

**AUSTRALIAN INSTITUTE
OF HEALTH INNOVATION**

*Faculty of Medicine and
Health Sciences*



**MACQUARIE
University**

Australian Institute of Health Innovation

ANNUAL REPORT

2015



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The vision of AIHI is to 'Lead in health system innovation through world-class research, generating, disseminating and translating research knowledge that can improve health systems'

- PROFESSOR JEFFREY BRAITHWAITE

Who we are

The principal objective of the Australian Institute of Health Innovation is to conduct multi-disciplinary research into health sector practices, organisation and management, that directly enhances the delivery of high quality, safe, efficient and affordable health care. The emphasis is on translational research, and turning policy into practice.

THE AIHI IS COMPRISED OF THREE INDEPENDENT, INTERRELATED RESEARCH CENTRES:

- 1** Centre for Health Informatics;
- 2** Centre for Health Systems and Safety Research; and,
- 3** Centre for Healthcare Resilience and Implementation Science.

We have over 100 researchers, fellows and visiting appointees, and 20 higher degree research students, mainly PhD candidates. Our major sources of income [running at more than \$15 million per annum, up from \$5 million five years ago] are National Health and Medical Research Council (NHMRC) program and project funding, University income and infrastructure support, Australian Research Council (ARC) discovery and linkage funding, and commissioned research.

We publish more than 200 scientific papers and chapters per annum, and numerous monographs and reports. We focus on translational impact in areas such as: improved health systems, models for changing practice and organisations, decision support for clinicians, the recognition of deteriorating patients, improving quality of care and patient safety, e-health and rapid response for at-risk patients.

Each of our three research Centres contributes to the Institute's common mission and vision. Our work is highly collaborative; our projects often involve researchers from each of the Centres, supported by research grants awarded across the Centres and resulting in publications which share authorships from researchers across the Institute. This highly successful structure has enabled us to develop expert communities of practice within the multi-disciplinary setting, meaning we are able to attract and train highly specialised scientists to focus on health services research and combine their skills to focus on novel questions and test new hypotheses. Staff move between Centres as needed, and Centre staff may hold cross-Centre Institute-level responsibilities. The end result is a multi-disciplinary and highly flexible organisation, which is able to harness researchers from different backgrounds. It is internationally unique.

Director's report



Professor Jeffrey Braithwaite

It is a pleasure to write this overview of 2015, our first full year at Macquarie University. The Institute is a multi-dimensional, multi-faceted, multi-disciplinary research grouping that it has been my pleasure to lead (along-side my fellow Directors, Professor Enrico Coiera and Professor Johanna Westbrook) for almost a decade. In that time we have grown and contributed many research studies, papers, reports, PhD completions and projects, all centred on a key objective—to use high-quality research evidence to help improve healthcare.

When we first came to Macquarie we knew it was a place where extraordinary new opportunities have been actualised—the introduction of wireless technology, for example, and the home of the Big History Institute and the Australian Hearing Hub, to name a few. We also knew of Macquarie's ranking among the top 100 institutions in the world for accounting and finance; communication, cultural and media; earth and marine sciences; education; English language and literature; geography; law; linguistics and psychology. It also has Australia's first and only private, not-for-profit hospital on a university campus. In this first year we've been reaching out to new partners across these facilities as well as working with all our existing collaborators.

Since settling in over the course of 2015, we have come to realise two additional things. Firstly, the Institute now has a fantastic new home in a university determined to be decidedly different. Secondly, it is housed in a brand-new Faculty of Medicine and Health Sciences which is championing a values-driven approach to research and teaching which resonates completely with staff of the Institute. These values include stressing the importance of collaboration, patient-centred care, community engagement, a global outlook, learning, and progress through evidence.

In this transitional year, we've been learning about and exploiting the opportunities here. We are connecting with skilled new colleagues in our own and across the other faculties, and are surrounded by an industry park representing a cross-section of prestigious companies including those that are high-tech, those involved in the pharmaceutical industry, and those full of leading minds with links to many countries. It's in the third largest commercial office precinct in New South Wales, and growing fast. This all feeds into a vibrant community of perspectives, which in turn creates many new ideas of benefit to the Faculty's and Institute's research and teaching programs.

In essence, we've caught the Macquarie bug and we are leveraging the knowledge in and outside the University, marrying it with our own expertise, and articulating this into brand new research questions which are being translated already into new and uniquely different research grants and studies. You will get a glimpse of these in the pages that follow.

Our productivity continues to accelerate. We have contributed 233 publications this year, and hosted 24 educational events. Our 125 staff and 19 postgraduate students worked on 33 research projects managed by AIHI, notably those funded by National Health and Medical Research Council and the Australian Research Council, as well as 21 other grants supported by health system and other partners across the country and internationally. This is expressed in research on topics as diverse as complexity science, e-health, human factors, paediatric care, patient safety and quality, implementation science, aged care and big data. To probe the many research questions which these topics generate, we employ multiple research methods and data gathering techniques. To read more about this, simply turn the page and enjoy the journey of the Institute across 2015.

