

SPRING 2022

Thanks to you...



Contributing to
the global effort to
eliminate malaria,
thanks to you

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Burnet Institute
Medical Research. Practical Action.



Growing impact

As has become obvious in the last few months, COVID-19 is not in the rear-view mirror, and in fact we are in an emergency situation once again. COVID-19 is on course to be one of the leading causes of death in 2022, and then there is the ongoing impact of long COVID. But thankfully there is hope - as I write, cases are declining, and we are all hoping to see a respite in spring.

Your support of our COVID-19 response over the last couple of years has been incredible. We continue to advocate a science-based approach, helping influence policy and save lives. Remember, none of this could have happened without you.

I must also thank you for your recent support of our malaria research. I have dedicated my life to malaria elimination and I am extremely grateful for the support of generous donors like you. Your generosity will help us achieve major new advances to strengthen diagnosis, treatment and prevention of malaria through innovative research, as well as help progress diagnostic tools being developed by Professor Freya Fowkes and Doctor Fiona Angrisano.

Finally, but perhaps most importantly, it is my pleasure to present our new strategy, Burnet 2030, which you can access via the QR code on the back page of this newsletter. Burnet 2030 focuses on growing our impact as we help create a future where diseases are eliminated, the world is more prepared, and future generations thrive. You play such an important role in this impact. Thank you.

I hope you and your loved ones have managed to remain safe and well during these last few months.

With best wishes for a healthy future.

**Professor Brendan Crabb AC
Director and CEO**

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Cover: Professor James Beeson, Head Of Burnet's Malaria Immunity And Vaccines Laboratory

“ I’m so very thankful to all the generous supporters out there who donated to purchase the Megafuge 8R for our labs. It’s a great example of how your gifts transform our research in really tangible ways – and so quickly. One moment I’m reflecting on how a Megafuge 8R would change my life here in the lab – and the next, thanks to our donors, there it is, being delivered. It’s so exciting.

DR HAYLEY BULLEN, MALARIA VIRULENCE AND DRUG DISCOVERY GROUP

”

The Megafuge 8R arrives in the labs *thanks to you*

When we asked a select group of our donors if they would fund the purchase of a Megafuge 8R for the Burnet laboratories, they responded quickly and decisively. So much so that we were able to get delivery of the equipment within six months.

It was Dr Hayley Bullen, from Burnet’s Malaria Virulence and Drug Discovery Group, who put up her hand and suggested that the Megafuge 8R was a very necessary addition to our lab. The process of centrifugation is critical not just for her own research, but for all lab-based research.

Hayley’s research here at Burnet is about getting new malaria drugs into the pipeline. She works in the lab to discover exactly how new compounds kill the parasites, then partners with chemists using this information to improve the safety and activity of the compound. This is an essential component of their future development into antimalarial treatments. Her research will be made so much more efficient and speedy with the new equipment.



“It may seem intangible, looking at a centrifuge and imagining how this single piece of equipment could have an effect in the real world. But it does. Without the correct equipment, we can’t progress as quickly in our research. Any delay on our end ultimately means a delay in new antimalarial drugs coming onto the market. Having the correct equipment is imperative to our overall aim of saving lives.”

“I’ve had malaria

more than once



Working and travelling extensively outside Australia, Burnet donor Caroline Jacoby has experienced malaria first hand – in fact, she’s had it four times. Here, she tells her story in her own words.

“When I left Uni, I went travelling for 12 months and ended up travelling for three years. As much as I enjoyed travelling through Europe, Africa for me was just incredible. I fell in love with the place. I made life-long friends. It was a life-changing experience.

“I ended up spending 25 years of my life working in international schools as an administrator, teacher, and principal. Not always in Africa, but mostly.

“It was in Africa, on that first trip, that I got malaria for the first time.”

Caroline’s first bout of malaria

“My travel companions and I were taking anti-malaria tablets, but we were camping, so we were out at dusk and dawn, when the mosquitos were out. We tried to cover up, but it was hot and we were cooking over an open fire, so it wasn’t always easy. I contracted malaria in Nigeria and got sick in Central African Republic. I really got quite sick.

“You know, when you’re on a long trip like that you’re getting bugs all along. So I felt a bit sick one day, then well the next day, then sick again. In the early stages of malaria, you can have that on-off experience. So it wasn’t until the day when I had a fever – it was a really hot day, but I was wearing a fleece and saying ‘it’s freezing’ – that it hit me.

“The real clincher was that I didn’t want to eat, which was a very bad sign – especially for me, as I really love my food.

“I went to the doctor, and he took one look at me and said: ‘You’ve got malaria – why didn’t you come in sooner?’ He sent my friends out to get me quinine.”

