



THE BAIRD
INSTITUTE
Applied heart & lung surgical research

heart TO HEART

JUNE 2020

Greetings

I hope you and your family members are keeping safe and well during these unprecedented times. 2020 certainly has been a year like no other, commencing with Australia's devastating bushfires followed closely behind by the Coronavirus pandemic. Luckily, Australia has so far escaped the terrible death toll from COVID-19 that other countries have experienced however, I am curious to see what happens once restrictions are relaxed somewhat, and children start returning to school.

It is important to note that although heart disease may not appear to be as big a threat as COVID-19, it remains the leading cause of death in Australia with approximately 18,000 deaths per year. Heart disease is a steady, lethal, frequently treatable condition that deserves more headlines than it currently receives..

In February this year, we moved out of our offices in the RPA Medical Centre at 100 Carillon Ave (where we have been for around 10 years), into the Cardiothoracic Department in Royal Prince Alfred Hospital (RPAH). The Chief Executive of the Sydney Local Health District, Dr Teresa Anderson, has kindly provided us with two rooms at RPAH from which to run our administrative operations, resulting in more money being directed to research and training as opposed to administration and of course, a cementing of the very close ties we have with the Cardiothoracic Department and RPAH.

In this edition of Heart to Heart, you will find contributions from our Patron, The Hon. Michael Kirby and our Chair, Professor Paul Bannon, while Dr Sean Lal, a consultant cardiologist at RPAH, writes about the Sydney Heart Bank located at the Charles Perkins Centre and its expansion to include heart tissue from patients undergoing all forms of cardiac surgery at RPAH, with the aim being to undertake the world's largest study of human heart failure. We are also excited to announce that the NSW Doctors Orchestra are holding a fundraising concert for The Baird Institute in September this year called "Harp to Heart" (distancing requirements dependant). The NSW Doctors Orchestra is a classical orchestra of doctors and medical students from all areas of NSW who come together at least annually to play in aid of charities in both the arts and medicine. We would love you to come and join Professor Bannon, The Hon Michael Kirby and myself at the concert.

On behalf of the team at The Baird Institute, we would like to thank you for your continuing trust and support. Best wishes to you and your families and keep safe.

Catherine Rush
CEO, The Baird Institute

LETTER FROM OUR PATRON

The Hon. Michael Kirby AC CMG

To all the wonderful supporters of The Baird Institute, I send greetings and good wishes.

This has been a truly extraordinary year. Nothing quite like it since the scourge of the Spanish Flu in 1918, which even an old-timer like me did not witness.

The grim news of COVID-19 brought frightful danger; the repeated warnings to wash our hands; the sudden appearance of hand sanitiser and facemasks; the daily reports on infection numbers; the terrible statistics of death and suffering; the images of emergency wards; the sudden urgency of ventilators to ward off the fiendish grip that this novel coronavirus takes upon the lungs, especially of elderly victims;



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The Hon Michael Kirby with Prof Doug Baird and Mrs Phillippa Baird in earlier days

the world of lockdown and isolation; the heroic work of the doctors and the nurses and administrative and support staff. All these images enter our minds and we will never forget them, even when COVID-19 has departed.

Everyone who has had close connection with The Baird Institute knows of the outstanding devotion of Australia's medical, nursing and healthcare professionals. This message has recently been made vivid in our country and also in England. There, everyone from the Queen, the Prince of Wales, the Prime Minister, the ministers of state and all the ordinary citizens have joined in applauding the heroic work of the health professionals in the NHS. It has been the same in Australia. Fortunately, we took earlier urgent steps to act with resolution and determination. The consequence is that, at the time of writing this entry, whereas Britain has suffered nearly 35,000 deaths (244,000 infected) and the United States nearly 90,000

deaths (1.52 million infected), we have suffered about 99 deaths and many of those were infected on cruise ships.