Our board

PROFESSOR PATRICK MCNEIL (CHAIR),

Professor McNeil, the Executive Dean of the Faculty of Medicine and Health Sciences, is the senior academic officer of the Faculty and is responsible for the quality, planning and delivery of medical education to students within the faculty. He was also Executive Clinical Director of Liverpool Hospital, and Chair of Arthritis Australia.

He has been a continuous Chief Investigator on NHMRC or ARC project grants since 1995, has published more than 90 articles and has supervised 21 higher degree research students. His academic expertise is in the areas of cellular immunology, rheumatology and arthritis. However, he has also led innovation in medical education and published extensively in this field.

PROFESSOR LESLEY HUGHES

Pro Vice-Chancellor (Research Integrity and Development), Macquarie University, Professor Hughes has the responsibility to help sustain and grow the University's research profile through the development of research capability and the promotion of research integrity. Professor Hughes has been researching and communicating the science of climate change for more than 20 years. She was appointed commissioner of the independent government advisory Climate Commission in 2011 and became a pro-bono founding councillor of the Climate Council of Australia in 2013. She was a lead author for the UN's IPCC Fourth and Fifth Assessment Reports.

PROFESSOR LES WHITE AM

Professor White AM was appointed as the inaugural New South Wales Chief Paediatrician in September 2010. He was Executive Director of Sydney Children's Hospital (1995–2010), President of Children's Healthcare Australasia (1999–2004), Convenor of

the Greater Eastern and Southern NSW Child Health Network (2001–2010) and the John Beveridge Professor of Paediatrics (2005–2010).

He was awarded a Doctorate of Science for research contributions related to childhood cancer and completed his Master of Health Administration in 1995. He has served on numerous state and national boards/committees related to children's health and community support. In 2007 he received an Order of Australia award for service to medicine in the field of paediatrics, to medical administration, and to the community through a range of organisations.

PROFESSOR SALLY REDMAN AO

Professor Redman AO, Chief Executive Officer of the Sax Institute, has extensive experience in public health research, particularly the evaluation of programs designed to improve health and healthcare.

Previously she was the inaugural Director of the National Breast Cancer Centre. In 2001, Professor Redman was awarded the Centenary Medal for service to women diagnosed with breast cancer.

PROFESSOR CLIFF HUGHES AO

Professor Hughes AO is the President of the International Society for Quality in Health Care. Previously he was the Chief Executive Officer of the Clinical Excellence Commission, a statutory health corporation established in 2004 to build capacity and design programmes to promote and support improvement in quality and safety for health services across NSW. This appointment follows a 25-year career as a cardiothoracic surgeon in Sydney.

He has been chairman or member of numerous state and federal committees associated with quality, safety and research in clinical practice for health care

services. He has held various positions in the Royal Australasian College of Surgeons, including Senior Examiner in Cardiothoracic Surgery and member of the College Council. In October 2015 he was awarded the Sir Hugh Devine Medal, the highest honour bestowed by the College.

Professor Hughes has served on four editorial boards and has published widely in books, journals and conference proceedings on cardiothoracic surgery, quality and safety. He has a particular passion for patient based care, better incident management, quality improvement programmes and the development of clinical leaders.

Our Directors



Professor Enrico Coiera, Professor Johanna Westbrook and Professor Jeffrey Braithwaite

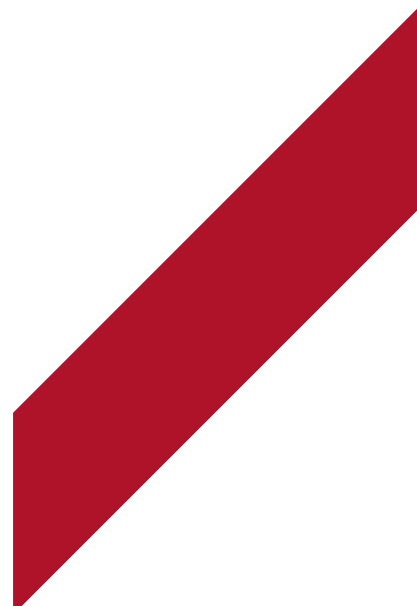
**PROFESSOR JOHANNA WESTBROOK
DIRECTOR OF THE CENTRE FOR HEALTH
SYSTEMS AND SAFETY RESEARCH**

Professor Westbrook is internationally recognised for her research evaluating the effects of information and communication technology (ICT) in health care. She has over 390 publications, with an h-index of 43, and been awarded in excess of \$40M in research grants. She has led important research in the development and application of approaches to evaluate ICT, including new tools and methods which have been adopted internationally. She has contributed to theoretical models regarding the design of complex multi-method ICT evaluations. Her research has led to significant advances in our understanding of how clinical information systems deliver (or fail to deliver) expected benefits and supported translation of this evidence into policy, practice, and IT system changes. Professor Westbrook also leads research investigating the role and impact of ICT in the community and aged care sector.

