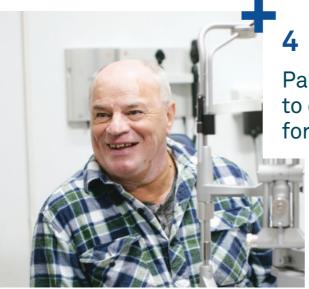


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Paving the way in disease treatment

### CEO welcome

On behalf of our dedicated staff and Board, I am proud to present The Royal Victorian Eye and Ear Hospital 2018–19 Annual Review.

This past year we have continued to develop and enhance the clinical service we provide to deliver the safest, best quality care to our patients and their families.

At the Eye and Ear we want to strengthen our commitment to providing the best possible care and we continuously look to improve the care we provide to patients and their families. This includes working in partnership with other service providers, supporting research into new treatments and growing clinical services.

#### Supporting our patients

This year has provided wonderful examples of staff and patients, consumers and partners working together. Whether it is making sure our information is being made more accessible for our patients, or even building plans such as our Reconciliation Action Plan which aims to help close the gap for Aboriginal and Torres Strait Islander patients, or developing our Strategic Plan which will set out our goals and vision that will guide us as a public health service.

#### **New services**

We aim to provide the best possible patient care and we have launched new initiatives to do this. Some examples include a new clinic led by orthoptists, where patients are seen and discharged by their orthoptist, saving time. A new and innovative genetic eye clinic has been initiated to help patients with genetic eye disease, and offers not only diagnosis and treatment, but counselling as well.



#### World-leading research

In the past year we undertook 177 research projects with our partners, including Centre for Eye Research Australia (CERA), the University of Melbourne, the Bionics Institute, Bionic Vision Australia, HEARing CRC and Monash University.

Other highlights for the year include world-leading research that is being conducted, including using technology to improve early detection of Alzheimer's Disease through the retina, as well as research being conducted to prevent endophthalmitis, a severe and vision loss causing disease.

Our commitment to innovation, professional and the highest standards of care is demonstrated in our accreditation by the relevant colleges, including The Royal Australian and New Zealand College of Ophthalmologists (RANZCO), The Royal Australian College of Surgeons (RACS), The Australian and New Zealand College of Anaesthetists (ANZCA) and the Australasian College of Emergency Medicine (ACEM).

In May I announced that I was stepping down from my position as CEO of the Eye and Ear. This issue of the Annual Review has allowed me to reflect on my time here and it has been a privilege to work with the dedicated Executive and staff who strive to provide world-leading eye and ear care to the Victorian public.

As you read the Annual Review, I hope you feel the appreciation and inspiration I do about the wonderful work of our staff that I have felt over the last four years at my time with the Eye and Ear.

**Mark Petty** 

Chief Executive Officer

# Our patients

As the largest public provider of eye, ear, nose and throat services in Victoria, we treat a range of patients, from children to the elderly. We are here to support and care for them in every aspect, whether it's an emergency or attending an outpatient clinic. These stories highlight our patients and their healthcare journey with the Eye and Ear.





# Partnering with others to open new services for patients

The Eye and Ear now has over 60 different specialist clinics and we are always looking to find new ways to provide services that better meet the needs of our patients. In some cases this may mean teaming up with other organisations to offer expanded or different ways of providing treatment and support. Last year we launched two new clinics in partnership with others to help the wide variety of patients we see.

Aboriginal and Torres Strait Islander people have higher incidences of eye disease and wait longer to access surgery than other Australians. Around 1 in 9 Indigenous Australians aged over 40 have vision impairment or blindness, and one of the leading causes of vision loss for Indigenous Australians is cataracts.

Kevin Palmer from Stawell knows this all too well. For Kevin, eye problems have been a recurring issue for many years.

Building on the success of the Healthy Ears clinic which treats children with ear problems, the Eye and Ear and the Victorian Aboriginal Health Service (VAHS) have partnered again to launch a clinic to treat Aboriginal and Torres Strait Islander patients of all ages with eye problems in a culturally appropriate setting.

For Kevin, after having his eyes assessed at VAHS in Fitzroy, he was able to undergo cataract surgery at the Eye and Ear and attend his post-surgery follow up also at VAHS.

"Although I was nervous about my surgery, the Eye and Ear staff reassured me and the procedure was done so quickly. Now, I can see everything. I handed in my glasses because they're no good anymore - I think I might even have X-Ray vision now!"

Now that Kevin's vision has improved, there is nothing more he looks forward to than enjoying a good game of bingo.

In another partnership, the Eye and Ear teamed up with The Royal Melbourne Hospital to open an Ocular Genetics Clinic. The clinic is a 'one stop shop' for patients who have an inherited eye condition, and are at risk of passing on an eye condition or have a genetic disease that affects their eyes.

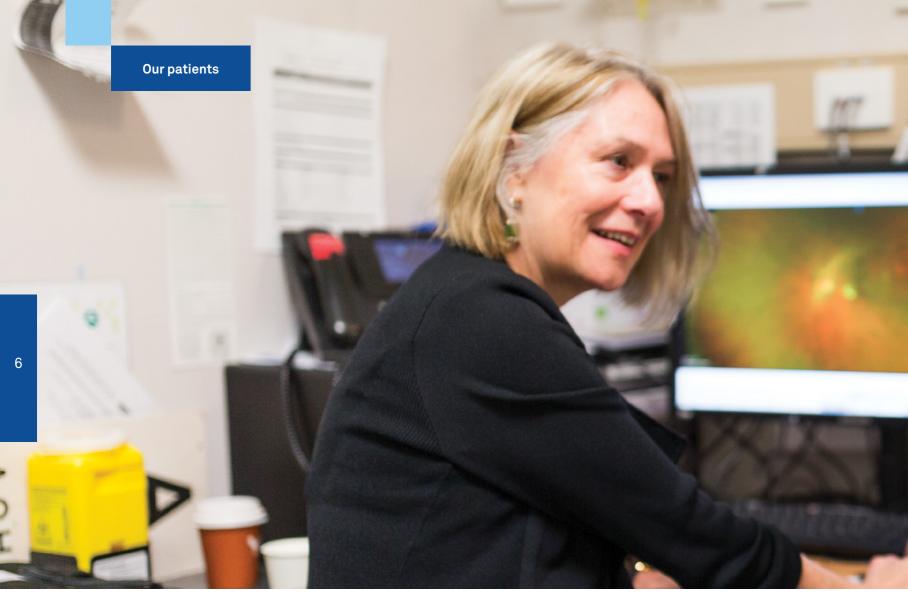
Launched by the Minister for Health, the Hon Jenny Mikakos in May, the clinic provides diagnostics, genetic testing, counselling and treatment for patients in the same place at the same time.