Quinine is an alkaloid used to treat malaria. As of 2006, quinine is no longer recommended by the World Health Organization (WHO) as a treatment for malaria, because there are other substances that are equally effective with fewer side effects.

“I had to have two shots. If I wasn’t showing signs of getting better the next morning, or showing signs of improvement, I would have had to go to hospital. But fortunately for me, I started getting better, and was able to avoid hospital.

“I lost a lot of weight, but slowly I got my appetite back. I felt okay after about two or three weeks, although for a number of months afterwards I had very bad shakes. When I came back to Australia, the trip leader encouraged us all to have a health check. So I went to Fairfield Hospital – I was feeling fine, I was looking fit and tan. The doctor said: ‘I don’t think there could be anything wrong with you – you look so healthy.’

But it turns out I had malaria – they couldn’t figure out whether I had never really recovered from my first bout, or whether I had been re-infected.

“So that was my first (and maybe my second) experience with malaria, and by far the most sick I had been. I got it again in Mali. And again in Uganda. Four times seems a lot to us, but multiple bouts of malaria is the reality for people living in poorer countries.

The tragedy of malaria in poorer countries

“In Zambia I was the Junior School Principal, and I had to organize relief teachers when someone was sick. Every day there would be someone saying: I’ve got malaria, or my baby’s got malaria, or my father died last night from malaria.

(continued)

Each edition we will feature a story from one of our supporters, like you. If you have a story you would like to share, please email: ashley.sievwright@burnet.edu.au.

“I remember one woman calling and just sobbing – you could hear everyone sobbing in the background – it was just so much a part of life.

“That’s the real tragedy of malaria – it’s a disease that badly effects poorer countries. People like me, or tourists who go to Africa and fall in love with it – we’ve got the money and the facilities to get treated if we get it. Otherwise, for local families without the money – it just gets forgotten.

Giving to infectious diseases research at Burnet

“My parents gave to Burnet for many years. My dad has passed away now. My mum is 91 and still going strong. They were always quite generous and donating to worthy causes.

“They obviously followed my journey with malaria, and had travelled extensively themselves in their younger days, so had their own personal experiences. Like myself, my parents saw first-hand that malaria affects the whole family’s ability to thrive in these poorer countries. It was this that drove their giving, and it’s what motivates me as well.

“Having a vaccine, having medication, with a focus on affordability and access, has the potential to really change the lives of families in poor countries around the world.

“Any donation that people make can lead to such huge change and difference to families. One discovery in the lab, one new malaria medication – can be life-changing for millions and millions of people. So, yes, we can all make a difference.

“I’m very proud of the support my parents have given to infectious diseases research at Burnet Institute, and I’m pleased I can carry on in their footsteps.”

It’s not too late to support Burnet in the fight to eliminate malaria - donate today.



Thanks for your support - together we can eliminate malaria

Thanks from Benishar Kombut and her son Tapia



“It’s been a wonderful experience working with colleagues to raise funds to support Burnet’s malaria research. Tapia’s story is one of many examples of the ongoing challenges and realities faced by our communities in Papua New Guinea. If sharing our story has reminded people of the

real need to eliminate malaria, and encouraged them to give, it has been my absolute pleasure indeed. Thank you for the opportunity.”

MS BENISHAR KOMBUT, BURNET SCIENTIFIC OFFICER, BASED IN PAPUA NEW GUINEA

Thanks from Professor James Beeson



“It means a great deal to me that so many of you gave so generously to support Burnet’s malaria research.

“Thanks to your support we can forge ahead with key research projects that will contribute significantly to the elimination of malaria –

new vaccines for prevention, improved diagnostics and surveillance for detection, and better drugs for treatment.

“I can assure you, your gifts will make all the difference to us here in the lab, and ultimately out there in the world, where lives will be saved. Thank you.”

PROFESSOR JAMES BEESON, HEAD OF BURNET’S MALARIA IMMUNITY AND VACCINES LABORATORY

An update on the adaptation of the Safe Delivery App for PNG



“ This important project could not be happening right now if it wasn’t for the generosity of donors – we are incredibly grateful to you for giving us the opportunity to do this work. ”

PROFESSOR CAROLINE HOMER AO
CO-PROGRAM DIRECTOR, MATERNAL, CHILD AND ADOLESCENT HEALTH

In May 2022, we received our final ethics approval to adapt and assess the Safe Delivery App for use in Papua New Guinea (PNG), which means it has been all systems go over the last couple of months.

Healthcare workers in PNG really need easy access to information, especially the midwives and nurses in remote and rural areas where they have to manage all the different challenges in the community, often working alone. The adapted Safe Delivery App will provide them with up-to-date information that is freely accessible and relevant to PNG, improving quality of care during pregnancy, labour and birth.