Professor Westbrook was elected as a Fellow of the American College of Medical Informatics (ACMI) in 2005, and is one of only three Australians to receive this honour. In 2014 she was named Australian ICT professional of the year by the Australian Information Industry Association for her research contributions. In 2015 she was appointed Associate Editor of the Journal of the American Medical Informatics Association (JAMIA). In 2016 she was appointed to the Board of the Australian Digital Health Agency.

**PROFESSOR JEFFREY BRAITHWAITE
FOUNDATION DIRECTOR, AUSTRALIAN
INSTITUTE OF HEALTH INNOVATION
AND DIRECTOR OF THE CENTRE
FOR HEALTHCARE RESILIENCE AND
IMPLEMENTATION SCIENCE**

Professor Braithwaite has contributed over 600 total publications presented at international and national conferences on more than 800 occasions, including



75 keynote addresses. His research appears in journals such as *British Medical Journal*, *The Lancet*, *Social Science & Medicine*, *BMJ Quality and Safety*, and *International Journal of Quality in Health Care*. He has received 32 different national and international awards for his teaching and research. Most recently, in 2015 he received the Health Services Research Award by Research Australia.

His research examines the changing nature of health systems, attracting funding of more than \$91 million. He is particularly interested in health care as a complex adaptive system, and applying complexity science to health care problems.

Professor Braithwaite has appointments at six other universities internationally and he is a board member of the International Society for Quality in Health Care (ISQua) and consultant to the World Health Organization.

Professor Braithwaite is currently working on research on improving delivery systems, particularly examining patient safety, change, resilience and implementation science.

**PROFESSOR ENRICO COIERA
DIRECTOR OF THE CENTRE FOR HEALTH
INFORMATICS AND DIRECTOR, NHMRC
CENTRE FOR RESEARCH EXCELLENCE
IN E-HEALTH**

Professor Coiera is an internationally recognised research leader in digital health and health systems science. He has a long reputation for opening up new avenues of research in his field, allowing others to follow and extend his work. He first made his reputation in the mid-1990s when he was arguably the first scientist in his field internationally to identify the huge potential of the world wide web for health service transformation, through a series of seminal papers in the *British Medical Journal*. His ground-breaking research into clinical communication for the first time outlined the interruptive,

multitasking nature of clinical work and its implications for patient safety and technology design. He is a co-author of the seminal paper in digital health safety, published in the lead journal *JAMIA* in 2003, and which now is the highest cited paper in health informatics of all time. He is a highly influential commentator on national e-health strategies, advocating strongly for rational policymaking based upon sound evidence. His work has translated into policy and practice changes for e-health safety, multiple patented inventions, and a US-based consumer e-health start-up company. He is author of one of the earliest textbooks on health informatics, now in its 3rd edition, widely used internationally, translated into several languages, and the receiver of an award by the British Medical Association.

In 2015 Professor Coiera won the highest international award for digital health—the *IMIA Francois Gremy Award of Excellence*. He was the founding president of the Australian College of Health Informatics in 2001, the first Australian Fellow of the American Medical Informatics Association and the first non-US Associate Editor of the peak *Journal of American Medical Informatics Association*—a position he held for over ten years. He has also been on the editorial board of numerous international health informatics journals and held positions on national and international councils and associations.

In 2000 he founded the Centre for Health Informatics, which is now Australia's first, longest running and most successful digital health research organisation. With over 9900 citations, he has an H-index of 48 in Google scholar; 21 of these publications have more than 100 citations, 5 more than 300 and one is over 1400. He has over 200 journal articles, books, chapters, and conference presentations.



MACQUARIE UNIVERSITY
FACULTY OF MEDICINE AND HEALTH SCIENCES



**AUSTRALIAN INSTITUTE OF
HEALTH INNOVATION**



Institute Board



Institute Director
Professor Jeffrey Braithwaite



Institute Manager
Reza Bilimoria



**CENTRE FOR
HEALTH SYSTEMS AND
SAFETY RESEARCH**



Director
Professor Johanna Westbrook



**CENTRE FOR
HEALTHCARE RESILIENCE AND
IMPLEMENTATION SCIENCE**



Director
Professor Jeffrey Braithwaite



**CENTRE FOR
HEALTH INFORMATICS**



Director
Professor Enrico Coiera



Business Manager
Sheree Crick



Business Manager
Sue Christian-Hayes



Operations & Students Manager
Denise Tsiros



Business Manager
Jenny Waldie

AIHI at a glance







Our centres



- A** Centre for Health Informatics
- B** Centre for Health Systems and Safety Research
- C** Centre for Healthcare Resilience and Implementation Science