Lead Ophthalmologist Dr Jonathan Ruddle is excited about the progress being made at the clinic to provide care for patients with hereditary eye conditions.

"Most importantly it has already begun to empower patients and their family members to learn, achieve better diagnosis, gauge progression rates, and in the not too distant future will offer world beating treatments," Dr Ruddle said.



"Although I was nervous about my surgery, the Eye and Ear staff reassured me and the procedure was done so quickly. Now, I can see everything. I handed in my glasses because they're no good anymore - I think I might even have X-Ray vision now!"



# Streamlining the appointment process for patients

Nobody likes waiting for a scheduled appointment – especially in hospital. That's why we're working on several projects to reduce wait times while still delivering the same high level of specialist care.

Last year, we launched a post-operative clinic within our Surgical Ophthalmology Services led by orthoptists, with the aim of reducing wait times and streamlining the follow up appointment process after cataract surgery.

Orthoptists are allied health professionals who are involved in assessment, diagnosis and nonsurgical management of eye disorders. Six orthoptists underwent additional specialised training to be able to carry out follow up appointments after surgery to check postoperative healing.

Mrs Van Poulios had cataract surgery earlier this year and attended the orthoptic led clinic for her follow up appointment. She says the appointment ran smoothly, she didn't wait long and healing is going well.

"I can see better, read small letters and even see the computer."

Cataract surgery is one of our most common procedures—with around 7400 performed each year. Cataract patients have a follow up appointment the day after surgery (often by phone thanks to recent telehealth initiatives)



and a further follow up at the hospital around three weeks later.

At the new clinic, selected suitable patients are seen by up-skilled orthoptists for this second follow up appointment, rather than an ophthalmologist. If there are no clinical concerns, then the orthoptist is responsible for discharging the patient and communicating with their GP about any follow up care.

Previously patients could see several practitioners – ophthalmologist, medical photographer, orthoptist – as part of one appointment. Under the new model of care being trialled, the orthoptist manages the patient for the entire appointment.

Manager of Diagnostic Eye Services, Catherine Mancuso says patients must fit certain eligibility criteria for the clinic. "They must have no pre-existing issues and have had a straightforward surgery." The clinic orthoptists spent months shadowing ophthalmologists during post-operative cataract appointments

and had intensive training sessions with Head of our Surgical Ophthalmology Services, Dr Anton van Heerden.

Clinic orthoptist Deb Gleeson says "The clinic provides a wonderful opportunity to increase our clinical knowledge and skills, and use these to enable more cataract patients to be seen."

If evaluation shows the clinic to be successful - as initial results suggest – then there is potential for expansion, increasing the number of patients who will benefit.

The clinic received funding from the Department of Health and Human Services as part the Specialist Clinics Access Improvement Partnership program.

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"I can see better, read small letters and even see the computer."



# Empowering and informing patients in their healthcare journey

Attending hospital for an appointment, receiving a new diagnosis or suggested treatment plan can all be potentially overwhelming or confusing experiences. It's common to have many questions and to want to be as informed as possible.

Last year we launched a patient information hub on our website with factsheets, videos and audio information for patients, in English and other languages. There are over 250 resources and counting, including general hospital information as well as specific information on conditions. This information is all available to the general public.

These resources are created and reviewed by our expert health professionals, and regularly updated. Consumer representatives also review them, ensuring information is both useful and accessible for patients.

Consumer representative Ros Stuart helped to develop and review the patient information hub, providing feedback from a consumer perspective.

Ros has been a consumer representative at the hospital for a year and as a former nurse, she brings a wealth of relevant experience and knowledge.

What makes Ros valuable as a reviewer is that she also lives with a vision impairment and is a hospital patient and concierge volunteer, which enables her to better understand other patients.

"The hub is fantastic if you've never been to the hospital before, or if you're unsure how to get to your appointment. After an appointment patients may have lots of questions about their condition so the patient information hub is a useful resource," she says. "It is comprehensive without overwhelming the patient with too much technical information and the factsheets had great contrast (between colours) to help people with visual impairments."

The patients we care for range from infants to the elderly, include people living with varying degrees of hearing or vision impairments as well people from culturally and linguistically diverse backgrounds.

To cater to this varied audience, we have included information in different formats, and are always working towards improving accessibility of all resources we produce. All our videos have closed captions, PDFs have 'tagged' images and tables that assists screen readers to read the documents.

A factsheet or informational video can never replace a face-to-face appointment to diagnose and treat, and this is not the intention. It can however assist in equipping patients, families and carers with as much information as possible so they can make informed decisions about their healthcare.

You can access the patient information hub at www.eyeandear.org.au

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"It is comprehensive without overwhelming the patient with too much technical information and the factsheets had great contrast (between colours) to help people with visual impairments."



## Two patients, two journeys

Venice and Kara were diagnosed as profoundly deaf at birth. By the age of one, both had undergone cochlear implant surgery at the Eye and Ear. We recently caught up with the girls and their families to see how they are travelling.

Venice is proud of her implants, but there is one unexpected benefit that has proved very frustrating for her older sister Ruby – that of selective hearing.

"I can take my speech processors off when my sister is annoying me, but most of the time she is the best," Venice reveals.

Her mother Jen describes her ten-year-old as "strong willed", "creative" and "someone who can hold her own" – qualities which will undoubtedly help her as she grows into an adult. An artistic child, Venice will often turn to drawing in noisy places like restaurants if it is too difficult to hear and communicate. Not surprisingly, she says that she would love to be an art teacher when she grows up.

