

An aerial photograph of a group of people swimming in clear, turquoise water. The water is bright and reflects the sunlight, creating a shimmering effect. Several people are visible, some swimming and others wading. The overall scene is bright and summery.

Celebrating 10 years of improving health & care outcomes

2005-2015

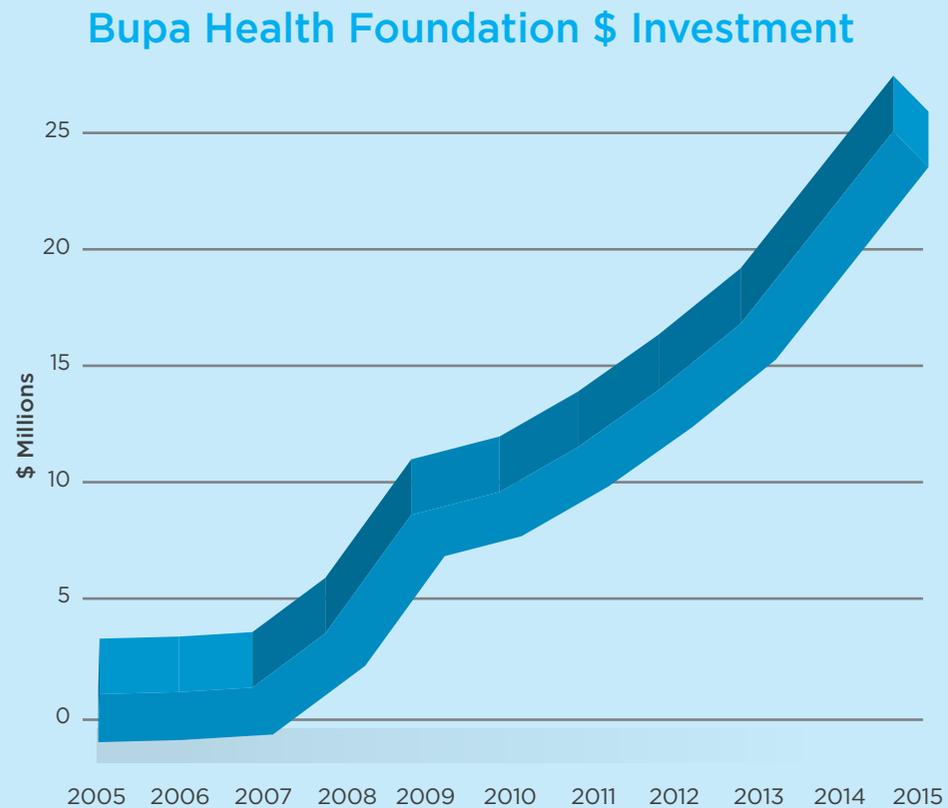
Bupa
Health Foundation



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Over the past 10 years the Bupa Health Foundation has grown to be one of the largest corporate foundations dedicated to health in Australia.

Winner of Research Australia's Leadership in Corporate Giving Award 2014.



We have invested close to \$26 million in projects that aim to improve health outcomes for all Australians.



Foreword

This year we're celebrating the 10th anniversary of the Bupa Health Foundation. The Foundation is one of Australia's leading private charitable organisations dedicated to health and has played an important role in the last decade in shaping research outcomes to improve the health and wellbeing of Australians.

In 10 years Australia has witnessed major economic, social and cultural change stimulated by enormous advances in information technology and digital applications.

Health research has also seen major advances and breakthroughs; genomics, stem cells, diagnostics and targeted cancer drugs to name a few. Australia made major contributions with the development of the cervical cancer vaccine and in public policy changes to reduce smoking rates.

The last decade has seen the emergence of health challenges to an extent that could never have been imagined – the rise of obesity and lifestyle diseases, diabetes, cardiovascular disease, dementia and cancer; the impact of longer lives - it is no longer a rarity to see people living well into their 90s and reaching 100.

Increasingly, the research community is being asked to identify the complex and interrelated factors influencing the escalation of chronic diseases, and to find ways to reduce the ensuing burden placed on health services and health expenditure.

While supporting high quality health and medical research in Australia is an essential driver of innovation, productivity and enhanced health service

effectiveness, it is most importantly a driver of improved community wellness.

Our healthcare and research landscapes continue to change and the Bupa Health Foundation looks forward to working with our partners to meet these challenges.

I would like to acknowledge everyone who has contributed to the Bupa Health Foundation from its creation 10 years ago to now. I think especially of the support of the Bupa Group in the UK, the Australian Board, Dean Holden - Managing Director of Bupa Australia and New Zealand, our Steering Committee and the special part that Professor Christine Bennett has played. Thank you all.

