

Putting Children First



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Putting Children First

Scientists in our nine research divisions are constantly searching to find out what causes children to become ill—and how to keep them healthy.

By working together we are better able to piece together parts of the puzzle to come up with the whole picture. The work is often slow and sometimes frustrating but we stick to it. And our research excellence speaks for itself.

Our children and young people are here and now. They deserve the very best we can give them.



Our mission

To improve and to promote the health and well-being of all children through the unique application of multidisciplinary research.

Our aims

- To conduct high quality research
- To apply research findings to improve the health of children, adolescents and families
- To teach the next generation of health researchers
- To be an advocate for research and for children

Research highlights

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- Developing a new test that detects the loss of tumour suppressor genes in cancer cells. This paves the way for more targeted and effective treatments as the absence of this important gene increases the risk of relapse 11-fold in children with acute lymphoblastic leukaemia.
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- Developing a mouse model to study genes in blood vessels enabling scientists to remove any gene of interest from developing vascular endothelium. This research will eventually help to clarify the role of specific genes in tumour angiogenesis and the development of new treatments for solid tumours.
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- Discovering that asthma begins in utero.
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- Identifying the cell responsible for chronic airways inflammation in asthma. This discovery will focus pharmaceutical research on these dendritic cells as major targets for developing better drugs to treat asthma.
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- Discovering the reason why children with asthma and allergic rhinitis are more likely to develop ear infections and sinusitis. We now know children with house dust mite allergy have altered immune responses to haemophilus influenzae, a bacteria that colonises in the nose and throat and can cause disease.
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- Collecting success stories from health and education workers in Western Australia. The stories describe projects that improve the health and well-being of children aged up to 12 years.
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- Launching the Rio Tinto Child Health Partnership: a collaboration involving our Kulunga Research Network, Rio Tinto Limited, Alcohol Education and Rehabilitation Foundation and the State Governments of Western Australia, Northern Territory and Queensland.
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Chairman's report

"Since the Telethon Institute for Child Health Research was founded in 1990, it has grown in both size and influence in the research community. It has grown from having four major research divisions in 1990 to having nine today. Successes and breakthroughs in research have increased its status, as did having its founder, Fiona Stanley, receive the award for Australian of the Year in 2003". *Centre for International Economics* 31 March 2004.

"The Institute for Child Health Research, which occupies a fine and relatively new building, is already bursting at the seams with enthusiastic and very productive researchers. Such is its profile that the Director Fiona Stanley has been the 2003 Australian of the Year. Her energy and charisma have facilitated the development of the Institute into a remarkable enterprise". *J.O. Warner, Editor-in-Chief, Paediatric Allergy and Immunology, in the editorial entitled "A Sabbatical in Perth", Vol 15 of the Journal, p1 (2004).*

As Chairman of the Board, I was very proud when our Director Professor Fiona Stanley AC was announced by the Hon Prime Minister John Howard as the Australian of the Year.

As the year progressed the Board and I could see why this award was so richly deserved, and its significance in providing the platform to promote a national agenda for the health and well-being our nation's children and young people.

Our Director was invited to assume the demanding role as chief executive officer of the newly formed Australian Research Alliance for Children and Youth. To facilitate this, and in our strategic interests, Professor John Finlay-Jones was appointed to the new position of assistant director of the Institute. He has more than fulfilled our expectations.

At a strategic planning day in April the Board reviewed its role and responsibilities. We reaffirmed that the mission of this dynamic research organisation is to improve and promote the health and well-being of children through our unique application of multidisciplinary research.



It is the Board's responsibility to ensure that the Institute can continue its high calibre research through good governance and by building the partnerships to provide the required funding and other resources.

Resilient relationships are the key to our success. The support over many years from Telethon and the people of Western Australia through Channel 7 is fundamental to our ongoing success. Wesfarmers Limited also continues their generous support. Research partnerships have been recently built with other major corporations including Rio Tinto Limited, HBF, Woodside Energy Limited, QANTAS Airways Limited and Shell Australia Limited.

Many of our partnerships are now built around funding agreements with universities and with State and Commonwealth Governments. By this means universities, business and government invest in valuable research that subsequently contributes to government policy and best practice.

I thank my colleagues on the Board for their wise counsel and support over the past twelve months. I mention in particular Mike Daube and Rebecca Maslen-Stannage who have been dedicated Board members since 2000 but will step down from the Board in 2004 for work-related reasons.

I congratulate the staff and students for their outstanding work in 2003 and once again congratulate our Director Professor Fiona Stanley on her special achievements.

Kevin Campbell AM

Director's report

What price can we place on prevention?

Ask any parent of a child with a life-threatening illness or a serious disability and most would tell you that they would give their all to know what caused the affliction, so that it could have been prevented.



It's a philosophy that drives every aspect of our research. We strive to understand the causal pathways so that we can then find ways to prevent the disease or disability.

Finally we can put some real figures to the value of the research that we do.

In 2003, the Australian Society for Medical Research commissioned Access Economics to determine the return on investment in medical research in Australia. The report *Exceptional Returns: the Value of Investing in Health Research and Development (R&D) in Australia* showed an annual rate of return to Australian health R&D of up to \$5 for every \$1 spent.



So where is the Institute placed with respect to a return on the investment in its research? In late 2003, with the support of the State Government's Office of Science and Innovation, the Centre for International Economics in Canberra evaluated the economic return to Western Australia of the Institute as a whole, and undertook a benefit-cost analysis of two major research programs.

The results of the report will be released in mid 2004. But it is already clear that the Institute returns hefty economic and social dividends on the investment to the State and nationally.

It is then with a degree of disappointment that one of our significant challenges over the year has been to deal with a substantial reduction in infrastructure funding for research bodies from the State Government. While the overall pressure on the health budget is undeniable, we have strongly advocated that our preventative approach is the only sustainable way to reduce demand on the health system.

You could call 2003 the Year of the Review, with several reviews conducted at the state and national level that will impact on the Institute.

The Review of Research and Education chaired by Professor Graeme Barnes recommended the Institute, Princess Margaret Hospital for Children, the University of Western Australia's School of Paediatrics and Child Health and King Edward Memorial Hospital form the WA Child Health Research Network to coordinate their child health research. We welcome this review of the relationships with our valued near neighbours and see it as an opportunity to add value to the collective research and teaching enterprise.

The State Government established the Health Reform Committee, chaired by Professor Mick Reid, to oversee and drive reform within the health system. The Institute made several contributions to its analyses. We look forward to an ongoing role in helping to evaluate and shape a health system for the future, consistent with our aim of translating research into practice.

Nationally, five major research-related reviews have looked at resources, outputs, collaboration, funding schemes and future directions and all are due to report before the 2004/05 Federal budget. This will therefore have an enormous impact on the funding we rely on to augment our international research productivity and standing.

Institutes such as ours depend on many funding sources. What has been particularly pleasing over the past year has been the solid support from the corporate sector for our work. Long time supporters such as Telethon and Wesfarmers Limited make a significant contribution to our ability to pursue research excellence. The Rio Tinto Child Health Partnership, launched during the year, promises to be an exciting collaboration. We thank all our corporate supporters for their valued contributions.





The interest and support of many media outlets, and particularly Andrew Denton and his team at Enough Rope, has been outstanding and allowed us to share our work with a national audience.



The past year has certainly been one in the public spotlight. While being named Australian of the Year was an enormous honour, it was really an accolade for the work of everyone in the Institute and recognition that the community shares our passion to improve the health and well-being of all children. The interest and support of many media outlets, and particularly Andrew Denton and his team at *Enough Rope*, has been outstanding and allowed us to share our work with a national audience. It provided a fantastic platform to promote the importance of research and placing a higher priority on the needs of children.

While it has been a great challenge to cope with the extra demands of public advocacy and my dual role as CEO of the Australian Research Alliance for Children and Youth—it has been made possible due to the professionalism of the team around me. Assistant Director Professor John Finlay-Jones has added greatly to our capacity and I thank him, and all our staff for their ongoing commitment.

I'd also like to single out the Chairman of the Board, Kevin Campbell AM, who has long been part of the backbone of this Institute and was a deserving recipient of this year's Fiona Stanley Medal. Congratulations also to Rachel Collins, QANTAS Young Investigator of the Year, for her outstanding work in asthma.

The quote from Professor John Warner on page 3 points to us "bursting at the seams with enthusiastic and very productive researchers", which is indeed the case. They are the core of our business. The doubling in workforce size over the last three to four years will bring its challenges. While our new building has reached capacity, it seems our ability to attract national and international competitive grants and significant contracts from Government and industry has not. It is therefore with great optimism that we look forward to the year ahead.

Fiona Stanley AC

RESEARCH REPORTS

Aboriginal child health



We are:

- Analysing data from the Western Australian Aboriginal Child Health Survey
- Looking at infant care practices in the Aboriginal community
- Looking at ways to reduce otitis media
- Part of a major partnership to improve Aboriginal child health.