Although transformative, the early years after the implants were very busy for the family. Venice needed a lot of speech therapy and social support in the form of a sensory playgroup. However, Jen believes that the early years of intensive intervention were well worth the effort. By the time Venice reached school she had caught up to her peers and no longer needed speech therapy. In fact, she has never looked back.

"Learning to talk takes longer for deaf children. But we are very lucky. The hospital staff were always supportive, amazing and caring," Jen says.



"Most people have no idea that Venice is hearing impaired when they meet her, because her ability to talk and communicate is so amazing."

When Kara was a newborn, her mother Kerry was shocked when told her baby was both deaf and blind. Thankfully this diagnosis was shortlived and by two, surgical intervention meant that Kara could hear, talk and see.

Now fifteen, Kara's medical journey has been long and challenging. The early removal of cataracts restored her sight. However, the prognosis for her hearing was not so straight forward. Specialists warned Kerry that a cochlear implant might not work.

"Even with all the doubts, I wanted them to try. So, we started with one implant. Then, as soon as she recognised sound, we had the other one fitted. Since then she has gone from strength to strength with her hearing," Kerry says.

Since those early days, Kara has undergone 32 surgeries, which is more than most people

experience in a lifetime. However, she has nothing but praise for the staff of the Eye and Ear.

"The operations weren't hard because the staff are really nice and took care of me."

Kerry is really proud of her daughter's progress and resilience.

"Her journey from the initial diagnosis to what she can do today is just amazing. She attended a school for the deaf until she was six. Now she is at a mainstream school in a supported learning class and is doing really well," Kerry says.

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"Most people have no idea that Venice is hearing impaired when they meet her, because her ability to talk and communicate is so amazing."



Over 17,000

APPOINTMENTS USED INTERPRETERS FOR 79 DIFFERENT LANGUAGES



Over 220,000

TOTAL NO. OF PATIENTS CARED FOR



44,000

NO. OF PATIENTS SEEN IN EMERGENCY DEPARTMENT



160,000

NO. OF PATIENTS SEEN IN SPECIALIST CLINICS



% OF PATIENTS RATING THEIR EXPERIENCE AT OUR HOSPITAL AS GOOD OR VERY GOOD

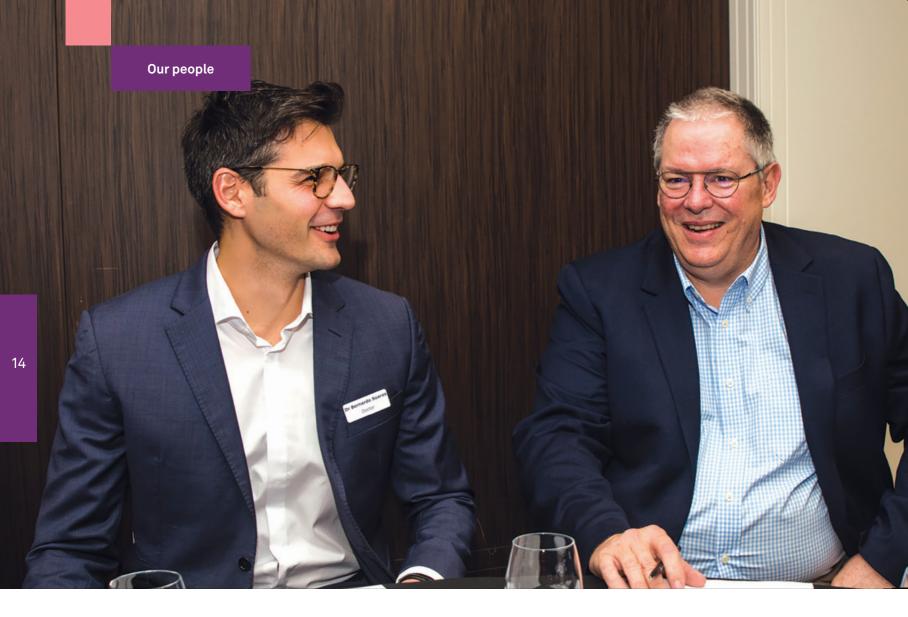
NO. OF DIFFERENT OUTPATIENT CLINICS:

94%

66

# Our people

We have over 596 medical staff members that deliver emergency and clinical services. Our staff are committed to providing the greatest standard of care to all Victorians. The hospital has over 150 ophthalmologists and otolaryngologists and over 60 anaesthetists supported by a wide range of nurses and allied health staff. These stories showcase how we provide our patients with the utmost quality of eye and ear healthcare.



# Working together to improve glaucoma care

The Glaucoma Community Collaborative Care is a project that has been set up between the hospital's glaucoma team and community optometrists to work collaboratively to improve patient care.

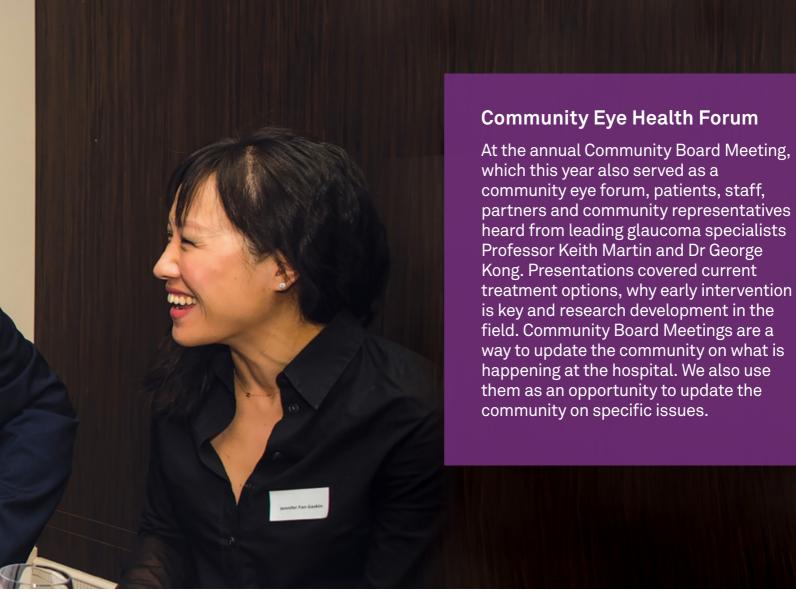
Eligible patients with stable glaucoma are assigned a participating optometrist. Clinical details are documented in the Eye and Ear patient record and regular communication between the hospital and the optometrist begins.

