Vision News

Managing Director's Report

The McCusker Grant
What it means to LEI

Indigenous and Remote Eye Health Unit

Lions Eye Institute

AUTUMN 2011
working in stem cell research, and Dr Angus Turner, who is working in Indigenous and Remote Eye Health.

However, it is with profound sadness that we acknowledge the loss of one face from LEI: the Chairman of the Lions Save-Sight Foundation Lorraine Strickland. She became Chairman of the Foundation in 2005, a position she held until her death on 11 January 2011. Always active at the Club, District and Multiple District level in Lions, Lorraine used every opportunity to advocate enthusiastically on behalf of the Foundation. She was indefatigably involved in rebuilding and revitalising the Foundation and increasing public and new Lions Club members’ awareness of its purpose and aims. Lorraine’s bubbly smile and ready wit will be deeply missed.

The old A block (the original floor occupied by the LEI when it moved to Sir Charles Gardiner Hospital in 1984) is slowly being renovated and the new Linton Library will be completed in early 2011. The Volunteers are helping re-catalogue the journal collections to ready them for binding and the new computers for a digital medical library are in place.

Although the strain of the GFC on funding for research was most noticed in 2010, LEI researchers and Clinic staff had several success stories during the year. The NHMRC places particular emphasis on evidence-based medicine, aiming to apply the best available evidence gained from scientific research to clinical decision-making. New National Glaucoma Guidelines were released in November 2010, concluding several years of intense literature review and meetings of a review panel. The multidisciplinary panel was chaired by LEI’s Professor Bill Morgan and Professor David Mackey was also a panel member.

Several LEI researchers were successful in receiving funding in the NHMRC 2010 round of funding applications, despite only 17% of applications from WA being approved. Professor Mariapia Degli-Esposti’s NHMRC Fellowship was renewed for a further three years. Professor Piroska Rakoczy leads the LEI Molecular Ophthalmology research team that received Project Grant funding and Dr Jerome Coudert from the Experimental Immunology research group also received funding under the Project Grant (New Investigator) scheme.

Assoc Professor Fred Chen has been awarded a Sylvia and Charles Viertel Charitable Foundation grant which, in combination with the start up funds he received from LEI and the Vice Chancellor at UWA, will allow him to...
conduct stem cell research into retinal diseases. My research team made international headlines in September 2010 with triple success: three papers I co-authored on gene discoveries for glaucoma and myopia were published in the same edition of the prestigious journal Nature Genetics.

Our research, clinic and administration teams at LEI helped staff a booth during the Telethon weekend in November 2010. We received funding in 2010 from the Channel 7 Telethon Trust for the Western Australian Strabismus Inheritance Study, which is investigating the genetics of turned eye. This is part of an international collaboration with Harvard University Professor Elizabeth Engle, who will be spending several weeks at LEI as a UWA Raine Visiting Professor in November-December 2011.

Three new Masters students, Dr. Hannah Forward, Dr. Charlotte McKnight and Dr. Alex Tan, have started at LEI. As well as undertaking the research for their Masters thesis, all three are employed by the LEI/COVS to assist Dr. Adam Gajdatsy in teaching general ophthalmology to fifth-year Medical students at UWA.

**LEI Research collaborates with international study**

- **Strabismus** is a misalignment of the eyes that causes crossed, or turned, eyes or squint. It is the most common eye disorder in children, affecting 1 in 50 Australians.
- The Western Australian Strabismus Inheritance Study (WASIS) has commenced at LEI and will involve participants from up to 100 families. Data from the study will be linked with information collected from related ongoing strabismus studies conducted in Tasmania and Melbourne.
- Initiated in 2009 by Professor David Mackey, WASIS will help identify the genes responsible for different forms of strabismus to give a better understanding of how it occurs, identify those at higher risk, and potentially develop new treatments.
- To coordinate the study, LEI recruited two Orthoptists who recently graduated from the University of Sydney. Sandra Oates is interested in the development of eye health care services to remote and rural areas and Seyhan Yazar’s interest lies in the field of genetics of eye disease.

Professor Mackey has been collecting pedigrees of eye diseases in Tasmania over the last 20 years with several very large cohorts. He continues to conduct strabismus field work with his research team in Tasmania as part of a visiting eye clinic program.

LEI is working collaboratively with Princess Margaret Hospital, Sir Charles Gairdner Hospital, Royal Victorian Eye and Ear Hospital and Professor Elizabeth Engle’s research team at the Children’s Hospital Boston – the paediatric teaching hospital of Harvard Medical School.