Throughout this report the term 'Aboriginal' is intended to include people from Aboriginal and Torres Strait Islander backgrounds.

Aboriginal child health survey

This landmark study of more than 5,000 Aboriginal children focuses on health and well-being. Analysis of the data commenced in February with the assistance of the Australian Bureau of Statistics. The first volume of findings focuses on physical health and is scheduled to be launched in June 2004.

The study has overcome significant analytic challenges by:

- Developing new ways to measure levels of relative isolation
- Linking interview data to population data registers
- Developing new estimation techniques for hierarchical data analysis
- Developing detailed reports assessing the impact of residential mobility on sampling designs for Aboriginal populations.

Bibbulung gnarneep

This project originally started in the mid 1990s to examine infant care practices of Aboriginal women living in Perth. In 2003 the *Sharing Stories* phase collected information on the hopes and aspirations of ten mothers for their Aboriginal children and the strategies they use to achieve these aims. The mothers identified schooling as a major concern.

The information from this project will enable policy makers and service providers to develop better programs to assist mothers and others caring for Aboriginal children.

Otitis media

Otitis media, or glue ear, is a major health problem for Aboriginal children.

Aboriginal and non-Aboriginal newborn babies in the Kalgoorlie-Boulder area are being followed up to age two years to look at demographic,

Our culturally appropriate program in Aboriginal Health Research is linked to the translation of research outcomes into the community.

socio-economic, environmental, microbiological and immunological factors that may put children at high risk of otitis media. Ear specialists have found more than 60 percent of Aboriginal and 20 to 40 percent of non-Aboriginal children have otitis media, the highest rate being in children aged six to eleven months.

Otitis media can seriously affect childhood development, school performance and subsequent social and economic well-being. Findings from this study will be used to develop interventions to prevent otitis media.

We have also completed the first Australian study of treatment-seeking behaviour for otitis media in Aboriginal children. There is a limited understanding of this disease which is not surprising given there are often no symptoms until the ear drum has perforated and there is a visible discharge. Parents are not aware that tobacco smoke may put children at risk of otitis media. And exclusive breastfeeding, which may protect against otitis media, is of short duration. We are addressing these issues in collaboration with the Aboriginal community through the Wongutha Pirni Aboriginal Corporation.

Our research into treating otitis media has found that:

- The benefits of tympanoplasty (repair of hole in ear drum) in Aboriginal children with middle ear disease reinforce the need to make surgery more accessible to reduce the high prevalence of deafness
- Ciprofloxacin ear drops should be made freely available as a first line treatment.

Rio Tinto Child Health Partnership

This partnership involves the Institute's Kulunga Research Network, Rio Tinto Limited, Alcohol Education and Rehabilitation Foundation and the Governments of Western Australia, Northern Territory and Queensland.

The three projects of this initiative will:

- Model data from the Western Australian Aboriginal Child Health Survey assessing their applicability to other states and territories
- Add value to existing initiatives to reduce prenatal exposure to smoking and alcohol
- Develop workforce capacity to improve programs for children's early years.

Swimming pools project

We have found that swimming pools built in two remote Aboriginal communities have reduced ear infections and improved skin health. There was also some improvement in school attendance and residents appreciated the added sporting and social venue for their children.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Asthma, allergies and respiratory diseases



We are working on:

- Ways to prevent asthma
- Better ways to manage, monitor and treat asthma
- Ways that bacteria contribute to the development of atopic dermatitis
- Developing better and less invasive tests to measure lung damage in children with cystic fibrosis.

We are recognised as a world leader in research for the prevention and treatment of asthma. We are focusing on how asthma develops, better ways to manage and monitor asthma and new treatments.

Asthma

Asthma is the most common chronic illness in children. In Australia it affects approximately 30 percent of children and adolescents and is a great burden for these children and their families.

Asthma is characterised by episodes of cough, wheeze and breathlessness. These symptoms are caused by narrowing of the small airways in response to triggers such as house dust mite, as well as inflammation and excess mucus production, which reduce airflow in and out of the lungs. At present there is no way of preventing the development of asthma. All current treatments are designed to control asthma symptoms once they have developed.

We are recognised as a world leader in research for the prevention and treatment of asthma. We are focusing on how asthma develops, better ways to manage and monitor asthma and new treatments.

Asthma results from a complex interaction between people's genes and their environment. Our work has led to the discovery of a new concept in the inheritance of disease. IL-12 is a gene that stimulates the immune system to resist infections. It can also protect from severe allergy but only in children who inherit a different type of the gene from each parent. This discovery of a *reverse form of hybrid vigour* is a completely new concept for the inheritance of diseases. It gives new insights into complex diseases, and asthma in particular.

Asthma and rhinitis caused by breathing in allergens like pollen and house dust mite is a two-stage response. An immediate response releases chemicals that tighten the airways and produce tissue swelling and mucous. A few hours later there is another reaction caused by inflammatory cells from the blood. Our research shows that this latter response is triggered when dendritic cells are activated—a process that occurs within two hours of inhaling an allergen. They then exit the tissue and go to the lymph nodes as the allergic response

declines. In the future we will look at ways to change this pathway and reduce airway inflammation.

Recent research suggests that developing an allergy to animals, or asthma after being exposed to animals, results from a balance between anti- and pro-allergy influences. Animals produce the allergens that cause disease, but high dose exposure to cats and cows can protect children from developing allergies. It has been thought that this is due to the bacteria found around animals. Our researchers have discovered that people breathe in a messenger-molecule called EN-RAGE that is produced by cats to initiate their own protective immune responses. We are looking at how the long-term inhalation of molecules from animals affects immune responses in people.

Our continuing work on the events in early life that cause allergies has also shed some light on the cause of atopic dermatitis. Studies on umbilical cord blood cells taken from babies at birth indicate that the *Staphylococcus* bacteria may be a key contributor to the development of this debilitating disease.

Cystic fibrosis

Cystic fibrosis is the most common serious inherited condition in Australian children, affecting one in every 2,500 babies. There is no known cure. In children with cystic fibrosis the mucus glands cause normal mucus to become thick and sticky. This mucus clogs the tiny passages in the lungs and traps bacteria. Repeated infections and blockages can cause irreversible lung damage and death.

The lung damage caused by infections is what impacts most on the health of a child with cystic fibrosis. Two major difficulties in combating this disease are that the tests that measure lung damage are not sensitive enough and they are highly invasive.

We have developed a urine test that measures the destruction of lung tissue. We will continue to study this with the aim of improving the current treatments and testing future therapies.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Birth defects



We are:

- Reviewing rates of birth defects following assisted reproductive technology
- Looking at ways to reduce fetal alcohol syndrome
- Setting up an international web-based Rett syndrome database
- Determining the impact of folate on a range of birth defects.

Birth defects occur in one in twenty infants born in Western Australia. Our research into understanding the causes of and preventing birth defects is ground-breaking.

Birth defects following assisted reproductive technology

The risk of birth defects in infants born following assisted reproductive technology (ART) treatment is a controversial question. We reviewed all papers published up until March 2003 with data on prevalence of birth defects in infants conceived following assisted reproductive technology compared with naturally conceived infants. A meta-analysis of the studies suggests a 30 to 40 percent increased risk of birth defects associated with assisted reproductive technologies. These results have implications for the counselling of couples seeking ART treatment.

We are also analysing hospital data to examine the health of children born following ART compared to naturally conceived infants born over the same time period (1993 to 2000). This study is also assessing cerebral palsy, intellectual disability and birth defects diagnosed by six years of age as well as birth defects diagnosed in infants born pre-term in these groups.

Fetal alcohol syndrome

Fetal Alcohol Syndrome (FAS) is the severe end of a spectrum of the effects of drinking alcohol during pregnancy. It has life-long consequences for the child including intellectual disability and behavioural and emotional problems. These children are frequently in State care, born to mothers with multiple substance use, and are demanding of health and education resources.

We are currently:

- Investigating the number of cases of FAS in Australia
- Collecting information from health professionals to determine knowledge, beliefs, and practices in relation to FAS and alcohol in pregnancy
- Collating contemporary Australian data on alcohol use in pregnancy.

Birth defects occur in one in twenty infants born in Western Australia. Our research into understanding the causes of and preventing birth defects is ground-breaking.

Rett syndrome

We continue to maintain the national population-based Rett syndrome register (AussieRett), now in its tenth year. AussieRett had enabled us to make substantial contributions to world knowledge on Rett syndrome. We have found left hand preference is much commoner in Rett syndrome than in the general population. We have also shown that girls differ in the severity of their symptoms depending on the particular genetic mutation they carry.

We are developing an international Rett syndrome phenotype database to collect data from families and clinicians worldwide. This will provide a unique web-based information resource on Rett syndrome and will be a source of data for researchers. We are pilot testing the processes for collecting data from families and clinicians both through web-based and conventional means.

Neural tube defects

Our ground-breaking research into preventing neural tube defects continues.

