**	**10,390**
Current liabilities				
Payables	i	10,254	3,660	6,594
Accrued employee benefits		4,119	4,303	(184)
Unearned revenue	j	24,252	18,957	5,295
Total current liabilities		**38,625**	**26,920**	**11,705**
Non-current liabilities				
Accrued employee benefits		886	884	2
Total non-current liabilities		**886**	**884**	**2**
Total liabilities		**39,511**	**27,804**	**11,707**
Net assets		**410,357**	**411,674**	**(1,317)**
Equity				
Total equity		**410,357**	**411,674**	**(1,317)**

Budget to actual comparison - Statement of cash flows

	Notes	Actual 2017 $'000	Original Budget 2017 $'000	Budget Variance 2017 $'000
Cash flows from operating activities				
Inflows:				
Grants and other contributions	k	65,940	82,557	(16,617)
User charges and fees	l	24,895	12,257	12,638
Other income		2,662	5,077	(2,415)
Interest income		910	731	179
GST input tax credits from ATO		2,858	-	2,858
GST collected from customers		1,751	-	1,751
Outflows:				-
Employee expenses	m	(57,368)	(63,083)	5,715
Supplies and services	n	(22,901)	(29,443)	6,542
Finance costs		(633)	(623)	(10)
GST paid to suppliers		(2,798)	-	(2,798)
GST remitted to ATO		(1,838)	-	(1,838)
Other	o	(13,807)	(6,199)	(7,608)
Net cash provided by operating activities		**(329)**	**1,274**	**(1,603)**
Cash flows from investing activities				
Inflows:				
Redemptions of other financial assets	p	-	12,000	(12,000)
Sale of property, plant and equipment		7	-	7
Outflows:				-
Investments in other financial assets		(4,011)	(8,423)	4,412
Acquisition of property, plant and equipment	q	(3,293)	(8,847)	5,554
Net cash used in investing activities		**(7,297)**	**(5,270)**	**(2,027)**
Net decrease in cash and cash equivalents		(7,626)	(3,996)	(3,630)
Cash and cash equivalents at beginning of financial year		29,020	32,684	(3,664)
Cash and cash equivalents at end of financial year		**21,394**	**28,688**	**(7,294)**

Explanation of major variances

Statement of comprehensive income

a. Competitive research grant funding received from the National Health and Medical Research Council and other funding agencies has been lower than budget by $10.2m. This also impacts on the grant administration fees that QIMR Berghofer, as the administering institute, receives.
Total donations were below budget by $4.2m. This is predominantly from bequest and major gift income being below budgeted levels.
b. Income from contracts for commercial activities were above budget by $10.8m with increased focus on contract research in order for research outcomes to be delivered to the clinic.
c. Market gains on investments returned an additional $2.3m above budget, offset by a $0.2m loss on disposal of assets.
d. Lower than budgeted competitive research grant funding has contributed to lower staffing levels resulting in under-budget expenditure across both employee expenses and supplies and services in 2016-17.
e. Other expenses includes the redistribution of grant funds to research project collaborators at other institutions and universities ($3.6m).
Increased commercial activity resulted in higher distributions to scientific collaborators and contributors ($2.8m above budget).
f. The Institute budgeted a fair value increase of $2.0m for Council's buildings based on prior year increments, however the actual increase of $0.4m was lower based on an independent valuation.

Statement of financial position

g. Cash and cash equivalents balance is kept at minimum levels required for short term cash requirements and to meet grant funding rules, with excess funds invested in Other financial assets where possible to maximise returns. The budget estimated a higher balance based on higher anticipated levels of grant based income.
h. The budget allowed for drawdowns from investments to fund research activities directly. Higher than budgeted commercial income, combined with lower expenditure, resulted in no requirement to draw down investments. In addition, the actual opening balance was $4.3m higher than budgeted.
The current portion of other financial assets represents drawdowns budgeted by Council to meet operational cash requirements in 2017-18.
i. Payables balance is higher than budget due to amounts payable for scientific collaboration distributions ($2.9m), accrued expenses ($2.7m) and payment owing on several large pieces of important scientific equipment delivered in June with payment due in July ($0.9m).
j. The value of unearned revenue balance is higher across both grants and contract research services due to timing differences between the receipt of grant income and expenditure being incurred ($5.3m). This generally arises where projects incur lower costs at the start of the project and ramp up expenditure over time.