As a first step, we are adapting visuals and developing video clips for the App (see images to the right). We have five video clips relating to resuscitation of the newborn, infection control and prevention, newborn management, low birth weight infants and post-abortion care. These new visuals and videos are currently under review with PNG colleagues.

In June we had our first investigator meeting, bringing the team together via Zoom. Phase 1 of the study has started with baseline data for PNG indicating that 375 healthcare workers are currently using the App. The majority of the users are midwives working in primary healthcare facilities, and the most widely used information within the App relates to normal labour and birth.

In the coming months we will be doing a series of interviews with midwives who are using the Safe Delivery App and a workshop with key stakeholders from all the professional associations to look at the context and adaptation. It is a very exciting time as the Safe Delivery App is adapted and rolled out across the country.



Left: The original image.

Below: Image for use in Papua New Guinea.



COVID-19: crunching numbers saves lives, *thanks to you*

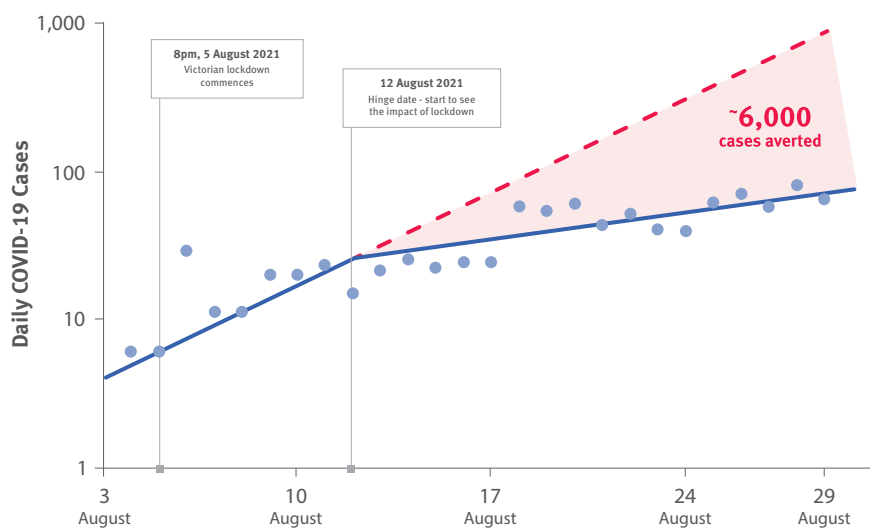
Since the beginning of the COVID-19 pandemic in Australia, Burnet's mathematical modelling team has proudly played a critical role. Last year you threw your support behind Dr Nick Scott and his modelling team, and that support has paid dividends – literally less COVID-19 cases here in Australia than we would otherwise have experienced. All thanks to your support.

Mathematical modelling is the process of using maths to make predictions about the real world. It helps us to understand situations, project outcomes, and therefore assist in decision-making. Burnet's mathematical modelling informed public

health policy by examining how public health restrictions could be fine-tuned to alleviate the social and economic burden of lockdowns, but without compromising suppression of community transmission of the virus.

Throughout 2021, Burnet's modelling was fundamental in helping to shape the outcome of both Delta waves in NSW and Victoria, and outlining a safe pathway out of Lockdown 6 in Victoria – informing the roadmap to deliver The National Plan.

This modelling simply could not have happened without your support – thank you.



Actual Cases*

COVID-19 daily cases[#] recorded in Victoria, 3–29 August 2021

Cases Averted

Cases predicted to occur without lockdown restrictions imposed on 5 August 2021

*Excluding cases in Shepparton
Best fit regression with one knot



“ I’m personally very grateful to everyone who supported our COVID-19 mathematical modelling research. Thanks for recognising the fact that maths can save lives. ”

DR NICK SCOTT
HEAD OF MODELLING AND BIostatISTICS

Together we are the future of health.

20/30 Excellence, innovation and collaboration

At Burnet, we are helping to create the future of health.

The Burnet 2030 Strategy focuses on growing our impact, placing equity at the centre of what we do, and paying close attention to the effects of a rapidly changing climate and environment.

Our point of difference is our technical breadth— from laboratory-based discoveries to field research, to commercialisation to development programs; all to progress toward a more equitable world.

This is what sets us apart.

The future of health is:

Diseases eliminated

Healthy mothers, children and adolescents

A more prepared world

Harm reduction

For all people



To view the Burnet 2030 strategy, go to:

burnet.edu.au/about/89_burnet_2030





Or scan the QR code.

And please give us your thoughts on Burnet 2030 via the short survey enclosed. Thank you.



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We have offices or representatives in Australia, Myanmar, Papua New Guinea and China, and also contribute to activities in other African, Asian and Pacific countries.



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