



MELBOURNE SCHOOL OF
**POPULATION
& GLOBAL
HEALTH**

ANNUAL REPORT 2013

FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES



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ANNUAL REPORT 2013

INTRODUCTION

The Melbourne School of Population and Global Health is a leader in the field of public health education, research and knowledge transfer. Since its inception in 2001 the School has grown rapidly in both its size and reputation. This report highlights the key successes for 2013.

2013 saw the incorporation of the Nossal Institute for Global Health into the Melbourne School of Population and Global Health, and the School has undergone major academic restructuring. The School has consolidated its teaching and research activities from 12 Centres/Units/Institute into four Centres and one Institute. This process has included the creation of one new Institutional Centre, the renaming of two Centres with the final application for the formation of the Centre for Health Equity to be undertaken in 2014. Professional staff support services have been restructured in line with the academic changes. The School will complete its major restructure by the end of 2014 with the planned transition of the Academic Centre for Health Equity into an institutional Centre for Health Equity under the new leadership of Professor Brian Oldenburg. The planned academic structure is noted below.

AWARDS AND FELLOWSHIPS

Professor Hugh Taylor AC, Melbourne Award for Contribution to community by an individual. The Melbourne Awards celebrate inspirational Melburnians who dedicate their time and energy to the benefit of the city of Melbourne.

Professor Rob Moodie and Associate Professor Jim Black, International Partnership Merit Awards from Eduardo Mondlane University, Mozambique.

Professor Rob Moodie, Member of the Order of Australia.

Dr Mitchell Anjou, Member of the Order of Australia.

Dr Marie Bismark, RACP Fellows Career Development Fellowship.

Dr Aung Ko Win, NHMRC Early Career Fellowship.

Dr Sinthujan Jegaskanda, NHMRC Early Career Fellowship.

Dr Amy Pennay, NHMRC Early Career Fellowship.

Dr Natalie Carvalho, McKenzie Postdoctoral Fellowship.



ACADEMIC STRUCTURE

CENTRE FOR MENTAL HEALTH

Mental Health
Policy and
Practice
Population
Mental Health
Global and
Multicultural
Mental Health
Justice Health

CENTRE FOR HEALTH POLICY

Evaluation and
Implementation
Science
Health Economics
Health Systems &
Workforce
Law & Public
Health

CENTRE FOR EPIDEMIOLOGY & BIostatISTICS

Breast Cancer
Colorectal Cancer
Allergy and Lung
Health
Sexual Health
Male Health
High Dimensional
Analytics
Biostatistics
Modelling and
Simulation
Australian Twin
Registry

NOSSAL INSTITUTE FOR GLOBAL HEALTH

Health Systems
Strengthening
Inclusive
Development
Practice
Communicable
Diseases

Nossal Institute Ltd
Company

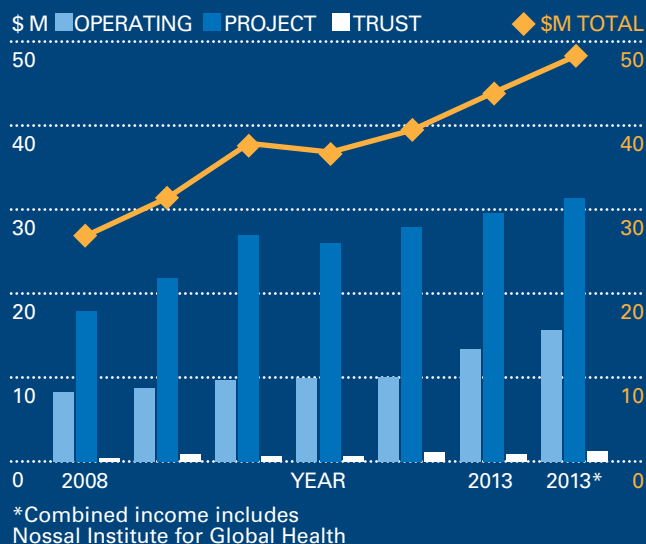
CENTRE FOR HEALTH EQUITY (PROPOSED)

Evidence &
Child Health
Gender &
Women's Health
Health
Humanities and
Social Sciences
Indigenous
Health Equity
Indigenous
Studies
McCaughy
VicHealth
Community
Wellbeing
Non Communicable
Disease Control

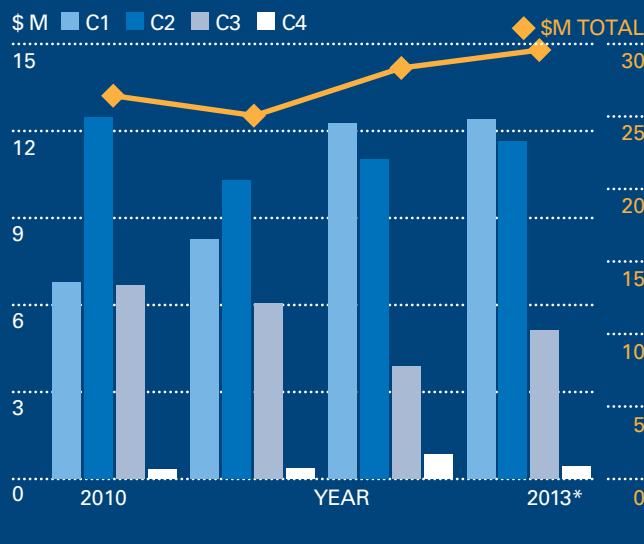
Partnership Groups: **Global Burden of Disease Group; Vaccine and Immunisation Research Group**

 = UNITS

MSPGH INCOME BY YEAR AND BY SOURCE



MSPGH RESEARCH INCOME BY CATEGORY AND YEAR



MAJOR APPOINTMENTS

The School has made several key appointments over the last 12 months. These include:

Professor Alan Lopez, Rowden-White Chair of Global Health and Burden of Disease Measurement.

Professor Kerry Arabena, Chair of Indigenous Health, and Director of Onemda VicHealth Koori Health Unit.

FINANCIAL SUSTAINABILITY

The MSPGH continues to grow its income from \$26m in 2008 to \$43.9m in 2013 (\$48.3m including the Nossal Institute for Global Health in 2013).

RESEARCH

Staff from across the School continue to contribute to a growth in research income and research outputs, through their varied portfolios.

Major achievements include:

- Professor Billie Giles-Corti, Director of the McCaughey VicHealth Centre for Community Wellbeing will lead a new National Health and Medical Research Council (NHMRC) Centre of Research Excellence in Healthy, Liveable and Equitable Communities. The Centre will bring together a team of international researchers to identify the most cost-effective improvements to the built environment to create healthy, liveable and more equitable communities. It will study the impact of human-made environments on chronic disease, physical activity, obesity, and mental health, and how the built environment can better support health and wellbeing in the context of rapid population growth. Further details are on page 14.
- Professor Hugh Taylor's Indigenous Eye Health Unit received \$2.4 million in funding announced by the Minister for Indigenous Health, Warren Snowdon in August 2013. The Indigenous Eye

Health Unit's outstanding contributions have also been recognised with an 'A' rating in a national assessment of the 'innovation dividend' of university research. The IEHU's 2008 National Indigenous Eye Health Survey and its overall program since the unit started that year formed the basis of a case study submitted to the Excellence in Innovation for Australia Research Impact Trial. The IEHU supports trachoma elimination and conducts research and policy development by exploring barriers and enablers for Indigenous people accessing eye health services. Its work on screening techniques and proactive health initiatives in areas with endemic trachoma has led to dramatic improvements, including a progressive decrease in trachoma cases in Western Australia and the Northern Territory between 2008 and 2011. The significant improvements have continued in 2012, when there was a 40% reduction in trachoma cases in Western Australia.