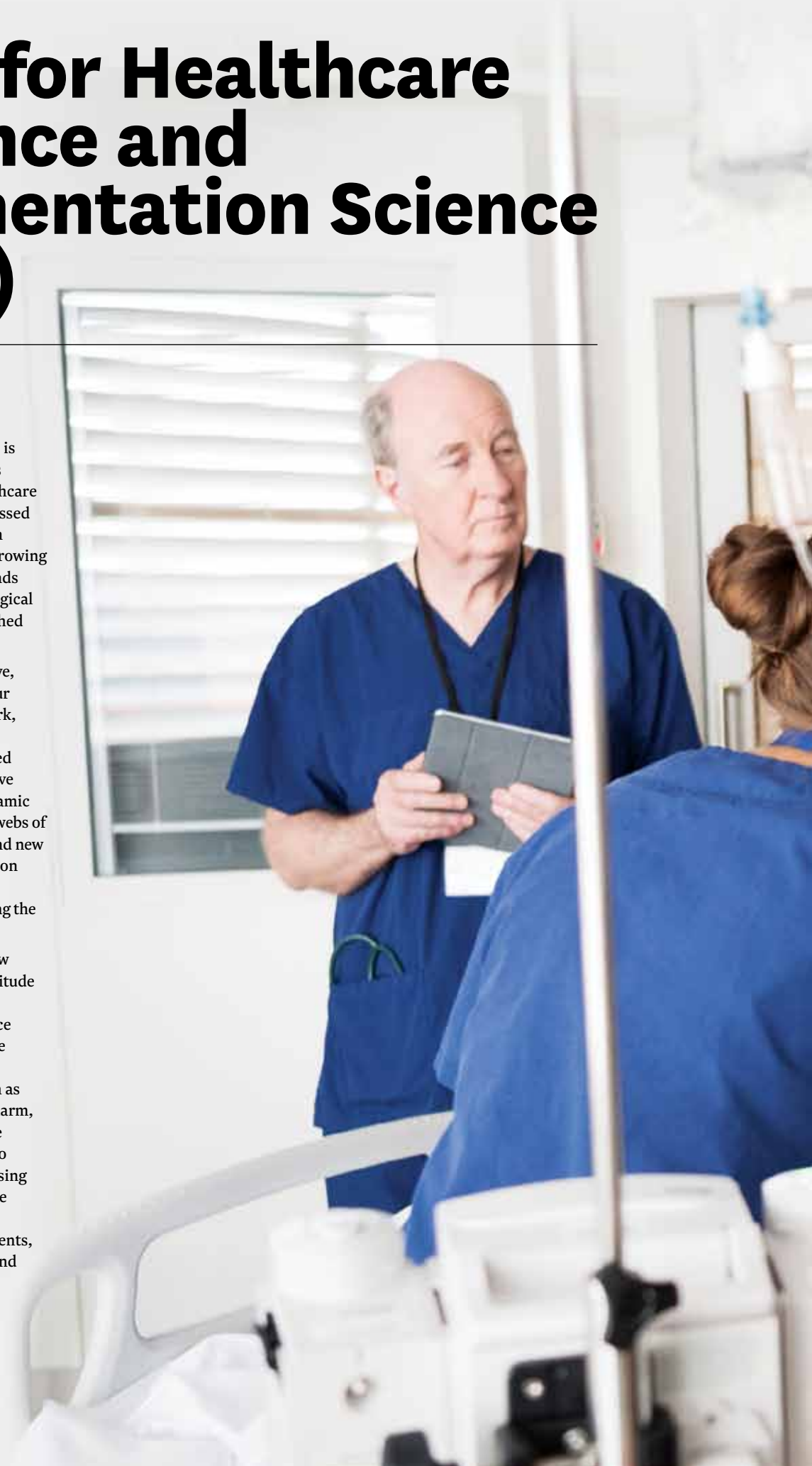
Centre for Healthcare Resilience and Implementation Science (CHRIS)

WHAT WE DO

The Centre for Healthcare Resilience and Implementation Science (CHRIS) is reconceptualising healthcare systems research to build more resilient healthcare systems. The Centre aims to help stressed modern healthcare systems cope with concurrent challenges posed by the growing and increasingly complex care demands of ageing populations, rapid technological and organisational change and stretched healthcare budgets.

