QIMR researcher’s dream realised

Professor Andrew Boyd dedicated 25 years of his career to the search for a treatment for cancer; a treatment that has now progressed to human trials.

As a young PhD student, Andrew began looking at a protein that was on the surface of leukaemia cells. “When I first started, my laboratory leader asked me why I pursued a seemingly useless protein. But when we discovered it appeared in other cancer cells and not normal cells, he changed his mind,” said the Head of QIMR’s Leukaemia Foundation Laboratory.

His work led to the development of an antibody, called KB004. It works by targeting the protein that Professor Boyd was studying. The results of testing were extremely promising in killing certain types of cancerous tumours.

The discovery was picked up by a US biotech company, KaloBios Pharmaceuticals and further developed to be a therapy that can be applied to humans.

The antibody is targeted specifically towards cancers that have the receptor protein. This accounts for approximately 50% of acute leukaemias and a significant proportion of malignant melanomas, brain tumours and lung cancers. It is hoped it will be well tolerated in patients with little or no side effects.

“The KB004 project has a special place in my heart as it originated in my own lab many years ago. Although it now involves two other research groups in Australia and a US company, there is a sense of nearing the goal I set out to achieve when I first started my research career,” said Professor Boyd.

“I was motivated to enter research by the hope that I might do something which improved the lot of all patients with leukaemia and related diseases – this is an immensely gratifying event.”

“The beginning of a Phase I clinical trial in patients with acute leukaemia by KaloBios is an important landmark and will hopefully lead to further testing and the ultimate use of this antibody as a treatment. It is highly significant to me that the trial is in leukaemia, the disease that drove me to the initial discovery”. Professor Boyd is a Laboratory Head at QIMR and also Leukaemia Foundation Professor of Experimental Haematology at University of Queensland and a consultant Haematologist at the Royal Brisbane and Women’s Hospital. His research would not have been possible without ongoing financial support for Professor Boyd from the Leukaemia Foundation.
This year marks the 10th year that Mr Clive Berghofer AM, has been providing substantial support to cancer research at QIMR. His outstanding contributions were formally recognised some years ago with the naming of one of our buildings in his honour.

I am sure you have all driven north along Bowen Bridge Road and seen the Clive Berghofer Cancer Research Centre. When I first arrived at QIMR, I wondered about the man behind the name.

I have since met Clive and now understand why his community support is legendary. He epitomises all that is great about the Australian spirit – hard work, a “can-do” attitude and helping those in need. A self-made man who has worked hard his entire life and given back in bucket loads.

In part, it is through Clive’s investment in QIMR that we have been able to dedicate over half our research to cancer which has led to us being recognised globally for our achievements.

In the ten years that Clive has been supporting QIMR there have been some major advances made. While we have come a long way, we still have a long way to go. Cancer remains people’s greatest health fear. It is difficult to overstate the scale of the cancer problem and the impact it has on the lives of hundreds of thousands of people throughout the world.

But thanks to people like Clive, we are making inroads and giving people hope.

I am very heartened by the steadfast support we receive from Clive and indeed, all our donors. I also warmly welcome many new supporters who are participating in the Rio Tinto Ride to Conquer Cancer. Each and every donor – both individuals and organisations – are doing their part for medical research and I sincerely thank them.

In the wonderful words of renowned poet and QIMR Ambassador Rupert McCall:

Standing over every scientist with inspiration pure
Getting closer to that one day soon when cancer has a cure
And I’m sure they’d like to thank the man that keeps their hope alive
But I know you’d quietly shake your head and say “Just call me Clive”

Thank you Clive

Researchers from QIMR have been awarded a prestigious medical research Program Grant from the National Health and Medical Research Council (NHMRC). The grant is the only one given to Queensland researchers out of the nine awarded this funding year.

The funds will be given over five years and will be used to support work into the susceptibility and progression of breast cancer.