Although the condition seems to cluster in families, the known causes are not fully understood. Early diagnosis and treatment is vital to prevent permanent visual impairment in affected children. Individuals affected with strabismus and their relatives with eye movement disorders may be eligible to enrol in the study. If you wish to participate, please contact our research team on 9381 0779.

WASIS was funded in 2010 by the Channel 7 Telethon Trust.
The Lions Eye Institute has a long history of cutting edge research. In the last year much progress has been made towards establishing new research programs, as well as supporting on-going programs. Much of this is made possible thanks to the generosity of the Institute’s donors and benefactors. The tremendous support the Institute receives is exemplified by the generous donation recently made by the McCusker Charitable Foundation. The McCusker Foundation has had a long relationship with the Lions Eye Institute and has been a strong supporter of many of their research endeavours.

As part of their continuing relationship with LEI, Malcolm and Tonya McCusker, on behalf of the other Trustees of the Foundation, Ms Carolyn McCusker and Professor James Edelman, met with the Institute Director - Professor David Mackey, the Director of Research - Professor Mariapia Degli-Esposti, Founding Director - Professor Ian Constable and Dr Matthew Wikstrom, one of LEI’s talented research fellows, to award the Institute their donation.

Part of the McCusker Foundation contribution will support the establishment of a new research program in immunology. The program brings together an impressive collaborative team. Dr Wikstrom will be driving this exciting research, and together with Professor Degli-Esposti, they will work with one of the world’s leading ocular immunologists, Professor John Forrester, Chair in Ophthalmology at the University of Aberdeen. One of the main focuses of the new research is to study the cause of inflammatory diseases of the eye, including uveitis, and find new ways to treat these diseases. Uveitis is an inflammatory disease that damages the retina and accounts for 10% of adult blindness in the western world.

Mr and Mrs McCusker commented that “supporting internationally competitive cutting-edge research and the career of young talented scientists is very exciting”.

The McCusker Charitable Foundation was established with the intention to improve health and education, particularly in Western Australia. Their donation will further strengthen the growth of the LEI’s research by providing essential resources. This program of development will ensure that the Institute’s track record of excellence is maintained so that it can continue to make a difference to thousands of people in Western Australia and across our region.
Just 5 months after the new volunteer program commenced, Volunteer Coordinator Lyne Thomas has been recognised as Volunteer of the Year by the Subiaco Business Association at its inaugural SUBIZ Awards Presentation dinner.

Lyne worked together with the Lions Save-Sight Foundation and LEI clinic staff to establish the service which runs each weekday and has become invaluable to both LEI staff and patients.

The program came about as a result of the recognised need for assistance with parking, directions, taxis, collecting prescriptions and general support for patients and visitors to the Institute.

Lyne has had a long association with LEI, starting over 20 years ago when she was first a patient, and continuing as a result of her professional interest in emerging technologies.

When looking for volunteer opportunities to occupy her free time, she approached the Institute in the hope of contributing her skills and knowledge, and was considered the perfect person to take charge of the volunteer program.

“The fact that LEI combines excellent patient care with high-level research and involvement in community programs really appealed to me,” she said.

The program is now well-established and the duties have expanded to include cataloguing library stock in preparation for the move to the new Linton Library.

The original group of volunteer inductees are all still in the program and feedback has been positive.

“They really feel part of LEI. They feel appreciated and valued by both staff and patients, and tell me they love it here,” Lyne said.

Volunteer Janet Walters is very happy to be involved. “It has been a joy to be a volunteer for LEI,” she said. “The staff and co-volunteers are all fantastic – all staff and volunteers are people I would never have met had I not volunteered, and the feedback from patients is so rewarding."

With the expansion of tasks this year, more helpers would be welcome. If you would like to become involved in this rewarding program, please contact Lyne Thomas on 0417 992 720 or our reception on 9381 0777.

An overcrowded waiting room is a thing of the past, with the newly renovated mezzanine level giving the very busy patient clinic much-needed extra space. Every year over 40,000 patients are treated at LEI for a diverse range of eye and vision problems.

Designed with the patient experience in mind, the refurbishment has reduced congestion and provided an enhanced service for patients. There are improved facilities for clinicians and a more relaxed and pleasant atmosphere for both patients and staff.

The program coordinator

Volunteer Concierge Program Coordinator Wins Award

New look for Clinic

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We are very pleased to welcome our newest ophthalmologist, Associate Professor Fred Chen. Associate Professor Chen studied medicine at the University of Western Australia and trained in ophthalmology in WA before moving to London. There he spent almost five years as a research and clinical Fellow in vitreoretinal surgery at the UCL Institute of Ophthalmology and Moorfields Eye Hospital.