The Centre pursues highly collaborative, multidisciplinary research into how our complex healthcare systems really work, and is pioneering new approaches to ensure research findings are translated into better care and more cost-effective care. By scrutinising the myriad, dynamic interactions between interconnected webs of clinical professionals, their patients and new healthcare technologies, communication systems and equipment, the Centre is committed to enhancing understanding the big picture of healthcare delivery.

In particular, the Centre is leading new organisational research into the multitude of factors that combine to produce system-wide resilience. Such resilience can be harnessed to ensure healthcare organisations are more resistant to costly contemporary challenges, such as medical errors and other iatrogenic harm, and are able to reduce waste, improve patient outcomes and save money into the future. The Centre is also scrutinising the processes of change to help ensure that many more research findings are translated in real world gains for patients, policymakers, healthcare providers and funding agencies.





COLLABORATION

OUR VALUED PARTNERS FOR 2015 INCLUDED:

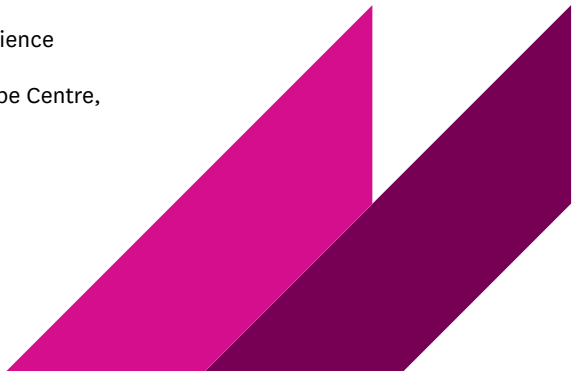
National

ACT Government Health Directorate
Aged Care Standards and Accreditation Agency Ltd
Australian College of Health Service Management (ACHSM)
Australian Commission on Safety and Quality in Health Care (ACSQHC)
Australian Council on Healthcare Standards (ACHS)
Australian General Practice Accreditation Ltd (AGPAL)
Australian Health Insurance Association (AHIA)
Australian Healthcare and Hospitals Association (AHHA)
Australian Patient Safety Foundation (APSF)
Australian Research Council (ARC)
BUPA Health Foundation
Cancer Institute NSW (CINSW)
Children's Health Queensland
Department of Health and Ageing
Department of Health Victoria
Liverpool Hospital, NSW
Motor Neurone Disease Research Institute of Australia
National Health and Medical Research Council (NHMRC)
National Health Performance Authority (NHPA)
Northern Sydney Medicare Locals
NSW Kids and Families, NSW Ministry of Health
Population Health and Health Services Research, NSW Ministry of Health
Prince of Wales Hospital
Royal College of Pathologists of Australia
Quality Assurance Programs
Queensland Health
School of Public Health and Community Medicine, UNSW Australia
South Australian Health
St Vincent's Hospital, Sydney

Sydney Children's Hospital Network
The Australian Health Care Reform Alliance
The Clinical Excellence Commission
The Sax Institute, NSW
Townsville Hospital and Health Service
University of Melbourne
University of Queensland
University of Sydney
University of Technology, Sydney
UNSW Australia
Westmead Hospital

International

Aalborg University, Denmark
Canon Institute for Global Studies, Japan
Harvard Medical School, USA
Health Services Management Centre, University of Birmingham, United Kingdom
Imperial College, London
International Society for Quality in Health Care, ISQua, Ireland
Kings College, London
Medical Management Centre, Karolinska Institutet, Sweden
National Health Service, United Kingdom (various NHS agencies)
Shanghai Municipal Health Bureau, People's Republic of China
Society for the Study of Organising in Health Care, United Kingdom
The London School of Hygiene and Tropical Medicine, UK
Universitat Autònoma de Barcelona, Spain
University College London
University of Edinburgh, United Kingdom
University of Leeds, United Kingdom
University of Manchester, United Kingdom
University of Southampton, United Kingdom
University of Southern Denmark, Institute of Regional Health Research
University of Florida, Health Science Center, Jacksonville
World Health Organization, Kobe Centre, Japan





Key research streams



APPROPRIATENESS OF HEALTHCARE DELIVERY

Professor Jeffrey Braithwaite
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Mr Peter Hibbert
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A follow up study “CareTrack Kids” will, for the first time, determine the percentage of healthcare encounters at which Australian children receive evidence- and consensus-based care for 16 paediatric conditions and examine the frequency and types of adverse events involving Australian children. We aim to deliver a range of important outcomes in this highly significant research, which is overdue. As the landmark CareTrack Australia study revealed in 2012, Australians receive ‘appropriate’ healthcare in only 57 percent of consultations. Led by Peter Hibbert this research stream is building on CareTrack Australia’s findings to pilot new approaches to clinical standards and to explore digital platforms for their delivery. This stream aims to provide a new evidence base to reduce healthcare costs and improve care by helping clinicians to deliver the right care at the right time to the rights patients.