Robert Holloway of Holloway Vision in Wangaratta is one of the 17 optometrists specially screened and recruited from across Victoria, from locations as diverse as Wodonga, Mitcham and Frankston. With extensive training and experience in Melbourne, Edinburgh and Boston, Robert has seen a variety of treating environments and is excited to see the collaboration encouraged by the program.

"In many cases you have perfectly good skills in local optometry, but find ophthalmologist's services clogged with glaucoma patients who may only need periodic appointments," he said. "The program is helping to address that by saving critical specialist care for more urgent or more complex cases."

The program should help to save patients potentially thousands of kilometres of travel and hours of waiting time for appointments, and in clinics.





It not only increases access to care for glaucoma patients but helps to strengthen the Eye and Ear's relationships with community optometry.

This relationship is cemented by ongoing training for enrolled optometrists. Optometrists can earn Continuing Professional Development points by participating in education sessions led by Eye and Ear ophthalmologists.

Two of these ophthalmologists are Dr Jennifer Fan-Gaskin and Dr Bernardo Soares. Both help to deliver the training sessions which include specialist lectures, guest speakers and active group learning with patient cases.

Both Bernardo and Jennifer have previously been involved in other programs led by Dr Cathy Green, Head of the Glaucoma Unit at the Eye and Ear, to increase collaborative care of glaucoma patients, so this one was a natural fit.

Bernardo says the benefits can go beyond just those participating.

"It creates this bridge from the hospital to the community where we can oversee the care being given and support it, which raises the overall standard of care available," he said.

It's an exciting prospect which Dr Fan Gaskin says has long-term potential for improving glaucoma care for all Victorians.

"I can foresee that this could be a great arrangement, not only the first of its kind in Australia, but a building block to creating a model for other services to follow," she said.

"It creates this bridge from the hospital to the community where we can oversee the care being given and support it, which raises the overall standard of care available."



## Planning for the future

During the last 12 months, staff across the organisation have been involved in developing a series of key plans which outline how we care for and treat patients. These plans allow us to plan for the future, set the direction for how we will work and outline the specific goals and actions we have committed to do over the following years. This work has been led by Renee Chmielewski, Manager Planning and Patient Experience.

"Although the planning process can seem quite involved and detailed, it is very important to keep us on track for providing excellent care," she says.

The 2019-2021 Strategic Plan is the overarching key plan for the organisation and it was developed in consultation with the Eye and Ear Board, Executive, staff, consumer representatives and volunteers and our key stakeholders. It outlines the hospital's key strategic directions for the next three years. During this process we formulated a new inclusive vision for the organisation: A world leader providing exceptional care.

In February we launched our Reconciliation Action Plan (RAP) for 2019-2020. The development of our RAP demonstrates our longstanding commitment to closing the gap in eye and ENT healthcare for our Aboriginal and Torres Strait Islander patients. A RAP Working Group was established in Feb 2019 to ensure we keep on track with meeting the actions outlined in the RAP.

As well as the Aboriginal Health Liaison Officers, the RAP working group has three consumer members from the Aboriginal community as well as key staff members from different areas of the hospital.

Renee says "The stories told by, and learnings from our Aboriginal community representatives are invaluable to our success in meeting these actions."

The preparation of the Partnering with Consumers and Community Plan 2020-2023 was developed with input from patients, carers, staff, the Executive and Board Directors. This plan incorporates four key organisation wide plans: The Partnering with Consumers Plan; The Aboriginal Health Plan; The Diversity Plan; and The Disability Action Plan.

"These plans set the implementation approach to deliver the specific goals and actions we have committed to over the following years," says Renee.

The value of consumers as active partners in planning and decision making at all levels, from the bedside to the boardroom, is increasingly recognised around the world as an important factor in delivering better health services and enabling better health outcomes for patients. At the Eye and Ear, we strive to incorporate this in everything we do.



"Although the planning process can seem quite involved and detailed, it is very important to keep us on track for providing excellent care."



# Treating family violence as a health issue

More than one woman is killed per week in Australia as a result of family violence. These incidents don't occur in isolation, they are happening within communities, workplaces and homes. As a hospital we believe that everyone has the right to feel safe. That's why we have joined the Strengthening Hospitals' Response to Family Violence project.

Designed by The Royal Women's Hospital, the project has several health services implementing its framework across Victoria. The Eye and Ear is proud to be among them.

The project raises awareness of all forms of family violence through a dedicated training program for staff, and communication to

patients via posters, promotional video and social media messages.

For many people who are experiencing family violence, a visit to a health professional is the first, and sometimes only step enabling them to access support and care.

For staff, the workplace may be one of the few safe spaces they regularly access.

Training is delivered to all hospital staff to assist them to better understand signs of family violence in both patients and colleagues.

"It's about bringing a broader awareness to family violence and creating a safe space to



discuss these issues," said Maureen Plain, project lead and Manager of Social Services.

"It's an innovative project because it takes on a whole-of-hospital approach which is unique because the emphasis is on both staff and patient needs," said Maureen.

Head of Rhinology, Mr David Marty who recently took part said the training was extremely useful. "Unfortunately, the medical profession is lacking this knowledge, but the training is invaluable to help doctors identify patients who are affected or at risk of family violence and what action to take next."

The program communicates the many and varied types of family violence and the warning signs that may manifest in a patient or colleague. It also provides guidance for appropriate referrals to hospital based services.

Balancing these needs in training requires a constantly evolving program. Already, Maureen has customised the training package to deliver

more information about elder abuse and LGBTIQ relationships, to better reflect Eye and Ear patient populations.

Strengthening our capacity to identify and support people both at work or who present as patients is crucial to the Eye and Ear's contribution to a stronger prevention of and response to family violence.

"It's an innovative project because it takes on a wholeof-hospital approach which is unique because the emphasis is on both staff and patient needs."



# Supporting the next generation of nurses

Nurses play an integral part in patient care and nurturing their skills and professional development is an important aspect of ensuring they provide the best possible care.

Clinical Support Nurse, Evelyn Lee provides support to undergraduate nursing students from various Victorian universities and assesses their clinical progress during their placement at the Eye and Ear.