We have examined the role that fortifying food has in providing folate to prevent neural tube defects. We found almost a third of women took folic acid supplements around the time of conception. For the two thirds of Western Australian women not taking supplements, fortified food is an important source of folate.

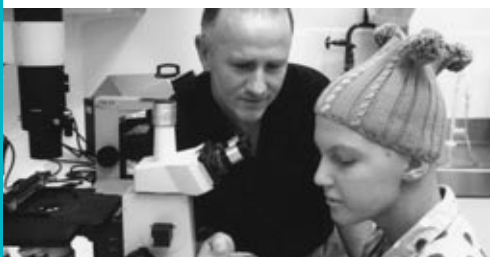
Mothers had a relatively high awareness of the link between folate and neural tube defects. Better educated, older and married women who have other healthy behaviours were more likely to have taken supplements. There are no such differences for the intake of foods fortified with folic acid, mainly breakfast cereals. This finding underscores the importance of fortification in reaching all women in the target group.

Our earlier research found that neural tube defects were 43 percent more common in Aboriginal infants in Western Australia in the 1980s. Since the promotion of folate and voluntary fortification of food there has been a 30 percent fall in neural tube defects overall in Western Australia. We wanted to investigate whether the fall had occurred in both Aboriginal and non-Aboriginal infants. The rates of infants with neural tube defects born to Aboriginal mothers did not change over this time. Like Sudden Infant Death Syndrome, this study has highlighted health promotion that has reduced the risk of a childhood condition overall, but has failed to be effective for Aboriginal children.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Cancer and leukaemia



Our research focuses on:

- Determining the genetic events that lead to cancer
- Developing better and less toxic anti-cancer drugs
- Looking at possible genetic, dietary and environmental causes of cancer.

In order to find better therapies for children with cancer, we and the Oncology Total Care Unit at Princess Margaret Hospital are both members of the largest study group into these diseases, the US-based Children's Oncology Group.

Leukaemia is the most common form of cancer in children, accounting for one third of all cases. Over recent decades, the treatment of childhood cancers has greatly improved, achieving up to 70 percent survival. In spite of more successful therapies, some children still relapse.

Paediatric brain tumours are the second most common form of cancer in children, with survival rates between 50 and 70 percent. In order to find better therapies for children with cancer, we and the Oncology Total Care Unit at Princess Margaret Hospital are both members of the largest study group into these diseases, the US-based Children's Oncology Group.

Our clinical research focuses on the genetic events leading to leukaemia and brain tumours in children, and on developing more specific and less toxic anti-cancer drugs. We are using the novel microarray technology to identify the critical genetic events, and this knowledge will form the basis of better diagnostic tests, classification and treatment of childhood cancer.

We are studying the SCL gene which is a major trigger of T-cell leukaemia in humans and are also discovering new genes responsible for causing this disease. The SCL gene is critically important for blood cell generation. It also occurs in the central nervous system and we aim to find out whether it is also important for brain development.

We head a national study into the causes of childhood leukaemia—the Australian Acute Lymphoblastic Leukaemia (AUS-ALL) study. An Australia-wide team of doctors and scientists is working together to identify possible genetic, dietary and environmental causes of the disease. This information will help us to understand why leukaemia develops and how it may be prevented. Other studies are looking at possible links between childhood cancers and maternal and birth characteristics, and other illnesses within the family.

A new program of research is investigating the molecular links between sun exposure early in life and skin cancer development, both melanoma and the more common basal cell carcinoma.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Developmental disorders

We are researching:

- Cerebral palsy
- The causes and consequences of intellectual disability
- The impact of newborn encephalopathy
- The factors influencing language acquisition in children.



Cerebral palsy

Cerebral palsy is the most common physical disability in children. These children have brain damage that occurred before birth, around birth or in early childhood. Our research has shown that less than ten percent of cases are due to problems during labour—infections during pregnancy and pre-term births play a more significant role. Cerebral palsy can result in partial paralysis, lack of limb coordination, epilepsy and defects in posture, intellect, vision, hearing and speech.

The Western Australian Cerebral Palsy Register collects data to monitor trends in cerebral palsy overall and in groups such as pre-term or multiple births, and to facilitate studies into its causes.

In 2002, we proposed that a national cerebral palsy register be established to enable research which is currently not possible with the small numbers on individual State registers. The agreement to establish this register occurred with a strong spirit of cooperation amongst research centres and cerebral palsy service organisations across Australia, as well as the warm support of the international cerebral palsy research community.

The national register will be located at the Institute and will operate as a collaborating unit of the Australian Institute of Health and Welfare.

Intellectual disability

Approximately 350 children are born in Western Australia each year with an intellectual disability. For most of these children the cause of their intellectual disability is unknown. Down syndrome still remains the most common of the known causes. There are also a large number of individually rare conditions each affecting a small number of our children.

The new Intellectual Disability Exploring Answers (IDEA) Database combines the Intellectual Disability Database from the Disability Services Commission with information from the Department of Education and Training.

Cerebral palsy is the most common physical disability in children. Our research is recognised worldwide.

It will aid research into the causes and prevention of intellectual disability, provide information on health and service needs and evaluate therapies for people with intellectual disability, and increase community and professional knowledge about intellectual disability.

We have already used the database to investigate the social determinants of intellectual disability and found children born to Aboriginal, teenage, and single mothers are at increased risk of intellectual disability. And mothers who are most socio-economically disadvantaged are at much greater risk of having children with a mild to moderate intellectual disability.

Preliminary analyses of hospital admissions for these children indicate that compared with children without an intellectual disability, they are much more likely to be admitted to hospital in their first five years of life, particularly for infections and respiratory disease.

Newborn encephalopathy

This unique research compares infants diagnosed with newborn encephalopathy to 'normal' babies. This makes it the only study in the world able to provide an unbiased estimate of the full range of impairments following newborn encephalopathy.

In the past, this condition has been blamed on the management of the labour. We have found the causes of newborn encephalopathy are diverse and many of these start during the pregnancy.

To date, we have followed children up to the age of eight years. In following up the children at age five, we found newborn encephalopathy places infants at significant risk of developmental delay or disability and increases their vulnerability to mental health problems. We also found these children are six times more likely to develop autism than children without newborn encephalopathy.

This important research will enable us to better advise those in health and education services, and parents, on the future health and development of their children.

Childhood growth and development

Childhood obesity is a potentially major health problem in Westernised societies and its prevalence is increasing—23 percent of Australian school children are either overweight or obese. Childhood obesity frequently persists into adulthood, increasing the risk of high blood pressure and cholesterol levels, heart disease and type two diabetes.

This study will be one of the first in Australia to track children and their families over a period of years in an effort to understand the factors that influence changes in height and weight. It will use this knowledge to find new ways of helping children to avoid or overcome obesity, and to maintain a healthy weight.

Speech and language development

Our ability to communicate is vitally important.

Language impairment is a serious developmental health problem that has long-term consequences for academic, social and behavioural success and adult employment opportunities.

The Looking at Language study aims to understand more about the factors that influence language acquisition and Specific Language Impairment in children during their preschool and school years.

More than 1500 children are already involved with the study. Language assessments have so far been completed for 420 children (95 sets of twins and 230 singletons). Family members will be invited to participate in assessments in 2004.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Infectious diseases



Our work includes:

- Immunising newborn babies in Papua New Guinea to reduce very high death rates
- Evaluating new, effective vaccines
- Researching encephalitis and enterovirus.

International collaborations

The pneumococcus (a bacterium also called *Streptococcus pneumoniae*) causes one million deaths from pneumonia and meningitis worldwide.

Our Institute, in collaboration with the Papua New Guinea Institute of Medical Research, will undertake a study to immunise newborn infants in developing countries with pneumococcal conjugate vaccine with the aim of reducing very high death rates. Newborn pneumococcal immunisation could also help reduce the enormous burden of early ear infections in Australian Aboriginal children. We will be looking closely at safety issues and immune responses to this vaccine.

We have also been examining the impact of routine infant immunisations on mortality in the highlands of Papua New Guinea.

Vaccine trials

Effective vaccines reduce the frequency and severity of disease for individuals and reduce the overall cost of health care.

The Vaccine Trials Group provides a coordinated approach to developing, delivering, assessing and promoting vaccines and allergy treatments in our community.

The Group was established in 1999 as a collaborative venture involving the Institute, Princess Margaret Hospital for Children and the University of Western Australia's School of Paediatrics and Child Health. It has been involved in a number of international multi-centre studies with paediatric and adult vaccines. This multidisciplinary group including paediatricians, immunologists, microbiologists, epidemiologists and nurses is also available as a resource for the public and for health care workers.

The pneumococcus bacteria causes one million deaths from pneumonia and meningitis worldwide.

Vaccine impact surveillance network

The Network assesses the impact of vaccines on the burden of infectious diseases.

We collect information on meningitis and pneumonia that can be caused by any of the many different types of pneumococcus. The long term effects of this infection can be devastating and include cerebral palsy, hearing loss, epilepsy and learning difficulties.