IMPLEMENTATION SCIENCE

Associate Professor Frances Rapport
frances.rapport@mq.edu.au



Much is made of the patient experience, but what does it mean to be the recipient of a long-term care plan, and what do we know of patients’ experiences of consultations where important, often life-changing conversations take place? How do patients respond to an unexpected diagnosis or a prognosis of long-term ill health, and how would patients wish to be better supported during these interactions? Associate Professor Frances Rapport’s work, driving the Implementation Science stream, employs qualitative and multi-method approaches to address health services research questions through clinical trials, exploratory and complex study designs. The research aims to clarify the social, emotional, and physical determinants of ill-health. Current studies are being undertaken in: chronic conditions treatment, the negotiation of risk in cancer, and the impact of rehabilitation on patients’ quality of life. The Implementation Science stream aims to include patients, carers and clinicians in decision-making and negotiated care, and to combine data sources such as interviews, consultation fora, and large-scale surveys, to ensure rich data translates into practice.



RESILIENCE

Dr Robyn Clay-Williams
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While the rate of medical error remains stubbornly high at around 10 per cent in modern hospital systems, there are considerable untapped opportunities to improve care by turning our attention to what healthcare systems do well. Instead of focussing on why systems sometimes fail, resilience science seeks to understand how dynamic and highly complex organisations and systems, like healthcare, usually get things right. Successful approaches to improving care also consider human factors, or how healthcare professionals interact with their work environment. The Human factors and Resilience stream is pioneering a new approach to understanding the many factors that underpin the delivery of high-quality care despite the challenges of large, complex interacting networks of various health professionals, stretched budgets and rapid technological change.



IMPROVEMENT STUDIES

Associate Professor David Greenfield
david.greenfield@mq.edu.au



This research stream seeks to investigate how to stimulate sustainable quality improvement activities, the outcomes from these activities and mechanisms to integrate research evidence into practice and policy. The research stream is theoretically located at the intersection of improvement and implementation sciences. The research has a multi-level focus of healthcare, complex adaptive systems, health services and the organisation of clinical practice. The research aims to derive evidence to improve organisational functioning, service delivery and patient outcomes.



BEHAVIOUR CHANGE

Dr Natalie Taylor
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Improving the delivery of safe, evidence based care requires healthcare professionals to change their behaviour. Whilst behaviour change is complex, it is entirely possible. The application of behaviour change methods to design interventions can transform healthcare organisations and improve patient outcomes. Co-design with key stakeholders can enhance intervention generalisability across different contexts, and the translation of effective approaches from research into practice. One current example of this is the use of behaviour change and implementation science methods to improve the detection of colorectal cancer patients with a high risk of carrying hereditary cancer genes. This translational project, Achieving behaviour change for identification of Lynch Syndrome and prevention of cancers, aims to improve genetic testing referral rates of colorectal cancer patients with high-likelihood risk of Lynch syndrome through working with clinicians to co-design evidence based interventions to address key psychosocial barriers to changing clinical practice.



HEALTH OUTCOMES

Associate Professor Rebecca Mitchell
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Examining health outcomes following the provision of health care can be instrumental in guiding where improvements need to be made in health service delivery and health policy. Associate Professor Rebecca Mitchell is leading a programme of research aimed at identifying where systems improvements need to be made. The health outcomes stream is conducting large-scale, population-based studies in the areas of paediatric trauma, dementia and care transitions, unwarranted clinical variation, and a case-control study of adult injury and health service use. By identifying different types of factors that are associated with an increased risk of care complications, along with any variation between service providers, Associate Professor Mitchell and colleagues are developing targeted strategies with the aim of lowering the incidence of complications and improving health outcomes.

Building resilient healthcare systems

When it comes to healthcare, solving problems has often been done using models developed for other industries. However, Dr Robyn Clay-Williams is taking a different approach in her work: to build resilience in healthcare systems by learning from what works well in healthcare itself.

“Resilient systems function safely even when stretched,” explains Dr Clay-Williams, a Research Fellow in the Centre for Healthcare Resilience & Implementation Science (CHRIS). “We propose that there are ‘10Cs’ that underlie organisational resilience – including culture, compliance, challenges and constraints – and these combine in different ways depending on the setting.”

She has been studying Townsville Hospital’s highly resilient intensive care unit, in collaboration with Townsville clinicians including Associate Professor Andrew Johnson and Dr Paul Lane. Thousands of kilometres from the next available ICU in Brisbane, and it has to accept all patients in need, who can come from the emergency department, elective surgery, or the wards.

“The only thing the hospital can control is patients coming for elective surgery, which starts at 7.30 am. Previously, however the ICU team didn’t know how many beds they would have available that day until after consultants visit at 8.30, which meant nurses were having to make decisions, and people across the hospital were becoming stressed from the constant uncertainty.”