On our 10th anniversary, we also celebrate and marvel at the achievements of our partners. We look forward to strengthening our existing partner relationships and establishing new ones, with our fundamental objective being to help Australians live longer, healthier, happier lives.

John Conde AO
Chairman, Bupa Health Foundation

UNSW
 St Vincent's
 University of
 RACGP Notre Dame
 USA
 JCU
 PMRI
 Monash
 ARACY Baker IDI
 Austin Health - PIRI
 Cancer Council
 CQU RFDS
 Alzheimer's Australia
 University of Sydney
 AIHI
 Arthritis Australia
 Garvan Institute
 Over **100** partnerships
 UQ
 CSIRO
 VCCRI
 UTAS
 Diamantina Institute
 with **77** organisations
 Cancer Institute NSW
 ANZGOG
 SJGHC
 Deakin
 CERA
 National Stroke Foundation
 Sax Institute
 The George Royal Far West
 Institute
 Lung Foundation
 Obesity Australia
 University of
 Adelaide
 BMRI
 CQU

Griffith
UWA

Introduction



As we celebrate our 10th year of the Bupa Health Foundation it is appropriate to pause and reflect on the contributions and many achievements of the Foundation and our partners over the last decade. The role of the Foundation has evolved to become a recognised and highly-regarded investor in innovation, advocacy and research in ways that make a difference to the health and care of Australians.

From its early beginnings the Foundation worked with key industry partners to advocate for certain health issues. These included pain, youth mental health, a healthy start to life and obesity. The Foundation's High Cost of Pain Report remains seminal evidence of the economic and human burden of pain in Australia. The National Pain Summit convened by the Foundation led to the National Pain Action Plan. The Foundation also championed the neglected issue of mental health in young people by partnering with Professors Pat McGorry, Ian Hickie and colleagues, to support the inaugural International Youth Mental Health Conference in 2010 as well as a national program of raising public awareness across Australia focusing on suicide and depression. Similarly, the work with Australian Research Alliance for Children and Youth to hold a national summit on a healthy start to life led to a report and action plan. Obesity Australia has also been a key partner in generating debate and action on tackling the international health challenge of increasing levels of obesity.

With over 100 active and completed research projects and more than 70 partners it is hard to select the "highlights"! A few special mentions include the Bupa Health Foundation Wellbeing After Breast Cancer Study partnership with Monash University; the Remote Dental Health Services pilot with the Royal Flying Doctors; "Be Brave" an online support addressing anxiety and resilience in children; the BrainyApp, for prevention of heart and brain health risks with Alzheimer's Australia; exploring a skin cancer vaccine with Professor Ian Frazer; and the award winning website MyJointPain with Arthritis Australia. This Report highlights many more of the successful partnerships of the Foundation.

One of the most important ingredients to the Foundation's success has been the involvement of the Bupa team in offering a range of expertise and support to actively partner with groups on initiatives. Thank you to my colleagues on the Steering Committee and those throughout Bupa for their interest and contribution.

I congratulate Bupa on its vision and contribution to making a difference to health and wellbeing in Australia and indeed around the world over the last decade. I look forward to the next era of the Foundation as we continue to partner with health leaders, researchers and community groups to tackle new and emerging health challenges with innovation that translates new knowledge into action.

Christine Bennett

Professor Christine Bennett AO

Chair, Bupa Health Foundation Steering Committee



Non-melanoma skin cancer is a major public health problem in Australia, involving significant health costs and disfigurement from the disease and its treatment.

Cancer Council Australia

Cancer

Vaccines against skin cancer

Professor Ian Frazer describes himself as curious. He likes to pull things apart and see how they work, a characteristic which has helped him build an impressive research career, including the development of the cervical cancer vaccine.

Now, the Bupa Health Foundation is supporting Professor Frazer and his colleagues from the University of Queensland Diamantina Institute in some exciting research for new treatment options and potential vaccines against squamous cell carcinoma (SCC), the second most common form of skin cancer in Australia.

Squamous skin cancer is a non-melanoma skin cancer, and it's thought around 500-600 Australians die each year from it. However, most can be successfully treated, though at a high cost to the health system.

Professor Frazer and his team are researching cost-effective options to help prevent or reduce the risk of developing SCC, which could represent a significant saving across the health system. Their cutting edge

work is looking to see if viruses can cause skin cancers to form and, if so, whether vaccines or simple treatments can be developed to help with prevention.