A new vaccine (Prevenar™) has recently been licensed in Australia but at present is only offered free to children at high risk. Our database will help to evaluate the impact of this new vaccine and provide information to policy makers and the general public on its effectiveness. Ongoing surveillance monitors the types of pneumococci circulating in the community and whether the antibiotics currently used to treat the disease are appropriate.

Virology research

Our research focuses on understanding how viruses cause disease within the central nervous system (CNS). This research covers:

- Studying how viruses reproduce
- Studies of the pathogenesis of viral encephalitis using animal models
- Developing improved diagnostic methods.

Murray Valley encephalitis and Japanese encephalitis are potentially fatal mosquito-borne diseases of the Asia-Pacific region.

Our work in this field consists of:

- Molecular genetic studies of Murray Valley encephalitis (MVEV) virulence determinants using an infectious cDNA clone of MVEV developed in our laboratory
- Looking at virus–host interactions that lead to encephalitis and host determinants of susceptibility to infection using the mouse model
- Developing a vaccine.

Enterovirus is a gastrointestinal virus that can cause paralysis in toddlers. Our research, done in collaboration with research groups in Taiwan and Malaysia, started in response to the large epidemics of neurological disease due to enterovirus 71 (EV71) in Australia and Southeast Asia since 1997. We are studying the molecular epidemiology and genetics of virulence of EV71 in the region with the ultimate aim of developing a genetically defined, live-attenuated vaccine.



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Mental health



Mental health problems affect a growing proportion of our young people and present formidable challenges to families, schools, communities and governments.

Problems such as Attention Deficit Hyperactivity Disorder (ADHD), early childhood behaviour difficulties, and other problems which emerge in the teenage years, such as eating disorders, depression, substance misuse and crime, also affect socialisation and learning and limit life opportunities and health.

We have identified some of the major causes of child and adolescent mental ill-health through our longitudinal studies and state population surveys.

We have identified some of the major causes of child and adolescent mental ill-health through our longitudinal studies and state population surveys. We know the early years of a child's life and schooling are crucial in setting developmental pathways into adult life. But there are many recovery pathways throughout childhood and adolescence that enable children to move away from potential vulnerability. This developmental health approach builds on children's strengths and maximises the number of children who can move towards resilience.

Suicide prevention

Our research into suicide prevention aims to ensure that new knowledge on the causes and patterns of suicidal behaviour and suicide can be put into policy and practice.

The first phase of CommunityLIFE was successfully completed in September, managed by a consortium led by the Institute and Curtin University of Technology's Centre for Developmental Health. The program used a community-wide approach to strengthen factors known to protect against suicide, to improve public understanding of suicide and its causes, and to reduce risk factors.

The CommunityLIFE website (www.community-life.org.au) includes a database of suicide prevention projects, briefing papers, and bulletin board facilities.

The Institute also houses the Western Australian Ministerial Council for Suicide Prevention. This Council advises government and coordinates a range of statewide activities aimed at reducing the morbidity and mortality associated with suicidal behaviour. The Council also advances community and scientific understanding of suicide and its prevention. The Australian Suicide Prevention information and Resource Exchange (ASPiRE) website, sponsored by Woodside Energy Limited, is widely acknowledged as one of Australia's leading sources of information and community resources for suicide prevention. (www.mcsp.org.au/about/sitemap.html)



Detailed information about our research may be found at our website at www.ichr.uwa.edu.au.

Perinatal epidemiology

This research focuses on understanding the early factors in children's lives that may later impact on their health or the development of disease.

Our unique population database containing information on all children born in Western Australia since 1980, as well as information from large cohort studies, is an invaluable resource in helping us to improve children's health.



RASCALS Study

The RASCALS study is one of a few key longitudinal studies in Australia. Five thousand mothers who had a baby in the years 1995 to 1997 completed a questionnaire about their behaviour before, during, and after pregnancy. A portion of these mothers is followed up annually and we continue to have good response rates.

We are sending out the eight-year questionnaires to the children born in 1996. With parental consent this data will be enhanced by information obtained from the children's school teachers.

Initially, information was collected on rubella immunisation, folic acid intake, SIDS risk factors, infant feeding practices, cigarette smoking, alcohol consumption, infertility, family composition and so on. Other information such as stress, anxiety, depression, parental disciplinary practices, parents' employment and mental well-being of the child and parent, will be used to identify the possible causes and protective factors for mental health.

The RASCALS data has made important contributions to other research studies. It formed the baseline for the measurement of the prevalence of Specific Language Impairment within the general childhood population of Western Australia for the Looking at Language project. It was also analysed for a study relating to behavioural sleep problems up to the age of four years.

Western Australian Pregnancy Cohort (Raine) Study

For the past 16 years we have tracked the lives of over 2,000 children. The mothers of the children were enrolled at 18 weeks in pregnancy and the children have been followed at birth, one, two, three, six, eight, and ten years of age. We are now investigating the physical activity levels of these 13 year old children.

Our unique population database containing information on all children born in Western Australia since 1980 is an invaluable resource in helping us to improve children's health.

We are looking at the circumstances and patterns of behaviour that develop from an early age relating to levels of physical activity, and the consequences of inactivity in adolescents.

Physical activity levels, body fat and obesity play a vital role in the health of adults. The consequences of inactivity include obesity, elevated blood pressure, diabetes and high risk behaviour.

The children are assessed for physical activity, physical fitness and motor competence, as well as markers of cardiovascular health, low back pain, and mental health. Parents are also invited to have their height, weight and blood pressure measured.

It is anticipated that findings from this phase of the study will assist health, education and welfare agencies to promote greater levels of physical activity in adolescence and discourage risky behaviour such as smoking and the use of alcohol and drugs.

Western Australian Twin Child Health (WATCH) Study

This major study arose out of the Maternal and Child Health Research Database and uses data on all multiple births between 1980 and 1998. It is the only population-based twin study in Australia.

When it started in 1997 the study sought to investigate the roles of genes and the environment in the development of asthma and allergies. Since then it has formed the basis of other studies examining early language development and child temperament. It is a powerful resource in seeking to untangle the roles of genes and the environment in health and disease.



Detailed information about our research may be found at our website at **www.ichr.uwa.edu.au**.



Putting children first

We use a unique research approach to find out ways to improve the health of children, young people and families.

Senior staff



C Glenn Begley

MBBS PhD FRACP FRCPath

Co-Head of Division Cancer Biology

Joined the Institute in 2001. Adjunct Professor University of Western Australia. Glenn was previously head of the Human Leukaemia Laboratory at Walter and Eliza Hall Institute. He was previously Director of the Bone Marrow Laboratory; Professor Department of Medicine, University of Melbourne; and Director Western Australian Institute for Medical Research.



Carol Bower

MBBS MSc PhD FAFPHM DLSHTM

Head of Epidemiology

Joined the Institute in 1990. Clinical Professor University of Western Australia. Carol established the internationally recognised Western Australian Birth Defects Registry; is a Fellow of the Australian Faculty of Public Health Medicine and holds a Senior Research Fellowship from the National Health and Medical Research Council.



Heather D'Antoine

Manager Kulunga Research Network

Joined the Institute in 2001. Heather has extensive experience in health service delivery and was employed as the health service manager for Fitzroy Crossing and Halls Creek.



Nick de Klerk

BSc MSc PhD

Head of Biostatistics and Genetic Epidemiology

Joined the Institute in 2000. Adjunct Professor University of Western Australia. Nick led the Occupational Respiratory Epidemiology Group, Department of Public Health, University of Western Australia for ten years. He gained broad experience in biostatistics and epidemiology in Western Australia and England.



Ursula Kees

Dip Phil II PhD

Head of Division Leukaemia and Cancer Research

Joined the Institute in 1990. Adjunct Professor University of Western Australia. Ursula has previously worked at University College, London and at the German Cancer Research Centre, Heidelberg. She chairs two biology studies of the US-based Children's Oncology Group.



Deborah Lehmann

MBBS, MSc

Member of Executive

Joined the Institute in 1998. Clinical Associate Professor, University of Western Australia. Deborah worked at the Papua New Guinea Institute of Medical Research for 18 years where she headed a multidisciplinary pneumonia research program.



Bruce McHarrie

BCom CA

Member of Executive, Chief Financial Officer

Joined the Institute in 1999. Bruce was previously an Assistant Director in the Bioscience Unit at Rothschild Asset Management in London and before that was with Coopers and Lybrand, also in London.



Peter McMinn

BMed Sc (Hon) MBBS PhD
FRCPA FRCPath DipRACOG

Head of Division Virology

Joined the Institute in 2000. Clinical Associate Professor, Discipline of Microbiology, School of Biomedical and Chemical Sciences, University of Western Australia. Peter is the inaugural holder of an NHMRC Practitioner Fellowship. He also works as a clinical virologist at Princess Margaret Hospital for Children.