Statement of cash flows

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k. Donation and bequest income received by the Institute in 2016-17 were below the budgeted level by $4.2m. This is coupled with lower grant fund receipts of $12.6m, including $2.2m in a budgeted capital grant income not received.
l. Above budget commercial activity of $10.8m resulted in additional cash inflows.
m. Lower than budgeted competitive research grant funding has resulted in lower staff numbers and therefore lower employee expenses for 2016-17.
n. Cash outflows on supplies and services are below budget due to lower funding, coupled with an increase in the creditor balance by $3.0m at the end of the financial year with the later than expected arrival of capital equipment.
o. Other expenses cash outflow includes redistribution of grant funds to collaborators at other institutions and universities of $3.6m, coupled with higher distributions to scientific collaborators and contributors on commercial projects.
p. Other financial assets were budgeted to be drawn down by $12.0m to fund research activities. Due to higher than budgeted income from commercial activities, combined with lower expenditure, drawdowns were not required.
q. Capital expenditure has been lower than budget due to grant funding specifically for capital equipment not being received ($3.2m) and the deferral of internal fit-out work ($2.0m).

WHAT WE LOOK AFTER ON BEHALF OF WHOLE-OF-GOVERNMENT AND THIRD PARTIES

29. Trust transactions and balances

(a) Trust II for the CRC for Vaccine Technology (CRCVT Trust II)

The Council is the Trustee of the CRC for Vaccine Technology Trust II (CRCVT Trust II), a trust responsible for managing patent families and licensing arrangements on behalf of the participants in the CRCVT since winding up in June 2006. Income received from licensing arrangements is distributed to the members in the trust according to their participating share in the CRCVT as of June 2006. The members of the CRCVT Trust II are: The Council of the Queensland Institute of Medical Research, CSIRO, CSL Limited, The University of Melbourne, Walter and Eliza Hall Institute of Medical Research, Monash University, Australian Red Cross Blood Service and La Trobe University.

During 2016-17 a Deed of Termination was entered into, with all the members agreeing to the distribution of the Trust Property in accordance with their participating share in the trust. The final distributions will be paid out in full to participants during 2017-18 and the trust terminated.

As the Council performs only a custodial role in respect of these transactions and balances, they are not recognised in the financial statements but are disclosed in this note for the information of users.

	2017 $'000	2016 $'000
This is a summary of the financial transactions and balances for CRC for Vaccine Technology Trust II:		
Income	-	3
Expenses	(10)	(46)
Net deficit	**(10)**	**(43)**
Cash	29	78
Receivables	-	2
Net assets	**29**	**80**
Payables	-	1
Beneficiaries entitlements payable	29	79
Total liabilities	**29**	**80**
Trust net assets	-	-

CRCVT Trust II was not required to prepare financial statements for the year ended 30 June 2017, however, the transactions disclosed above have been audited (financial statements for the year ended 30 June 2016 were audited by PKF). There were no external audit fees relating to the 2016-17 financial year (2016: $1,500 and were accrued). There are no non-audit services included in the 2016 amount.

(b) Employee Research Services

The Council undertakes a custodial role in respect of transactions and balances relating to Employee Research Services (ERS). Transactions for ERS are not recognised in the financial statements but are disclosed in this note for the information of users. The balance of cash held in trust is recognised in cash and cash equivalents.

29. Trust transactions and balances (cont'd)

This is a summary of the financial transactions and balances for Employee Research Services:

	2017 $'000	2016 $'000
Income	3,842	2,236
Expenses	(1,981)	(1,632)
Increase/(decrease) in net balance	**1,861**	**604**
Cash held in short term deposits	5,703	3,842
Total trust assets	**5,703**	**3,842**

The Council undertakes certain trustee transactions on behalf of the Cooperative Research Centre Vaccine Technology (CRCVT) and its employees' research activities, for which no fees are received by Council for providing custodial services for trust transactions and balances.

OTHER INFORMATION

30. Key management personnel (KMP) disclosures

(a) Key management personnel

The following details for key management personnel include those positions that had authority and responsibility for planning, directing and controlling the activities of the Institute during 2015-16 and 2016-17. Appointment is made by the Governor in Council under s5 & s10 of the *Queensland Institute of Medical Research Act 1945.*

The functions of the Council are to: (a) control and manage the Institute; (b) raise and accept moneys for the purposes of the Institute; (c) invest moneys raised and accepted by the Council for the purposes of the Institute; and (d) invest moneys derived from any property or other invested moneys of the Council for the purposes of the Institute.

