

Institute for Physical Activity and Nutrition

The Institute for Physical Activity and Nutrition (IPAN) is a world-leading research institute committed to improving health and quality of life. We focus on reducing the rates of chronic disease through nutrition and physical activity research excellence, while fostering the next generation of research stars.

The Institute is Co-Directed by Alfred Deakin Professor David Crawford and Alfred Deakin Professor Jo Salmon.

The Institute conducts research across four domains and comprises a number of research groups outlined below:

Research domain: Biology of health and disease

- Biology of cardiovascular and metabolic health
- Regulation of nutrient metabolism
- Growth, development, and function of organs and tissues

Research domain: Preventing and managing chronic conditions

- Digital health for lifestyle and disease management
- Behavioural approaches to promote healthy lifestyles
- Musculoskeletal health and mobility
- Exercise and nutrition for brain health
- Exercise and nutrition for cancer

Research domain: Healthy active living

- Physical activity and sedentary behaviour from infancy to young adulthood
- Built and natural environments for physical activity
- Healthy and active workers

Research domain: Food, nutrition and health

- Nutrition in pregnancy, early years, and childhood
- Nutrients and health
- Dietary patterns and eating behaviours
- Community and retail environments that support healthy eating
- Food policy and public health

RESEARCH DOMAIN: Biology of health and disease

The overarching aim of research in this domain is to characterise and understand the biological mechanisms by which exercise and nutrition impact health. Research in this domain includes healthy and clinical populations across the lifespan – from growth in the womb to ageing.

This domain consists of three research groups:

- Biology of cardiovascular and metabolic health
- Regulation of nutrient metabolism
- Growth, development, and function of organs and tissues.

Particular areas of focus include:

- Human growth and function
- Conditions such as obesity, insulin resistance, type 2 diabetes, cardiovascular disease, muscle wasting and motor neurone disease.

Utilising state of the art facilities, our researchers conduct cell culture and rodent model studies, as well as whole-body human studies, for the assessment of cardiovascular, metabolic and endocrine function.

Research group: Biology of cardiovascular and metabolic health

Group leader: Associate Professor Michelle Keske

Group members: Associate Professor Glenn Wadley, Dr Andrew Betik, Dr Lee Hamilton, Dr Kirsten Howlett, Dr Gunveen Kaur, Dr Lewan Parker, Dr Chris Shaw, Dr Adam Trewin

Description

The *Biology of cardiovascular and metabolic health* group focuses on reducing the burden of cardiometabolic diseases (obesity, insulin resistance, type-2 diabetes and cardiovascular disease) on our community.

Particular areas of interest include assessment of large and small blood vessel function, cardiac function, blood pressure, whole body metabolism, blood sugar control and fat metabolism. Our group uses a broad set of research techniques including:

- Nutritional interventions
- Ultrasound imaging
- Tonometry
- Exercise stress testing
- Euglycaemic-hyperinsulinaemic clamp
- Oral glucose tolerance test
- Mixed meal challenge and
- Indirect calorimetry.

Our group also uses a range of clinical and laboratory models to understand how to maintain cardiovascular and metabolic health, and to discover new ways to prevent and treat cardiometabolic diseases.

This group covers:

- Investigating the impact of nutrient intake and exercise on heart function, vascular health and metabolism
- Optimising nutrition and exercise interventions for the prevention and treatment of cardiovascular and metabolic diseases
- Identifying the molecular and physiological mechanisms that regulate cardiovascular function and metabolism.

Research group: Regulation of nutrient metabolism

Group leader: Associate Professor Clinton Bruce

Group members: Associate Professor Glenn Wadley, Dr Lee Hamilton, Dr Kirsten Howlett,
Dr Greg Kowalski, Dr Chris Shaw, Dr Adam Trewin

Description

The *Regulation of nutrient metabolism* group focuses on the areas of integrative physiology, metabolic biochemistry and endocrinology in the context of health and disease. Our group is interested in understanding how glucose, fat and amino acid metabolism are regulated and integrated at the whole-body, organ and cellular level.