John Finlay-Jones

BSc(Hons) PhD FAIBiol FASM

Assistant Director

Joined the Institute in 2003. Adjunct Professor University of Western Australia; Emeritus Professor Flinders University of South Australia. John worked at Flinders University for 25 years, most recently as Executive Dean, Faculty of Health Sciences. He has been President Australian Society for Medical Research; Australian Society for Microbiology; and Australian Institute of Biology.



Prue Hart

BSc(Hons) MSc PhD

Head of Inflammation Laboratory

Joined the Institute in 2003. Principal Research Fellow, NHMRC; Adjunct Associate Professor at the University of Western Australia. Prue worked for 12 years in the NHMRC Fellowship scheme at Flinders University and also at University of Queensland (Royal Brisbane Hospital), Rigshospitalet in Copenhagen and the University of Melbourne (Royal Melbourne Hospital).



Pat Holt

PhD FRCPATH(UK) DSc FAA

Member of Executive, Deputy Director, Head of Division Cell Biology

Joined the Institute in 1990. Senior Principal Research Fellow, NHMRC; Professor University of Western Australia. Pat has previously served as Acting Director, Clinical Immunology Research Unit, Princess Margaret Hospital for Children; and Research Fellow, Institute of Environmental Hygiene, University of Gothenburg.



David Izon

BSc(Hons) PhD

Co-Head of Division Cancer Biology

Joined the Institute in 2001. David gained honours and doctoral degrees at Monash University. He spent 11 years as a post doctoral fellow in the USA at the National Institutes of Health and University of Pennsylvania and at the Netherlands Cancer Institute, Amsterdam.



Sven Silburn

BSc(Hons) MSc (Clin Psych) MAPS

Senior researcher Population Science

Joined the Institute in 1991. Professor and Director, Centre for Developmental Health, Curtin University of Technology. Sven completed his clinical psychology training in South Africa and worked in clinical child psychology for the Health Department of Western Australia. He chairs the Ministerial Council for Suicide Prevention and is a principal investigator on the WA Aboriginal Child Health Survey.



Peter Sly

MD FRACP DSc

Member of Executive, Head of Division Clinical Sciences

Joined the Institute in 1991. Peter is currently Director, Clinical Research and Education, Princess Margaret Hospital for Children; Professorial Fellow and Coordinator of Postgraduate Education, School of Pediatrics and Child Health, University of Western Australia; Senior Principal Research Fellow, NHMRC; Respiratory Physician, Princess Margaret Hospital for Children.



Wayne Thomas

BSc(Hons) PhD

Member of Executive, Head of Laboratory Sciences, Head of Division Molecular Biotechnology

Joined the Institute in 1990. Professor University of Western Australia; Senior Principal Research Fellow NHMRC. Wayne has previously worked at the Medical Research Council, Clinical Research Centre London and at Walter and Eliza Institute for Medical Research. He chairs the International Allergen Nomenclature Committee.



Stephen Zubrick

MSc MA PhD

Member of Executive, Head of Division Population Sciences

Professor Curtin University of Technology. Steve was previously head of the Institute's Division of Psychosocial Research and has worked in various mental health settings. He chairs the Consortium Advisory Group, National Longitudinal Study of Australian Children and sits on the Commonwealth Mental Health Promotion, Prevention and Early Intervention Working Party.

Corporate partnerships

The Institute is proud to have entered into a number of corporate partnerships to support our research. These partnerships provide an important source of research funding and also allow us to build a beneficial relationship with the company and its staff.

HBF has partnered with the Institute for our HBF Childhood Growth and Development Study—an important partnership given the concerns about growing rates of childhood obesity.

QANTAS Airways Limited supports our Young Investigator Award, which allows a promising researcher to attend an international scientific conference and visit other relevant research organisations.

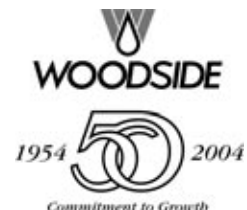
Rio Tinto Limited's partnership with the Institute is a major collaboration that also involves state, territory and federal governments. It focuses on improving maternal and child health amongst Aboriginal and Torres Strait Islander communities.

The support over many years from Telethon and the people of Western Australia through Channel 7 is fundamental to our ongoing success.

The naming of our Wesfarmers Atrium recognises the sustained support that Wesfarmers Limited continues to provide to the Institute.

Woodside Energy Limited sponsors the Australian suicide Prevention Information and Resource Exchange (ASPIRE) website—widely acknowledged as one of the country's leading sources of information and community resources for Suicide prevention.

Further corporate and private support will be sought at both local and national levels throughout 2004 and beyond.



Collaborations and joint ventures

Centre for Developmental Health

The Centre for Developmental Health is a joint venture between the Institute and Curtin University of Technology. The Centre brings together researchers from different disciplines to integrate new knowledge on what influences infant, child and adolescent development and how families, schools, communities and society can support this development.

Following our success in 2002 in winning grants totalling over \$8 million, the Centre's activities this year focussed on establishing major national and international collaborations and building the research and financial infrastructure needed to support our growing research program.

The Centre's major projects are looking at:

- Language acquisition in children
- Suicide prevention
- Aboriginal child health
- Physical activity in adolescence
- Preventing unplanned teenage pregnancy.

Further information about the Centre is available on the internet at <http://cdh.curtin.edu.au>

Centre for Child Health Research

The University of Western Australia Centre for Child Health Research was established in 2001 with an agreement between the University and the Institute. The Centre facilitates closer collaboration with the University, providing access for clinical and adjunct academic staff in the Centre to relevant university services including administrative and research services and postgraduate student administration.

Recent organisational reforms of the University have seen the Centre more closely linked with the School of Paediatrics and Child Health, within the Faculty of Medicine and Dentistry. These links will be enhanced with the implementation of recommendations from the Princess Margaret Hospital for Children campus Review of Research and Education.

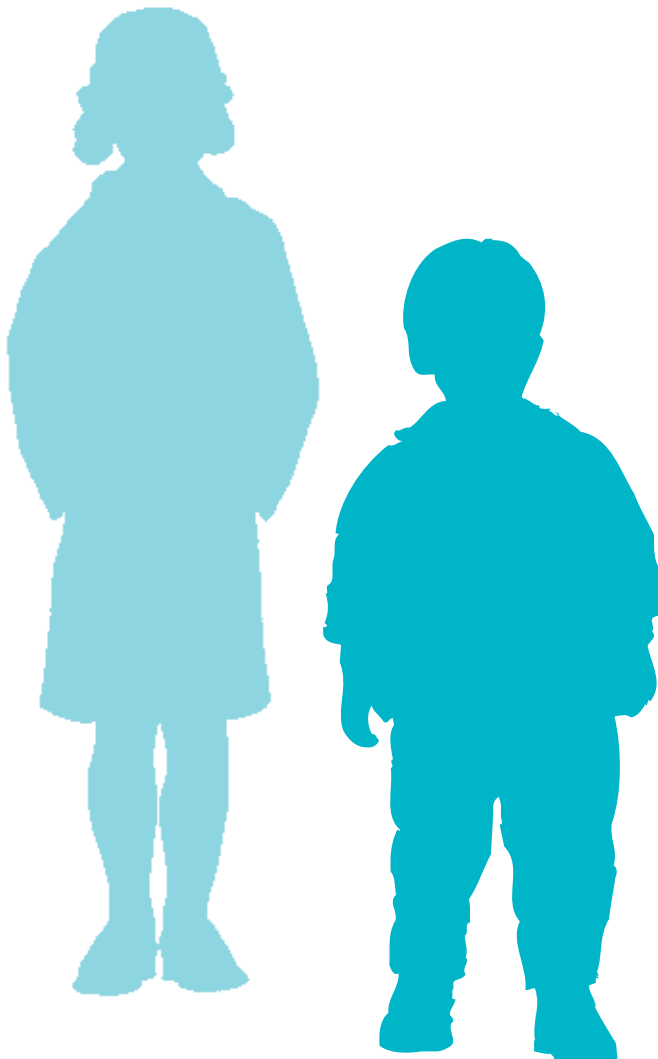


Collaboration for Applied Research and Evaluation (CARE)

The Collaboration works to ensure that the Institute's findings on ways to enhance the health and well-being of children are rapidly communicated to those responsible for delivering health and social programs in our community. It also undertakes applied research projects through contracts with government and other agencies.

Current primary work themes are:

- Assisting to identify ways of translating early years research evidence into practice
- Providing access to data from the Institute's maternal, child and youth health information systems
- Providing research and development, and evaluation services for community and child health programs
- Providing research and policy advice on maternal, child and youth health issues within Aboriginal communities.



Affiliated groups' reports

Amanda Young Foundation

The Amanda Young Foundation continued to provide information to the community on meningococcal disease.

Highlights of the year included:

- Producing and distributing resources including community service announcements and a video *Don't Catch the Killer*
- Fundraising with Amanda's Garden Fete, a spectacular Moulin Rouge Ball and a fun Rowing Regatta
- Holding the annual Young Leaders Eco-Health Summit
- Winning the National Australia Bank *National Volunteer Award* in the Health and Well-Being category
- Amanda's Garden being a finalist in the *Aussie Garden of the Year*.