- Her Royal Highness Crown Princess Mary of Denmark has become the international patron of the Australian Twin Registry, based at the University of Melbourne, and the Danish Twin Registry. More than 450 twin studies have been supported by the ATR over its history across a broad spectrum of medical conditions.

RESEARCH INCOME

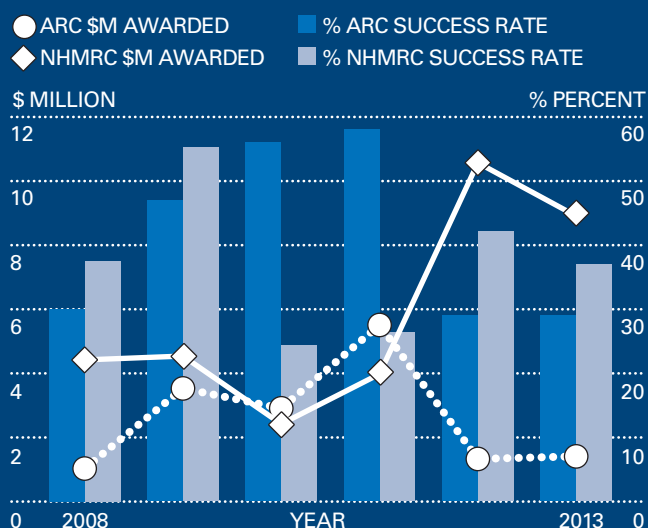
The MSPGH research reputation continues to grow. Research income continues to rise from an initial base of \$9 million in 2004 to a current income of \$29.5 million.

The MSPGH continues to enjoy strong success with NHMRC and ARC grant funding with success rates for the last six years exceeding 20%.

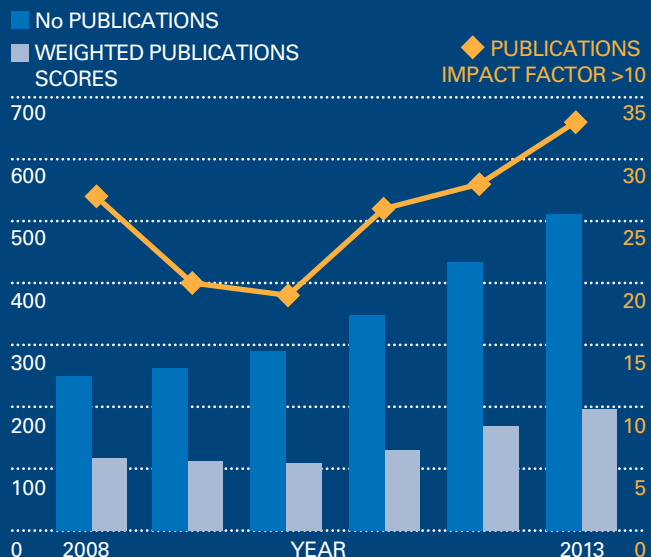
PUBLICATIONS

Academics within the School continue to be successful in publishing their research in peer-reviewed journals with numbers doubling between 2008 and 2013. The percentage of publications with an Impact Factor of 10 or more lies between six and 10%.

NHMRC AND ARC GRANT SUCCESS BY YEAR



NUMBER OF PUBLICATIONS PER YEAR: Category 1



RESEARCH HIGHER DEGREE STUDENTS

The School's Research Higher Degree loads continue to grow. Approximately 20% of our RHD students are international. See figure top of page 4.

TEACHING AND LEARNING

The major course taught by the School is the Master of Public Health. This course has seen unprecedented and continued growth in the overseas and Australian fee-paying sectors. Challenges for this course include: managing the growth whilst still maintaining a quality experience for the students, ensuring that the facilities can sustain the increasing class sizes and enabling the Research Project and Professional Practice Placement capstone opportunities to grow in parallel to the course growth. There are, as always, opportunities to increase the skills of the teaching staff both in formal teaching presentation styles and also in managing associated administrative burdens.

The School continues to contribute to the teaching of the Doctor of Medicine (MD), through first year lectures and workshops and also through the Scholarly Selective Program. In 2014 the School, in collaboration with the Melbourne Medical School, plans to launch the intercalated MD/MPH, allowing MD students to defer their final year of study to undertake an intercalated MPH. The first cohort of eight students are provided with a scholarship thanks to donations to the Faculty of Medicine, Dentistry and Health Sciences and the Melbourne Medical School. While this program has been well received we must ensure that it becomes embedded into the programs offered by the School as this opportunity to undertake the embedded MPH is unique within Australia.

The popularity of Massive Open Online Courses (MOOCs) has provided an opportunity and a challenge to the School and University

as a whole. Online training is becoming more popular and provides an opportunity for those who would not normally be able to enrol in the University (due to issues with distance, visas and other factors) to undertake studies with us. The School is the lead in the development of a wholly online Masters course (the first at the University) and one of the only multi-faculty courses available within the University – The Master of Ageing. This course provides an opportunity for staff to be up-skilled in the development of online mediums and to also get into the MOOCs market, something that will assist in the marketing of the School. The Master of Ageing will open for enrolment in 2015. Further to this the School has recently been successful in attaining two internal grants for the development of online resources in Ageing (Professor Moodie and Ms Tara Sklar) and Indigenous health (Associate Professor Shaun Ewen).

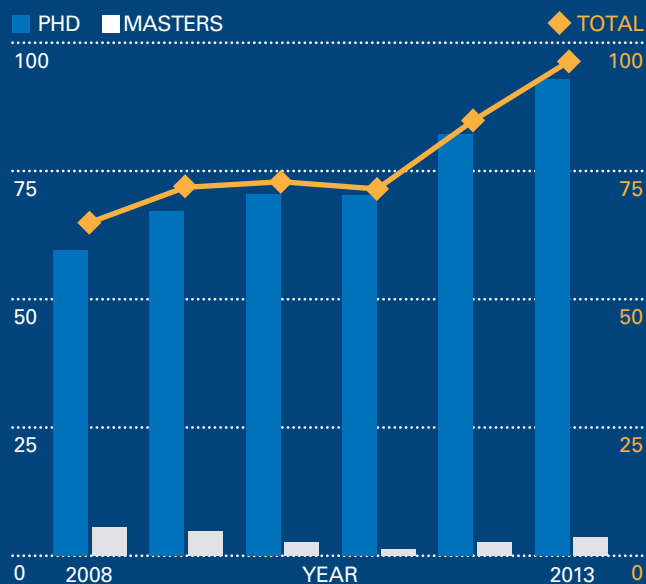
TEACHING AND LEARNING – KEY HIGHLIGHTS

- Master of Public Health continues to grow both locally and internationally.
- First cohort of eight MD/MPH students enrolled for 2014, all fully funded via scholarships.
- Incentives for online program development – Master of Ageing – Professor Rob Moodie and Ms Tara Sklar, University of Melbourne Teaching and Learning Initiatives Grant, \$225,000.

