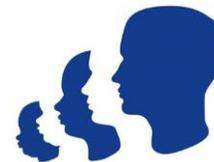


# Dunedin Multidisciplinary Health & Development Study



## PHASE 45 EXPLANATION OF PROCEDURES

Dear Study Member,

We are excited to outline our plans for Phase 45 of the Dunedin Multidisciplinary Health and Development Study. Please read this carefully. We hope you will agree to participate again in this very worthwhile research programme.

The big-picture purpose of the Study is to obtain a better understanding of the aging process by studying the health and development of people in early mid-life. Surprisingly, not much is known about people in their mid-40s, in this country or overseas, so what we find out will be used to help policy-makers and help plan better services around the world.

**As you are aware, involvement in the Study is completely voluntary and you are free to withdraw at any time.**

### **ANY QUESTIONS?**

If you would like to talk about any parts of the Study, please contact us:

**Professor Richie Poulton** (Director)

**Dr Sandhya Ramrakha** (Research Manager)

**Mr Sean Hogan** (Cohort & Assessment Manager)

Within New Zealand 0800-479-8508 (freephone) or from overseas +64 3 479 8508 (collect).

### **WHAT KIND OF INTERVIEWS AND TESTS ARE INCLUDED THIS TIME?**

The interviews and tests are described on the following pages. The lead researchers associated with each programme of research are listed at the end of this document. For a complete list of all Phase 45 investigators, please see our website: <http://dunedinstudy.otago.ac.nz>

We would like you to read this explanation of the procedures before deciding whether to sign the Consent Form (enclosed). Please bring the Consent Form with you when you come to the Unit. ***If you do not wish to take part in any particular section, just cross out that section on the consent form.*** Remember, you will get another chance to discuss any aspects of the assessments when you come to the Unit.

## OLD STUDIES AND NEW

Most of the studies are the same or very similar to those we have done in the past. All new studies are identified and described in detail to help you decide whether you wish to take part in them.

## CONFIDENTIALITY

As always, all information is strictly confidential to the Research Unit and is never released to anyone unless you request this. All data are protected by an anonymous identification number.

## ASSESSMENTS

### THINGS YOU HAVE DONE BEFORE

#### CARDIORESPIRATORY HEALTH

As in the past, we will be taking your **blood pressure**, **heart rate**, and **body measurements** (e.g. height and weight), and testing your **fitness**.

In the Respiratory part of this session we will ask questions about breathing problems, hay fever, cigarette smoking, sleep, and your environment at work and home. We will conduct the same **lung tests** as at age 38, which involves sitting in our 'body box' and blowing into a mouthpiece, panting, and holding your breath. Following these tests, we will give you Ventolin to breathe (an inhaler used by people with asthma) and repeat one of the breathing tests. We will also conduct **exhaled nitric oxide and carbon monoxide tests**. Again, this involves blowing into machines that measure these compounds in the exhaled breath. There are no risks associated with these tests. If possible:

*Please do not use any breathing inhalers on the day of your assessment but bring them with you; and please do not smoke on the day.*

#### DENTAL HEALTH

The dental part of the Study is concerned with tooth decay and gum disease (which are the two main oral diseases). We are also interested in your attitude to dental care, and the effect that this has had on your dental health. As in the past, we will conduct a brief **dental examination** and ask you questions about your dental health. We will explain the results of the examination and give you a written report that you can take to your dentist if there are any findings that might be of help to you.

We also wish to conduct a **3-D photo of your teeth** for the first time. This will be done using a tiny camera on a wand, which will be held over your teeth. The camera will take about 3000 photographs per second and will make a digital 3-D model of your teeth. It will take a couple of minutes and we may need to stretch your lips a little or hold your tongue to one side when taking the pictures.

#### FACIAL PHOTOS

Once again we will take a photo of your face, as well as a close-up of your eyes and mouth. This is used to measure wrinkling, for example from sun exposure or smoking, and as an indicator of the aging of the skin. If you wear makeup, you will be asked to remove it for this assessment and wipes will be provided for this purpose.

## PHYSICAL FUNCTION

We will again assess your **balance** by asking you to stand on one leg, your **hand grip strength** by using a special instrument, and your **hand-eye coordination and dexterity** by placing pegs in a pegboard.