Friends of the Institute

The Friends are volunteers who make valuable and worthwhile contributions to the Institute. They advocate for child health research, raise awareness of, and funds for, the Institute.

This year the Friends funded:

- A dynamap vital signs monitor for the Raine Study
- A cancer scientific meeting
- Conference costs for a number of Institute staff and students
- Sponsorship of the Buyu exhibition.

The Margaret River Friends continue to fundraise for the Marijuana Education Pilot Program being run in the local high school, which is strongly supported by the local community.

Meningitis Centre

The Meningitis Centre aims to provide information and support services to families affected by meningitis, to increase public awareness and foster research into meningitis.

Major initiatives this year included:

- Liaising with the federal government to plan and implement its meningococcal C vaccination program
- Launching the campaign to have the federal government fund a universal vaccination program to protect children from pneumococcal disease
- Further developing and promoting the website to increase public awareness of meningitis.



Louisa Alessandri Memorial Fund

The Dr Louisa Alessandri Memorial Fund perpetuates the work of a notable and much loved past Institute epidemiologist.

The Dr Louisa Alessandri Scholarship is awarded annually to a tertiary student with a disability. The inaugural recipient was Maria Mansour, a law student at Notre Dame University.

The annual public oration was written by the Honourable Justice Malcolm AC, Chief Justice of Western Australia, and presented by the Honourable Justice Michael Murray.

The recipient of the Dr Louisa Alessandri Award for Excellence and Commitment in Research was Glenys Dixon. This award is given to a person who has made an important contribution to the Institute.



Board of Directors



Kevin Campbell AM

Chair, Telethon Institute for Child Health Research; Winner Fiona Stanley medal 2003



Harvey Coates

MBBS MS Diplomate American Board Otolaryngology FRACS FAC FRCS(C)

Senior ear, nose and throat surgeon, Princess Margaret Hospital for Children; Clinical Associate Professor, University of Western Australia; Winner Fiona Stanley medal 2001



Mike Daube

BA(Hons) HonDSci

Director General, Department of Health



Keith Jones

BBus ACA CPA

Board member, Deloitte Corporate Finance Pty Limited; Managing Partner, Deloitte Touche Tohmatsu Western Australia



Louis Landau AO

MD FRACP

Professor, Dean, Faculty of Medicine and Dentistry, University of Western Australia



Rebecca Maslen-Stannage

LLB(Hons) BComBCL(Oxon)

Partner, Freehills



Graham Mitchell AO

RDA BvSc FA CVSc PhD FTSE, FAA

Principal, Foursight Associates Pty Limited



Fiona Stanley AC

FAA, FASSA, MSc, MD, FFPHM, FAFPHM, FRACP, FRACOG, Hon. DSc

Director, Telethon Institute for Child Health Research; CEO, Australian Research Alliance for Children and Youth; Professor, School of Paediatrics and Child Health, the University of Western Australia; Member, Prime Minister's Science, Engineering and Innovation Council; Australian of the Year 2003



Marilyn Stewart

President, Friends of the Institute



Robert Ginbey

BA BEd Grad Dip Public Sector Mgt MACE

Company Secretary and General Manager Administration

Committees of the Board

The Board of Directors manages the overall business of the Institute and meets six times annually. In order to carry out business effectively, various committees support the Board by offering advice in specific areas.

Appointments and Promotions Committee

Kevin Campbell AM (Chair)
John Finlay-Jones
Bruce McHarrie
Peter Sly
Fiona Stanley AC
Wayne Thomas
Stephen Zubrick

Building Artworks Committee

Harvey Coates (Chair)
Sir James Cruthers
Tammy Gibbs
Robert Ginbey
Fiona Stanley AC

Capital Fund Committee

Kevin Campbell AM (Chair)
Harvey Coates
David Berinson
Bryce Denison
Robert Ginbey
Rudi Gracias
Bruce McHarrie
Fred Stone
Fiona Stanley AC

Finance Committee

Keith Jones (Chair)
Kevin Campbell AM
Robert Ginbey
Bruce McHarrie
Monica Spalding
Fiona Stanley AC

Fundraising Committee

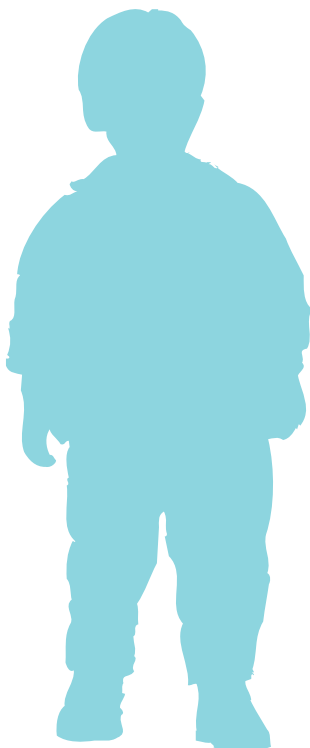
Rebecca Maslen-Stannage
(Chair to April 2004)
Danielle Blain
Harvey Coates
Richard Court
Paul Davis (to January 2004)
Tammy Gibbs
Margie Livingston
Bruce McHarrie
Lyn Nixon OAM

Intellectual Property Commercialisation Committee

Graham Mitchell AO (Chair)
Stuart Boyer
Simon Carroll
Nick de Klerk
Pat Holt
Bruce McHarrie
Paul Watt

Scientific Advisory Committee

Louis Landau AO (Chair)
Angela Alessandri
Colin Binns
Harvey Coates
Heather D'Antoine
John Finlay-Jones
Robert Ginbey
Peter LeSouef
Richard Loh
Bruce McHarrie
Susan Prescott
Richard Prince
Fiona Stanley AC
Geoff Stewart
Wayne Thomas
Charles Watson AM



Chief financial officer's report

With our research activities continuing to grow, 2003 was indeed the dynamic year that we anticipated. As a measure of our research excellence, it is noteworthy that the proportion of our income attributable to nationally competitive grants grew from 26 percent in 2002 to 28 percent in 2003.

Of equal interest is the proportion of income from commercial entities increasing to 11 percent of total income. This reflects growing recognition of the importance of commercial collaborations within medical research institutes. And indeed, the expectation by funding agencies that such institutes should seek relationships with commercial partners.

Professor John Finlay-Jones' expertise as assistant director has significantly improved our capacity to handle the breadth and depth of directorate-related issues associated with an organisation of this type, and the medical research sector generally.

Supporting our research activities remains one of the Institute's greatest challenges. Such support includes providing the physical research facility, the lighting and power, through to sophisticated information technology systems and the equipment for the researchers to use, much of which is specialised.

Our income to support research comes from a variety of sources, often different from the source of research funding itself. We rely on, and are grateful to the public for donations, in particular the annual Telethon appeal. State Government continues to be a key provider of research support funding, however it was concerning to see a curtailment in this allocation despite the proven financial and social benefits of disease prevention.

Finally, I wish to acknowledge the administrative and research support teams that provide a level of service to match the excellence of the research.

Bruce McHarrie



Capital fund

The capital fund enables the Institute to plan for the future and implement strategies to enhance the efficacy of our research. This includes developing our younger scientists to be future leaders in their field, underpinning the funding in key areas of research and being able to attract new and retain eminent researchers.

Existing sources of funding do not normally provide for such initiatives. We therefore aim to build our capital fund to a level where the annual income it generates will enable us to plan with confidence and implement sustainable programs.

The capital fund currently stands at \$12 million and we are confident of reaching our target of \$30 million over the next five years. In achieving this aim, the funding provided by Telethon is vital and we are particularly grateful to