He completed a PhD at the University College of London and studied surgical techniques of retinal pigment epithelium transplantation for treatment of dry and wet macular degenerations under Dr Lyndon Da Cruz, who also worked at LEI 15 years ago.

Associate Professor Chen has always wanted to return to Perth because of the opportunities LEI offers in translational research—bringing knowledge gained in the laboratory to clinical treatments that can prevent or cure blindness.

His field of interest is in clinical treatments for degenerative retinal diseases which are still one of the main causes of blindness in Australia. His laboratory research will focus on developing techniques to grow healthy retinal cells from patients in order to restore sight by replacing the layer of damaged retina. His clinical research will investigate a new clinical test that can be used to monitor disease progression and response to novel treatments in patients with various types of retinal degenerations.

Associate Professor Chen will be seeing patients at the LEI clinic, as well as performing retinal operations privately, and will be a locum consultant vitreoretinal surgeon at Royal Perth Hospital.

Associate Professor Chen is a valuable addition to the Institute and we are delighted that he has joined us.

Improving eye health in remote and isolated WA communities is the aim of the newly formed Indigenous and Remote Eye Health Unit.

The unit was formed in response to the recognised need for a strategy to address the disparity in eye health and service provision for indigenous people and those living in remote areas in WA.

Coordinated by Dr Angus Turner, the unit includes an orthoptist and several medical students and support staff. Regular outreach trips provide hands-on teaching opportunities and a unique exposure to patients living in small communities who would otherwise have little or no means of seeking medical treatment.

Blindness and impaired vision continue to be a serious problem for the Aboriginal population, especially in remote areas where access to diagnosis and treatment can be limited. Cataract, diabetic retinopathy and trachoma are commonly seen problems that occur more frequently in Aboriginal populations.

Communities are benefiting from the program through more cost-effective and efficient service delivery and improved coordination between optometry and ophthalmological services.

Funding is needed to ensure the future expansion of the unit and to establish a more comprehensive research program over the next few years.

LEI is dedicated to improving continuity of care in these regions by providing improved outreach services and increasing patient awareness and education. The program is currently jointly supported by LEI, UWA and the Eye Foundation (the fundraising arm of RANZCO and ORIA).
LEI employs highly capable and experienced staff to ensure the Institute retains its reputation as a first-class research and patient care facility. Last year there were some standout performances deserving of recognition.

Caroline Adams – Clinical Trials Manager
Caroline has been working at LEI for 4 years, the latter 3 in the Clinical Trials Group and recently became Clinical Trials Manager. 2010 was a very busy year for Clinical Trials. Numerous new trials plus staff changes meant an increased workload for the team and a challenge for Caroline in her new role.

“It is very challenging and rewarding work”, she said. “Clinical trials involve many different aspects and provide plenty of variety within the job.”

Many trials conducted within LEI are multi-centered, involving numerous patient sample groups world-wide. Involvement in global trials gives LEI the opportunity to make a significant contribution to trial outcomes and gain international recognition for its work.

Director of Nursing Elizabeth Zambotti was quick to identify Caroline as an outstanding member of the clinical services team in 2010.

“She is a quiet achiever, very reliable, always inclusive and consultative and a very good communicator.”

Julie Robson – Clinic Practice Manager
Julie has worked at LEI for a little over 15 years. Initially helping to run the clinic, she worked her way up from supervisor to become Clinic Practice Manager in 2005. With her nursing background, Julie is well qualified to manage the nursing and clerical staff in the clinic.

Elizabeth Zambotti says she relies heavily on Julie to assist her with overseeing projects and to help keep the clinic running smoothly in her absence.

“Julie is very dedicated to her job. She is hard working, fair and sincere in her dealings with people and always remains positive. She is first to offer help where it’s needed and is a true asset to this organisation.”

Julie cannot see herself working anywhere else.

“The best thing about LEI is that in the time I have been here, I have never doubted the work that is being done or the clinical expertise of the people I work with. This position has allowed me to work with people whose achievements and level of professionalism is above and beyond my expectations”, she said.
Last August several of the Institute’s clinicians, led by clinic photographer Chris Barry, presented an Eye Health training program at LEI for diploma students from Marr Mooditj Health College. The Waterford college is committed to the education and training of Aboriginal and Torres Strait Islander people working in the health and community services field, offering accredited certificate and diploma courses. Following liaison between Marr Mooditj and LEI, a 3 day program was developed. The course covered a wide range of topics including diagnosis and treatment of common eye disorders, visual acuity testing, clinical procedures, genetics, and eye problems prevalent amongst indigenous communities.