Professor Frazer says "It is well known that damage from UV light is a major factor in causing sunspots and other skin damage. But for squamous skin cancer to develop, sunlight is not the only culprit. Sunlight initiates the damage but exposure to other factors is required for cancer development."

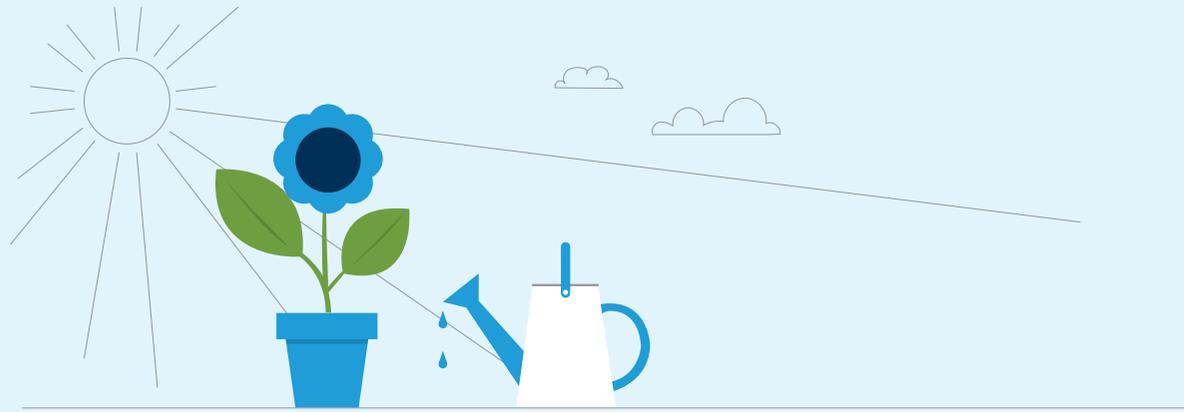
"These other factors may include things that can affect the body's immunity, such as some viruses or certain medications"

Professor Frazer says the outcome of their research is promising. "Based on our findings it looks like we are justified in doing a clinical trial of a simple intervention for people with sunspots."

A successful treatment will hopefully help prevent squamous skin cancers, as well as reduce the pain and discomfort of current treatments such as surgery.

Two in three Australians will be diagnosed with skin cancer by the time they are 70.

Cancer Council Australia



Health and wellbeing after breast cancer

Professors Susan Davis and Robin Bell and colleagues from Monash University looked at the health and wellbeing of more than 1,600 women diagnosed with breast cancer over 5 years. This is an area of growing importance as survival rates from breast cancer improve.

Professors Davis says, “Women are surviving breast cancer but treatment will profoundly affect their lives. So it’s important to understand more about these impacts over time.”

They found treatment can have long-term physical effects. For example, many women have ongoing sexual problems and symptoms of menopause can be severe and long-lasting.

“This is probably related to the prolonged and profound oestrogen deficiency resulting from their cancer treatment,” they say.

Women’s level of knowledge and understanding of breast cancer also affected their wellbeing. They found that women who had a better understanding of their condition had a higher chance of being on appropriate hormone therapy.

They also found women were vulnerable to misinformation after breast cancer treatment, and many made “unusual decisions” about their diets and lifestyle. Two out of three women diagnosed with breast cancer who were cigarette smokers continued to smoke 2 years later. Very few women who drank at moderate-to-heavy levels changed how much alcohol they consumed, even though it could increase the risk of their breast cancer coming back.

“Women are surviving longer after breast cancer, so it’s important they look after themselves. Many still need to reduce their alcohol intake, quit smoking and manage their weight.”

Over half the women studied believed that stress was the cause of their cancer and therefore carried a lot of self blame.

“There is no evidence that stress causes breast cancer and there is no need to feel guilty about it,” they say.

Findings from the research supported by the Bupa Health Foundation have been published in more than 20 peer-reviewed publications. Davis and Bell are continuing to research the effects of breast cancer treatment on other aspects of health and wellbeing.

Diana’s story.

Diana, a 67-year-old mother of two, was first diagnosed with breast cancer 20 years ago. She has been active in her care, seeking multiple opinions and researching options.

“At first I got a scare thinking, ‘I’m going to die’. In time, I moved beyond that and felt confident I was going to lick this. But with the second cancer I was devastated. When I found out about BRCA1 it sent me into a tailspin.”

Eight years after she had a partial mastectomy with the removal of 20 lymph nodes and a course of radiation, Diana was given the bad news of a second cancer in the same breast. She then had a full mastectomy and breast reconstruction. And with the risk a BRCA1 gene mutation posed, she chose to have her uterus and ovaries removed as well to help prevent the cancer from recurring.