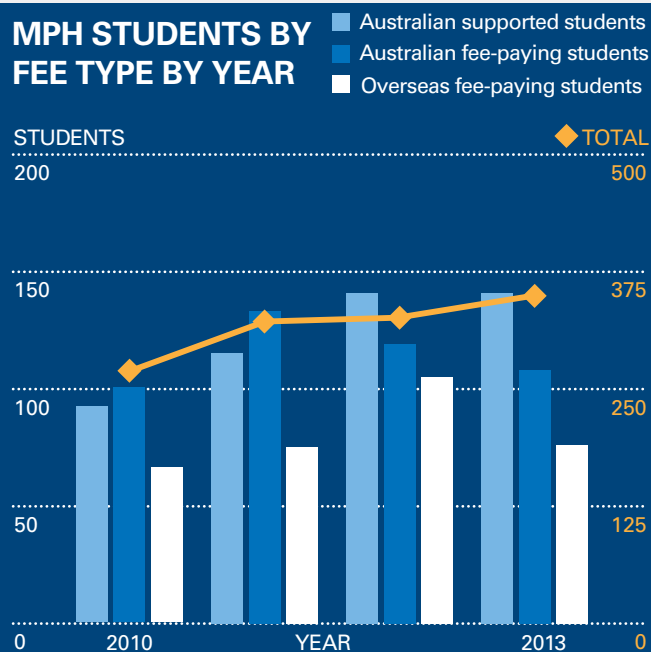
INTERNATIONAL

The numbers of international students within the MPH continues to grow, as does the number of students who study via Australia Awards Scholarships (previously AusAid) with numbers increasing to 62 at the beginning of 2013. International candidates comprise approximately 17% of our Research Higher Degree (RHD) cohort, with students coming from a variety of countries.

RHD LOAD DATA BY EFTSL



MPH STUDENTS BY FEE TYPE BY YEAR



FACILITIES

The aim of the School is to have all staff within the Bouverie Street facilities and, where possible, through the restructuring of the School, staff have been consolidated into 207 Bouverie Street (levels B.1, 3, 4 and 5) and Level 4 Alan Gilbert Building.

PHD STUDENT COMPLETIONS

Name	Thesis title
Block , Karen Elizabeth	Refugee youth, social inclusion and health
Bolch , Christie Emma	Quality of life and psychological wellbeing of mothers of multiple birth children with and without special needs: a mixed-methods investigation
Carey , Gemma Elizabeth	Grassroots to government: social policy reform & the social determinants of health in Australia
Correa Del Rio , Maria Rebeca	Primary health care workers' perspectives on the introduction of an alcohol brief intervention program in Chile
Elkin , Katherine Jane	Protecting the public? An analysis of complaints and disciplinary proceedings against doctors in Australia and New Zealand
Leong , Pamela Margaret	Risk and protective factors for early childhood caries in infants
Lodge , Caroline Jane	A longitudinal study of atopy, asthma and lung function from birth to 18 years in a high risk birth cohort
Moeller-Saxone , Kristen	Successful smoking cessation and mental illness: comparing the Transtheoretical Model and PRIME theory
Read , Timothy Richard Hampden	Studies in the epidemiology of human papillomavirus, the early detection of anal cancer and the control of human immunodeficiency virus
Reifels , Lennart	Examining Victoria's disaster mental health capacity: towards systematic disaster mental health workforce and service planning
Sullivan , Jane Elizabeth	Parents' views and experiences of end-of-life decision-making for their child
Warmington , Sally Gretchen	The narrative construction of identity and the medical student-patient encounter
West , Raelene Anne	What do we mean by support? The receipt of disability services and compensation for people with a Spinal Cord Injury (SCI) in Victoria
Zou , Huachun	Human papillomavirus and other sexually transmitted infections in men who have sex with men

CENTRE FOR MENTAL HEALTH



Director,
Professor
Jane Pirkis.

The Centre for Mental Health was established in September 2013. It is one of five centres in the Melbourne School of Population and Global Health at the University of Melbourne. Its purpose is to promote and carry out high quality, collaborative, interdisciplinary research, professional and community education, and mental health system development designed to improve mental health and mitigate the impact of mental illness at a population level.

The Centre has four units:

- Mental Health Policy and Practice
- Population Mental Health
- Justice Health
- Global and Cultural Mental Health

The Mental Health Policy and Practice Unit focuses on evaluations of large-scale mental health and suicide prevention programs; epidemiological and intervention studies on suicide and its prevention; and projects on suicide, mental health and the media. One of our major projects is the evaluation of the Access to Allied Psychological Services (ATAPS) program.

The Population Mental Health Unit's research is set in the general community, families, schools, workplaces, tertiary institutions and the internet. A key aim of its work is to empower communities to take action in mental health prevention and early intervention. First aid training to help parents whose teenagers face mental health problems is typical of the group's pragmatic research translation.

The Global and Cultural Mental Health Unit's two main programs are mental health system development in low and middle-income countries, and mental health in immigrant and refugee communities within Australia. A recent initiative is the Melbourne Refugee Studies Program, which supports a more constructive national consensus on asylum seeker and refugee policies and programs.

The Justice Health Unit addresses the public health issue of mental illness among prisoners and ex-prisoners, who have a much higher prevalence of mental disorder than the wider community. It is particularly focused on Indigenous Australians in the criminal justice system.

The Centre's four units are involved in active and productive collaborations within the University and beyond. These relationships range from not-for-profit agencies like Mind Australia through to international NGOs such as the World Health Organization, and enable us to translate our research into policy and practice.

Our researchers regularly win major competitive grants from national funding agencies, including the National Health and Medical Research Council (NHMRC), and take leading roles in national and international advisory bodies on mental health.

MENTAL HEALTH POLICY AND PRACTICE

Unit Head: Professor Jane Pirkis

The Mental Health Policy and Practice unit aims to influence policy and practice in Australia through: evaluations of large-scale mental health and suicide prevention programs; epidemiological and intervention studies in the area of suicide and its prevention; and projects on suicide, mental health and the media. In 2013, examples of our work included a study of frequent callers to Lifeline, a trial of community service announcements designed to prevent suicide, an examination of the role of the media in encouraging help-seeking in men, a study of care provided to individuals who have made a suicide attempt, and a study examining seclusion and restraint in mental health care. We also worked with the Coroners Court of Victoria to develop, implement and evaluate the Victorian Suicide Register.

POPULATION MENTAL HEALTH

Unit Head: Professor Tony Jorm

The aims of the Population Mental Health unit are to: conduct research on what actions members of the community can take to prevent and intervene early with mental disorders; translate the findings from this research into practical interventions that empower the whole community to take action; and train researchers in this area.