An area of particular interest is examining the regulation of liver, adipose, and skeletal muscle metabolism by the pancreatic hormones insulin and glucagon. Given the central role of mitochondria in all facets of cellular metabolism, we also have a strong interest in mitochondrial biology. The group employs a range of experimental approaches in humans, rodents and cell systems to understand metabolic regulation in response to challenges such as exercise and dietary manipulation. We employ a broad range of laboratory-based techniques including molecular biology approaches to manipulate gene expression, and microscopy-based imaging techniques.

Our group also specialises in utilising our in-house mass spectrometry based platforms (GC-MS and HPLC-MS) to perform quantitative-targeted metabolomics and biochemical flux analysis using stable isotope tracers. Our group's research is particularly relevant for conditions with metabolic underpinnings such as insulin resistance, diabetes, fatty liver and cardiovascular disease.

This group covers:

- Examining the regulation of glucose, fat and amino acid metabolism
- Investigating how the pancreatic hormones (insulin and glucagon) influence liver, muscle and adipose tissue metabolism
- Studying how phospholipids regulate mitochondrial biology
- Examining how dietary challenges and exercise influence metabolism, insulin action and mitochondrial function
- Utilising mass spectrometry approaches to conduct targeted metabolomics and biochemical flux analysis using stable isotope tracers.

Research group: Growth, development, and function of organs and tissues

Group leader: Dr Severine Lamon

Group members: Professor Aaron Russell, Professor Rod Snow, Associate Professor Glenn Wadley, Dr Paul Della Gatta, Dr Torie Foletta, Dr Lee Hamilton, Dr Rabia Islam, Dr Angus Lindsay, Dr Craig Wright

Description

The *Growth, development and function of organs and tissues* group focuses on investigating the molecular mechanisms underlying the development and function of human organs and tissues in health and disease. Members of our group have specific expertise in skeletal, smooth and cardiac muscle biochemistry and physiology. Our group possesses a wide range of technical expertise spanning in vitro (tissue culture), rodent, and human models. There is a focus on investigating human and rodent models of skeletal muscle wasting, including ageing, fasting, motor neurone disease and muscle dystrophy. Tissue samples from patient populations are analysed to evaluate the potential clinical relevance of our work.

Regulatory approaches in cell and rodent models of human disease include the use of locked nucleic acid inhibitors and adeno-associated viruses. Isolated muscle and whole body muscle contraction (exercise) is also performed. Members of our group have experience in conducting human exercise trials involving muscle tissue collection (muscle biopsies) and radiolabelled isotope tracer infusion. Specific areas of focus include muscle protein metabolism, non-coding RNA-mediated gene regulation, mitochondrial biogenesis, muscle regeneration and creatine metabolism and supplementation during pregnancy.

This group covers:

- Investigating the impact of physical activity and nutrition on the growth, development and function of human organs and tissues over the lifespan
- Identifying novel molecular targets for skeletal muscle growth, development and function in health and disease
- Understanding the regulation and functional importance of uterine creatine metabolism and establishing the efficacy and safety of maternal creatine supplementation
- Investigating the role of the immune system in the regulation of skeletal muscle growth and regeneration
- Investigating the interaction between neural pathways and skeletal muscle and how this affects muscle function.

RESEARCH DOMAIN: Preventing and managing chronic conditions

This domain focuses on the development, implementation, evaluation and translation of lifestyle-based solutions for the prevention and management of chronic conditions. This includes cardiometabolic and musculoskeletal-related conditions, brain, cognitive and mood-related disorders, and cancer.

This domain consists of five research groups:

- Digital health for lifestyle and disease management
- Behavioural approaches to promote healthy lifestyles
- Musculoskeletal health and mobility
- Exercise and nutrition for brain health
- Exercise and nutrition for cancer.

Researchers in this domain have expertise in:

- The use of effective behaviour-change approaches for promoting physical activity and nutrition across the lifespan for chronic disease prevention and management
- Conducting high-quality clinical and translational randomised controlled trials
- Large-scale epidemiological studies
- Digital health solutions
- The assessment of cardiovascular, musculoskeletal and brain health and cognition using state-of-the-art techniques.