## HEALTH HISTORY

Again, we will also enquire about your **general health**, but with a slightly expanded list of conditions. Specifically, we will be asking about your recent medical history, use of medication, injuries, physical activities, pain, diet, health knowledge, sleep, and smoking.

## BLOOD TESTS

Just like at Phase 38, we would like to take a small sample of your blood (approximately 60mls). This will be taken towards the end of the assessment day by a trained nurse. Only a small amount of discomfort is involved. The blood will be stored and analysed (in the domains below) to provide information about how these biomarkers interact with lifestyle and behavior to predict health and well-being.

- Hormones (e.g. testosterone, cortisol, oestradiol)
- Immune System (e.g. C-reactive protein, immunoglobulin-E, fibrinogen)
- Ions and Trace Elements (e.g. ferritin, calcium, iron)
- Cardiovascular Function (e.g. cholesterol, apolipoprotein A1, triglycerides)
- Kidney and Liver function (e.g. cystatin C, creatinine, albumin)
- Blood Cell Counts and Haematology (e.g. platelets, basophils, glycated haemoglobin)
- Diet and Vitamin levels (e.g. vitamin D, red blood cell carbon stable isotope ratio)
- Nucleic Acids (e.g. telomeres, whole genome DNA methylation, whole transcriptome gene expression)
- Detoxification Processes (e.g. blood protein carbonyls)

## COGNITIVE FUNCTION

We will be testing your cognitive functioning via tests of memory, attention, visuospatial ability, and analytic and verbal reasoning. We had two sessions last time; you will be pleased to know we have shortened this to one. If possible, please try not to use excessive alcohol or drugs the night before you come to the Unit, as a 'hangover' can interfere with these tests.

## UPDATE OF LIFE EVENTS

As at the last assessment, you will be asked about your life over the past seven years. In particular, we will ask about where you have been living, who you have been living with, and the jobs you have had. We will also ask about recent major life events such as getting married, having children, and serious injury or illness.

## MENTAL HEALTH

As we have done every assessment since age 11, we will ask you about your feelings and about any emotional problems or difficulties you may have experienced in the last 12 months. We will also ask about your use of alcohol and drugs. The interview will cover a wide range of areas, including your use of mental health services.

We will also ask you about your emotional health in the years since you were 38 when we did not see you. Just like last time, we will ask for your permission to send a short questionnaire about your emotional well-being and behaviour over the past year to three people chosen by you, who know you well. We can show you the questionnaire when you come in.

## LIFESTYLE

As in the past, we will ask you about your **sexual behaviour** and relationships, contraception use, pregnancies, and any sexually transmitted infections you may have had. We will also be asking about changes in physical functioning and your experience of health conditions associated with **sexual and reproductive function**. These questions will focus mainly on events and changes since the previous assessment. They will be asked via a computer again and you can skip any questions you do not want to answer.

We will again ask you about your **education and work experiences**, including qualifications and skills. We will also ask about your current and most recent job, about things that make your job stressful or demanding, how you cope with this, and how much support you get at work. Finally, we will ask you about your **financial situation**.

We will continue to conduct studies aimed at understanding health issues associated with **ethnicity and identity**. They will include questions about involvement in Māori society and experience of discrimination on the basis of ethnicity.

You will be asked again about **illegal** things you may have done in the past year and about your attitudes towards illegal behaviour. We will also ask you about **gambling**. We will ask you about your **partner and other relationships**. For partner relationships, we will ask you about the activities you do together, how you deal with disagreements, and how you divide the household tasks. Finally, we will again ask questions about your **coping and support mechanisms**, your **religious** views, and **life satisfaction**.

## NEW ASSESSMENTS

### MUSCULOSKELETAL

We will ask questions about your experience of pain in general, and lower back pain specifically, how this affects your life, and your feelings and general functioning.

We will also assess your **pain threshold**. To do this, we will use an algometer which is a rubber-tipped pressure device. It will be used to apply pressure to the area of your body that you identify as the most painful, then on the opposite, non-painful part of your body and finally on a part of your body distant to the painful area. The moment you tell us the pressure is painful, we will stop.