The Group has a close link with Mental Health First Aid Australia which is a not-for-profit agency translating research findings into practical action. In 2013, we worked with Mental Health First Aid to trial a training program for parents of teenagers. Other projects

include the development and evaluation of programs promoting parenting strategies for protecting mental health and fostering workplace mental health.

JUSTICE HEALTH

Unit Head: Associate Professor Stuart Kinner

The Justice Health Unit seeks to understand and improve the health of people who come into contact with the criminal justice system, particularly prisoners and ex-prisoners. Among people in prison the prevalence of mental disorder, substance dependence and injecting drug use, infectious disease, chronic disease and intellectual disability are markedly elevated. Most prisoners return to the community after a relatively short period of time in custody, making the health of prisoners is an important public health issue.

Our work focuses on a population rather than a particular health condition, and has a strong emphasis on strengthening health systems as a means of improving health outcomes for justice involved people. In 2013, examples of our projects included studies

examining mortality (including suicide) in ex-prisoners and in young people in contact with the justice system, a study of post-traumatic stress disorder in women prisoners, and work on access to Medicare-funded services (including recently-listed psychological services) for prisoners.

GLOBAL AND CULTURAL MENTAL HEALTH

Unit Head: Associate Professor Harry Minas

The Global and Cultural Mental Health Unit has two broad streams of work, both focusing on mental health system development. The first is concerned with the mental health of immigrants and refugees in Australia and includes national programs (e.g., Mental Health in Multicultural Australia), state programs (e.g., the Victorian Transcultural Mental Health Unit), and university programs (e.g., the Melbourne Refugee Studies Program). The second stream emphasises global mental health across the world (e.g., Movement for Global Mental Health), regionally (e.g., ASEAN Mental Health Taskforce; PRIME, EMERALD and West Africa projects), and nationally (e.g., in Indonesia, Sri Lanka, Vietnam).

MELBOURNE REFUGEE STUDIES PROGRAM

Asylum seeker and refugee policies and programs that are informed by the best available evidence – this is a key goal of the new Melbourne Refugee Studies Program (MRSP). This University of Melbourne initiative will contribute to constructive discussion and decision making about asylum seeker and refugee policies and programs in Australia and internationally.

It will operate collaboratively across the University and its secretariat will be located in the Melbourne School of Population and Global Health.

MRSP will support Australia in meeting its international obligations and in developing a more constructive national consensus on asylum seeker and refugee policies and programs. Australia has, in the past, demonstrated leadership in migration, refugee and asylum seeker issues. MRSP aspires to promote Australian responses

to asylum seekers that are consistent with this proud history.

MRSP's structure will foster collaborations and exchanges and draw on a broad range of resources within and beyond the University. This includes the University's academic and professional staff and students across faculties and schools, leading asylum seeker and refugee programs across Australia and internationally, and the broader community. By generating a well-informed public discussion, the program will be contributing to the development of effective and ethical asylum-seeker and refugee policies and programs.

During its start-up phase, MRSP is focusing on a comprehensive engagement and communications strategy that will promote discussions among researchers and educators, policy-makers; service providers; asylum seeker and refugee organisations; and the general community.

CENTRE FOR HEALTH POLICY



Director,
Associate Professor
Margaret Kelaher.

The questions driving much of the Centre for Health Policy's work seem simple but are highly complex: Does this health policy or program deliver value? What approach is best for optimal outcomes? What does the evidence tell us?

Our research and teaching provide answers that contribute to improving the community's health. We evaluate health policy at international, national, state and local levels. Our multi-disciplinary teams include clinicians, economists, lawyers, psychologists, sociologists and political scientists, investigating an extensive range of vital issues that impact us all.

CENTRE STRUCTURE

The Centre for Health Policy has four units:

- **Evaluation and Implementation Science** generates evidence to inform better policy and practice. It investigates uptake, adoption, and implementation of evidence-based interventions.
- **Health Economics** focuses on economic evaluation and assesses the efficiency, equality and quality of health care production and performance.
- **Health Systems and Workforce** provides information that assists policymakers, state and federal government officials, and the public. Its work embraces many diverse aspects of the health care delivery system.
- **Law and Public Health** is an interfaculty initiative with the Melbourne Law School. It investigates how law and regulation can improve population health and the quality of health care services.

Many of our staff are recognised internationally as leaders within their respective fields and have decades of experience to support their teaching. Our students report that our Centre's multidisciplinary, collaborative approach enriches their learning

experience and expands their options for further research or professional development. Our staff teach Health Economics and Economic Evaluation, and Health Program Evaluation, as part of the School's Master of Public Health, and contribute to other postgraduate degrees. We also offer short courses that broaden career opportunities across employment sectors.

Evidence-based investigation, rigorous analysis, insightful evaluation – these characterise our health policy research. The Centre's four units each contribute valuable understanding that improves the lives of communities and supports governments in delivering better health services in Australia and overseas.

In addition to the Melbourne Law School, our partners include the Australian Department of Health, State health departments in Victoria, WA, NSW and Qld, Australian Primary Health Care Research Institute, Lowitja Institute, Medibank, VicHealth and the Office of the Health Services Commissioner.

Our evaluations have won national awards and our Centre has attracted substantial competitive funding from key granting bodies including the National Health and Medical Research Council (NHMRC) and Australian Research Council (ARC), as well as from Commonwealth and state/territory health departments.

EVALUATION AND IMPLEMENTATION SCIENCE

Unit Head: Associate Professor Margaret Keleher

The Evaluation and Implementation Science unit made a strong contribution to the national and international literature on health equity and primary care. Research on health equity has three main streams; examining the role of governance, addressing racism and health and improving access, health literacy and the cultural competency of health services delivered to Aboriginal and Torres Strait Islander people. In 2013, in collaboration with researchers from the University of NSW we were successful in obtaining NHMRC funding to further trial our approach to improving the cultural competency of Diabetes Care in general practice. Dr Ryan Perry also joined the unit with the successful award of a McKenzie Postdoctoral fellowship. In 2013 our projects focused on the impact of health reform in primary care. This included projects addressing access to after hours care, chronic disease management, children and young people's access to services and public participation in health care

HEALTH ECONOMICS

Unit Head: Professor Philip Clarke

The health economics work stream was boosted by the appointment of Dr Dennis Petrie and Dr Kim Dalziel, two senior health

economists who took up posts at MSPGH early in 2013. Dr Petrie has been working on development of a Type 1 diabetes simulation model that can be used for evaluating the long-term outcomes from interventions, as well as a National Institutes of Health (NIH) funded research project in collaboration with researchers from Harvard University on the benefits of extending health insurance coverage among people with diabetes in the United States. Dr Dalziel took up her McKenzie Postdoctoral Fellowship Program with the aim of developing a range of collaborations with researchers conducting clinical trials in order to facilitate economic evaluation of new therapies. In addition to expanding the scope of its research, the group also offered short courses in health economics for the first time, which attracted more than 200 participants from academia, public sector and industry.