Research group: Digital health for lifestyle and disease management

Group leader: Professor Ralph Maddison

Group members: Dr Susie Cartledge, Dr Shariful Islam, Dr Jonathan Rawstorn

Description

The *Digital health for lifestyle and disease management* group focuses on the development and evaluation of effective, scalable solutions for the prevention and management of chronic diseases, including (but not limited to) cardiovascular disease, diabetes and obesity. Our group has expertise in the development and evaluation of theory and evidence-based technology interventions across a range of settings (homes, hospitals and communities) and populations (adults and clinical populations).

Our research incorporates the use of mobile devices, wearable sensors, home-sensing, and wearable cameras to measure and influence behavioural and health outcomes. We also have considerable expertise in the design and delivery of pragmatic, randomised controlled trials.

This group covers:

- Designing and evaluating the effectiveness of digital health interventions for the secondary prevention of disease
- Understanding how technologies can be used to improve the reach, flexibility, and individualisation of interventions to modify behavioural risk factors for disease
- Exploring the potential of wireless sensors and devices for monitoring physiological parameters and health-related behaviours
- Investigating how to implement and deliver digital health solutions at scale.

Research group: Behavioural approaches to promote healthy lifestyles

Group leader: Alfred Deakin Professor Kylie Ball

Group members: Alfred Deakin Professor David Crawford, Dr Rebecca Lindberg, Dr Katherine Livingstone, Dr Helen Macpherson, Dr Rachele Opie, Dr Megan Teychenne

Description

The *Behavioural approaches to promote healthy lifestyles* group focuses on the development and evaluation of effective behaviour change approaches for promoting both healthy eating and physically-active lifestyles. Our group has expertise in the design, conduct and evaluation of theoretically-grounded, evidence-based behaviour change interventions targeting adults across a range of settings and populations, in both the general and clinical populations. Our group has a particular focus on addressing inequity and promoting healthy lifestyles among vulnerable groups, including those who are socioeconomically disadvantaged, with poor mental health, or with other chronic diseases.

This group covers:

- Investigating behavioural mediators of socioeconomic inequities in diet, physical activity and sedentary behaviours among adults
- Developing behavioural interventions for healthy eating and physically-active lifestyles
- Evaluating behavioural approaches to promoting healthy eating and physical activity amongst socioeconomically disadvantaged men and women
- Evaluating behavioural approaches to promoting healthy eating and physical activity amongst people with/at risk of depression
- Testing feasibility of established and novel approaches to promoting healthy eating and physical activity among vulnerable groups.

Research group: Musculoskeletal health and mobility

Group leader: Professor Robin Daly

Group members: Associate Professor Daniel Belavy, Associate Professor Steve Fraser, Dr Rachel Duckham, Dr Stuart Warmington

Description

The *Musculoskeletal health and mobility* group focuses on the integration of exercise and nutritional approaches for the primary and secondary prevention of musculoskeletal-related conditions throughout the life course. Our group has specific expertise in conducting large-scale human clinical intervention trials and translational studies, particularly in the areas of osteoporosis, sarcopenia, falls and fractures and spinal health. There is also a strong focus on the prevention and management of musculoskeletal-related complications associated with other chronic diseases, including type 2 diabetes, kidney disease, certain types of cancer and cognitive related disorders.

In terms of translational activities, our group has experience and expertise in conducting 'research to practice' trials, and evaluating their effectiveness within the community. Our group actively engages with relevant stakeholders - including medical practitioners, specialists, allied health professionals and industry - to inform policy, practice and clinical guidelines.

This group covers:

- Understanding the independent and combined effects of exercise and nutrition on musculoskeletal health and mobility across the lifespan
- Exploring the mechanisms of musculoskeletal disease causation to guide the development of more effective and/or novel interventions

- Designing and evaluating human clinical intervention trials to understand primary and secondary prevention of musculoskeletal related conditions, that will provide high-level evidence to inform policy, practice and clinical guidelines
- Exploring the role of health technologies to aid the prescription of evidence-based exercise programs for healthy older adults and those with musculoskeletal-related conditions
- Developing novel methodologies for assessing various musculoskeletal-related tissues (bone, body composition, cartilage, (inter)vertebral disc, marrow adipose tissue).