As part of their practical placements, nursing students are partnered with an experienced nurse in one of two wards during placements that are held typically over 3-4 weeks.

The wards provide a safe and supportive environment for the students to work and learn alongside our staff to build and improve their clinical and interpersonal skills.

Evelyn is kept busy with the six nursing students who are on site during several nursing placements that run throughout the year.

Evelyn says that it's not just about teaching the students practical skills such as how to take a patient's blood pressure or give a patient an injection, it's also about putting a human touch to their care.

"There was a husband and wife who came into the ward. The wife was waiting for the husband to have his treatment but I asked the students to think about the wife too. How can we support her? How can we keep her up to date on her husband's treatment? Or perhaps it is just something as simple as offering to make her a cup of tea. The students all have the human touch, and with time they develop this skill in their own way."

While ensuring students receive as much out of their clinical placement as possible, it is also very important to consider and support their overall health and wellbeing.

Nursing students are often juggling part-time jobs to support themselves financially. There's also the time demands placed by family life, social and extracurricular activities in addition to studying for their intensive course work and making important decisions about their future nursing career.

Evelyn encourages students to seek help if they are struggling on the placement and tries to check in with the students in regular debriefing sessions, which gives them the chance to voice any concerns or questions.

Nursing students who find the placement rewarding and are interested in continuing at the Eye and Ear can apply to secure a place in our Graduate Nurse Program.

Evelyn says that it's not just about teaching the students practical skills such as how to take a patient's blood pressure or give a patient their flu shot, it's also about putting a human touch to their care.



## 7000 hours

GIVEN BY VOLUNTEERS TO PROVIDE DIRECT ASSISTANCE TO OVER 40,000 PATIENTS AND HELPED IMPROVE PATIENT EXPERIENCE WITH 20 NEW RECRUITS STARTING IN 2018.



Over 900

EYE AND EAR EMPLOYEES IN TOTAL, WITH 129 RECRUITS THIS YEAR.



NO OF NURSES:

NO OF ALLIED HEALTH STAFF:

193

(FULL AND PART-TIME, NOT INC. CASUAL)

49

(FULL AND PART-TIME, NOT INC. CASUAL)

### Our Senior Medical Staff

Directors\*

Dr Caroline Clarke -Dr Sean Jespersen as of 17/6/2019 **Executive Director,** Medical Services, Chief Medical Officer

Dr Jason Goh departed 21/6/2019 Director, Medical Services

Mr David Marty Clinical Director of ENT Services

Dr Mark McCombe Clinical Director, Ophthalmology

Dr David Ware Director of Anaesthesia

Dr Carmel Crock Director, Emergency Department

Heads of Clinic

Assoc Prof. Penelope Allen Head. Vitreoretinal Unit

Dr Jacqueline Beltz **Director of Training** 

Professor Robert Briggs Head, Otology and Cochlear Implant

Assoc Prof. Anne Brooks Clinical Lead. Acute Ophthalmology

Services and Head, Special Eye Clinic 3

Assoc Prof. Susan Carden Head, Education Vision Assessment Clinic

Ms Anne Cass Head, Head and Neck

Assoc Prof. Mark Daniell Head, Cornea

Dr Tricia Drew Chair, Senior Medical Staff Eye Section

Dr Catherine Green, AO Head, Glaucoma

Dr Alex Harper Head, Medical Retina

Assoc Prof. Lyndell Lim Head, Ocular **Immunology** 

Dr John Manolopoulos Clinical Lead, Surgical Ophthalmology Service

Mr David Marty Head, Rhinology

Dr John McKenzie Head, Ocular Oncology

Assoc Prof. Alan McNab Head, Orbital Plastic and Lacrimal Clinic

Mr Halil Ozdemir Chair, Senior Medical Staff ENT Section

Ms Elizabeth Rose Head, Paediatric ENT

Dr Marc Sarossy Head, Ocular Diagnostics

Dr Neil Shuey Head, Neuro Ophthalmology

Dr David Szmulewicz Head, Balance Disorders and Ataxia Service

Dr Christine Tangas Clinical Lead, Surgical Ophthalmology Service

Dr Robyn Troutbeck Clinical Lead, Acute Ophthalmology Service

Dr Anton van Heerden Head Surgical Ophthalmology Service

Dr Faye Walker Chair, Senior Medical Staff

Assoc Prof. Diane Webster Clinical Lead, Surgical Ophthalmology Services & acting Director of Training August 2019 end of Jan 2020

Dr Kristen Wells Clinical Lead, Acute Ophthalmology Services

**Ophthalmologists** 

Dr Robin Abell Dr Suheb Ahmed Dr Alex Amini Dr Alicia Wai Pheng Au Dr Renuka Bathija Dr Roland Bunting Dr Benjamin Burt Dr William Campbell

Dr Dermot Cassidy Dr Elsie Char Dr Helen Chan Dr Ye Chen Dr Timothy Cheong Dr Daniel Chiu Dr Au Chun Ch'ng Dr Elaine Wei-Tinn Dr Li Ping Chow Dr J Ben Clark Dr Georgia Cleary Dr Amy Cohn Dr Benjamin Connell Assoc Prof. Michael Dr Joan Cosgrove Dr Katarina Creese Dr Rodger Davies Dr Rosie Dawkins Dr Fio De Vincentis Dr Lana Del Porto Dr Joanne Dondey Assoc Prof. Rohan

Dr Thomas Edwards Essex Dr David Fabinvi Dr Xavier Fagan Dr Jennifer Fan Gaskin Dr Lisa Farber Dr Kevin Foo Dr David Francis Dr Justin Friebel Dr Brent Gaskin

Dr Trevor Gin Dr Padmini Gnanaharan Dr Nishant Gupta Professor Robyn Guymer, AM Dr Thomas Hardy Dr Oded Hauptman Dr Rebecca Haward Dr Alex Hewitt Dr Michael Jamieson Dr Jonathan Kam

Dr Nathan Kerr Dr Jwu Jin Khong Dr George Kong Dr Gary Leber Dr Shueh Wen Lim Dr Trov Lim Joon Dr Ming-Lee Lin Dr Cecilia Ling Dr Lance Liu Dr Lei Liu Dr Ross MacIntyre Dr Nicolaos Mantzioros