HEALTH SYSTEMS AND WORKFORCE

Unit Head: Professor Gary Freed

The Health Systems and Workforce Unit has had a very productive year with regard to work that has had a national and international impact, and increasing success in attracting significant extramural funding. Professor Lesleyanne Hawthorne was one of five non-US speakers invited by the US National Academies of Science to address global skilled migration policy. She was also commissioned by the World Health Organization to undertake the first detailed scan of health workforce mobility across the Asia-Pacific region. Dr Lucio Naccarella conducted, and with Andrew Elsbury (MP, Western Metropolitan Region) publicly launched, the

2013 Health Literacy Course Evaluation. The high profile event demonstrated the importance of addressing health literacy and investing in evaluation to inform ongoing health literacy policy and practice reforms. Professor Gary L. Freed received funding of over \$1.4M from the State of Victoria, the Royal Children's Hospital Foundation and three Medicare locals to conduct studies to better understand the increasing demand for paediatric emergency care and specialty care for children, the interface of primary and secondary care delivery, and to assess the actual availability of primary care services for children.

LAW AND PUBLIC HEALTH

Unit Head: Dr Marie Bismark

The Law and Public Health Unit is focused at the intersection of the legal and health systems. The guiding question for their work is: *How can law and regulation be used to improve population health and the quality of health care services?* The unit draws on its expertise in law, public health, medicine, policy analysis, epidemiology, applied ethics and economics to provide new and valuable information for policymakers.

Recent research into complaint-prone practitioners was selected as the top paper of 2013 by *BMJ Quality and Safety*. Dr Marie Bismark was awarded a Royal Australasian College of Physicians Career Development Fellowship to research mandatory reporting of impaired and unsafe health practitioners. Professor David Studdert, now based at Stanford University in California, remains an active member of the research group.

CENTRE FOR EPIDEMIOLOGY & BIOSTATISTICS



Director, Professor
Mark Jenkins.

The Centre for Epidemiology and Biostatistics is at the forefront of a preventative health revolution. Big data, changing infectious diseases patterns, and multi-disciplinary collaborations are transforming the ways public health disciplines are researched and taught. Our Centre is a leader in this evolving environment.

Epidemiology and biostatistics provide the evidence for solutions to global public health challenges that demand multi-disciplinary responses. Our Centre's approach to research, teaching, and research training reflects this reality. We combine deep expertise with a broad range and reach – through our 10 units, and our active links to other renowned institutions. This ensures our researchers and graduates are ready to contribute to preventing and alleviating the world's common, debilitating and burdensome health issues.

CENTRE STRUCTURE

Our Centre's specialised units address the most important diseases affecting Australians and other people worldwide:

- Sexual Health.
- Colorectal Cancer.
- Breast Cancer.
- Allergy and Lung Health.
- Australian Twin Registry.
- Male Health.
- Biostatistics.
- Modelling and Simulation.
- High-Dimensional Analytics.

The School's Master of Epidemiology lays a solid foundation in research and analytical skills. We also offer the opportunity to specialise in Epidemiology and Biostatistics in the Master of Public Health and Master of Science (Epidemiology), and the Master of Biostatistics (Biostatistics Collaboration of Australia). These Masters programs are all administered by the School.

Our Centre combines the best of established approaches and the latest advances. We are developing new statistical methods, study designs, and computing techniques to meet the challenges of increasingly large and complex data. Our research expertise extends

to non-traditional skills sets in disciplines such as molecular biology and mathematical and computational sciences.

We are committed to ensuring that our research is applied in cost-effective programs. To achieve this, we invest substantially in implementation research in areas such as primary care and web-based technology.

Much of our research draws on a wealth of resources within the Centre and across the School – the most valuable being our people. Many are key collaborators on projects involving multiple academic institutions in many countries.

Our vast informational resources include our studies and data registries: the Australian Twin Registry the international Colon and Breast Cancer Family Registries, and the Tasmanian Asthma Study among others. We also access Australia's largest medical biorepository at the University's Southey laboratory, and the Supercomputer resources of the Victorian Life Sciences Computation Initiative (VLSCI). We collaborate with major medical research institutions within the Parkville precinct and throughout the world, including Stanford University, Seoul National University, Mayo Clinic and Cambridge University.

Australia's NMHRC has awarded our researchers new Centres of Research Excellence: for colorectal cancer, respiratory disease, and biostatistics. Internationally, the United States' NIH (National Institutes of Health) co-funds the major cancer research programs that we host. National and state health departments seek our input in developing policy to ensure optimal disease control and national health security.

ALLERGY AND LUNG HEALTH

Unit Head: Professor Shyamali Dharmage

The Allergy and Lung Health Unit is internationally recognised for conducting research into the genetic, molecular and environmental epidemiology of allergies, asthma and COPD. These interrelated diseases are major public health issues, with asthma being a National Health Priority in Australia. Our focus is to identify the causes of these conditions and how best to prevent them. Core to our research program are two large longitudinal studies spanning the life course, the Tasmanian Longitudinal Health Study (TAHS) and the Melbourne Atopy Cohort Study (MACS). Both studies are funded by the NMHRC. We collaborate in multiple projects in the field, including local studies such as HealthNuts based at the Murdoch Childrens Research Institute and international studies such as the European Community Respiratory Health Survey.

THE AUSTRALIAN TWIN REGISTRY

Unit Head: Professor John Hopper AM

The Australian Twin Registry (ATR) is a national organisation open to all researchers to access. We manage a large database of over

70,000 twins who are willing to consider participation in health related research to assist researchers with answering their research questions. Twin research is uniquely valuable for understanding how genes, behaviour, and environment affect health and wellbeing.

The ATR has contributed to high impact findings in epilepsies, breast cancer, melanoma, smoking, bone and dental health and continues to support research in obesity, HIV, dementia and mental illness plus many other health related fields.

BIOSTATISTICS

Unit Head: Associate Professor Julie Simpson

In the modern world of 'Big Data', researchers in population health and clinical medicine need to make sense of large amounts of data from a wide range of sources. Biostatistics is the discipline that underpins the use of statistical methods in the collection, preparation and analysis of data for research studies. It provides an essential foundation for much health research.

In the Biostatistics Unit, we have developed an integrated program of methodological and collaborative research, as well as providing statistical training to build a skilled research workforce. Our group delivers the Master of Biostatistics (with the Biostatistics Collaboration of Australia), as well as leading biostatistics teaching within the Master of Public Health and Master of Science (Epidemiology).

BREAST CANCER

Unit Head: Professor John Hopper AM

The Centre has been studying breast cancer since the early 1990s, when it began recruiting Australian families to participate in a family study of early onset breast cancer, collecting data on potential risk factors, family history and biospecimens under the direction of Professor John Hopper. The program expanded in 1995 with funding from the National Institutes of Health (USA) to include a broader range of cases, including more early onset cases, later onset cases, more controls, multiple-case families, Ashkenazi-Jewish breast cancer families and twin families. The resource, known as the Australian Breast Cancer Family Study (ABCFS), currently comprises data and biospecimens for 8700 participants from 2200 Australian families.