It has been an emotional journey for Diana and she’s faced many challenges, particularly in dealing with changes to her body. “The full mastectomy was a real attack on my body, like an amputation. Everything changed in what I could wear. I hated looking at myself in the mirror.”

She has also experienced frustrations with a lack of understanding in the community. For example, buying lingerie continues to be hard. “Not many shops are helpful if you have had a full mastectomy.”

There are also long-lasting physical effects. “My writing will never be the same and my arm still goes to sleep on me.”

However, Diana has learnt to be more resilient, trying not to dwell on things and not letting issues bother her as much anymore. She also makes sure to look after herself, by eating well and exercising regularly.

Cardiovascular Disease

Eyes may be a window to chronic disease

Professor Tien Wong, from the Centre for Eye Research Australia (CERA), is passionate about research that transforms discoveries into clinical care to make a difference to people's lives.

In 2008 Professor Wong and colleagues received a Bupa Health Foundation Award to develop a technique of retinal scanning – looking at changes in the appearance of blood vessels at the back of the eye – to accurately predict a person's risk of heart attack or stroke.

They found their retinal scanning technique was at least as good as, if not better than, existing techniques used to predict cardiovascular disease using blood tests.

“Since then we have now developed and refined the retinal scanning software to improve the ability to predict cardiovascular disease, and are working with various groups to test and implement it,” says Professor Wong.

“Ongoing studies in Australia are also happening with different patient populations for indications other than cardiovascular disease. For example, we are

working with neurologists to see if retinal scanning will help differentiate the different types of cognitive impairment.”

By using different imaging techniques to measure the retinal nerve layers, not just the blood vessels, Professor Wong and his colleagues believe the technology may also be helpful in predicting dementia.

“We're also working with endocrinologists to see if it will help predict eye and kidney complications in young people with type 1 diabetes.”

The research is also being used to see whether they can predict if pregnant women will develop pre-eclampsia, the most common serious medical complication of pregnancy in Australia.

The research is already being recognised internationally. “We have more than 20 groups around the world in US, UK and Asia who are keen to use the retinal scanning software for their patients,” says Professor Wong.

“The work is exciting, but implementation will take time”.

Empowering people for better stroke prevention

Associate Professor Anne Abbott from Monash University has patient outcome improvement clearly on her agenda.

Last year she received a Bupa Health Foundation Health Award for her research on optimising outcomes in patients with carotid arterial disease. She found that in people with narrowing of the carotid artery but no symptoms, medical therapy – that is, medication and a healthy lifestyle – can reduce risk of stroke by at least 80%.

“There is no current evidence that surgical interventions are of benefit to this group of people. Overwhelming evidence indicates they are now more likely to be harmed by surgery and not benefit if they are already getting optimal medical therapy,” says Professor Abbott.

“As well as being wrong to continue to do procedures that are shown to do more harm than good, it's also economically unsustainable.”

In the past year, Professor Abbott has been working tirelessly to improve standards of stroke prevention globally.

Cardiovascular disease is Australia's single biggest killer of men and women.

Heart Foundation

In addition to publishing papers and giving lectures around the world based on her research, she has launched a website factcats.org which brings together expertise from more than 125 people from around the world. The aim is to educate the public, policy makers and health professionals about better stroke prevention. Their first step is undertaking a review of international guidelines in six languages.

She says it's important to make people aware of the current evidence and how practice evolves with evidence.

“People can be empowered to prevent their own stroke and other cardiovascular diseases. Having a healthy lifestyle means people feel much better and are more motivated. Every effort makes a difference.”

Paul's story.

Paul, a 73-year-old grandfather of 10, has good reason to look after his heart health.

"I have atrial fibrillation and my cardiologist says I'm at the stage where if I get symptoms, medication alone won't solve the problem. So I look after myself to stave off surgery on my heart."

To help him prevent cardiovascular problems such as heart disease and stroke, Paul has built many strategies into his life.

"I believe exercise and diet are both very important for good health.

"I go for a short walk everyday and I go up and down hills when I can. I play tennis regularly with my friends and I also like to play lawn bowls."

As well as various types of exercise Paul also stays generally active. He still works 3.5 days a week as a pharmacist and spends most of that time on his feet.

Paul also makes sure to take his prescribed medications for blood pressure and cholesterol management as well as aspirin, which helps prevent clotting. He also has regular check-ups with his GP.

"Mostly I try to keep a positive thinking approach. I want to be at my grandkids weddings... I'm determined."