This goes to show how important it is for governments and citizens to give active support to community responses to the necessities of healthcare that protect and save our lives. This is true of a completely new challenge such as COVID-19. But it is also true of heart and lung disease which remains a major health crisis in Australia and will do so long after COVID-19 has departed.

Tackling the endemic challenge of heart and lung disease cannot be effective if it is left to health professionals alone. As with COVID-19, it requires their leadership and highly professional care. But it also requires leadership from government. Leadership from civil society. And participation from citizens, patients, their families and friends.

If ever we needed to be taught the importance of community participation in responding to a very serious health crisis, COVID-19 has renewed that lesson.

Just as citizens came together to support each other in the battle against coronavirus, so we must come together to support each other and The Baird Institute in tackling heart and lung disease. The secret is the same. Brilliant medical leadership; the best of modern technology; candid information and explanations to the community; the use of modern media of communications; and strong political engagement.

We must turn the lessons we have learned from COVID-19 to the challenge of heart and lung disease. The Baird Institute deserves our support when the sound and fury of COVID-19 has died away.

With all good wishes

The Hon Michael Kirby AC CMG,

A MESSAGE FROM OUR CHAIR

Professor Paul Bannon MB BS, FRACS, PhD

COVID-19, in addition to presenting us with many challenges such as dealing with the terrible impact that this disease is having worldwide and how to continue to successfully treat all those other ill patients who do not have the Coronavirus yet still need our care, is also teaching us many lessons, as our patron has detailed, around hygiene and caring for our community and each other.

We have heard a lot about the postponement of elective surgery in the media and only allowing category 1 and perhaps category 2 patients to proceed with surgery. It probably comes as no surprise that almost all cardiac surgical patients and patients with lung cancer are category 1 or category 2 at best. The Baird Institute has been actively involved in monitoring our own patients to ensure that they are all being treated effectively and in a timely fashion, looking and thinking outside the box to ensure that they are being operated on in the best place possible and at the earliest stage possible or indeed if

they cannot be operated on that they don't deteriorate in that time. We are also contributing to an international data collection program to look at the collateral impact of COVID-19 on all these conditions particularly in the area of surgery. This is an example of the ongoing commitment of The Baird Institute to not only look after the sick patients but also the well ones.

More specifically, The Baird Institute has been funding and conducting research in the Charles Perkins Centre at the University of Sydney where we are looking into the use of new mechanical support devices implanted through small incisions so as to support a patient's heart function, as it has been well recognised that a proportion of patients who are diagnosed with COVID-19 go into heart failure (viral myocarditis) and need extra support. In particular, this research is focusing not just on the device itself, but how to implant the device with as little risk to the frontline healthcare workers. This is using what we call intracardiac echocardiography. This device is intro-

THE SYDNEY HEART BANK

The Charles Perkins Centre,
The University of Sydney

The Sydney Heart Bank (SHB) is the largest repository of cryopreserved human hearts in the world (17,000 samples). It was established in 1989 by Cris Dos Remedios (Emeritus Professor University of Sydney) and the Late Victor Chang AC (Cardiothoracic surgeon at St. Vincent's Hospital Sydney). It has been housed and maintained by the University of Sydney since 1989 and it currently resides on campus in state-of-the-art bio-banking facilities at the Charles Perkins Centre, with Dr Sean Lal as the Director of the SHB.

Comprised of failing hearts (heart failure) of many different causes, as well as donor hearts (non-diseased hearts) for comparison (control group), the SHB is completely not-for-profit, with the sole mission to foster national and international research collaboration into the causes of heart failure. Today, Dr Lal and Professor Paul Bannon, Chair of The Baird Institute, are expanding this biobank to include heart tissue from patients undergoing all forms of cardiac surgery at Royal Prince Alfred Hospital, with the aim to undertake the world's largest multi-sequencing (gene, protein, enzymes, metabolite) study of human heart failure to-date in collaboration with a team of scientists at the Charles Perkins Centre. This will almost certainly lead to new discoveries as to the pathways that cause heart disease and hence the development of therapies to treat and reverse it.