“We are delighted to receive this program grant from NHMRC. Breast cancer is currently the most common cancer among Australian women. One in nine women will be diagnosed with breast cancer before the age of 85 and therefore further research into this disease is vital,” said Professor Chenevix-Trench, Head of QIMR’s Cancer Genetics Laboratory and member of the successful research team.

The team includes QIMR’s Professor KumKum Khanna and Professor Chenevix-Trench, and Professor Sunil Lakhani from The University of Queensland.

“Our team will study mechanisms that predispose some women to develop breast cancer, the process that allows cancers to grow at distant sites such as the brain and lungs, and how DNA repair proteins are implicated. This will allow development of new diagnostic tools and treatments with our ultimate aim being improved outcomes for women with breast cancer.”

For more information on QIMR’s breast cancer research please visit www.qimr.edu.au

In the world of science, women have contributed greatly. An Egyptian, Merit Ptah (2700 BC), is the earliest woman named in the history of science, inscribed as “chief physician”. Agamede was cited by Homer as a healer in Greece before the Trojan War.

Marie Curie was the first woman to win a Nobel Prize in 1903 (Physics), and went on to become a double Nobel Prize winner in 1911 (Chemistry), both for her work on radiation.

At QIMR we have our own exceptional female researchers. Females account for 63.81% of QIMR’s workforce, 60.58% of our current student population. They hold 33% of QIMR’s scientific leadership positions. This compares to only 15% in 2003.

One of our outstanding researchers includes Professor Emma Whitelaw, Head of our Epigenetics Laboratory, who is one of only three female researchers during the period 2007 to 2010 to be awarded an Australian Fellowship. She was also recently awarded The International Union of Biochemistry and Molecular Biology (IUBMB) Jubilee Medal, which recognises exceptionally successful scientists in the field of biochemistry and molecular biology. There are only eight female NHMRC Senior Principal Research Fellows in Australia (compared to over 60 men) and two of them are QIMR’s own Professors Kum Kum Khanna (Signal Transduction Laboratory) and Georgia Chenevix-Trench (Cancer Genetics).
Cancers of the brain are the consequence of the abnormal growth of cells in the brain. Brain cancers can arise from primary brain cells or from the growth of cancer cells that develop in other organs and that have spread to the brain by the bloodstream (metastatic brain cancer).

Although many growths in the brain are called brain tumours, not all brain tumours are cancerous. Cancer is a term reserved for malignant tumours. Malignant tumours grow and spread aggressively, overpowering healthy cells by taking their space, blood and nutrients. Like all cells of the body, tumour cells need blood and nutrients to survive.

Glioblastoma is the most common and aggressive form of primary brain cancer and despite considerable progress in cancer research, for most patients diagnosed with glioblastoma there is currently no possibility of cure or long term survival.

Tragically, the tumour cells infiltrate (or “seed”) into the surrounding brain and because of this, surgery is usually incomplete and ineffective. Most malignant glioblastomas are also resistant to radiotherapy and chemotherapy.

QIMR scientists Professor Rajiv Khanna and Professor Andrew Boyd and their research teams are working to develop new therapeutic strategies to tackle the cancer from all angles; searching for genetic information; and sifting through new compounds for treatments.

Boosting the immune system to allow the body to fight the cancer itself is seen as one of the potentially safest ways to treat cancer. QIMR researchers have been working on new treatments to use a patient’s own immune system to kill the cancer cells.

Recent studies have indicated that glioblastoma cancer cells are infected with a common virus, cytomegalovirus. The immunotherapy designed by QIMR is designed to target the virus in these cancer cells. The long term goal of these studies is to use a therapeutic vaccine for the treatment of glioblastoma.

Five patients are currently undergoing this treatment as part of a clinical trial. The immunotherapy treatment involves taking a blood sample and in the laboratory, teaching the immune cells to fight the cancer cells, and finally, injecting them back into the patient. This clinical trial is being carried out in collaboration with neurosurgeon Dr David Walker from Briz Brain and Spine.