COLORECTAL CANCER

Unit Head: Professor Mark Jenkins

Colorectal cancer is the second most frequently diagnosed cancer and the second largest cause of cancer deaths in Australia. How can we increase the effectiveness of colorectal cancer screening; how can we target prevention to those most at risk; what is the best way to medically manage people with a genetic predisposition; and what are the best treatments and most accurate prognoses for people who do get colorectal cancer? The Colorectal Cancer Unit has undertaken a comprehensive approach to find the answers to these questions to reduce the burden of colorectal cancer.

HIGH DIMENSIONAL ANALYTICS

Unit Head: Dr Enes Makalic

The High Dimensional Analytics unit was introduced in order to provide statistical and computing expertise for analysis of modern data. We provide practical advice and statistical expertise in: (i)

sparse regression methods (for example, LASSO and the elastic net), (ii) modern Bayesian regression methods and corresponding MCMC sampling algorithms (for example, Bayesian LASSO, the horseshoe framework, Bayesian bridge, etc), (iii) image processing algorithms and implementation (for example, image segmentation), and (iv) high-dimensional statistical and parallel computing.

MALE HEALTH

Unit Head: Professor Dallas English

The Male Health Unit is a new unit in the Centre of Epidemiology and Biostatistics, headed by Professor Dallas English. The publication in 2010 of the National Male Health Policy stemmed from a recognition of the need for action to address the disparity in mortality and morbidity between Australian males and females, as well as between groups of males for example, rural compared to urban males. The policy, and supporting reports, noted substantial gaps in the knowledge on male health and called for a concerted effort to build the evidence base on male health to inform policy and program development. The Australian Longitudinal Study on Male Health (Ten to Men) was commissioned in 2011 by the Department of Health as part of that effort.

MODELLING AND SIMULATION

Unit Head: Associate Professor Jodie McVernon

Mathematical and computational models of infectious disease provide a framework in which to define key determinants of infectious disease transmission, project likely disease burden and identify optimal control strategies.

The Modelling and Simulation Unit was established in 2005 through an NHMRC Capacity Building Grant focused on developing national modelling capability to inform infectious diseases control policy. Our team represents expertise in clinical medicine and public health, mathematics and computer science. With NHMRC and ARC support, we consider the complex biological and social systems underlying infectious diseases epidemiology, engaging national and international collaborators in basic sciences, psychology, sociology, ethics and urban planning.

SEXUAL HEALTH

Unit Head: Associate Professor Jane Hocking

The Sexual Health Unit investigates sexual and reproductive health issues, with a particular focus on sexually transmitted infections (STIs). We take a multi-disciplined approach to investigate the epidemiology of STIs and evaluate strategies for their control so that the complex social, epidemiological and biological nature of STIs is captured. This approach includes working with sexual health physicians, laboratory scientists, qualitative researchers, mathematical modellers and health economists. We are conducting the Australian Chlamydia Control Effectiveness Pilot (ACCEPT), a randomised controlled trial of chlamydia testing in general practice that aims to determine the cost-effectiveness of annual chlamydia testing for young Australian men and women. We also have a program of research investigating chlamydia treatment and evaluating whether the recommended treatment regimens are effective.

NOSSAL INSTITUTE FOR GLOBAL HEALTH



Director, Professor
Graham Brown AM

The Nossal Institute for Global Health is contributing to a better future through advances in global health.

Our work spans research, education and practice, and our priority areas are the Asia-Pacific and African regions. Through productive partnerships within Australia and overseas, we connect with experts from many diverse disciplines, institutions, government and non-government organisations.

Based in the Melbourne School of Population and Global Health (MSPGH), the Nossal Institute provides access to a wealth of resources that benefit our students, our researchers and our partners. The Nossal Institute for Global Health includes Nossal Institute Limited (NIL), a wholly owned, not-for-profit subsidiary company of the University.

The four units within the Institute are:

- Health Systems Strengthening
- International Health Education and Learning
- Communicable Diseases
- Inclusive Development Practice

We offer undergraduate and postgraduate teaching and short-courses. Our highly regarded courses are delivered by teachers with extensive experience in the field who have spent many years working in developing countries.

Our teaching subjects are designed both for prospective academics and health researchers and for prospective or current development practitioners. Subjects include disability, research projects, child and adolescent health, HIV, environmental challenges, program planning and design, systems for global health, and public health leadership and management.

We deliver a number of global health subjects within the Master

of Public Health degree, including a residential community health program in rural India. We provide teaching within the University's Medical School curriculum and are launching a new Graduate Diploma in Tropical Medicine and Hygiene (DTM&H) to begin in 2015, with a component in Thailand, internships, scholarly electives, and a broad range of tailored training for health stakeholders from partner countries and locally.

Our research ranges from basic biomedical science to clinical, translational and social science, including health systems strengthening, infectious diseases, disability, low-cost technology, non-communicable diseases and maternal health. We offer a small number of post-graduate scholarships.

We work with experts within the MSPGH and University of Melbourne departments such as Electronic Engineering, Information Systems, Physics, Law, Philosophy, Environmental Science and Political Science. Climate justice, sustainability, health and security, and reproductive health are among the issues we explore through collaborations.

Within Australia and many other countries, we partner with organisations that are world leaders in global health research, teaching, program delivery and community development.

Australia's Department of Foreign Affairs and Trade (DFAT) is a key partner through the Australian Aid Program. Prominent international funders, including World Health Organization (WHO), UNAIDS, UNICEF, World Bank, and the Bill and Melinda Gates Foundation, are among the organisations with which we collaborate.

HEALTH SYSTEMS STRENGTHENING

Unit Head: Dr Kris Hort

Our research and practice in health system strengthening directly assists partner governments, in collaboration with local researchers across Asia and the Pacific, in providing an evidence base and assisting in policy development. We held the DFAT-funded Health Financing and Health Policy Knowledge Hub from 2008 until its successful completion in June 2013.

Our HSS activities address both 'upstream' challenges – policy, finance and governance – and 'downstream' challenges – managing and applying policy to the provision of services. Our research, teaching and consulting activities focus on health financing strategies and health governance. Our research and analysis includes work on the regulation of mixed public-private health

systems and technical support for governments and development partners seeking to advance universal health coverage. We work in the area of Maternal and Child Health service delivery, including analysis and technical support to health service managers on effective strategies and policies to improve access to quality MCH services.

We engage with donor agencies and regional and international organisations, including the World Health Organization and the World Bank, to improve the way that aid and international policy guidelines support health systems in low- and middle-income countries. We work closely with national governments and research partners across the region. We are an active member of the Asia Pacific Observatory for Health Systems and Policies and the Asia Network for Health System Strengthening and deliver the World Bank Flagship course in health financing in the Pacific region.

INTERNATIONAL HEALTH EDUCATION AND LEARNING

Unit Head: Dr Tim Moore

Our teaching and learning program covers a series of acclaimed education programs designed to meet the needs of those training for, or working in, global health research and development practice. Taught by highly experienced health practitioners, our integrated programs include a growing portfolio of undergraduate and postgraduate subjects in Australia, a residential program in rural India, and a broad range of tailored training for health stakeholders from partner countries.