A photo of the Charles Perkins Centre where the Sydney Heart Bank is housed - a 2-minute walk from the Cardiothoracic operating theatres at Royal Prince Alfred Hospital. The close proximity highlights a world-class bio-banking standard.

duced through the veins of the neck of the patient. This eliminates the use of x-ray which is very difficult to carry out in an intensive care environment and decreases the risk of aerosol transmission of the virus at the time. So not only are we interested in looking at the rates of development of heart failure in those patients with COVID-19, but also looking at better ways to support these patients with heart failure with as little risk as possible to the frontline workers.

Finally, the team has been asked to contribute to two publications in relation to heart disease and COVID-19. The first publication relates to the development of guidelines on the access of residents of rural communities to cardiology and cardiac surgical services in the world of COVID-19, with cardiologist Dr Ruth Arnold as the primary driver of this publication. The second publication whose primary author is Cardiologist, Dr Sean Lal, involves a retrospective analysis of the biomarkers of those patients with COVID-19 who developed viral myocarditis and whether these biomarkers or signs are able to predict the potential of a particular patient with the Coronavirus to develop myocarditis. As COVID-19 is likely to be around for some time this is an extremely important study for the future.



THE BAIRD INSTITUTE THANK YOU HIGH TEA

Thursday, 5 December, 2019

On Thursday 5 December 2019, a High Tea was held to thank all our supporters for their generosity and to provide an update on the work of The Baird Institute. We all gathered at The Strathfield Event Centre for a delicious High Tea overlooking the golf course on a rather hot and hazy afternoon. We were entertained with some wonderful uplifting songs from The Sydney Street Choir.

Professor Bannon and Dr Woldendorp along with many of The Baird Institute supporters joined in the singing (with a bit of dancing taking place too!). The patron of The Baird Institute, The Hon. Michael Kirby spoke of his support for The Baird Institute over many years and entertained us with his stories of when he had open heart surgery performed by Prof Bannon many years ago. We had updates from two of our educational scholarship recipients, Dr Charis Tan and Dr Kei Woldendorp and an update from Vantari VR who have developed some virtual reality software for use in aortic surgery and received some seed funding from The Baird Institute in the start-up phase.

Finally, Professor Bannon provided the group with an update on the research and training work of The Baird Institute before we enjoyed many delicious sandwiches, scones and cakes along with a cup of tea, all served on beautiful Wedgewood crockery.





TAKE A DEEP BREATH MEETING

Lung Surgery Patient Support Group

One of the greatest gifts a person can give another, is support.

Take A Deep Breath's first meeting was held on Saturday, 23 November 2019 at Kingsgrove RSL with nurses, Clare Brown and Andrea Scholes facilitating the group.

A physiotherapist from RPA, Associate Professor Lissa Spencer, presented to the Take a Deep Breath group on the importance of exercise pre and post-surgery. Her pulmonary rehab classes at RPAH had been well attended by many of the attendees at the meeting.

Our support groups focus on the power of bringing people with heart and lung disease together, to share their experiences and by so doing, to support each other pre and post-surgery.

If you would like to join "Take A Deep Breath" or our Heart Surgery patient support group "Heart to Heart" you can do so by going to the group Facebook pages at the links below. You can also register your interest in our group meetings on our website <https://bairdinstitute.org.au/improve-patient-outcomes/> or call us on 02 9550 2350.



<https://www.facebook.com/groups/hearttoheartnsw/>
<https://www.facebook.com/groups/takeadeepbreathnsw/>

VANTARI UPDATE



Vantari VR has continued to grow since our last update in Heart to Heart and has started to make an impact in hospitals around Australia. Thanks to The Baird Institute's support as well as the achievement of being awarded a highly competitive federal grant, Vantari now boasts a talented team of 9 and has progressed its product offering to produce VR simulation for students and doctors to practice life-saving procedures. Considering the pandemic, there hasn't been a better time to look at remote education and training and Vantari certainly provides a powerful solution.