This research would not have been possible without the generous donations from Mrs Marno Parsons and a bequest from the Estate of J Morrison.

Another immune system based strategy is using glioblastoma tissue obtained directly from patients. By analysing the properties of the cancer cells, researchers hope to make the immune system target specific markers found on the cancer cells to kill them. The aim is to potentially tailor treatments to individuals.

Our researchers are also exploring the genes that may cause an increase in the risk of brain cancer. A better understanding of these genes will hopefully provide information on how or why brain cancers develop and may lead to more effective treatments.

We are also working on creating cells that can be grown in the laboratory to test the effectiveness of new compounds being developed as treatments.

Thankyou also to the National Health and Medical Research Council (NHMRC), The Cancer Council Queensland, and the Royal Brisbane and Women’s Hospital for their ongoing support.
Glioblastoma:

• Is the most common primary brain cancer in both adults and children and the most deadly.

• Will be diagnosed in around 1,500 people in Australia each year.

• Kills as many people as melanoma.
Australian Fellow: Professor Geoff Hill

Australia Fellowships are the most prestigious of all awards given by the National Health and Medical Research Council (NHMRC) with only six awarded this year.

QIMR’s Professor Geoff Hill, Head of the Bone Marrow Transplantation Laboratory, has received one of them. The Fellowship will be used to improve the outcome for transplant patients.

“It is huge honour to receive the Australia Fellowship. The funding will allow the expansion of my laboratory team at QIMR and Royal Brisbane and Women’s Hospital,” said Professor Geoff Hill.

“Bone marrow or stem cell transplantation is currently the most effective therapy for blood-related cancers such as leukaemia and inherited immune deficiencies. Unfortunately, due to complications that can occur post-transplant, mortality rates are high. The Fellowship will allow us to study new treatments that focus on overcoming the current limitations and improving transplant outcomes.”

“The funding will support our current research as well as training a new generation of transplant immunologists and transplant clinicians. It will also allow investment within the haematology and immunology discipline, promoting professional activities to progress the research into multicentre studies within Australia and internationally.”

Australian Fellowships are designed to support the most outstanding and creative health and medical researchers across the range of disciplines in biomedical, clinical, health services and public health research and are highly competitive among leading researchers both in Australia and around the world. ”

“ It is huge honour to receive the Australia Fellowship. The funding will allow the expansion of my laboratory team at QIMR and Royal Brisbane and Women’s Hospital... ”
IRON OVERLOAD

Many people are aware of anaemia, but few know about haemochromatosis, anaemia’s cousin.

Haemochromatosis is a disease caused by too much iron in the body. It is one of the most common genetic disorders and affects 1 in 300 Australians, causing fatigue, lethargy and joint aches. It is caused by the body absorbing more iron than it should, and tends to present in middle age. If untreated, haemochromatosis can lead to long term problems such as liver malfunction, heart failure, diabetes and other chronic conditions.

QIMR’s Professor Nathan Subramaniam explains, “Usually, the body has tight control over iron levels, because the element is associated with many processes in the body, including inflammation and infection control.”

“However, haemochromatosis is hereditary, caused by genetic changes that lead to defects in the proteins that regulate iron levels in the body.”

“The symptoms of haemochromatosis are vague, but it can be diagnosed with a blood test to measure levels of iron in the blood.”

“If the levels are high, a genetic test can be done to determine which gene is causing the iron overload.”

“The gene responsible can make a big difference to the treatment prescribed. For example, we recently found a type of haemochromatosis called ferroportin disease in an Australian family. In one form of the disease, the usual treatment of phlebotomy (a process similar to donating blood) may cause anaemia if too much blood is taken in each treatment.”

“So it is essential that we know more about the genes and how they work to treat haemochromatosis effectively. There is still so much we don’t know about what these genes do, and how they work, and how they interact with other proteins to cause disease.”