The other procedure, called a **pain summation test**, involves tapping gently, 10 times, with a nylon filament on an area you identify as painful and asking you to rate the intensity for the first and last taps. We will do this twice. We will repeat this procedure on a non-painful area of your body. Rest assured all Study staff have tried



these tests and found them easy to tolerate.

We will also be conducting a total body scan to measure your bone density. This is called a **‘DXA’ scan** (DXA stands for Dual X-Ray Absorptiometry). DXA scanning is a quick and painless procedure to determine the density of your bones and get a very accurate measure of fat and muscle in your body. You will change into hospital scrubs and have two scans done while you are lying on an examination table. It does not involve being touched or prodded in any way. It does involve a very small dose of radiation (less than 2 uSv). This dose is considered trivial and similar to the radiation received from a long-haul flight. To put it in perspective, everyone living in New Zealand receives 2000 uSv each year just from natural background radiation.



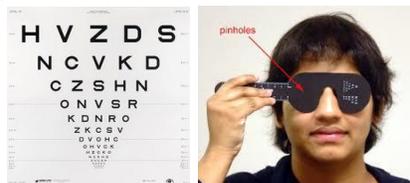
## SENSORY

We last measured your vision and hearing in childhood, and we want to start doing this again. This will involve a number of tests, which should be fun!

## VISION

We will ask you questions about your eyes and whether you wear glasses/contact lenses, if you (or members of your family) have any eye problems, and if eyesight difficulties affect your life in any way. We will also conduct a number of standardised eye tests using the latest technology.

We begin with a **standard eye test**, the kind you would do at an optometrist. The test will measure what you can see using a standard eye chart. One eye is tested at a time, while the other eye is blocked using a plastic occluder.



We will also conduct a **contrast test** to determine the level of contrast the eye can detect. This will be done using an eye chart with letters placed at an appropriate distance. The letters will gradually fade from black to grey to white to determine the level of contrast your eye can pick up.



We are also going to measure the shape of the surface of your eye, how much error there is when the eye is trying to focus, and the thickness of the cornea (often described as ‘the window to the eye’). This will be done using a machine similar to the one used to take retinal images at the last phase. This machine will also check the pressure of your eyes. This test is called **autorefractometry**.



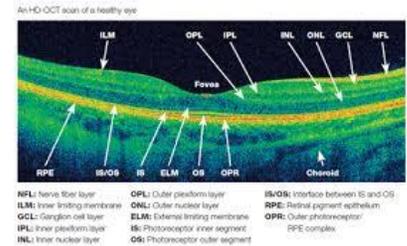
A visual field test will be used to test for **glaucoma** which is a ‘silent’ eye disease. One eye is tested at a time with the other covered with a pirate patch. This will be done in a slightly darkened room using the machine pictured on the right.



**Dry eyes** are very common in today's world partly because of increased technology use. An OCULUS Keratograph (pictured) will be used to test for dry eye, by measuring blinking rates and the state of the tears on the eye surface. This will be done by placing your chin on the chin rest and directing your gaze into a fixating light. Only the right eye will be tested.



The last test is a standard test undertaken in every eye department in New Zealand. It is like a photograph and it analyses the back of the eye in fine detail. It will measure the **retinal nerve fibre layer** (these are the nerves that die off in glaucoma), the macula (the centre of the retina from which we see), and the retinal blood vessels, with incredible resolution. You will be asked to place your chin on a chin rest and fixate one eye at a time on a light. The graphic on the right shows some of the results we will generate.



In the final part of the vision section we will take a **3-D picture of your face and head**. This will involve at least 12 cameras and 4 lights. The images captured will be digitally reconstructed into a 3-D image. All you need to do is to sit still for a few seconds. This novel assessment of facial structure is expected to predict risk of eye diseases (e.g. glaucoma or keratoconus), and aging more generally.



## HEARING

We will ask you questions about your hearing and whether you wear hearing aids. We will ask about your ability to hear when there is background noise, whether you can tell how far away a particular sound is, and if you can hear several sounds at once.

We will begin with an examination called **otoscopy** which will involve a visual examination of the outer ear canal and eardrum using a hand-held otoscope with magnifying glass, a bright light, and a speculum. It is to ensure that the ear canal is not blocked with earwax and the eardrum is healthy.