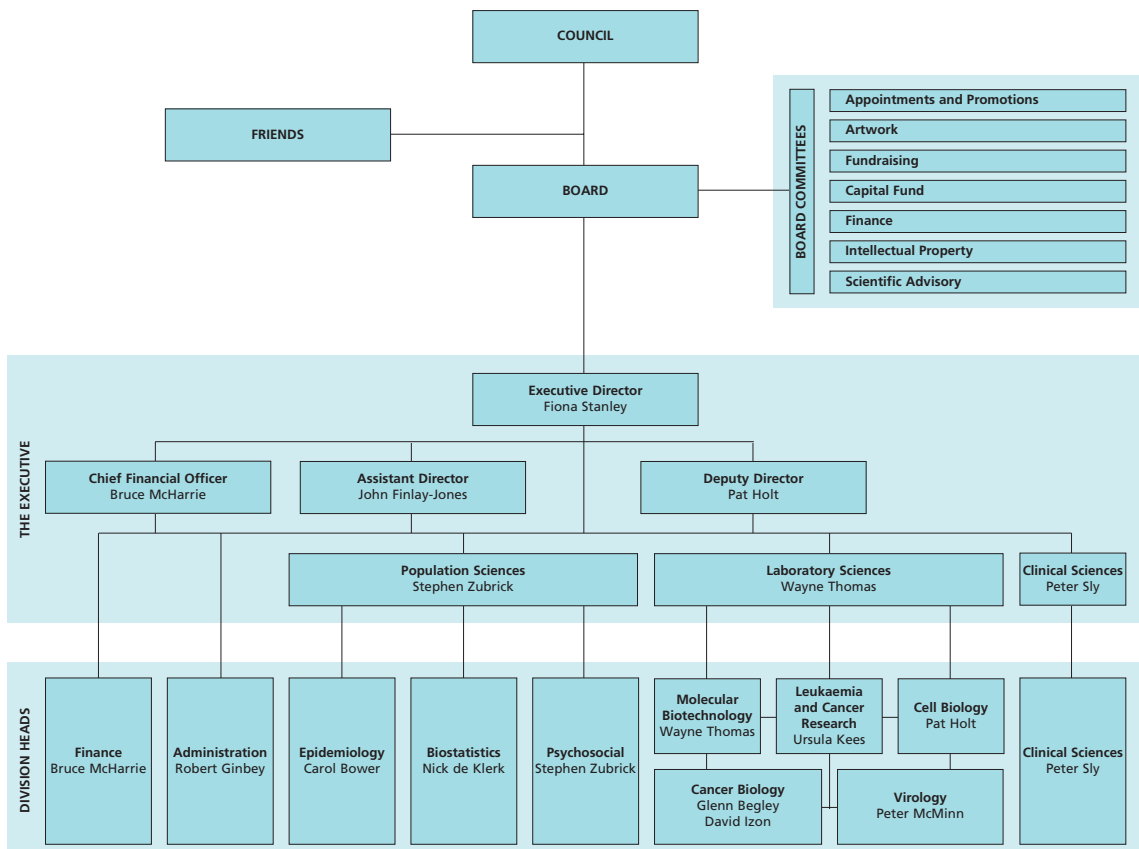
Channel 7 and the people of Western Australia for their continued support.

Occupational Health and Safety (OHS) report

Ensuring safe work practice is a priority for the Institute. We provide staff and students with information on health and safety issues, training and assistance. Representatives of all of the research divisions attend regular OHS committee meetings and safety reports are presented to staff and senior management by the OHS committee.

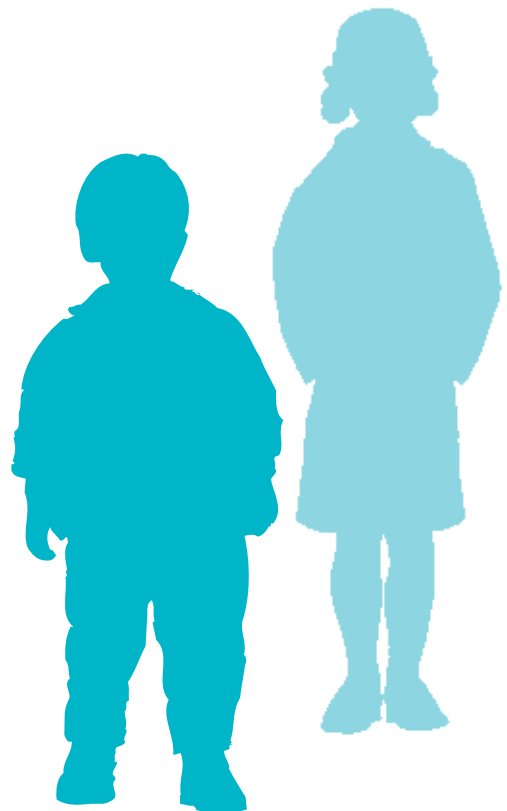
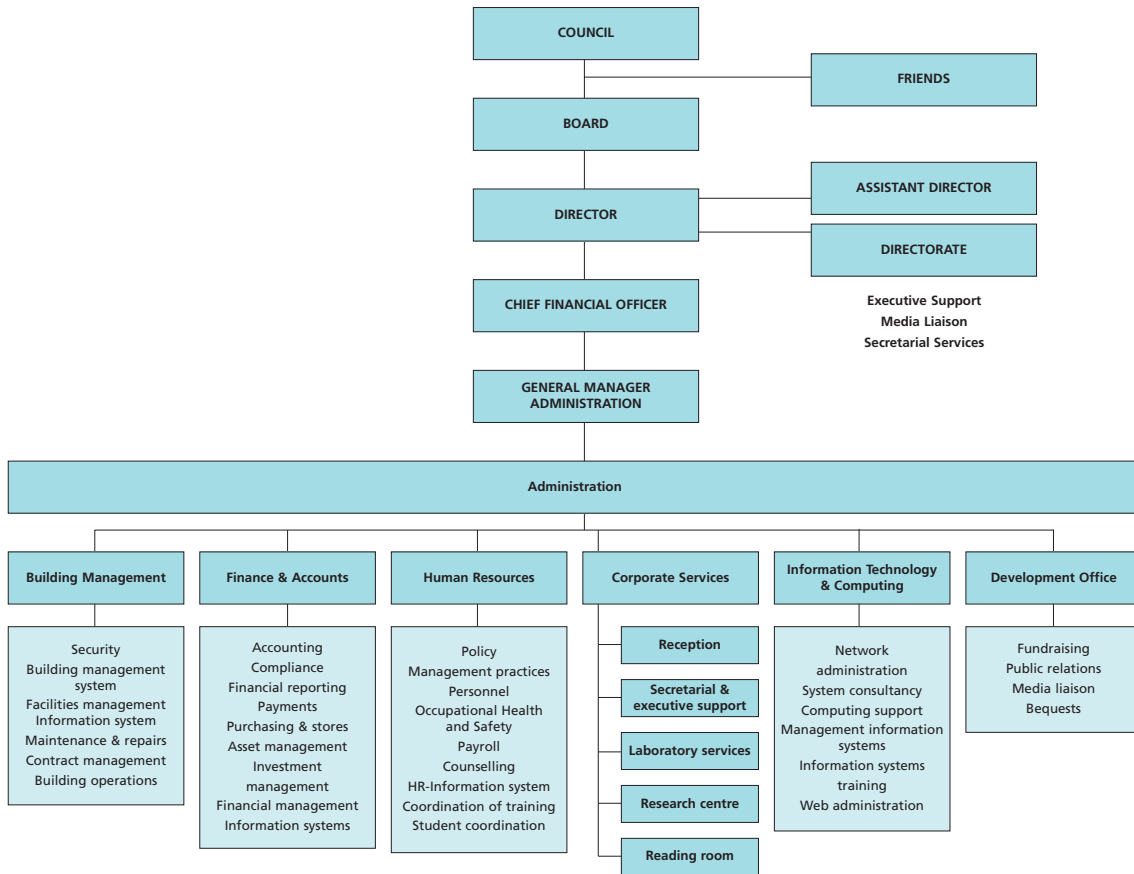
This year our premises were inspected for hazards and suitable control measures were installed. The research facilities were inspected and approved by both the Office of the Gene Technology Regulator and the Australian Quarantine Inspection Service.