“We are investigating how genes work to understand how they malfunction in haemochromatosis.”

“We are also investigating how juvenile haemochromatosis, a rare and severe form of haemochromatosis, causes disease so quickly. If undiagnosed, the condition can lead to death from heart failure in the teens or early 20s.”

“Better understanding of the genes can hopefully lead to individually tailored and more permanent treatments, and better diagnostics.”

If you are worried about having haemochromatosis, and have symptoms of fatigue, lethargy and aching joints, please visit your GP to be tested.
Sunsuper is one of Australia’s biggest superannuation funds with more than 1.2 million members and $17 billion in funds under management.

“We congratulate them on their tremendous community spirit,” said QIMR’s Director Professor Frank Gannon. “I hope this is the beginning of a long partnership with this great Australian organisation in the interest of advancing cancer research”.

Sunsuper CEO Tony Lally said the Fund was proud to come on board as one of the Ride to Conquer Cancer’s major sponsors.

“There would be very few among our million members and 600 staff who have not been affected by cancer in some way, so the money the Ride will raise to support the world class research undertaken by those at the Queensland Institute of Medical Research is vitally important,” Mr Lally said.

“This promises to be a fantastic community event and we at Sunsuper are delighted that, through the Ride, we can join QIMR in their gallant fight against this potentially deadly disease.”

To find out more about Sunsuper visit their website: www.sunsuper.com.au

For more information about the Ride: www.conquercancer.org.au or call 1300 11 RIDE (7433)

We welcome Sunsuper and their Dream Team

We are very proud to welcome Sunsuper as the ‘powered by” sponsor of our signature fundraising event – The Rio Tinto Ride to Conquer Cancer.
Meet one of our amazing riders!

I have been nursing for over 25 years and have seen too much suffering of cancer patients and their families. However in October 2009 it became personal. Both my sister and my close friend’s father were diagnosed with aggressive brain tumours.

Since then they have endured brain surgery, radiotherapy, extensive chemotherapy, and most recently a drug still being trialled. Sadly, my friend’s father lost his battle on Remembrance Day 2010. My sister is doing OK for now, the experimental drug seems to be effective at holding new growth at bay for a while longer. It has been a tough time for her, her husband and their two teenage children.

Through watching my sister and friend’s constant battle with cancer, I have decided to take part in the Rio Tinto Ride to Conquer Cancer. My husband and daughter are going to ride with me for this great cause. I am aiming to raise $50,000 to go towards QIMR’s groundbreaking brain cancer research.

I truly hope that the money that I raise is used in a fashion that will help to prevent someone in the future from losing their mum, dad, sister or brother to brain cancer.

Tracey Atkinson

A big thank you to our number one pit stop sponsor

Some of the wonderful people who have signed up to take part in the Rio Tinto Ride to Conquer Cancer came on a tour of QIMR on 16 April to see how their fundraising will help the Institute.

- Ashleigh Elford (top left)
- Austin Stubbs from the Rio Tinto team and QIMR cancer scientist Kimberley Jones (top centre)
- Josie Dietrich (top right) is one of the members of the “Breast Friends” team – a group of inspiring women who have all survived breast cancer.
- Some of the highly motivated riders (left)
We just want to say thank you!

Old Rockers get together to raise funds for medical research

In January this year, Toni Lendich and her husband Vance experienced the real devastation of the Brisbane floods. Their entire house was flooded and they lost almost every possession they owned.

Despite this, Toni and Vance showed great commitment and immense spirit by organising their annual fundraiser to support our medical research despite their personal hardship.

In March more than 300 guests jived, jitterbugged and were thoroughly entertained at the Riverside Receptions at New Farm by rock n roll bands from the 1950’s to 1970’s era. All the talented musicians generously donated their time to help make the event a huge success.

Since 2003 Toni has worked tirelessly to bring this event to life each year and to date has raised over $16,000 for QIMR.