We will then measure how well the middle ear bones, the eardrum, and small muscles in the middle ear are working. You will be asked to sit still and a soft-tipped, hand-held probe will be inserted into the outer ear canal and the air pressure varied rapidly. The sensation is similar to the pressure change when you go up in an airplane. This is a standard test called **tympanometry**. We will also do an **acoustic reflexes** test in which a series of tones will be played into each ear to test how well the eardrum is vibrating and whether the small muscles in the middle ear are contracting.



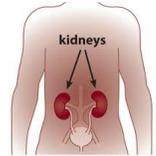
We will then measure how sensitive your hearing is and your ability to hear speech in background noise. This will be carried out in a sound-proof booth, where you will be seated and a pair of headphones placed over your ears. In the first test, (**pure tone audiometry**), a series of different tones, at different pitches will be played to you at different volumes and you will be asked to let us know when you hear each of the tones, even when they are very soft. In the second test (**speech or digits in noise**), you will be asked to repeat



sentences and words played to you with, and without, noise or to write down on a tablet computer, a series of numbers played to you with, and without, background noise.

### KIDNEY FUNCTION

Our kidney plays a major role in regulating the body's blood pressure, blood volume, getting rid of waste from your diet and energy consumption. Over a 24-hour period, it filters 180 litres of blood, which contains many important nutrients as well as water. Yet we only pass 2 litres of water, which has waste products and excess water we don't need – the rest is actively absorbed back into the blood stream. About one in 11 New Zealanders have evidence of chronic kidney disease but many are not aware of this. The risk increases as we age. Chronic kidney disease is closely linked to cardiovascular health. That's why we are planning to assess kidney function because chronic kidney problems have become a major public health issue in the 21<sup>st</sup> century.



We are interested in identifying potential early markers that can indicate kidney damage. Many are detected in urine, others in blood, so we plan to use urine *and* blood samples to identify these markers. Urine is a very sensitive marker of kidney health. When you arrive at the Unit we will ask you to provide a sample of your urine. Collection will be done privately (in individual bathrooms at our new Research Unit), the same way it is done in hospitals, laboratories, and at GP practices. You will be provided with the necessary collection containers and instructions on how to collect the samples.

### PHYSICAL FUNCTION

We are adding several new physical function tests, including measuring how you walk normally and while you are conducting a task. We will also test your balance by asking you to step-in-place. Finally, we will ask you to do chair stands to measure the strength of your legs.



### DATA LINKAGE

As we have done before, we wish to also use other sources of information that are held about you to further flesh out our understanding of the topics we study. Information from other sources is sometimes more detailed than what you may be able to supply from memory. This information is, of course, subject to strict security measures to maintain confidentiality. **Importantly, no information about you will ever be given to any of the sources listed, without your express permission.**

Just like at age 38, we will ask you for permission to collect the following information:

- Police and Justice Records: for studies of illegal behaviour
- Hospital Records: for studies of injury and health
- Records held or administrated by the Ministry of Health Information Group (e.g. prescription medication): for studies of injury and health
- GP Records: for studies of injury and health
- Emergency Service Records: for studies of injury and health
- ACC Records: for studies of injury and health
- Traffic Accident Reports: for studies of injury and health

- Ambulance Records: for studies of injury and health
- Police Traffic Reports: for studies of injury, health, and drink driving
- Credit Checks: for studies of work and finance
- Government Benefits: for studies of work and finance

New linkages we wish to include are:

- Social Welfare Records: for studies of work and well being
- Tax Records: for studies of work and finances
- Immigration and Travel Records: for studies of health, finances, and well-being
- Census Information: for comparison studies
- Education: for studies of work, finances, and health
- Student Loans and Allowances: for studies of finances
- Integrated Data Infrastructure (IDI): for studies of work and well being

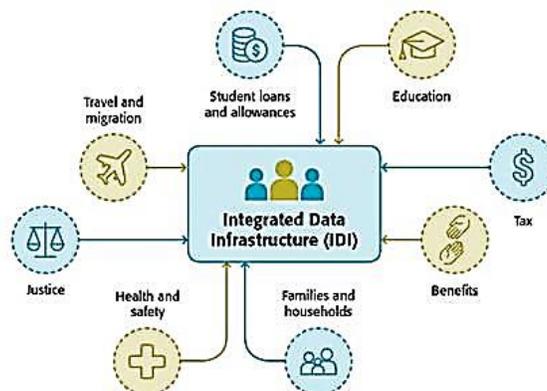
Social Welfare Records are held by Child, Youth and Family Services (and previously other agencies) and contain information concerning you relating to help, support, or any contact as a child or adult.