Management/Operating Structure



Organisational Chart

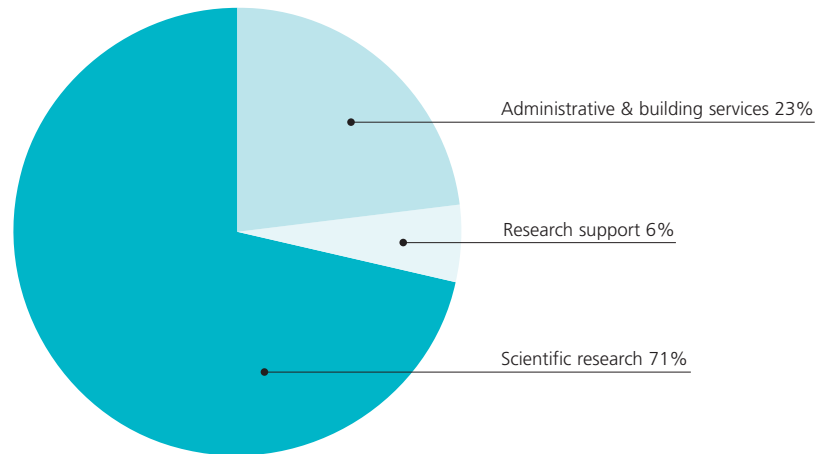
Administration and Corporate Services



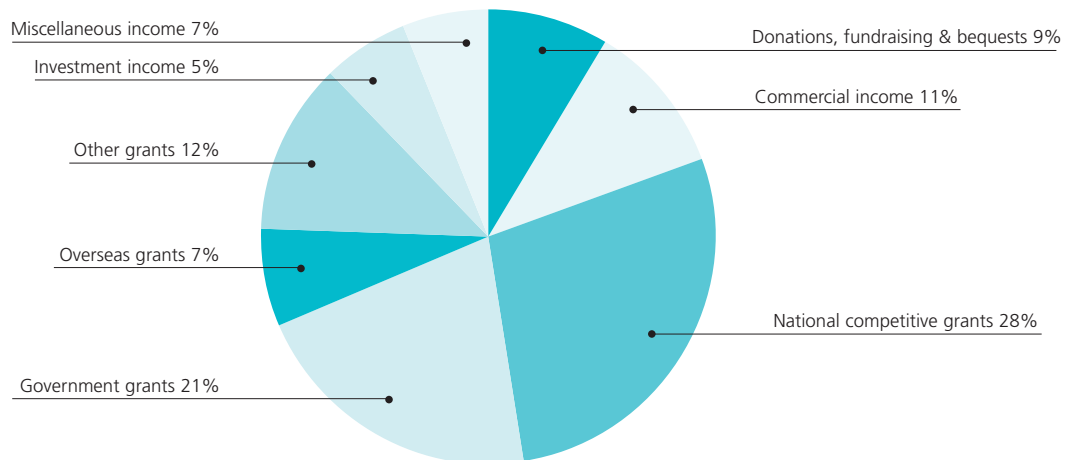
The year in brief

	2003	2002	% Change
Expenditure	\$20,654,403	\$18,642,531	10.79%
Number of staff	252	223	12%
Number of visiting scientists	59	51	14%
Number of postgraduate students	50	41	18%
Total	361	315	14%

Expenditure \$20.65 million



Income \$20.87 million



Research grant income

Commercial Income

Advanced Diagnostic Systems Pty Ltd	343,396
ALK-Abelló A/S	149,467
Altana Pharma Pty Ltd	12,832
Gene Stream Pty Ltd	6,912
GlaxoSmithKline Australia Pty Ltd	199,460
Incyte Genomics, Inc.	26,222
Merck Sharpe & Domhe (Australia) Pty Ltd	93,288
Pfizer Pty Ltd	683,128
Rio Tinto Services Ltd	100,000
UCB S.A. Pharma	153,791
Woodside Energy Ltd	26,827
Wyeth Vaccine Research	197,219
Miscellaneous	13,636
	<u>2,006,177</u>

National Competitive Grants

National Health and Medical Research Council	<u>5,509,874</u>
	5,509,874

Government Grants

Department for Community Development	121,904
Department of Education and Training	46,781
Department of Health and Ageing	262,760
Department of Health, Government of Western Australia	1,176,348
Department of Housing and Works	56,150
Disability Services Commission	116,155
Family Partnership Training Consultative Group	27,273
Healthway	357,367
Lotteries Commission of Western Australia	213,014
Office of Aboriginal and Torres Strait Islander Health	130,823
Office of Science and Innovation	35,000
	<u>2,543,574</u>

Overseas Grant

European Respiratory Society	6,124
International Rett Syndrome Association	68,060
National Institutes of Health	1,222,427
World Health Organisation	16,287
	<u>1,312,898</u>

Other Grants

Asthma Foundation of WA	2,800
Cancer Foundation of WA	16,075
Child Health Research Foundation	69,500
Children's Leukaemia & Cancer Research Foundation Inc	222,998
Curtin University of Technology	110,806
Cystic Fibrosis Australia	32,261
Edith Cowan University	17,200
Friends of the Institute	12,250
Garnett Passe & Ridley Williams Memorial Foundation	9,333
Murdoch University	2,588
National Australia Bank	10,000
Princess Margaret Hospital For Children Foundation	139,636
RAINE Medical Research Foundation	100,000
Telstra Foundation	40,000
The Smith Family	8,000
Three Boys Legacy	9,850
University of Western Australia	523,743
Variety Club of Western Australia	50,000
Western Australia Institute of Medical Research	29,224
Women and Children's Health Service	225,000
Miscellaneous	3,301
	<u>1,634,565</u>

Total

13,007,087

Donors

"Research is expensive, but disease is even more expensive. It costs our community millions of health care dollars every year, it costs families heartache and pain and it still costs too many young lives." Professor Fiona Stanley AC

Our supporters know that research is costly, but they also know that the health of a child cannot be measured with a dollar amount. They support our work so that all children can be born with the best chance of health, and families will not have to face the heartache of losing a child to illness, disease or disability.

Our supporters are extremely important to us. Your contribution will enable our scientists to carry out the very best research possible under the best conditions available.

For further information about gifting opportunities, please contact the Development Office on (08) 9489 7777 or email development@ichr.uwa.edu.au or visit our website at www.ichr.uwa.edu.au

Hope is a precious gift. We would like to thank the following individuals, clubs, corporations, schools and groups for helping us bring hope to the lives of countless children and their families. Your support is, as always, greatly appreciated.

Bequests

Estate of F Eade
Estate of R B Laird
Estate of A Watson
Estate of B Watson
Estate of A W Werrell
Estate of H M Young

General

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A & M Atkins
Australian Institute of
Company Directors
Australian Teaching Aids Pty Limited
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Alexandrina Baptista
Victoria Barratt
M Bassami
David Berinson
Sue Beverley
Jolene Bizzintino
Blakiston & Crabb
Bob Wade Fleet Maintenance
E Bozanich
Clarice J Brown

Dorothy Cant
Nichole Carlyon
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Mark Ceglinski
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Channel Seven Telethon Trust
G R & C M Charge
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Harvey Coates
Mathew F Cooper
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Anthony Costa
Margaret Coten
Couplers Malaga
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Coventry Group
Martina Crowley

Sir James Cruthers
Jenny Cugley
Vanessa S Cull
Aaron Cummings
Shirley Daffen
Heather D'Antoine
Paul G Davis
Margaret Dawbarn
Gervais D E d'Espaignet
Mal Di Giulio
Michael Dilello
Nerida Dilworth
Sophie Divliaev
Leigh A Dix
J & D Donovan
Maria D'Ortona
Joan Dowson MBE OAM
Danicia Dutry
Patricia East
J T Edwards
Michael & Lois Egerton-Warburton
Helen R Ewart
Mark Fear
Jette Ford
Forrestfield Senior High School
Deidre Fountain
Foxtel Management Pty Limited
Cecily Freemantle
Jack Freeman-Smith
Joseph Freitas
Pierre Gallego
Samantha Gard
Gel Group
Tammy Gibbs
Janet Giblett
Robert Ginbey
Eileen Goldsmith
Gosnells Hotel
Ralph Green
Greenmount Primary School
Erika Hagemann
Catherine Harrison
Paul Hasleby
Tricia Heaton
Tatjana Heinrich
Steve Henderson
Lucy Henry
Dallas Hickman
HLM Financial Services
Joyce M Holmes
David Izon
Margaret Ives
Don Jackson
Ray James
Keith Jones
Taryn Jones
H E Jury
Mavis Kean
M Kepert
L & B Kiernan
Philip King

Kinross College
Elaine Kitto
Frith Klug
KPMG Chartered Accountants
Alison J Ladyman
Geoff Lam
Jason Lenzo
Judith Lewis
Jianghong Li
Janet MacLean
Macquarie Bank Limited
Jan M Mangano
Susan M McCabe
Judy McCarthy
McCusker Holdings Pty Limited
Bruce McHarrie
Ken J McHarrie
G Meecham
Samantha Metcalf
MGI Bridge Partners
Kate Miller
Joan Modder
Carl Musgrave
S Newman
Newman's Own Foundation
Manh Nguyen
Fiona Nichols
Lyn Nixon
Noranda Primary School
North West Shelf Gas
Margaret J Nowak
Nutrimetics
RM & J Outhwaite
Margaret Palmer
Debbie Parsons
Phil Paterson
H S Payne
Jan Payne
PEACH Trust Fund
Kelly Peirce
Penrhos College
Stan & Jean Perron
Peter Young & Associates
The Petre Foundation
Beverly Petterson
Catherine Pienaar
PMH staff
Paul Poon
LM & FM Porter
Norma Prosser
Pump N Seal
Claire Putland
Michael Rae
B Ramsay
Gail Reading
Dick Roberts
Susan Robinson
Prof Alan Robson
Anna Robson
Jasmine Roper
G K & V D Ross

Peter Safer
Jackie M Scurlock
Ellen Seymour
L M & S R Silbert
Graeme & Ros Smith
Miranda Smith
Patricia A Smith
Anne South
Fiona Stanley AC
Fiona Smith
Monica Spalding
Nicholas Sloan
SStar HR International Pty Limited
St Michael's Chapel Congregation
Erna Stratton
Anita & John Summers
Devinda Suriyaarachchi
Cass Sutton
Paul A Tait
Wayne & Jenny Thomas
Barry Thornton
John & Mary Townsend
A Tree
Belinda Turner
United Way (WA)
John Upham
Paul Veitch
Thierry Venaille
Jay Wallace
Water Corporation
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100 Roberts Road, Subiaco
Western Australia 6008
Telephone 08 9489 7777
Facsimile 08 9489 7700
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