Diabetes

Keeping obesity from becoming ‘the new normal’

Since 2012, the Bupa Health Foundation has worked with Obesity Australia to help stem the tide of the extraordinary increase, over the last 40 years, in the numbers of people with obesity. In doing so, they may also be helping to reduce the risk and incidence of diabetes.

Professor John Funder AC, patron of Obesity Australia, says, “While Obesity Australia is primarily interested in obesity, half the people who become obese also become diabetic.”

According to Professor Funder, 27% of Australian adults are now considered obese and another 40% are overweight: “Overweight has become the new ‘normal’.”

People with obesity are also at risk of serious health issues including an increase in some cancers, sleep disturbances and reproductive difficulties. But even small changes can help improve the health of the population.

“In people with diabetes who are also obese, losing 5-10% of their body weight means even though they may still be technically obese, their diabetes will become far less severe and may even go away. Their blood pressure also usually gets much better,” Professor Funder says.

Professor Funder acknowledges people with obesity often battle stigma in the public eye. “Obesity is not a failure of willpower and it’s not a moral failing. It’s not a matter of just eating less and exercising more. It’s more complicated than that.”

Even before a child is born, there are factors at play that can lead to them becoming obese, including the mother having diabetes or developing gestational diabetes, having a very low calorie/low protein diet, or being very stressed. Obesity in both parents has also been linked to childhood obesity.

“The die is cast with obesity before a child can reach the fridge door. The 4 years before the third birthday are crucial to whether or not a child becomes obese,” says Professor Funder.

“This is because up to 90% of us have genes programmed to store fat for survival. How we eat in our early years influences whether those genes are turned on or off, and at what point our brains recognise we are full.”

“The important thing is to try and get prospective parents to minimise the chances their offspring will be obese. Even before conception parents can make a difference.”

Over half of all Australian adults are overweight or obese, which puts them at greater risk for diabetes.

Australian Institute of Health and Welfare

About 4% of Australians have diabetes. That’s almost 1 million people.

Australian Institute of Health and Welfare

“Our research confirms the independent link between diabetes and sleep apnoea.”

Identifying sleep apnoea in at-risk people

Professor Paul Zimmet and colleagues from the Baker IDI Heart and Diabetes Institute are continuing their research to find better ways to uncover obstructive sleep apnoea (OSA) in the Australian community, particularly in people with conditions linked to the problem, such as diabetes.

Identifying OSA is important because it is a common disorder, with a conservative estimate of almost 2 million Australians affected, but it's also commonly undiagnosed.

“Sleep apnoea has serious health, social and economic consequences for the Australian community,” says Professor Zimmet.

Road accidents due to drivers falling asleep at the wheel as a result of undiagnosed sleep apnoea continue to occur. OSA is also problematic in workplaces and in high-risk occupations such as aviation. The total annual cost associated with sleep disorders in Australia was estimated at \$36.4 billion in 2010.

The Bupa Health Foundation is supporting Professor Zimmet and his colleagues in their work in identifying

a more accessible and less costly screening pathway for identifying OSA in high risk individuals such as those with type 2 diabetes.

“A link between sleep apnoea and diabetes has only recently become known,” says Professor Zimmet

“Our research confirms the apparent independent link between type 2 diabetes and sleep apnoea.”

His latest research trialled 3 questionnaires for screening for OSA against a home-based sleep apnoea-testing device.

“The current questionnaires ask about symptoms of snoring, being overweight, and being sleepy during the day. But these symptoms are relatively vague and common in other conditions. The new questionnaires were good at identifying OSA in people with diabetes, but they also picked up people who did not have OSA.”

Professor Zimmet is planning to continue his research to develop a reliable screening tool for OSA. “This will help more people be diagnosed and get the right treatment,” he says.

Michael's story.

Michael, a 56-year-old father and grandfather, was diagnosed with sleep apnoea about 10 years ago.

“I would snore loudly and the more I slept the worse I felt,” says Michael.

“I'd read about sleep apnoea and thought I could have it. I had a sleep test and they found my oxygen saturation dropped to 89% and I had episodes where I stopped breathing for 60-90 seconds. That was scary.”

Michael now uses a CPAP machine every night to help manage his sleep apnoea.

“I can't sleep without it - I even take it with me when I travel for work. I've stopped falling asleep during meals, and I've stopped falling asleep at the wheel.”

He says it's pretty quiet and definitely better for his family than his snoring!

Michael was also diagnosed with diabetes 5 years ago. He found taking medication, and losing excess weight using diet and exercise has really helped his health.

“I dropped from 107 to 96kg, which had a dramatic effect on my sugar levels and my blood pressure. Walking, and reducing sugar in my diet made a big difference - although I do cheat a bit sometimes.”