As well as oversight for a growing list of degree subjects within the Master of Public Health (MPH) course, fellowships and internships, we are responsible for coordinating academic and administrative support to education and learning activities across the Institute. This includes curriculum development, strategic direction and quality assurance for all education activities, as well as training and program support for Australian Government and UN staff, and support for training activities conducted with partners in a range of low- and middle-income countries.

COMMUNICABLE DISEASES

Unit Head: Associate Professor Jim Black

Communicable diseases comprise a large proportion of the world's burden of disease, concentrated mostly in developing countries. Our Unit undertakes a broad range of activities in communicable diseases, recognizing that further inroads into the control of these diseases will require work across many disciplines, from immunology and parasitology through epidemiology and engineering to medical anthropology and other social sciences.

Our staff has focused on research and practice improvement in: the prevention and management of HIV/AIDS; malaria; reproductive and sexual health; sexually transmitted infections (STIs); novel low-cost technology for improved diagnosis and management of pneumonia

and other common childhood diseases; and more recently a program on the epidemiology, treatment and control of dengue.

The Northeast India Knowledge Network grant funded by the Bill and Melinda Gates Foundation is documenting program learning regarding HIV prevention in Manipur and Nagaland. The project aims to describe HIV transmission dynamics and assess the impact of HIV prevention efforts in the region, and works through a collaborative effort of several national and local organizations that are engaging in a process of data analysis, primarily using existing data sources. We conduct a number of activities including improving the use of HIV data for evidence-based planning in North-East India; building capacity of partners in data management, analysis and interpretation; and producing publications in peer-reviewed journals; and a supplementary study examining the outcomes of a cohort of opiate drug users as they enter opioid substitution therapy (OST) programs over the course of one year in Manipur.

INCLUSIVE DEVELOPMENT PRACTICE

Unit Head: Dr Martha Morrow

Our Inclusive Development Practice Unit engages in research, education and policy development that contribute to equitable development through the inclusion of the most disadvantaged populations.

People with disability and other disadvantaged groups are known to experience greater levels of poverty, ill health, social exclusion and greater difficulty in attaining their rights, with fewer opportunities to participate in, or benefit from development activities.

The Unit represents the Nossal Institute within the CBM–Nossal Institute Partnership for Disability Inclusive Development. Launched in 2008, the Partnership focuses on capacity development, operational research and provision of technical assistance to increase the effectiveness of development activities which focus specifically on, or aim to ensure inclusiveness of people with disability.

The Unit also carries out significant research and practice activities in support of non-government agencies and development partners in many developing country settings in Africa, Asia and the Pacific, including gender inclusiveness and the rights of remote or disadvantaged populations.

We work with local and overseas organisations, such as World Vision Australia to carry out our activities. Governments and NGOs are increasingly recognising the advantages to countries, communities and individuals of an inclusive approach. This is recognised in the range and number of research and consultancies in which the Unit is engaged, including activities related to the measurement of inclusive development, sexual and reproductive health of women with disability, inclusive education and vocational training, and inclusive disaster preparedness.

CENTRE FOR HEALTH EQUITY



Director, Professor
Brian Oldenburg.

The Academic Centre for Health Equity was formed in 2013, as part of the Melbourne School of Population and Global Health's restructure and in preparation for the formal establishment of the Centre for Health Equity in 2014.

The establishment of the Centre for Health Equity will transition the current Academic Centre into a formal University Centre, unifying programs into one Centre, with shared aims and objectives.

The School's existing centres and units in the proposed Centre for Health Equity have considerable strengths in investigating the contribution of inequity to health outcomes. These include: the Centre for Health and Society (including the Gender and Women's Health Unit, the Onemda VicHealth Koori Health Unit, and the Australian Indigenous Studies program); the Evidence and Child Health Unit; the Indigenous Eye Health Unit; and the McCaughey VicHealth Centre for Community Wellbeing. These groups are internationally recognised for their contribution to understanding the social determinants of health and addressing health inequity.

In 2014 it is anticipated that the Centre will be formally established as a University Centre, and the existing centres and units redefined, unifying research programs and highlighting key areas of research interest.

The Centre for Health Equity is focused on creating and exchanging knowledge that fosters health equity and wellbeing. Our approach is to work at a population level to produce evidence-based research and programs that improve lives. By connecting with health professionals, policy-makers, consumer groups and the broader community, we aim to improve fair access to good health and wellbeing.

CENTRE STRUCTURE

Our Centre's seven units bring together a critical mass of expertise. Our units are:

- Evidence & Child Health, **Unit Head: Professor Elizabeth Waters**

- Gender & Women's Health, **Unit Head: Professor Anne Kavanagh**
- Health Humanities and Social Sciences, **Unit Head: Professor Marilys Guillermin**
- Indigenous Health Equity, **Unit Head: Professor Kerry Arabena**
- Indigenous Studies, **Unit Head: Professor Marcia Langton**
- McCaughey VicHealth Community Wellbeing, **Unit Head: Professor Billie Giles-Corti**
- Non-communicable Disease, **Unit Head: Professor Brian Oldenburg**

Many of our staff are recognised internationally as leaders within their respective fields and bring decades of experience to support their teaching. Currently, CHE staff teach into a range of University and external programs and short courses, including coordinating a number of subjects for the Master of Public Health (MPH) program.

Health equity is shaped by many factors – such as social disadvantage – and also by how these factors intersect with one another. To advance understanding of these complex issues requires multi-disciplinary and cross-sectoral approaches. Our Centre's research brings together diverse disciplines and fields, including social epidemiology, behavioural sciences, geography, sociology, ethics, Indigenous studies, history and demography. It reaches into households, communities and institutional settings – anywhere that age, income, place, disability, race, gender and difference affect equal access to health and wellbeing.

Each of our units is involved in research collaborations at local, national and international levels. These range from government departments seeking our input for policy development, to Indigenous communities advising our researchers on how best to deliver trachoma programs within their communities.

Powerful resources and productive relationships sustain our work. Our partnerships include governments and health departments in Australia and internationally, the World Health Organization, universities and many other institutes and organisations in other countries, the Cochrane Public Health Group, Aboriginal and Torres Strait Islander organisations and the Victorian Health Promotion Foundation (VicHealth).

The efforts of our researchers and staff have been recognised in many ways, including numerous awards, National Health and Medical Research Council (NHMRC) and Australian Research Council (ARC) Grants and Fellowships and ARC Linkage Grants, invitations to address prestigious international assemblies, and international prizes for their research.

NEW CENTRE OF RESEARCH EXCELLENCE

The University of Melbourne will lead a new National Health and Medical Research Council (NHMRC) Centre of Research Excellence in Healthy, Liveable and Equitable Communities.

Professor Billie Giles-Corti, Director of the McCaughey VicHealth Centre for Community Wellbeing will lead the national research team.