Tax records are held by Inland Revenue and will assist in the understanding of your work and financial situation. Travel and Immigration records are held by the New Zealand Immigration Service and this will help us understand migration patterns and reasons for moving.

Information from the Census records will provide us with more information on family and household composition. Student Loans and Allowances are held by the Ministry of Education, Ministry of Social Development (StudyLink), and Inland Revenue. This information will provide further information on the cost of education.

The IDI is an existing research database protected and managed by Statistics New Zealand. It holds anonymised data from a range of government agencies and Statistics NZ surveys. Statistics NZ provides these data in an anonymous form to government and researchers. We seek your permission to link in to your records within the IDI and collect the information held about you.

The illustration below shows the type of information that is held in the IDI.



We seek permission to collect records from these sources up until the time of your next assessment, hopefully when you are aged 52 (2024-2025), but this, of course, depends on funding!

## BIOLOGICAL STUDIES (ONGOING SINCE PHASE 26)

Study researchers conducting genetic research (using DNA and RNA) look for genes that make people resistant to health problems or stressful experiences. RNA is produced by DNA and measuring it allows us to better understand how our genes work and how they influence health. As in the past, we plan to conduct studies about genetic risk or protection, and the development of behaviour problems, such as depression, or the development of physical health problems, such as poor lung function. We will continue our work in these areas, with studies focusing on cardiorespiratory and neurological function, gum disease, cognitive difficulties, risk for diabetes, and good and poor aging. In a nutshell, we will try to understand how genes interact with life experiences to influence health and development, and how this might change as people age. In the long run, it is possible that the Unit might make discoveries that can lead to medically useful diagnostic tests, or new treatments, cures, and preventions.

Importantly, none of the material stored in the biorepository will be used to identify individuals for any forensic or clinical purposes. The DNA and RNA will *not* be used to test for any known disease, and no 'test result' will be generated. As a Research Unit, we are not equipped to provide clinical genetic testing or the genetic counselling that must accompany such testing. Should a Study Member require clinical genetic testing in the future, a new tissue sample would be easily obtainable, without accessing the Dunedin Study Biorepository. If you are ever asked (for example, by an employer) whether you have undergone genetic screening, it is correct to reply that you have not. Genetic data will be analysed in group comparisons only and are for confidential research only. No feedback can be given to individual Study Members or their GP about their genes, although, as usual, the broader findings of the research will be shared with Study Members in newsletters and other publications.

## THE DUNEDIN STUDY BIORESPOSITORY

Samples (e.g. serum, urine) and DNA and RNA will be frozen and stored in special, locked freezers that belong to the Dunedin Study, at laboratories here at the University of Otago and at Duke University, Durham, USA (with Professors Moffitt and Caspi). No names will be on the test tubes, only bar code identification numbers will be used.

Scientists seeking to access the Dunedin Study Biorepository for *future* research projects will require:

- 1) Approval from the Study's Director (Professor Richie Poulton), Associate Director (Professor Terrie Moffitt) and Assistant Director, Biorepository (Professor Stephen Robertson) and
- 2) Ethical approval from their host institutions and/or appropriate ethics committees in New Zealand.

## RESPONSIVENESS TO MĀORI IN THE RESEARCH

The Dunedin Study has implemented a Māori research policy. It has been developed as part of the partnership between Assistant Director, Māori (Associate Professor Joanne Baxter), other Māori researchers, and the Study Director (Professor Richie Poulton). This policy includes protocols for the collection, storage, analysis, and disposal of samples collected as part of the research. It also includes protocols for the collection and analysis of data from questionnaires in relation to Māori. The Māori research team has a role of providing kaitiakitanga (guardianship) for Māori aspects of the Study. Copies of the detailed policy are available at the Research Unit.