Position	Incumbents term		2016-17	2015-16
	Date of initial appointment	Date of cessation		
Council members				
Dr Douglas McTaggart - Chair	27 Nov 2014		√	√
Mr Christopher Coyne - Deputy Chair	2 Jun 2005		√	√
Emeritus Prof John de Jersey	27 Nov 2014		√	√
Mr Ian Fraser	9 Aug 2012		√	√
Assoc Prof Paula Marlton	16 Feb 2006		√	√
Prof Alan Pettigrew	9 Sep 2011		√	√
Mr Michael Sargent	27 Nov 2014		√	√
Prof John Shine	27 Nov 2014		√	√
Dr Jeannette Young^	20 Sep 2005		√	√
Director/ CEO				
Prof Frank Gannon	4 Jan 2011		√	√

^ Officer of the public service

Position	Position responsibility
Council member	Overall authority and responsibility for overseeing, directing and controlling the activities of the Institute
Director/ CEO	Overall efficient and effective administration of the Council operations

(b) Remuneration policies

The Chairperson and members of Council receive sitting fees in line with the 'Remuneration of part-time Chairs and Members of Government Boards, Committees and Statutory Authorities' guideline issued by the Queensland Government. Any member of the Council who is an officer of the public service does not receive fees or allowances for attendance at a meeting of the Council.

The remuneration policy for the Director/CEO is set by Council and approved by the Governor in Council as provided for under the *Queensland Institute of Medical Research Act 1945.* The remuneration and other terms of employment for the Director/CEO are specified in the employment contract. The contract provides for the provision of other benefits including motor vehicle.

The remuneration package for the Director/CEO comprises the following components:

i. Short term employee expenses which include:

30. Key management personnel (KMP) disclosures (cont'd)

- Base – consisting of base salary, allowances and leave entitlements paid and provided for the entire year or for that part of the year during which the Director/CEO occupied the specified position. Amounts disclosed equal the amount expensed in the Statement of Comprehensive Income; and

- Non-monetary benefits – consisting of provision of living-away-from-home-allowance, travel, vehicle and other minor benefits together with fringe benefits tax applicable to these benefits.

ii. Long term employee expenses include amounts expensed in respect of long service leave entitlements earned.

iii. Post-employment expenses include amounts expensed in respect of employer superannuation obligations.

iv. Termination benefits are not provided for within the Director/CEO's contract of employment. The contract of employment provides only for notice periods or payment in lieu of notice on termination, regardless of the reason for termination.

v. There are no performance bonuses paid or payable to the Director/CEO.

Key management personnel remuneration expense

The following disclosures focus on the expenses incurred by Council that is attributable to key management positions during the respective reporting periods. Therefore, the amounts disclosed reflect expenses recognised in the Statement of Comprehensive Income.

Total remuneration is calculated on a 'total cost' basis and includes the base and non-monetary benefits, long term employee benefits and post employment benefits. No termination benefits have been paid during either financial years.

1 July 2016 - 30 June 2017

Position	Short term employee expenses		Long term employee expenses	Post-employment expenses	Total expenses
	Monetary expenses $'000	Non-monetary benefits $'000	$'000	$'000	$'000
Chair of Council (1)	-	-	-	-	-
Council Members (6)	25	-	-	-	25
Director/CEO	627	183	16	35	861
Total	**652**	**183**	**16**	**35**	**886**

1 July 2015 - 30 June 2016

Position	Short term employee expenses		Long term employee expenses	Post-employment expenses	Total expenses
	Monetary expenses $'000	Non-monetary benefits $'000	$'000	$'000	$'000
Chair of Council (1)	-	-	-	-	-
Council Members (6)	25	-	-	-	25
Director/CEO	627	196	16	35	874
Total	**652**	**196**	**16**	**35**	**899**

The table above includes $127,000 in fringe benefits tax paid by Council in 2016-17 in relation to key management remuneration (2016: $140,000).

31. Related party transactions

Transactions with other related party

The following transactions occurred with related party Q-Pharm Pty Ltd during the financial year 2016-17:

	2017 $'000
Sales and purchases of goods and services	
Sale of scientific services to Q-Pharm	31
Provision of temporary staff and related on-costs to Q-Pharm	299
Purchase of clinical services from Q-Pharm	434
Other transactions	
Cash advances (made and repaid within the year)	300
Trade reimbursements of third party expenses	52
Outstanding balances arising from sales/purchases of services and reimbursements	
The following balances are outstanding at the end of the reporting period in relation to transactions with Q-Pharm Pty Ltd:	
Current receivables (sales of services and trade reimbursements)	397

The Institute also provides some ongoing financial and administrative support services for Q-Pharm Ltd. These services are not charged, and aren't considered material.

No related party transactions occurred with Council's other controlled entities (refer note 3).

Transactions with people/entities related to Key Management Personnel (KMP)

During the 2016/17 financial year Council's KMP did not enter into any transaction/arrangements with any related parties including close family members and entities controlled or jointly controlled by the KMP or a close family member. The 'Declarations of Related Party Information by non-Ministerial KMP' at 30 June 2017 support this disclosure.