Dementia

Can brain food help prevent depression and dementia?

Professor Ian Hickie and colleagues from the Brain & Mind Research Institute at the University of Sydney are researching ways to prevent depression and dementia in older people as part of the Beyond Ageing project.

“We know that you can retain your brain function quite late into life. And that age, per se, is no longer an impediment to good cognitive function.”

Professor Hickie’s team is currently looking at whether omega-3 fatty acid (fish oil) supplements and antidepressants can help stop or slow down cognitive decline, depression and dementia in older people.

He says, “We are now moving to testing in much bigger populations of a number of specific interventions – exercise, diet, vascular risk modification – and looking at their effects. Not just over short periods, but over really long periods

so that we know how to structure our lives and structure our health so that we can all age successfully.”

This research is important given the long lives we now lead and focuses on maximising your chances of having the best brain function at any age, Professor Hickie says.

“In the very near future we are going to have much better information to provide to people, particularly in middle life and as they age, as to what they can specifically do to increase their chances that they will live independently and maintain cognitive function as they age,” he says.

“We have developed considerable optimism about what can be done to improve people’s chances of successful ageing.”

By 2030, the number of people with dementia is estimated to increase to 76 million worldwide.

Alzheimer’s Disease International



“People who are living with dementia in their 70s and 80s would already have the pathology in their brains from their mid 40s. Adopting health and lifestyle advice at an early stage will be critical and should be a cornerstone of public policy.”

Professor Graham Stokes,
Bupa Global Director of Dementia Care



BrainyApp success

Suha Ali, the National Dementia Risk Reduction Manager, Alzheimer's Australia, says the idea for BrainyApp grew out of the lack of knowledge in the community about brain health and ways to prevent dementia.

"Most people are unaware of the link between heart and brain health, and the vascular risk factors for developing dementia."

The app, which aims to help users live a brain healthy life and reduce their risk of dementia, has come a long way since its initial launch in Australia and New Zealand in 2011. Within the first 48 hours it had been downloaded 50,000 times.

An Android version and a Spanish-language version soon followed, with a subsequent worldwide launch with close to 400,000 downloads globally. The greatest response has been in the US and the UK.

To help reach and benefit even more people, an updated and improved BrainyApp is due for release this year.

"The objectives for BrainyApp remain to help raise awareness of the risk factors for dementia, and encourage changes in behaviour."

The new version will have more interactivity and goal setting elements. This is designed to help move people from pre-contemplation and contemplation into taking action.

Ali says they are also building in community sharing features that people can use to compete with friends and share success.

A desktop version is also planned for those people who don't have a smart phone or tablet device.

Katrina's story.

Katrina is expecting her fifth child and even at only 39 years of age, preventing dementia is becoming increasingly important to her.

"I had grandparents on both sides of my family who were diagnosed with dementia in their later years, so thinking about dementia has been at the forefront of my mind for some time.

"I want to take an active role in my kids' and grandkids' lives. I don't just want to be the person they come to visit who is confused and doesn't recognise their family. You can see their pain behind the confusion. I'd do anything to prevent that."

Even though there are no guarantees, Katrina is determined to do what she can. "I quit smoking, and I pay more attention to what I eat and what we eat as a family. Exercising is also important and I try to keep myself moving."

"I've also been looking at research that shows doing things like brain training games and crosswords can help prevent dementia." She tries to keep her brain active with these activities when she can and has tried app-based brain training games as well.

"I've only recently come across BrainyApp and think it's a good thing. I like it. It's holistic and I like how you can track your brain and body health together in one place. It makes life easier."



Almost 10,000 serious workplace injuries and more than 25,000 serious injuries from road crashes are caused by poor alertness each year.

CRC for Alertness, Safety and Productivity.

Tackling health challenges

Better sleep for better health at work

Bupa Health Foundation is participating in the Cooperative Research Centre (CRC) for Alertness, Safety and Productivity. The CRC was launched in 2013, bringing together industry, government and university-based thought leaders to help reduce the burden of impaired alertness on safety, productivity and health in Australia.

“Better sleep and alertness are critical for productivity and safety,” says Professor Shantha Rajaratnam from Monash University, who is leading one of the research programs at the CRC.

“The CRC is on the beginning of a journey. It aims to design a series of solutions for sleep loss and poor sleep quality in occupational and clinical settings. We are also developing a range of tools and systems to better manage impaired alertness at work.”

One work stream of the CRC involves designing new lighting systems to help people adjust their body clocks and better adapt to work scheduling.

“We are working with architects and lighting designers to improve lighting standards at work to promote good health and wellbeing,” Professor Rajaratnam says.