Research group: Exercise and nutrition for brain health

Group leader: Dr Helen Macpherson

Group members: Professor Robin Daly, Associate Professor Daniel Belavy, Associate Professor Susan Torres, Dr Ash Hendy, Dr Catherine Milte, Dr Ewa Szymlek-Gay, Dr Megan Teychenne

Description

The *Nutrition and exercise for brain health* group focuses on developing optimal nutrition, physical activity and exercise strategies to maximise brain health and cognitive function across the lifespan. In particular, our group is comprised of multi-disciplinary researchers with expertise ranging from molecular biology, analytical chemistry, proteomics, neurophysiology, cognitive neuroscience, neuroimaging, qualitative research methods, physical activity, sedentary behaviour and nutritional epidemiology and population-data analyses. Collectively, our research strengths are in the areas of ageing neuroscience, mental health, neuro-rehabilitation, and the conduct of clinical and translational intervention trials and large-scale epidemiological studies.

This group covers:

- Using state-of-the-art brain imaging and behavioral techniques for assessing cognition and brain function
- Understanding the role of nutrition (including micronutrients, dietary patterns and supplements), physical activity and sedentary behavior on healthy cognitive ageing, neurodegenerative diseases and mental illness across the lifespan
- Conducting clinical intervention trials to evaluate the effectiveness of nutritional and exercise interventions, and their combination, on cognitive and mental health
- Exploring the role of health technologies to deliver exercise programs to improve cognitive health and function in older adults and those with chronic neurodegenerative diseases (e.g. Parkinson's disease and dementia)
- Understanding and exploring the links between brain and cognitive health with other chronic conditions, such as sarcopenia, diabetes, stroke and lower back pain.

Research group: Exercise and nutrition for cancer

Group leaders: Associate Professor Steve Fraser, Dr Nicole Kiss

Group member: Professor Robin Daly, Dr Brenton Baguley

Description

The *Exercise and nutrition for cancer* group focuses on exercise and nutrition interventions to optimise musculoskeletal, nutritional, functional and quality of life outcomes for people with cancer. Members of our group have specific expertise in the evaluation of novel models of health care delivery, randomised controlled trials, and exercise and nutrition interventions, particularly in the area of lung, prostate, breast and adolescent and young adult cancers.

Areas of focus include body composition changes and the impact of sarcopenia and bone loss on patient outcomes, recognition and management of cancer malnutrition, and optimised exercise and nutrition interventions that minimise adverse effects of cancer treatment. Our group has a strong national and international network of collaborators and partnerships in clinical health services and academic settings. Members have expertise in translation of research into direct improvements in clinical practice through contribution to national evidence-based clinical guidelines and resources for cancer clinicians.

This group covers:

- Understanding the effects of cancer treatment on patients' musculoskeletal, cardiopulmonary, nutritional, functional and psychosocial outcomes
- Optimising nutritional and exercise interventions that minimise the adverse effects of cancer treatment
- Informing nutrition and exercise guidelines for cancer care
- Educating cancer clinicians on the importance of exercise and nutritional interventions as part of usual care for cancer patients
- Implementing novel models of health care delivery in the oncology setting.

RESEARCH DOMAIN: Healthy active living

This domain focuses on real-world solutions to increase population levels of physical activity and consists of three research groups:

- Physical activity and sedentary behaviour from infancy to young adulthood
- Built and natural environments for physical activity
- Healthy and active workers.

Researchers in this domain come from a wide range of disciplines including: health promotion, education, public health, psychology, epidemiology, human movement and sports science, physiology and endocrinology of stress, musculoskeletal health, motor development, geography, and implementation science.

From pregnancy and early childhood to adulthood, researchers have expertise in:

- Objective and self-report methods for assessing physical activity
- Behavioural epidemiology and determinants of physical activity
- Quantitative and qualitative research methods and
- Real world 'scalable' interventions, including the use of e-health to promote physical activity.