Dr Wendy Marshman

Dr Bryan Matthews

Dr Daniel McKay

Professor Keith Martin

Dr Jonathan Moodie Dr Ching Hui Ng Dr Thanh Nguyen Dr Szczepan Nowakowski Dr Dai Ni Ong O'Leary Dr Terrence Ong Dr Nima Pakrou Dr Pathmanathan Pathmarai Dr Zelda Pick Dr Dustin Pomerleau Dr Alexander Poor Assoc Prof. Salmaan al-Qureshi Dr Edward Roufail Dr Jonathan Ruddle

Dr Joseph San Dr Ju Pin Ang Laureand Dr Sukhpal Singh Sandhu Dr Jacob Boon Dr Khami Satchithananthan Dr Hakki Semirli Dr Linda Cass Dr Andrew Shaw Dr Justin Sherwin Dr Shivanand Sheth Dr Simon Skalicky Dr Suzv Cook

Dr Richard Stawell Dr Helene Steiner Dr Mark Steiner Dr Charles Su Dr Laurence Sullivan Dr Jennifer Tan Dr Mei Hong Tan Dr Tu Anh Tran Professor Rasik Vajpayee Dr Faye Walker Dr Mark Walland

Dr Mark Whiting Assoc Prof. Sanieewa Wickremasinghe Dr Elaine Wong Dr Heathcote Wright Dr Jonathan Yeoh Dr Aaron Yeung Professor Ehud Zamir Dr Wenwen Zhang

Dr Harry Wenas

Otolaryngologists Ms Vasuki Anpalahan Dr Simone Boardman Mr Simon Braham Mr Christopher Brown Ms June Choo Mr Markus Dahm Mr Michael Dobson

Mr Simon Ellul Assoc Prof. Jean-Marc Gerard

Mr Mark Guirguis Dr Claire Iseli Mr David James

Mr Richard Kennedy Mr Randal Leung Dr Halina Mann Mr Philip Michael Professor Stephen Dr Truong-an Pham Mr. Timothy Price Dr Luke Reid Mr Theo Sdralis Mr Michael Tykocinski Mr Robert Webb Mr Benjamin Wei Mr. Yi Chen Zhao **Anaesthetists** 

Dr Matthew Acheson Dr Peter Ashton Dr Glenn Bakvew Dr Michael Boykett Dr Andrew Braun Dr Jun Keat Chan Dr Stephen Chester Dr Melinda Chouman Dr Elizabeth Coates Dr Iresha Dissanayake Dr Sarah Donovan Dr Gavin Doolan Dr Duncan Forbes Dr Natalie Gattuso

Dr Grace Gunasegaram Dr Melissa Haque Dr Gaylene Heard Dr Sean Hearn Dr William Hurley Dr Zoe Keon-Cohen Dr Jennifer King Dr Sarah Kondogiannis Dr Daniel Lane Dr Joshua Lau

Dr Alexander

Gershenzon

Dr Ei Leen Lee Dr Ana Licina Dr Lisa Lin Dr John Lioufas Dr Vaishali Londhe Dr Sarah Madden Dr Kameel Marcus Dr Craig Morgan Dr Al Motavalli Dr Bishoy Moussa Dr Sailesh Murty Dr Lisa Nasis Dr Michelle Natividad Dr Igor Oleinikov

Dr Annie Poon

Dr Dayalan Ramasamy

Dr Peter Read Dr John Riseborough Dr Mhousci Scanlan Dr Gloria Seah Dr Peter Seal Dr Sharan Sidhu Dr Peter Snider Dr Mark Suss Dr David Tan Dr Tiffany Tam Dr Dennis Teh Dr Li Ann Teng Dr Michael Tsiripillis Dr Andrew Tymms Dr Gordana Ukalovic Dr Andrew Walpole Dr Crispin Wan Dr Derrick Wong Dr Andrew Wyss

**Physicians** Dr Julian Bosco Dr Anthony Fok Dr Timothy Godfrey Dr Gayatri Jain Dr Caroline Jung Dr Michelle Papandony Dr Laura Ross Dr Lauren Sanders Dr Michael Tan Dr Anneke van der Walt Dr Christine Wools