Transactions with other Queensland Government–controlled entities

The Council receives an annual operational grant from the Department of Health, Queensland (Queensland Health). Refer notes 4 & 26.

The Council undertakes a number of transactions such as employer superannuation contributions, WorkCover premiums, insurance payments to a range of Queensland Government controlled entities on normal terms and conditions.

The Council has short term cash on call funds invested in Queensland Treasury Corporation (QTC). Included in term deposits and cash on call is $1.2m as at 30 June 2017. Refer note 11.

The Council has long term research funds invested in managed funds with QIC Limited (QIC). Refer note 14.

32. First year application of new accounting standards or change in accounting policy

Changes in accounting policy

The Council resolved not to change any of its accounting policies during 2016-17.

Accounting standards early adopted for 2016-17

No Australian Accounting Standards have been early adopted for 2016-17.

Accounting standards applied for the first time in 2016-17

AASB 124 *Related Party Disclosures*

The only Australian Accounting Standards that became effective for the first time in 2016-17, and materially impacted on this financial report, is AASB 124 *Related Party Disclosures*. This accounting standard requires note disclosures about key management personnel (KMP) remuneration. As the Council already discloses information about the remuneration expenses for KMP remuneration expenses in compliance with requirements from Queensland Treasury, there was minimal impact for Council's disclosures compared to 2015-16 (refer note 30). Material related party transactions for 2016-17 are disclosed in note 31. No comparative information is required in respect of 2015-16.

33. Taxation

The Council is a State body as defined under the Income Tax Assessment Act 1936 and is exempt from Commonwealth taxation with the exception of Fringe Benefits Tax (FBT) and Goods and Services Tax (GST). FBT and GST are the only taxes accounted for by the Council. GST credits receivable from, and GST payable to the ATO, are recognised. Refer note 12.

The Council of The Queensland Institute of Medical Research
Management certificate
For the year ended 30 June 2017

Certificate of The Council of the Queensland Institute of Medical Research

These general purpose financial statements have been prepared pursuant to:
– section 62(1) of the Financial *Accountability Act 2009* (the Act),
– section 42 of the *Financial and Performance Management Standard 2009;*
– *Australian Charities and Not-for-profits Commission Act 2012; and*
– *other prescribed requirements.*

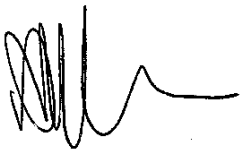
In accordance with section 62(1)(b) of the Act we certify that in our opinion:

a. the prescribed requirements for establishing and keeping the accounts have been complied with in all material respects; and

b. the financial statements have been drawn up to present a true and fair view, in accordance with prescribed accounting standards, of the transactions of The Council of the Queensland Institute of Medical Research for the financial year ended 30 June 2017 and of the financial position of the Council at the end of that year; and

c. these assertions are based on an appropriate system of internal controls and risk management processes being effective, in all material aspects, with respect to the financial reporting throughout the reporting period.

Dated at Brisbane this 29th day of August 2017



Dr Douglas McTaggart

Chair of Council

Professor Frank Gannon

Director & Chief Executive Officer

Donna Hancock

Secretary

INDEPENDENT AUDITOR'S REPORT

To the Board of the Council of the Queensland Institute of Medical Research

Report on the audit of the financial report

Opinion

I have audited the accompanying financial report of the Council of the Queensland Institute of Medical Research.

In my opinion, the financial report:

a) gives a true and fair view of the entity's financial position as at 30 June 2017, and its financial performance and cash flows for the year then ended

b) complies with the *Financial Accountability Act 2009*, the Financial and Performance Management Standard 2009, the *Australian Charities and Not-for-profit Commission Act 2012*, the Australian Charities and Not-for-profit Commission Regulation 2013 and Australian Accounting Standards.

The financial report comprises the statement of financial position as at 30 June 2017, the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, notes to the financial statements including summaries of significant accounting policies and other explanatory information, and the management certificate.

Basis for opinion

I conducted my audit in accordance with the *Auditor-General of Queensland Auditing Standards*, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of my report.

I am independent of the entity in accordance with the auditor independence requirements of the *Australian Charities and Not-for-profits Commission Act 2012* and with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the financial report in Australia. I have also fulfilled my other ethical responsibilities in accordance with the Code and the *Auditor-General of Queensland Auditing Standards*.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibilities of the entity for the financial report

The Board is responsible for the preparation of the financial report that gives a true and fair view in accordance with the *Financial Accountability Act 2009*, the Financial and Performance Management Standard 2009, the *Australian Charities and Not-for-profit Commission Act 2012*, the Australian Charities and Not-for-profit Commission Regulation 2013 and Australian Accounting Standards, and for such internal control as the Board determines is necessary to enable the preparation of the financial report that is free from material misstatement, whether due to fraud or error.