Research group: Physical activity and sedentary behaviour from infancy to young adulthood

Group leader: Alfred Deakin Professor Jo Salmon

Group members: Alfred Deakin Professor Anna Timperio, Associate Professor Lisa Barnett, Associate Professor Kylie Hesketh, Associate Professor Nicky Ridgers, Dr Lauren Arundell, Dr Katherine Downing, Dr Rachel Duckham, Dr Jill Hnatiuk, Dr Harriet Koorts, Dr Venurs Loh, Dr Shannon Sahlqvist, Dr Jenny Veitch

Description

The *Physical activity and sedentary behaviour from infancy to young adulthood* group focuses on understanding and influencing physical activity (including fundamental motor skills and physical literacy) and sedentary behaviour in the early years of life from infancy through to young adulthood. Health and wellbeing outcomes associated with these behaviours are also a priority, including cognitive development, musculoskeletal health, obesity, and other cardiometabolic risk factors. In particular, we focus on the key transitions during early childhood, into primary school, secondary school and school leavers.

We design and test 'real world interventions' using cost-effective strategies that can be adopted by health, education, or other systems at scale. We work extensively with key stakeholders who represent all levels of government, non-government organisations, education sector, and parent groups. Our group has expertise in health promotion, public health, psychology, implementation science, behavioural epidemiology, human movement sciences, and musculoskeletal health.

This group covers:

- Physical activity and sedentary behaviour assessment, patterns and health
- Understanding how physical activity behaviours change including key transition periods
- Understanding the influences on physical activity and sedentary behaviour
- Fundamental movement skills and physical literacy
- Designing and evaluating programs in early childhood settings, schools, homes and communities to help children and adolescents be more active and less sedentary
- Implementation and scale up of effective programs in populations.

Research group: Built and natural environments for physical activity

Group leader: Alfred Deakin Professor Anna Timperio

Group members: Alfred Deakin Professor David Crawford, Alfred Deakin Professor Jo Salmon, Associate Professor Nicky Ridgers, Dr Venurs Loh, Dr Shannon Sahlqvist, Dr Lukar Thornton, Dr Jenny Veitch

Description

The *Built and natural environments for physical activity* group focuses on understanding how the built and natural environments in which people live, work, learn and play can be designed to support opportunities for physical activity via incidental activity, active play, active transport, sport and recreational physical activity.

Elements of the built and natural environment we focus on include urban design and accessibility, streetscapes, park design, school grounds and play spaces.

This group covers:

- Understanding how neighbourhood attributes and urban design influence active transport and physical activity across the lifespan
- Investigating the role of parks and greenspace in supporting healthy active living
- Evaluating the impact of environmental modifications on active living
- Exploring school and play space design to optimise physical activity.

Research group: Healthy and active workers

Group leader: Associate Professor Brad Aisbett

Group members: Associate Professor Daniel Belavy, Associate Professor Nicky Ridgers, Dr Luana Main, Dr Anne Turner

Description

The *Healthy and active workers* group focuses on understanding the behavioural, physiological, physical and psychological factors that contribute to workers' physical and mental health and wellbeing, and activity, both within and beyond their job.

For many people, a particular challenge to their health is sedentary behaviour at work, or the impact that their work has on their physical activity outside their working hours. For these reasons, our research also focusses on workers' physical activity and sedentary behaviour (including incidental activity), physically demanding tasks, formal exercise training, and engagement with leisure time activity including sport.

This group covers:

- Helping workers stay safe, and physically and mentally well to be able to perform at their best
- Modifying sleep, work-rest schedules or training programs to benefit shift workers' wellbeing.

RESEARCH DOMAIN: Food, nutrition and health

Unhealthy diets are the leading contributor to the global burden of disease. Nutrition concerns at the population level are diverse, resulting from both under and over-nutrition. Evidence-informed interventions and policies are needed to tackle these diverse issues.