**Emergency Physician** Dr Stephen Parnis **GP Liaison** Dr Lina Nido

**Emeritus Consultants** Dist. Professor Graeme Clark, AC

Dr Julian Heinze, AC (passed away Dec Dr Kevin John Kane Assoc. Prof Justin

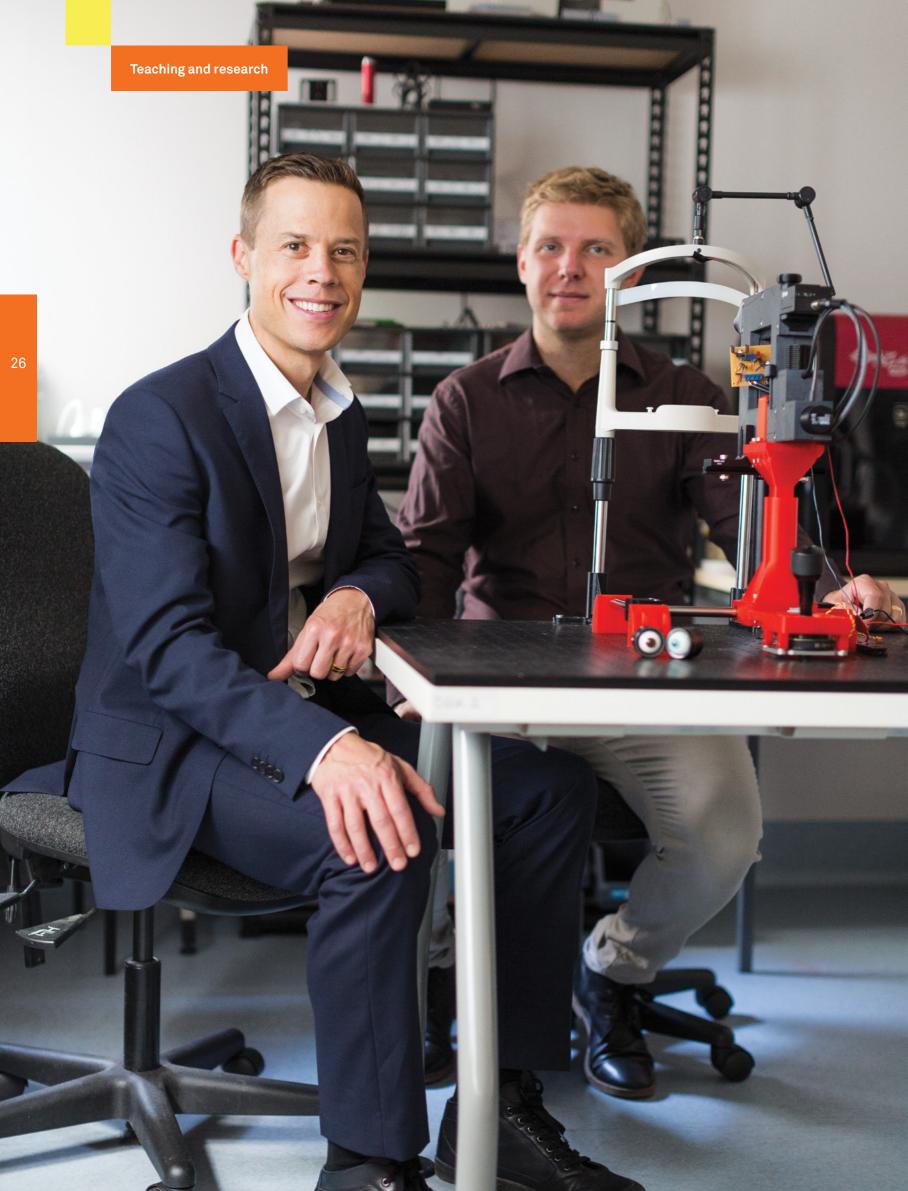
O'Day, AM Dr Brian Pyman Professor Hugh Taylor, AC Dr John Thomson

\*As of 30 August 2019



# Teaching and research

Teaching and research play a big part of our clinical success. Our research projects range from clinical trials, testing medicines and devices for the first time in humans, to population and health services research. We have a long and proud history as a teaching hospital; with generations of renowned ophthalmology, otolaryngology and allied health professionals undergoing training at the Eye and Ear. These stories highlight current projects that focus on improving health outcomes in patients.



# Revolutionary research detecting disease through the eye

When you hear the words 'NASA technology', chances are you think aerospace engineers before you think medical research.

But world-leading research currently being undertaken at the hospital is looking at how hyperspectral imaging, based on NASA satellite technology, can be used to improve early detection of Alzheimer's Disease.

This research is led by ophthalmologist Peter van Wijngaarden, Deputy Director of the Centre for Eye Research Australia (CERA) and Associate Professor of the University of Melbourne. He works closely with Dr Xavier Hadoux, who has an engineering and computer science background.

Alzheimer's Disease is the most common form of dementia, affecting up to 70% of all people with dementia. In 2019, there are an estimated 447,115 Australians living with dementia. Without a medical breakthrough, this number is expected to increase to more than one million by 2058.

There is no cure, nor any early screening tests beyond costly clinical studies. This means research into causes, detection and treatment is crucial.

This research looks at using hyperspectral imaging to measure the build up of amyloid beta in the retina of the eye.

Assoc. Prof. van Wijngaarden says "Eyes are a convenient window into the brain and build-up of this protein in both the retina and the brain is a key feature of Alzheimer's Disease".

The current gold standard for measuring brain amyloid beta to confirm an Alzheimer's diagnosis is a PET scan – which are costly and difficult to access.

Preliminary research has successfully compared the eye imaging method against this gold standard. If further studies confirm findings, the test could potentially be rolled out in GPs' offices or community optometry practices as a low-cost, non-invasive test.

Hyperspectral imaging is a novel imaging approach that uses a series of different coloured flashes. By studying the interaction of the light with the retina, using sophisticated image processing methods, the team has been able to detect a signal for amyloid beta.

This technology and research has the potential to revolutionise the detection and management of Alzheimer's Disease.

As amyloid beta accumulates over many years before the onset of dementia, the test might be able to identify people at risk, streamlining clinical trials of new drug treatments.

Initially testing would be used for diagnostic confirmation. Ultimately it might be used to monitor disease progression and perhaps even an individual's response to treatment.

Assoc. Prof. van Wijngaarden says "Alzheimer's is one of the few causes of death in Australia that is rising rapidly. There's no cure but improvements in diet, exercise and sleep may be helpful for those at risk".

This research is made possible thanks to the generous support of many philanthropic donors, including the Yulgilbar Foundation, the Pratt Foundation, H & L Hecht Trust, the Eldon and Anne Foote Trust and the Alzhiemer's Diagnostic Accelerator program which is funded by philanthropists Bill Gates, Jeff and McKenzie Bezos, the Lauder and the Dolby families.



## Helping patients, near and far

Although the Eye and Ear is based in Melbourne, the research and teaching work we are involved in spreads far beyond the State, and even Australia.

Recently a team including ENT surgeons Professor Stephen O'Leary and Assoc. Prof. Jean-Marc Gerard, along with Tongan ENT surgeon Dr Sepi Lopati spent three weeks in Tonga collecting data on ear disease and hearing loss in children.

It was the first survey of its kind in Tonga and the team collected data from about 600 children.

The most common issues they saw were wax build up in childrens' ears and associated hearing problems, as well as middle ear disease. They also identified some cases that needed urgent medical attention and put together treatment plans.

Dr Lopati is currently in Australia to study a Masters of Surgery - Research, Professor O'Leary is her supervisor. She is one of only two ENT surgeons in Tonga, a Pacific island nation of 108,000 people.

Her research looks at the prevalence of ear disease and associated hearing loss among urban and rural primary school children in Tonga - currently focussing on Tongatapu, the main island.

Dr Lopati says "In Tonga we see a lot of chronic ear infections, in children mostly, but some complications both in children and adults like loss of hearing, mastoid abscess, meningitis, nerve paralysis and even death.