The Centre will bring together a team of international researchers to identify the most cost-effective improvements to the built environment to create healthy, liveable and more equitable communities. It will study the impact of human-made environments on chronic disease, physical activity, obesity, and mental health, and how the built environment can better support health and wellbeing in the context of rapid population growth.

Researchers will work with policy-makers and practitioners across planning, urban design, transport planning and health to develop research questions and tools that will inform urban planning policy and practice.

University of Melbourne Deputy Vice-Chancellor (Research) Professor James McCluskey said it was an exciting development in an important area of research that crosses several professional and research boundaries.

"The University is pleased to be working with the NHMRC to develop a Centre of Excellence in Healthy, Liveable and Equitable Communities and contribute research that feeds into addressing the University's Grand Challenges

by contributing to Health and Wellbeing and aligning Melbourne with the very best research institutions in the world," he said.

"The University of Melbourne is committed to working with partner institutions to help address the leading challenges facing society.

"Professor Giles-Corti brings extensive experience and research expertise on the impact of the built environment and health and community wellbeing."

Professor Giles-Corti said the Centre would bring together researchers from different areas across the country and within the University of Melbourne to solve these complex problems.

"The Centre's research is expected to impact on a local, national and international level and will involve collaborators throughout the world," she said.

Collaborating universities include the University of Western Australia, Queensland University of Technology, University of Queensland, University of South Australia, Cambridge University, Harvard University, University of London St George and The Centre of Excellence in Intervention and Prevention Science (CEIPS).

"We hope our research will help answer questions about how much change to the urban environment is needed to improve health and wellbeing outcomes," said Professor Giles-Corti.

PARTNERSHIP GROUPS

GLOBAL BURDEN OF DISEASE GROUP



Group leader,
Professor
Alan Lopez.

The Global Burden of Disease Group works in partnership with the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, Seattle. Our Group's Director, Professor Alan Lopez, is a pioneer of the Global Burden of Disease concept, which provides comprehensive, consistent estimates of mortality and morbidity. This concept is now internationally recognised and applied to measure premature mortality and disability for major diseases or disease groups within countries.

The Global Burden of Disease framework provides a road map of health challenges, charting past progress to provide direction in preparing for the challenges ahead.

Our work involves strong collaborations with researchers and government analysts, particularly throughout the Asia-Pacific region. Our critical appraisal of the annual estimates of disease burden improves the value of this data for policy and planning.

One of our flagship projects is the periodical updating, publication and dissemination of the renowned Global Burden of Disease (GBD) study, in close collaboration with IHME. The study involves more than 1000 collaborators from over 100 countries and produces a systematic assessment of loss of health due to disease throughout the world. This broad, comparative view of health loss by cause provides a much better understanding of risk factors, helping to ensure that major health challenges are not ignored or over-emphasised.

We also collaborate with countries, the World Health Organization (WHO) and the Bloomberg Foundation on research and practice to improve the quality of vital registration data, particularly on causes of death.

Our long-standing collaboration with Oxford University focuses on the global epidemiology of tobacco, including methods to estimate a country's tobacco-attributable mortality.

Other innovative research projects include developing ways to measure causes of death cost-effectively in resource-poor settings by using automated 'verbal autopsy' methods. This approach is based on interviews with people who knew the deceased. The information gathered is then analysed by computer algorithms to assign a probable cause of death without involving physicians. This information on deaths that would have otherwise remained undocumented enables scientists to analyse disease patterns and can direct public policy decisions.

More than 50 countries have undertaken national Burden of Disease studies to inform local health planning, based on the work of the Global Burden of Disease Group and IHME.



Group leader,
Professor Terry
Nolan.

VACCINE AND IMMUNISATION RESEARCH GROUP

The Vaccine and Immunisation Research Group (VIRGo) works in partnership with the Murdoch Childrens Research Institute. Our research enables us to advise policy makers on the optimal use of vaccines in national schedules, in pandemic influenza preparedness and counter-measures, and in vaccine safety. Our work provides practical bridges (translation) between theory and the real-world delivery of vaccine programs.

Our extensive network of collaborators spans multiple disciplines including epidemiology, biostatistics, clinical trials methods, virology and bacteriology.

VIRGo PROGRAMS

VIRGo has three programs:

- Vaccine clinical trials.
- Population epidemiology and virus discovery.
- Vaccine hesitancy.

In our clinical trials, we draw on two decades of experience to explore the effectiveness, antibody responses and safety of new vaccines in standard or novel schedules. We have the largest and longest running child and adolescent vaccine trials program in Australia and are one of the leading sites internationally. Our studies also include adults for high-priority conditions such as influenza, especially pandemic influenza.

In population epidemiology, we assess the incidence and population susceptibility of potentially vaccine-preventable diseases. We also research the social and environmental factors behind the spread of infection, such as the social networks that help spread infectious diseases. Our virus discovery work, in partnership with molecular virologists, searches for as yet undescribed viruses that cause respiratory illnesses.

Our research in vaccine hesitancy involves studying factors that determine decision-making by clients and health professionals in relation to vaccine use and acceptance.

Much of our work involves collaboration and innovation. For example, a collaboration with three other Australian research centres supported our pioneering research into the effectiveness of immunising babies against pertussis soon after birth. And we have led a national influenza serosurvey, in collaboration with the World Health Organization (WHO) Centre for Reference and Research on Influenza and Red Cross Blood Service.

Governments and international bodies seek VIRGo's guidance in dealing with infectious disease health crises, such as influenza pandemics. Our researchers also serve on influential national and international immunisation advisory committees. This includes VIRGo's head, Professor Terry Nolan, on WHO's Scientific Advisory Group of Experts (SAGE), and Associate Professor Jodie McVernon on the Commonwealth Government's Australian Technical Advisory Group on Immunisation (ATAGI).

INFECTIOUS DISEASE

In a joint effort to reduce the burden of infectious disease, University of Melbourne researchers are working with colleagues in Singapore to develop new vaccines and markers for infectious disease. Two projects at the University have been awarded over a million dollars in funding under a new initiative between the Australian National Health and Medical Research Council (NHMRC) and the Agency for Science, Technology and Research (A*STAR) in Singapore.

The Faculty congratulates Dr Sarah Dunstan from the Melbourne School of Population and Global Health and her collaborator Associate Professor Teo Yik Ying of the National University of Singapore (NUS) on their award to investigate the interaction between the host and pathogen genetics in susceptibility to pulmonary tuberculosis.

Professor Cameron Simmons, also from the Melbourne School of Population and Global Health will receive funding with his

research partner, Dr Khor Chiea Chuen of A*STAR's Genome Institute of Singapore (GIS) to investigate genetic markers of severe Dengue.

In an interview with the NHMRC, Dr Khor said "The funding of this project is very timely as it will help us understand more about the mechanisms of Dengue infection in this part of the world. Only by improving our understanding can we attempt to use the new knowledge to help patients."

"Dengue is major public health problem across much of the tropical world and we're delighted to be teaming with our colleagues in Singapore to address major knowledge gaps in understanding why some Dengue patients develop severe, life-threatening complications," Professor Simmons added.

Read more about the funding scheme and outcomes on the NHMRC website.