Participants toured the LEI clinic, observed surgical procedures, received hands-on training using ophthalmic equipment and attended lectures by many highly respected and experienced clinicians. In addition to Institute staff, internationally renowned ophthalmologist Dr Peter Graham and Associate Professor David Glance from the University of WA gave generously of their time and considerable knowledge.

LEI clinicians Professor David Mackey, Professor Bill Morgan, Professor Ian McAllister, Professor Ian Constable, Dr Jean-Louis deSouza, Dr Jean-Pierre Guillon and Dr Angus Turner have an interest in indigenous eye health. They were able to share their insights and experiences, along with Dr Graham who has spent much of his life working in remote communities both in Australia and overseas.

As many of the students return to their communities on completion of their studies, the program was aimed at providing practical hands-on skills designed to complement the Marr Mooditj program. The subsequent positive feedback from participants was greatly appreciated by LEI, with plans to develop the program into an annual event now underway.

Sharing the knowledge

LEI Research Fellow Dr Jerome Coudert has been awarded a National Health and Medical Research Council (NHMRC) grant of $563,390 over 3 years. The focus of his research is identifying mechanisms by which viruses change the signals received by natural killer cells, thereby altering the immune system response and increasing the viruses’ ability to spread.

The 2010 grant round was highly competitive, with a record number of applications received by NHMRC. The study offers a unique opportunity to dissect the mechanisms that the cytomegalovirus (CMV) has developed to escape detection by the immune system. CMV affects approximately 60% of the Australian population. It can cause severe infections such as pneumonia, encephalitis and retinitis in people with immune deficiencies. It is currently not treatment to eliminate CMV.

Dr Coudert will work in close collaboration with LEI’s Director of Research Professor Mariapia Degli-Esposti, Associate Professor Anthony Scalzo and Mrs Catherine Forbes. Monash University and the University of Melbourne researchers will also be involved in several aspects of the study.

A successful outcome will not only provide further understanding of CMV infection that can cause eye diseases but may translate into antiviral therapy for other conditions such as HIV, Hepatitis C and Herpes viruses. Grant funding is vital to LEI’s continued investment in improved technology and cutting edge research into blinding eye diseases. We congratulate all our successful 2010 grant recipients.
This is the second in the series explaining some of the more common tests that are performed at LEI.

**Intra-ocular pressure**

Knowing the pressure in the eye is important for the prevention and management of the eye disease glaucoma.

The eye is a little like a tyre in that it needs to be inflated to hold its shape and stay in focus. The pressure in the eye (intraocular pressure, IOP) reflects a balance of the production and outflow of aqueous fluid in the eye. Eye drops, oral medications, laser and surgery can all affect this balance and lead to an increase or decrease in eye pressure.

Similar to people's height or other traits, there is a normal variation in eye pressure across the population. The unit of pressure measurement is mm of mercury or mmHg, the same scale that blood pressure is measured in (although it is a lower pressure in the eye). The average eye pressure in the population is 16mmHg and 95% of people have a pressure between 12 mmHg and 21 mmHg. The higher the pressure, the more likely a person is to develop damage to the optic nerve from glaucoma; there is no specific cut off level.

Various tests are used to measure eye pressure and they work by indenting or flattening the cornea and measuring the resistance to this. Many people will have experienced a puff test, which is probably the simplest but not the most accurate. The Goldmann applanation tonometry, invented by Professor Goldmann, is the “gold standard” test. It involves having anaesthetic drops and some yellow fluorescein instilled in the eye and then having the front of the eye touched with a contact lens while looking at the reflections with a blue light. The pressure is measured with the dial on the instrument. Many people will remember times when they have yellow around their eyes leaving the clinic, but it washes off easily with water. Newer techniques such as the tonopen and the Icare tonometers don’t require fluorescein and are a little easier to perform.

If the pressure is too high or there are signs of damage to the optic nerve, we may do further tests and treat a person to lower the pressure. Other factors, such as the thickness of the cornea, can influence the pressure reading. An example would be the difference between pressing on a thin-walled bike tyre versus a thick-walled truck tyre to assess ‘firmness’. Moreover, different people have different risk profiles (e.g. family history). Thus a pressure that is too high for one person may be acceptable for another.