To overcome this issue they developed a traffic light system that would predict the ICU’s capacity much earlier in the day, before elective surgery commences. A red status means all elective surgery requiring ICU beds is postponed, amber means that extra coordination is required across the hospital to free up beds, and green allows additional elective surgery to be scheduled.

“In the case of Townsville Hospital, eight out of the ten resilience ‘Cs’ had been applied, resulting in improved operational planning and better patient outcomes.

“We’re now looking at how that model can be rolled out in other settings.”

Working with a team including Professor Jeffrey Braithwaite and Dr Natalie Taylor, Dr Clay-Williams is also undertaking a broad study to help better understand the quality of care patients experience in the health system.

“After decades of improvements to the health system, patients still receive care that is highly variable, frequently inappropriate, and too often, unsafe, and we don’t have a deep enough understanding of how particular hospital quality processes and systems impact patient outcomes.

“This limits our ability to affect large-scale change.”

A study, known as DUQuE, was recently undertaken in Europe that examined the relationships between quality management systems (QMS), clinical processes, and patient outcomes in 188 hospitals across seven countries. Professor Braithwaite, Dr Taylor and Dr Clay-Williams will extend this project to 60 hospitals across Australia. Called DUQuA, it will enable them to benchmark quality issues and outcomes across the sample of Australian hospitals, and also against those in the European study.

“Specifically, we hope to determine how both hospital level and department level factors are related to patient factors for stroke, acute myocardial infarction (AMI), and hip fracture patients,” Dr Clay-Williams says.

“By doing this we hope to develop a deeper understanding of the quality management systems in our hospitals and hospital departments, as well as healthcare leadership and culture, and how

these impact on care processes, patient perceptions, and patient outcomes.

“From this an evidence base can be created to inform individual hospitals about the specific factors which affect processes and outcomes for their patients, and tailor quality improvement interventions.”

CONTACT:

Dr Robyn Clay-Williams

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Reducing poisoning among dementia patients

Dementia patients frequently find themselves in hospital, most commonly due to injury through falls and poisoning. With dementia an increasingly significant health issue, AIHI psychologist and injury epidemiologist Associate Professor Rebecca Mitchell is exploring ways to both prevent injury and improve the experience and care received by dementia sufferers in hospital.

“Previous research identified that injury was a common cause of hospitalisation for people with dementia. This study, funded by the Dementia Collaborative Research Centre (DCRC), examined poisoning, which was one of the most common injury mechanisms for people with dementia,” Associate Professor Mitchell explains.

“We wanted to examine poisoning-related hospitalisations of older individuals with and without dementia to see if there were any differences in the profile of hospital admissions and in the incidence of these types of hospitalisations.”

One of the most common causes of poisoning among dementia patients was inadvertently taking too much medication used to combat Alzheimer’s disease or too many antihypertensive drugs.

“It’s unintentional”, she says.

“Older people have complicated medicine regimes and there is a risk of mixing medications, taking the wrong dose at the wrong time or forgetting that medicine has already been taken.

“Even blister packs, where medicines are sorted by the time of day when they are due to be taken are not infallible, because people still have to remember to take the medicine at the right time.”

The research team has completed the analysis of poisoning-related hospitalisations and Associate Professor Mitchell says one of their next steps is to explore ways to prevent unintentional poisoning for people with dementia, such as by having family members and carers become more involved in dispensing medicine.

“It could be an obvious way of decreasing the risk of poisoning, but there are issues, such as people living on their own, or without family members nearby, that need to be addressed here as well.”

CONTACT:

Associate Professor Rebecca Mitchell
E: r.mitchell@mq.edu.au



Centre for Health Systems and Safety Research (CHSSR)

WHAT WE DO

The Centre for Health Systems and Safety Research is at the forefront of research into the impact of new information and communications technology (ICT) on the safety, effectiveness and cost-efficiency of healthcare delivery. Fast, accurate information exchange is at the heart of healthcare systems that deliver optimum patient outcomes, even in the face of growing budgetary pressures and the many challenges of co-morbidities in ageing populations. In healthcare systems, rapid advances in ICT and biomedical technology are transforming the way clinicians and support staff work, as older information management systems and procedures are replaced by newer ICT-enabled models of healthcare delivery. Telemedicine applications, for example, allow care to be delivered in the community outside large hospitals, while sophisticated information systems now support the decisions clinicians make at a patient's bedside. Information technology represents a potentially powerful tool for driving systems-wide improvements. Consequently, healthcare systems across the globe are making multi-billion dollar investments based on this promise. Yet until recently little attention has been paid to whether new ICT-enabled processes and systems are performing as expected or if they may also pose unanticipated risks.