These are preventable complications which can be targeted with public health measures like awareness and screening and through early intervention and proper management." The next step is analysing the data to give a better picture of the burden of the disease, and to see if there is a difference in the prevalence of ear disease between urban and rural children.

Assoc. Prof. Gerard says "The data and knowledge that we gain will be put to use in helping develop better ENT services and surgical skills in Tonga."

Professor O'Leary says "Visiting Tonga was a transformative experience. Sometimes you just help by treating people and that's great. But to know you'll actually add value to the health system in an ongoing way is brilliant.

While here in Australia I might technically be Sepi's supervisor, in Tonga, in her country I am definitely not the supervisor - it was a humbling experience."

Dr Lopati says she hopes to propose new strategies on improving the hearing and ear health of school age children.

"I'm hoping there will be more ear screening in the future, extending to different age groups and locations like the outer islands. Currently, there are no audiology services in Tonga and I'm hoping this work is a stepping stone to initiate this very important service."

"Sometimes you just help by treating people and that's great. But to know you'll actually add value to the health system in an ongoing way is brilliant."



## Paving the way in disease treatment

Endophthalmitis is an infection that can occur after having eye surgery or from having eye injections. While the condition is rare, it is a serious condition which can cause the eye to become inflamed and can in some cases cause vision loss, and in severe cases, loss of the eye itself. World-leading research is being conducted at the Eye and Ear in prevention and management of this serious disease.

As a tertiary hospital, with a state-wide catchment area, we treat cases of endophthalmitis following procedures performed both inside and outside the Eye and Ear.

Ophthalmologist Dr Rosie Dawkins is passionate about finding better solutions to treat endophthalmitis and has received an Early Career Research Grant from the Eye and Ear to support her work on this.

This is the first time that these grants have been awarded and the purpose of the grant is to support clinical researchers who are transitioning from training positions to a more senior position. These grants are open to clinicians working at the Eye and Ear and Dr Dawkins is one of three recipients of the Eye and Ear Early Career Research Fellowships. The Grants will support individuals who are taking up clinical positions at the Eye and Ear who have a longer term career plan to undertake clinical or translational research.

"There is a great opportunity for more research to be done on this condition," she says.

"Why is it that some patients get endophthalmitis and some don't? Some cases can be explained by complications during surgery, or external factors such as immune suppression and diabetes, but many appear completely random." Under the leadership of Associate Professor Penny Allen, the Eye and Ear and the Centre for Eye Research Australia (CERA) are using data from the Victorian Endophthalmitis Registry, to identify many factors involved in the development of endophthalmitis, and its outcomes. Now they are leading the way in translational research with a collaboration with the Florey Institute at the University of Melbourne, comparing the function of immune cells in patients who developed endopthalmitis after surgery with those who did not.

The grant will allow Dr Dawkins, alongside Associate Professor Allen, to run these first of their kind clinical studies and start to answer these important questions.

This work could potentially tell us which patients are at risk of endophthalmitis, and ultimately may lead to developing other brand new, antibiotic independent treatments.

"This is an important clinical problem, with a huge impact on affected patients, and we can do better. The Eye and Ear is already a world leader in endophthalmitis research but we also know there is more to be done. We want to use our position to revolutionise the treatment and outcomes in endophthalmitis," says Dr Dawkins.

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"We want to use our position to revolutionise the treatment and outcomes in endophthalmitis."



# Saving eyesight by donation and transplantation

Most people mistakenly assume that the most common organ transplant is a heart, or liver. But it is actually the cornea – the clear window at the front of the eye. In fact, every year, surgeons at the Eye and Ear conduct around 200 transplants using corneas donated through the Lions Eye Donation Service (LEDS).

Formally known as the Lions Eye Bank, LEDS was established in 1991 to meet the Victorian community's increasing and constant need for donor corneas and sclera (the white part of the eye). The service also provides corneas interstate and to New Zealand.

The Eye Bank is a joint venture shared between the Lions Club of Victoria and Southern NSW. the Eye and Ear and the Centre for Eye Research Australia (CERA). In fact, LEDS operates as a unit of CERA — a premier medical research institute located on the hospital's campus which incorporates the University of Melbourne's Department for Ophthalmology.

LEDS Director Dr Graeme Pollock explains that, without the donation service, the waiting list for eye transplantation surgery would be significantly longer in Victoria.

"Before the Eye Bank, 95% of corneal transplant surgery was conducted after hours. Because donation was infrequent, patients were often called in for surgery in the middle of the night when a donor cornea became available."



Clearly, something had to change. It took a chance meeting between a doctor and his patient in the 1980s to revolutionise eye donation and corneal transplantation in Victoria.

That patient was a member of the Lions Club, and his doctor was the head of the Eye and Ear's Corneal Clinic, Dr Ian Robertson. By 1991, the two organisations had raised enough funds to establish the Eye Bank and for it to be developed, operated and administered by the Department of Ophthalmology at the University of Melbourne. Donor referral and screening, consent to donation, donor medical assessment, donor testing, surgical retrieval, cornea safety, and cornea allocation across Victoria became the responsibility of the Eye Bank.

The impact of this long-awaited service was considerable and has helped to restore and save the sight of many Victorians. In 1991, the Eye and Ear had more than 400 patients on a three-year waiting list for corneal transplants. The number Victoria-wide was even greater.

Today, these surgeries are scheduled during normal operating theatre time due to the ready availability of donated eye tissue.

"We don't have a high profile. I would describe LEDS and corneal transplantation as the 'quiet achiever' of donation and transplantation. But it is one that is innovative, constantly changing and exciting," says Dr Pollock.

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"Before the Eye Bank, 95% of corneal transplant surgery was conducted after hours. Because donation was infrequent, patients were often called in for surgery in the middle of the night when a donor cornea became available."



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**ACTIVE RESEARCH PROJECTS** 



35

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191

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### The Royal Victorian Eye and Ear Hospital

E info@eyeandear.org.au T+61 3 9929 8666 F+61 3 9663 7203 TTY+61 3 9663 8052

#### Main Hospital

32 Gisborne Street East Melbourne Victoria 3002

#### Eye and Ear on the Park

2 St Andrews Place East Melbourne Victoria 3002

eyeandear.org.au