## UNIT NON-INTERVENTION POLICY

Our policy is not to intervene in people's lives except in two exceptional circumstances where an individual is deemed to be:

- 1) An immediate threat to themselves; or
- 2) An immediate threat to the safety of others.

Thankfully, these situations rarely occur, but we have procedures in place should they be required. We do not provide Study Members with formal feedback about their information collected during the day, except if results show an immediate risk to the Study Member's health. We will continue to provide you with information and contact details (e.g. addresses for GPs or specialised clinics and services) if you want this.

## SECURITY OF INFORMATION

All information collected by the Research Unit is kept secure. Information is linked to anonymous numbers and special security procedures are in place to prevent the information being linked to the names of Study Members. No material that could identify any individual is ever used in any reports of the Study. Only approved Dunedin Study researchers will have access to the data.

## CONFIDENTIALITY

Finally, we want you to be reassured that **ALL** information we collect is for research purposes only. It is strictly confidential and is *never* released to anyone unless you request it. **Under no circumstances would we share information about you with anyone**, including partners or parents.

## LOGISTICS AND ARRANGEMENTS FOR PHASE 45 ASSESSMENT

### WHERE?

The assessments will be carried out at the Research Unit in our smart new building at the corner of Union Street and Anzac Avenue (see enclosed map and photo on the last page), opposite Logan Park and the Stadium. The final session will be carried out at Dunedin Hospital.

### WHAT TIME?

Please arrive by 8:10am at the latest, as we need to start promptly.

From 8:30am to 12.25pm, there will be four 55-minute assessments, with a tea break. There will be a physical fitness test during this time, *so please wear casual or loose fitting clothing*. We ask you to *bring any medication you are currently taking* so we can accurately record this information. If you wear spectacles and/or contact lenses, please bring them and also *your contact lens case* as one of the assessments will require you to remove your contact lenses for a short time. We would also like you to *bring contact details of your family and friends* as, once again, you will be asked to nominate three people to provide information.

The afternoon sessions will begin at 12:55pm consisting of two 100-minute sessions broken up by a 10-minute tea break, and then one final 60-minute session, finishing at about 5:25pm.

### REFRESHMENTS

We will provide you with lunch, and morning and afternoon tea.

### AND PLEASE REMEMBER...

- To be on time (8.10am).
- To bring the Consent Form.
- To bring any medication you are currently taking.
- If you wear glasses and/or contact lenses, please bring them and your contact lens case.
- To bring contact details (email addresses, phone/mobile phone numbers, mailing addresses) of your family and friends whom you might nominate to provide information.
- To wear casual or loose clothing as you will be undergoing a physical fitness test.
- Because a number of the assessments we are conducting can be affected by substance use and/or recent food intake, we ask that you please:
  - ☺ Try to have a light breakfast.
  - ☺ Try not use excessive alcohol or drugs the night before you come to the Unit.
  - ☺ Try hard not to smoke or use an inhaler (or any non-prescription medications) on your assessment day.

## ACCIDENT COMPENSATION CORPORATION (ACC)

In the unlikely event of a physical injury as a result of your participation in this Study, you will be covered by the accident compensation legislation within its limitations. If you have questions about ACC please feel free to ask the researchers for more information before you agree to take part in the Study.

### RISK

The American National Institute on Aging is funding some of the assessments: Recent Life History, Cardiovascular Risk Biomarkers, Cognitive Abilities, Illegal Behaviour, and Partner Relations. They have asked us to specifically inform you about the risks of these studies. The risks involve:

- 1) Possible emotional upset and worry that could be caused by discussing your recent life events, your illegal behavior, and your relationship with a partner;
- 2) Slight discomfort when giving blood: and
- 3) Possible loss of confidentiality if the Unit's security measures were ever to fail. Please consider these risks before you decide to participate in these assessments.