This Domain consists of five research groups:

- Nutrition in pregnancy, early years, and childhood
- Nutrients and health
- Dietary patterns and eating behaviours
- Community and retail environments that support healthy eating
- Food policy and public health.

Research in this domain includes developing and evaluating interventions and translating research into policy and practice. This domain brings together researchers from the disciplines of nutrition science, dietetics, health promotion, public health, psychology, epidemiology, geography and implementation science.

Researchers have expertise in:

- Dietary assessment methods
- Laboratory-based assessment of nutritional status
- Nutritional epidemiology
- Food policy
- Quantitative and qualitative research methods
- Observational and experimental study designs
- Clinical trials and use of m-health.

Research group: Nutrition in pregnancy, early years, and childhood

Group leader: Professor Karen Campbell

Group members: Dr Carley Grimes, Dr Katie Lacy, Dr Rachel Laws, Dr Penny Love, Dr Alison Spence, Dr Ewa Szymlek-Gay, Dr Paige van der Pligt, Dr Adam Walsh, Dr Jazzmin Zheng

Description

The *Nutrition in pregnancy, early years and childhood* group focuses on informing opportunities that will ensure all parents and their children can maximise nutrition-related health across their lives. We work to describe what and how parents and their children eat, how this influences their health, where they gain their information and support, and how we can most effectively and sustainably work with them to promote healthy eating.

Our research aims to understand these issues across low and high resource countries, and countries in transition. Our focus ranges from pre-conception health through the first 1000 days of life and beyond, to childcare and school settings. Our group has expertise across epidemiology, nutrition and dietetics, health behavior change interventions, the use of m-health to support behavior change, implementation science and research translation.

This group covers:

- Understanding the role of over-nutrition and undernutrition in maternal and child health, and the developmental origins of disease
- Describing the diets and the determinants of dietary intakes in early life to develop strategies for nutrition promotion
- Monitoring micronutrient inadequacies, their impact on maternal and child health, and developing strategies to optimise micronutrient intakes

- Improving functional outcomes in children under five years through optimised nutrition
- Developing and testing interventions related to healthy eating behaviours and healthy weight before, during and after pregnancy
- Working with families, health practitioners and communities to support parents to achieve the best nutrition for themselves and their infants across a child's first 1000 days of life and beyond
- Translating research into practice to achieve sustained implementation of early years interventions within a range of settings (e.g. health services, local governments, child care, early childhood education and schools).

Research group: Nutrients and health

Group leaders: Professor Lynn Riddell, Dr Carley Grimes

Group members: Professor Karen Campbell, Associate Professor Susan Torres, Dr Alison Booth, Dr Claire Margerison, Dr Sze-Yen Tan, Dr Ewa Szymlek-Gay, Dr Anne Turner, Dr Paige van der Pligt

Description

The *Nutrients and health* group focuses on understanding the influence of nutrient intake on growth, metabolism, and physical and mental health outcomes across the lifespan, in order to design effective and sustainable strategies to improve health. Our group has expertise in dietary assessment methods, nutritional biomarkers, nutritional epidemiology, clinical trials and interventions.

Our research includes the assessment of dietary intake to characterise nutrient intakes and nutritional status of different population groups across the lifespan, as well as exploring determinants of nutrient intake to design and evaluate strategies to improve diets. Our group also conducts interventions to alter nutrient intakes to assess effects on health outcomes, ranging from laboratory-based clinical trials to community-based interventions.

This group covers:

- Investigating the intake and status of micronutrients across the lifespan, in particular iron, selenium, zinc, iodine, sodium (salt), vitamin D and vitamin A
- Investigating the effects of macronutrients on human energy intake and expenditure, and their impact on body weight, body composition and metabolic health
- Monitoring the availability of macronutrients and micronutrients within the food supply and population intakes.
- Exploring the relationship between nutrients and health outcomes such as growth, cognition, mental health, cardiovascular health, obesity and neurological disorders
- Monitoring salt intakes and developing interventions to help children and adults reduce salt intake to improve future health
- Designing and evaluating interventions to improve micronutrient intakes and related health outcomes.