Better understanding of pressure measurement, monitoring, causes and treatment of raised IOP and glaucoma are major areas of research at LEI.
Six 2010 Lions Youth of the Year State winners and the National Leo of the Year recently visited LEI as part of their national tour. Originating in 1964, the Lions Youth of the Year Quest is a national project that promotes leadership, management and community service amongst young people and encourages an active and constructive role in the community.

Accompanied by several local Lions Club members, the group enjoyed a tour of the Institute led by Managing Director Professor David Mackey. Professor Mackey spoke about the vital support of Lions Clubs in the initial and ongoing development of LEI. The group were given an insight into eye health and an overview of the Institute’s research and clinical programs. They were able to observe the Raine Eye Health Study, a genetic population health study led by Professor Mackey, and each winner was given an OCT, a 3-dimensional image of the back of their eye.

National, and Tasmanian State, winner Will Teare will travel overseas as part of his award.

Lions Youth of the Year is a prestigious event for young people, with many high profile Australians amongst the ranks of former entrants, including ex-Prime Minister Kevin Rudd.

LEI was the beneficiary of a fundraising night held last year by the Jazz Club of WA. The event was a celebration of the 3rd anniversary of the club and proceeds from entry fees and a raffle held on the night were donated.

Over 20 musicians from Perth’s traditional jazz bands volunteered their time and talent to stage an enjoyable and successful night of music to raise funds for the Institute.

Club President Ron Knight was proud to present us with a cheque for $1500. Having been a patient of Associate Professor Steven Wiffen for many years, he has great admiration for the work done at LEI and was happy to be able to make a contribution.

We greatly appreciate the generosity of the Jazz Club of WA and all who were involved in making the night such a success.
Donation gift cards are a great way to show someone you care, and will also help LEI continue its vital research into the prevention, detection and treatment of the major causes of blindness.

You can donate any amount, and choose to have the amount noted in the card. It is a thoughtful and generous gesture that is sure to be appreciated by the recipient.

Your donation in lieu will have a long lasting effect - it really is a gift that keeps on giving. If you would like to give a loved one a meaningful gift, please contact the Development office on 9381 0708.

Donating to LEI has just become easier. You can now give quickly and simply with your credit card through our website and will receive an official acknowledgement of your donation.

Online donations significantly reduce our administration costs and provide a convenient way for you to support the Institute. Visit us at www.lei.org.au to donate and for more information about LEI’s patient services and research activities.

Prefer to receive your receipt by email? Let us know by contacting the Development office on 9381 0708 to provide your email address and we will send future receipts electronically, further reducing our expenses and our impact on the environment.
Over 30 guests attended the annual Visionary luncheon at LEI on December 13th. The Christmas-themed function gave LEI staff the opportunity to extend their warm appreciation to our dedicated long-term supporters, and to inform them of current and upcoming activities.

Guest speaker Professor John Forrester discussed his present collaboration with LEI’s Immunology research group and the close association he has formed with the Institute in recent years. Professor Forrester is a highly regarded ophthalmologist who is widely published and has received many distinguished awards. He has collaborated on numerous international research projects and is currently Cockburn Chair of Ophthalmology at the University of Aberdeen, Scotland.

LEI’s Managing Director Professor David Mackey and Chairman David Eiszele attended the lunch and extended their personal thanks to guests, many of whom have been attending for several years. The function is a wonderful opportunity for LEI’s senior staff to meet with those whose ongoing commitment helps fund the Institute’s vital research.

The Lions Eye Institute (LEI) and the Lions Save-Sight Foundation (LSSF) recently lost a dear friend and colleague with the passing of Past District Governor Lorraine Strickland.

Lorraine died after a short battle with leukaemia. She was 72.

From joining the LSSF Board of Directors in 2000, Lorraine was increasingly committed to the foundation, becoming Honorary Secretary in 2002 and holding the role of Chairman from 2005 until her death.

LEI greatly benefited from the support of LSSF during Lorraine’s leadership as a result of her dedication to LEI’s research projects and clinical care services. Her infectious enthusiasm helped revitalise LSSF and raise its profile, both with the public and Lions Club members.

Lorraine had a long involvement with Lions of WA, becoming a Ladies Auxiliary member of her husband’s Club in 1977, and a Club member in 1982. As a member of the Cannong City Lions Club, she filled the roles of both President and Secretary numerous times over the years.

Lorraine was very active in club activities and held many positions including District Governor from 2001-2002 and District Youth of the Year Chairman.

Her professional background was in education. She lectured at Murdoch University for many years and continued to tutor and mentor external education students until very recently.

We extend our deepest sympathy to her husband Peter and family. She will be sadly missed and remembered with great affection.

Our dear friend lost.

Vale Lorraine Strickland