QIMR relies on the support of community fundraisers like Toni and Vance to ensure that our important research continues.

In memory of our dear friend Sylvia

One of QIMR’s much-loved Ambassadors, Sylvia Amelia Austin died in March 2011 aged 94. Sylvia lived her final days in a nursing home in Nambour.

Sylvia’s friendship with QIMR spanned many years and she became an Ambassador in 2006. She wore her badge with great pride and was a true champion for medical research in the community.

Sylvia’s other great passion was gardening and she was a Foundation Member of the Garden Club on the Sunshine Coast.

Each year Sylvia attended our research presentations where she stood out in her elegant dresses and matching hats.

We are very grateful for the bequest that Sylvia has left to QIMR and will ensure that her legacy is put to very good use in the advancement of cancer research.

Her favourite verse was:

“\(\text{It’s not your years but how you spend them}\)
\(\text{It’s not the cares that life may bring}\)
\(\text{It’s the joy and dreams and friendships}\)
\(\text{These are worth remembering}\)”
Pushing the barrow for endometriosis research

Trekking 150 kilometres over three gruelling days from Mareeba to Chillagoe, while pushing a wheelbarrow, is not how most people would choose to spend a long weekend.

But that is exactly what a group of very motivated Cairns residents did when they participated in the Tableland Regional Council’s annual Great Wheelbarrow Race last year.

The intrepid group were raising funds for the Australian Rotary Health, which provides grants and scholarships for endometriosis. Endometriosis is a condition in which the cells that make up the lining of the uterus are found outside the uterus. Affecting one in eight women, endometriosis is one of the highest causes of sick days and infertility in women.

The $5,000 they raised will be used by QIMR’s Molecular Epidemiology Laboratory to continue their research into the genetic causes of endometriosis.

Thank you to Quota International Beenleigh

Thank you to the Executive and Members of Quota International of Beenleigh who kindly presented QIMR with a $500 donation at their 38th Annual Changeover and Community Donations Dinner on the 8th April.

We are very appreciative for the ongoing and generous support we receive from Quota International of Beenleigh. Since 2003 their members have raised an impressive $16,000 for QIMR!

Thank you to Karana Downs Golf Club and the Best family

We would like to thank the wonderful family and friends of the late Mr Robert Best who raised funds for QIMR’s melanoma research at a memorial golf day held in his honour.

The outstanding efforts of all those involved is greatly appreciated by the scientists at QIMR – special thanks go to Mr David Witt and the Karana Downs Golf and Country Club, Mr Trent Wicks, and Mr Bests’ grandson Thomas.

Sadly Mr Best passed away only 3 months after he was diagnosed with multiple melanomas on the brain. His devastated family hope that research will one day lead to a cure.
RESEARCH ROADSHOW: We are bringing our research to you!

We understand that it can be difficult for some of our supporters to travel to QIMR so we are holding research presentations in regional areas.

The next sessions are for Coast residents to learn more about our research.

Wednesday 18th May, 2011, 10 am to 11.30 am
Gold Coast Community Centre
6 Lawson Street, Southport

Friday 3rd June, 2011, 10 am to 11.30 am
Nambour Civic Centre

Morning tea will be provided. To book your seat please call 1800 993 000 or email enquiries@qimr.edu.au

Tour of QIMR for cyclists in the Rio Tinto Ride to Conquer Cancer

Saturday 9th July 2011, 10 am to 12 noon
QIMR Auditorium
Level E, 300 Herston Road, Herston

To book you place in the tour ring the Ride office 1300 11 RIDE or RSVP on the website www.conquercancer.org.au

Public Health Forum - Cancer

Wednesday 10th August 2011
QIMR Auditorium
Level E, 300 Herston Road, Herston

Come and find out about our latest cancer research. To book your seat please call 1800 993 000 or email enquiries@qimr.edu.au