### STUDY MEMBERS' RIGHTS

If you would like advice as to your rights as a participant in this Study, you may wish to contact a Health and Disability Services Consumer Advocate, telephone:

Free Phone:	0800 555 050
Free Fax:	0800 2787 7678
Email:	advocacy@acc.co.nz

***THANK YOU FOR YOUR HELP.  
WE LOOK FORWARD TO SEEING YOU AGAIN SOON!***

#### DIRECTOR

**Professor Richie Poulton, FRSNZ**

Dunedin Multidisciplinary Health & Development Research Unit, Department of Psychology, University of Otago, New Zealand.

#### ASSOCIATE DIRECTOR

**Professor Terrie Moffitt**

Departments of Psychology & Neuroscience, and Psychiatry & Behavioral Sciences, Duke University, USA; Institute of Psychiatry, Kings College, London, United Kingdom.

## LEAD INVESTIGATORS FOR PHASE 45

### MENTAL HEALTH; PSYCHOSOCIAL; LIFESTYLE; CARDIOVASCULAR RISK; PHYSICAL FUNCTION; BIOMEDICAL; GENETIC STUDIES; ADMINISTRATIVE DATA.

Professor Richie Poulton, *BSc, PGDipSci, MSc, PGDipClinPsych, PhD*

Dunedin Multidisciplinary Health and Development Research Unit, Department of Psychology, University of Otago, Dunedin, New Zealand

Professor Terrie Moffitt, *BA, MA, PhD*

Departments of Psychology & Neuroscience, and Psychiatry & Behavioral Sciences, Duke University, USA; Institute of Psychiatry, Kings College, London, United Kingdom.

Professor Avshalom Caspi, *BA, MA, PhD*

Departments of Psychology & Neuroscience, and Psychiatry & Behavioral Sciences, Duke University, USA; Institute of Psychiatry, Kings college, London, United Kingdom.

### DENTAL HEALTH

Associate Professor Jonathan Broadbent, *BDS, PhD, PGDipComDent*

Department of Rehabilitation, Faculty of Dentistry, University of Otago, Dunedin, New Zealand

### ETHNICITY, IDENTITY AND MĀORI HEALTH

Associate Professor Joanne Baxter, *BHD, MB ChB, MPH, FAFPHM,*

Dunedin School of Medicine, University of Otago, Dunedin, New Zealand.

### SEXUAL BEHAVIOUR AND REPRODUCTIVE HEALTH

Professor Jennie Connor, *MB ChB, MPH, BSc, PhD, DipObst, FAFPHM*

Department of Preventive and Social Medicine, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand

### RESPIRATORY HEALTH

Professor Bob Hancox, *BSc, MB ChB, MRCP(UK), FRACP*

Department of Preventive and Social Medicine, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand

### MUSCULOSKELETAL HEALTH

Professor David Baxter, *BSc(Hons), DPhil, MBA*

School of Physiotherapy, University of Otago, Dunedin, New Zealand

## HEARING

Professor Peter Thorne, *BSc, DipSc, PhD*

Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand.

Professor Suzanne Purdy, *MSc, PhD, DipAud, FAAA, MAudSA, MNZAS*

School of Psychology, Faculty of Science, University of Auckland, Auckland, New Zealand.

## VISION

Dr Graham Wilson, *MB ChB, FRANZCO, MOPHTH*

Clinical Senior Lecturer, University of Otago, New Zealand

Professor Richie Poulton, *BSc, PGDipSci, MSc, PGDipClinPsych, PhD*

Dunedin Multidisciplinary Health and Development Research Unit, Department of Psychology, University of Otago, Dunedin, New Zealand

## KIDNEY FUNCTION

Professor Rob Walker, *MB ChB, MD, FRACP, FASN, FAHA*

Department of Medicine, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand.

Professor Zoltan Endre, *MB BS, BSc(Med), PhD, FRACP*

Faculty of Medicine, University of New South Wales, Sydney, Australia; Department of Medicine, University of Otago, Christchurch, New Zealand

**CONTACT US:**



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Overseas: +64 3 479 8508 [collect]  
**Email:** [dmhdru@otago.ac.nz](mailto:dmhdru@otago.ac.nz)  
**Website:** <http://dunedinstudy.otago.ac.nz>

**LOCATION:**  
163 Union Street  
Dunedin 9016  
New Zealand



**Our (flash!) new premises:**