“Flickering fluorescents are no good. It’s important to get the right source of light overhead as not everybody has access to a window during the workday, and particularly because there is no sunlight at night.”

Light intensity, colour composition and timing of exposure are all important factors in how the brain responds to light, he says.

“The right source of light at the right intensity and the right time is a non-pharmacological stimulant. It’s as good as a cup of coffee.”

Other areas related to sleep and productivity the CRC is investigating include:

- biologically-informed systems for scheduling shift work
- new ways to measure alertness to assist in assessing fitness for duty or monitoring impaired alertness during a shift
- new ways to screen for sleep disorders such as sleep apnoea, insomnia, or disordered sleep due to shift work.

“People who have had even low trauma fracture have roughly double the risk of dying.”

Getting to the bone of fracture prevention

Professor Jackie Center and colleagues from the Garvan Institute of Medical Research have been looking at health outcomes of people who have had a fracture due to osteoporosis.

By reviewing data from the Dubbo Osteoporosis Epidemiology Study, they found that the risk of a second fracture is increased in people who have had a fracture.

Professor Center says, “In women, the risk of a second fracture is up to double the risk of their peers. It’s even worse for men. Their risk of a re-fracture is 3-4 times higher than their peers who’ve not had a fracture.”

Hip fractures substantially increase a person’s risk of dying compared to others who’ve not experienced a fracture. “People who have had even a low trauma fracture have roughly double the risk of dying. The risk of dying is probably greatest after a hip fracture, but is nearly as high after a spine, arm or leg fracture.”

These risks of dying remain raised for about 5 years after the fracture.

“We do not know the exact cause of the high mortality but have some theories,” Professor Center says. “Toxic substances like lead are stored in bone. The bone turnover that occurs after a fracture may release these toxic substances into the blood and cause problems, particularly for older people. In the future we want to examine lead levels in blood after a fracture to test this theory.”

To explore their findings further, Professor Center and colleagues have set up an international collaboration to look at data from other countries including Canada, Norway, the Netherlands, the UK, Denmark and Italy.

“Results from this collaboration will help us understand more about the outcomes from osteoporosis fracture and inform strategies for fracture prevention,” she says.

“Medications like bisphosphonates, which are used to treat osteoporosis have been shown to help with survival after a fracture. However osteoporosis is still poorly treated. Only a third of women get appropriate treatment, and even fewer men do.”

Samantha’s story.

Samantha is a 74-year-old grandmother who was first diagnosed with osteoporosis 20 years ago.

Despite having a very low bone density she has only ever had a single hairline fracture in her lower spine. “I do trip and fall due to bad eyesight, so I’m very fortunate I haven’t had any other fractures,” she says.

For several years she tried several different medications and luckily, a bisphosphonate helped slow the decline in her bone density. She had to stop taking it for a couple of years as she needed a dental implant, and now she is having injections every 6 months.

As well as taking medication Samantha exercises and does weight training. “I started weight training 10 years ago at a local university who was running sessions for seniors. This helped improve my bone density in addition to what the medication was doing for me.”

“Now I have a personal trainer who comes to my house twice a week. I also go to a strength and balance class once a week. I plan to keep up exercise as long as I can. It really improves my sense of wellbeing.”

Emerging health researcher award

Rising stars of health research

Curiosity and creativity are just some of the qualities that make outstanding health researchers.

The Bupa Health Foundation Emerging Health Researcher Award celebrates those talented researchers who, at an early stage of their research career, demonstrate the potential to make pivotal contributions to health and wellness in Australia and potentially across the world.

The award began in 2012 to recognise the valuable contribution emerging researchers make to helping people lead healthier lives. The work of the finalists for the 2014 award covered a diverse range of important areas in health that have potentially significant benefits for the community.

Revolutionary treatments

Winner of the 2014 Bupa Health Foundation Emerging Health Researcher Award, Dr Greg Ebert from the Walter and Eliza Hall Institute of Medical Research, is investigating a revolutionary new way to treat chronic hepatitis B infection, a virus that affects over 200,000 Australians.

Dr Ebert says, "We were very excited that there were already drugs in clinical trials for cancer therapy that could also be effective in treating Hepatitis B infection. We realised that the way these drugs work is very similar to mechanisms that can actually eradicate the virus. These drugs have the potential to kill hepatitis B virus infected liver cells, and importantly will not harm uninfected cells."

This novel approach of eradicating the hepatitis B virus through killing infected cells is a total shift from the current treatment approach, which uses antiviral medication to stop the virus multiplying as much as possible to reduce the risk of progressive liver disease.