Research group: Dietary patterns and eating behaviours

Group leader: Professor Sarah McNaughton

Group members: Professor Tony Worsley, Dr Elena George, Dr Rebecca Leech, Dr Katherine Livingstone, Dr Catherine Milte, Dr Sze-Yen Tan

Description

The *Dietary patterns and eating behaviours* group focuses on understanding and characterising contemporary diets, their impact on population health and potential determinants. Our research draws on principles of nutritional epidemiology and behavioural epidemiology, using observational and experimental study designs. We consider dietary intake across the continuum from nutrients to foods to eating occasions (e.g. meals and snacks), and dietary patterns, and the interplay between these elements.

Our group examines population dietary intakes and health relationships with a focus on food-based approaches, such as dietary patterns, as an alternative to focusing on individual food components. We generate evidence on eating behaviours and their determinants to inform nutrition interventions to promote healthy and sustainable dietary patterns.

Our group works with relevant partners to facilitate research translation, and provides evidence to inform policy and practice, particularly focusing on strengthening the use of epidemiological research by stakeholders.

This group covers:

- Developing novel methods for measuring and interpreting dietary intakes
- Examining dietary patterns and behaviours, and their determinants and relationships with other health behaviours
- Understanding the role of foods, eating patterns and dietary patterns in health and wellbeing (including cardiometabolic health, mental health, cognitive function)
- Understanding the interaction of biological, behavioural and environmental characteristics on dietary patterns
- Using observational and experimental designs to understand food intake and food choice behaviours
- Understanding the role of food and nutrition education in improving food literacy
- Promoting food and nutrition literacy to help people gain knowledge, confidence and skills to follow healthy and sustainable dietary patterns
- Building the evidence base to inform sustainable, tailored nutrition strategies that promote health and wellbeing.

Research group: Community and retail environments that support healthy eating

Group leader: Dr Lukar Thornton

Group members: Alfred Deakin Professor Kylie Ball, Alfred Deakin Professor David Crawford, Alfred Deakin Professor Anna Timperio

Description

The *Community and retail environments that support healthy eating* group focuses on how neighbourhoods, workplaces, schools, sport facilities, and other retail and public spaces shape individual food decisions. Our group has expertise in measuring food environments and evaluating environmental interventions aimed at supporting healthier food and beverage (non-alcoholic) choices. Using our collective skills in epidemiology, and geography our group is well-equipped to explore the complex relationships between environments and food-related decisions. We work with stakeholders to shape environments to encourage healthier food behaviours.

This group covers:

- Measuring and monitoring the opportunities provided by community and retail environments to enable consumers to purchase and consume healthier food and beverages
- Determining the role of the environment on individual food and beverage behaviours
- Investigating attributes of the environment that can be changed to encourage healthier food and beverage behaviours.

Research group: Food policy and public health

Group Leader: Professor Mark Lawrence

Group members: Professor Tony Worsley, Dr Phil Baker, Dr Rebecca Lindberg, Dr Julie Woods

Description

The *Food policy and public health* group focuses on investigating and informing innovative policy actions that promote sustainable and equitable food systems and protect public health. Our group is interdisciplinary with expertise in public health nutrition, health promotion, dietetics, political science, food regulation, psychology and sociology.

To address the complex nature of today's food and nutrition challenges, our research extends beyond a conventional nutrient-orientated approach to encompass foods, dietary patterns and food systems thinking.

We use qualitative and quantitative research methods and undertake modelling of the health and environmental impacts of food systems. We also undertake critical analysis of policy-making associated with:

- Dietary guidelines
- Food and nutrition security
- Food fortification
- Food labelling
- Infant formula
- Nutrient reference values
- Preventing undernutrition, obesity and diet-related non-communicable diseases.

We work with a number of leading agencies including the World Health Organization, The Cochrane Collaboration, Food Standards Australia New Zealand, VicHealth and the Federal and State governments.

This group covers:

- Understanding the science and politics of food and nutrition policy-making
- Informing policies to achieve healthy and sustainable food systems
- Monitoring and evaluating the public health implications of food policies and regulations
- Influencing food and nutrition policy and public health.