The Board is also responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless it is intended to abolish the entity or to otherwise cease operations.

Auditor's responsibilities for the audit of the financial report

My objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the entity.
- Conclude on the appropriateness of the entity's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. I base my conclusions on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Report on other legal and regulatory requirements

In accordance with s.40 of the *Auditor-General Act 2009*, for the year ended 30 June 2017:

a) I received all the information and explanations I required.

b) In my opinion, the prescribed requirements in relation to the establishment and keeping of accounts were complied with in all material respects.

D J OLIVE
as delegate of the Auditor-General

QUEENSLAND
3 1 AUG 2017
AUDIT OFFICE

Queensland Audit Office
Brisbane

COMPLIANCE CHECKLIST

SUMMARY OF REQUIREMENT		BASIS FOR REQUIREMENT	ANNUAL REPORT REFERENCE
Letter of compliance	• **A letter of compliance from the accountable officer or statutory body to the relevant Minister/s**	ARRs – section 7	2
Accessibility	• **Table of contents** • **Glossary**	ARRs – section 9.1	3 108
	• **Public availability**	ARRs – section 9.2	1
	• **Interpreter service statement**	*Queensland Government Language Services Policy* ARRs – section 9.3	1
	• **Copyright notice**	*Copyright Act 1968* ARRs – section 9.4	1
	• **Information Licensing**	*QGEA – Information Licensing* ARRs – section 9.5	n/a for agencies
General information	• **Introductory Information**	ARRs – section 10.1	4-11
	• **Agency role and main functions**	ARRs – section 10.2	6,12,21
	• **Operating environment**	ARRs – section 10.3	21
Non-financial performance	• **Government's objectives for the community**	ARRs – section 11.1	21
	• **Other whole-of-government plans / specific initiatives**	ARRs – section 11.2	n/a for QIMR Berghofer
	• **Agency objectives and performance indicators**	ARRs – section 11.3	23-29
	• **Agency service areas and service standards**	ARRs – section 11.4	31
Financial performance	• **Summary of financial performance**	ARRs – section 12.1	59
Governance – management and structure	• **Organisational structure**	ARRs – section 13.1	19-20
	• **Executive management**	ARRs – section 13.2	12-19
	• **Government bodies (statutory bodies and other entities)**	ARRs – section 13.3	n/a for QIMR Berghofer
	• **Public Sector Ethics Act 1994**	*Public Sector Ethics Act 1994* ARRs – section 13.4	30
	• **Queensland public service values**	ARRs – section 13.5	30

Governance – risk management and accountability	• **Risk management**	ARRs – section 14.1	30
	• **Audit committee**	ARRs – section 14.2	17
	• **Internal audit**	ARRs – section 14.3	30
	• **External scrutiny**	ARRs – section 14.4	n/a
	• **Information systems and recordkeeping**	ARRs – section 14.5	32
Governance – human resources	• **Workforce planning and performance**	ARRs – section 15.1	31
	• **Early retirement, redundancy and retrenchment**	Directive No.11/12 *Early Retirement, Redundancy and Retrenchment*	n/a for agencies
		Directive No.16/16 *Early Retirement, Redundancy and Retrenchment (from 20 May 2016)* ARRs – section 15.2	n/a for agencies
Open Data	• **Statement advising publication of information**	ARRs – section 16	32
	• **Consultancies**	ARRs – section 33.1	n/a
	• **Overseas travel**	ARRs – section 33.2	32
	• **Queensland Language Services Policy**	ARRs – section 33.3	n/a for agencies
Financial statements	• **Certification of financial statements**	FAA – section 62 FPMS – sections 42, 43 and 50 ARRs – section 17.1	103
	• **Independent Auditor's Report**	FAA – section 62 FPMS – section 50 ARRs – section 17.2	104-105

FAA *Financial Accountability Act 2009*

FPMS *Financial and Performance Management Standard 2009*

ARRs *Annual report requirements for Queensland Government agencies*

GLOSSARY

HIRF	Herston Imaging Research Facility
MNHHS	Metro North Hospital and Health Service
NHMRC	National Health and Medical Research Council
RBWH	Royal Brisbane and Women's Hospital
QIMR	Queensland Institute of Medical Research
QUT	Queensland University of Technology
TRI	Translational Research Institute
UQ	The University of Queensland

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