Over the last 6 months, Vantari has been trialled for



critical care education and training at Westmead Hospital in NSW and Fiona Stanley Hospital in Perth, with positive feedback from trainees and senior clinicians. With plenty of insights and learnings from their partnerships, Vantari is launching a brand-new platform to provide its software free for the second half of this year to help students, doctors and frontline staff around Australia. Combined with its state-of-the-art virtual trainer and AI data portal giving real time feedback, Vantari is doing its part to support hospitals and universities and help patients during this challenging COVID-19 period.



ANNALS OF CARDIOTHORACIC SURGERY

Recently The Baird Institute and Royal Prince Alfred Hospital began supporting The Annals of Cardiothoracic Surgery (ISSN 2225-319X), an international bi-monthly peer-reviewed publication, dedicated to the field of cardiothoracic surgery, with the primary aim of providing critical analysis and comprehensive overview of contemporary topics within the field.

The interplay of best clinical evidence, surgical education and global impact makes the Annals of Cardiothoracic Surgery (ACS) the leading contemporary surgical journal, setting it apart from traditional journal formats.

The ACS is proud to announce that it has received its inaugural Impact Factor of 2.895. This excellent result places ACS as the fourth most highly ranked journal dedicated to cardiothoracic surgery. This Journal Impact Factor reflects ACS' drive for best clinical evidence through comprehensive systematic reviews/meta-analyses in all aspects of cardiovascular and thoracic surgery; a commitment to surgical education through highly-cited keynote lectures, multimedia videos and detailed illustrative articles; and a vision for global impact, achieved by working closely with our esteemed Editors and Authors.

The Editor-in-Chief, Professor Tristan Yan, commented recently, "We look forward to continuing our work in delivering the most comprehensive and educational resource to the cardiothoracic community".



HARP TO *heart*



HARP TO HEART CONCERT

Saturday 26th September 2020

Musicus Medicus

We are pleased to announce that this year we are working with Musicus Medicus (Latin for Musician and Physician) to promote a performance called "Heart to Harp" which will be held at The Concourse Concert Hall in Chatswood on Saturday 26th September 2020. Much of the proceeds from this event will go to The Baird Institute so we would love all of our supporters to join us.

Now in its seventeenth year, the NSW Doctors Orchestra comprises of around 80 medical students and doctors from metropolitan Sydney and regional NSW, who are also talented musicians. This annual fundraising concert promises to be an entertaining afternoon of inspiring music from French, Russian and Australian composers. It will feature guest conductor Joanna

Drimatis, and star soloist Alice Giles playing the beautiful Boieldieu Harp Concerto in C major, Opus 77. The program includes the wonderfully passionate Tchaikovsky Symphony No. 6 in B minor, Opus 74 Pathétique, and a lively short work "Roar" by Australian composer Maria Grenfell.

Harp to Heart was originally scheduled for May 2020, but the event had to be postponed due to the Coronavirus. Tickets for the rescheduled event in September 2020 will go on sale once we know with certainty that we can proceed with the concert. Obviously, this is dependent on social distancing requirements at the time. Please check our website www.bairdinstitute.org.au for updates and ticket purchases.

VALE

Our thoughts are with the families of the following long standing & generous supporters of The Baird Institute who have passed away in the last year. Wishing you all strength and peace at this difficult time.

- Herbert Fletcher
- Peter Reeve
- Ian Hunt
- Julianne Haine
- Donald Young
- Patricia Meyers
- Alfred Eves
- Philip Lewis
- Maria Baarendse





Professor Douglas Baird AM:
A Truly Great Australian.
1940 - 1995

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The Baird Institute, please go to our website
<https://bairdinstitute.org.au/research/our-publications/>

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