Having shown the concept works in the lab, Dr Ebert is now testing how well the drug works in patients across Australia.

The results of this research can potentially benefit millions of people across the world who have chronic hepatitis B infection. In the future, other chronic conditions such as tuberculosis may also be able to be treated with a similar approach.

Dr Ebert says his research is rewarding, "What I enjoy most about my work is the experience of seeing an idea evolve into a clinical application which has the potential to help many people become healthier and achieve a better quality of life."

From strength to strength

Dr Priya Sumithran from the University of Melbourne was the winner of the inaugural Emerging Health Researcher Award and her research into weight loss continues to gain attention.

She won the Award in 2012 for her research which shed light on the role that certain biological factors play in weight loss and its maintenance.

It turns out putting weight back on after weight loss is not just about falling back into old habits of diet and exercise. Dr Sumithran explains, "When we lose weight, changes occur in our hormones that affect how hungry we are and how we store fat. These changes persist for one year after the initial weight loss. This means the work of weight loss is not over when you stop dieting. It's harder to keep weight off than most people expect because you need to keep vigilant about diet and exercise at a time when you actually feel hungrier."

This has important implications for the planning and implementation of successful long-term weight loss strategies and programs in Australia.

Priya has built on these findings and last year received a Bupa Health Foundation Health Award to support her ongoing research into whether it's possible to predict the likelihood of success of a weight loss program.

She says, "All diets work to some extent in the short to medium term. However, there is a large variability in how individuals respond to each approach.

"With very low energy diets (VLED) commonly used under medical supervision, some people have sustained success in losing weight, some have early success but then put weight back on. Others just struggle to lose weight at all."

Her research is looking at a number of different biological, social and psychological factors to see if they can find a way to predict how each person will respond to a VLED diet.

Once the study is completed it may help practitioners and weight loss clinics to target and tailor interventions to patients to help ensure the best chances of success.

2015 health award recipients

This year's successful research proposals from the annual competitive funding process reflect the increasing need for cost-effective and innovative ways to improve health outcomes.

We are very excited about these opportunities to make a difference to the health and wellbeing of Australians.

Telemedicine: harnessing technology to manage diabetic foot ulcers in rural Australia

Translational research on endocrinology and Diabetes, James Cook University

Associate Professor Usman Malabu

Information technology ('telemedicine') will be used to help nurses manage foot ulcers in people with diabetes living in remote areas of Australia. Foot ulcers are a serious complication of diabetes, and people in remote areas have limited access to wound care specialists. If this model is successful, and rolled out to rural facilities, it will provide greater access to specialist wound care, and reduce hospitalisations and amputations in people with diabetes.

Brain imaging techniques could help guide treatment in people with dementia

CSIRO - Digital Productivity Flagship

Associate Professor Stephen Rose

This study will investigate whether measuring brain activity in people with early dementia can predict their response to cholinesterase inhibitors, medicines that may enhance cognitive function and stabilise memory. Imaging techniques (PET and MRI) will be used to measure the activity of specific (cholinergic) nerves in the brain, to help doctors decide whether to prescribe the cholinesterase inhibitors. This individualised treatment could improve outcomes for people with Alzheimer's disease.

An automated web-based screening system for eye diseases

Centre for Eye Research Australia, University of Melbourne

Professor Mingguang He

Eye diseases such as glaucoma, retina damage caused by diabetes, and age-related macular degeneration, cause more than 50% of blindness in Australia. This project will deliver a technology-driven, user-friendly screening system to identify people with these conditions. The system can be used at optometry or diabetes clinics, improving access, reducing waiting times and potentially reducing vision loss.

Clinical decision-making in the appropriate use of angiograms

University of Melbourne

Associate Professor Vijaya Sundararajan

An angiogram is a common procedure recommended for diagnosing heart attacks. However, research suggests that angiograms are not routinely used for this purpose. This study will investigate how angiograms could be used more appropriately using specific patient information (including age, gender, risk factors and medical history) to improve clinical decision-making and patient care.

STEP: St Vincent's Early mobilisation Pathway for hip and knee joint replacement surgery

University of Melbourne

Dr Trisha Peel

These researchers will conduct a clinical trial comparing two different care plans in people who have had hip or knee joint replacement surgery. The study will compare the length of time patients stay in hospital after surgery with an Early Mobilisation Plan compared with Standard Care. The results will help to improve health outcomes, and the standard and cost-effectiveness of care for these patients.

Bupa Health Foundation leadership

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Annette Schmiede, Executive Leader

Alana Fisher, Operations Manager

Patricia Oliveira, Administration Assistant

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