CHSSR's internationally-recognised research is filling this gap. Our health informatics evaluation research team—Australia's largest—designs rigorous, innovative ways to assess whether health informatics interventions are effective, efficient and, above all, safe. The Centre aims to make a significant contribution, nationally and worldwide, to health informatics, health information management, evaluation methodologies and safety and quality in healthcare.

By forging innovative partnerships with our national and international peers from many disciplines—and with information industry leaders and health practitioners, administrators and policymakers—we can ensure our work can be readily translated to inform ICT systems design and decision-making for better, more cost-effective healthcare.

COLLABORATION

OUR VALUED PARTNERS FOR 2015 INCLUDED:

National

Alcidion, Australia
 Austin Centre for Applied Clinical Informatics, Melbourne
 Austin Hospital, Victoria
 Australian Association of Clinical Biochemists
 Australian Catholic University
 Australian Commission on Safety and Quality in Health Care
 Australian Patient Safety Foundation
 Campbelltown Hospital, NSW
 Cancer Institute of NSW (CINSW)
 Clinical Excellence Commission
 Concord Repatriation General Hospital, NSW
 Deakin University, VIC
 Department of Health and Ageing / Department of Health, Canberra
 eHealth NSW
 Flinders University
 HealthConsumers NSW
 Healthdirect Australia
 HTR Business and Technology Services Pty Ltd
 LaTrobe University, VIC
 Liverpool Hospital, NSW
 Mater Health Services, QLD
 Mater Hospital, QLD
 National e-Health Transition Authority (NeHTA)
 National Health Foundation
 National Prescribing Service
 NSW Health Ministry
 NSW Health Pathology
 NSW Health Pathology North
 NSW Health Pathology West
 NSW Kids and Families
 Prince of Wales Hospital, NSW
 Royal Adelaide Hospital, SA
 Royal Australian and New Zealand College of Radiologists
 Royal College of Pathologists of Australasia Quality Assurance Programs

Royal North Shore Hospital, NSW
 Royal Prince Alfred Hospital, NSW
 South Eastern Area Laboratory Services, NSW (SEALS)
 St Vincent's Hospital, NSW
 Sydney Children's Hospital Network
 Sydney Local Health District
 Sydney South West Pathology Services
 UnitingCare Ageing, NSW & ACT
 University of Adelaide
 University of Melbourne
 University of Newcastle
 University of Sydney
 University of Southern Queensland
 University of Tasmania
 University of Technology Sydney
 University of Western Sydney
 UNSW Australia
 Western Sydney Local Health District

International

Albert Einstein Colleague of Medicine, US
 Alvarez & Marsal Business Consulting, US
 American Medical Association
 Canterbury District Health Board, New Zealand
 Coastal Carolina University, US
 Dartmouth-Hitchcock Medical Centre, US
 Harvard Medical School
 Indiana University, US
 Kuopio University, Finland
 London School of Economics
 Montefiore Medical Center, US
 Patient Safety Research Laboratory, Italy
 Portsmouth University, UK
 Swiss Patient Safety Foundation, Switzerland
 Sysmex New Zealand Ltd
 University of Alberta, Canada
 University of Birmingham
 University of Edinburgh
 University of Leeds, UK
 University of Lille, France
 Vanderbilt University School of Nursing, US
 Veteran Affairs Hospital, Houston, Texas, USA
 Vision and Eye Research Unit (VERU), Anglia Ruskin University, UK
 Western Cape Government, South Africa
 Worcestershire Acute Hospital NHS Trust, UK





Key research streams



PATHOLOGY AND IMAGING INFORMATICS

Professor Andrew Georgiou
andrew.georgiou@mq.edu.au



Pathology and medical imaging services perform a major role in the delivery of patient care by ensuring reliable and accurate results are delivered in a timely fashion to inform clinical management decisions. Over the last three decades there has been considerable growth in the number of requests for pathology, and medical imaging services. Our research is investigating the use and impact of electronic pathology and imaging systems to improve the appropriate and efficient use of pathology and imaging services in hospitals. Topics of investigation include the impact of IT systems on improved laboratory test turnaround times, and the follow-up and management of test results to inform decision-making.



HUMAN FACTORS EVALUATION AND DESIGN

Dr Melissa Baysari
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Human factors studies the design of systems with the aim of improving interactions between people and their environments. Our research examines how well, or otherwise, ICT systems fit in with the work of doctors—specifically, computerised decision support for prescribers, including pre-populated orders, online resources, and electronic alerts. Observing systems in operation, we found nearly half the prescriptions triggered an alert, but most of these were dismissed—a reaction which undermines the system's effectiveness. Current work, which incorporates organisational analysis, focusses on designing effective decision support. This research stream, led by Dr Melissa Baysari, is working towards designing resilient systems that can adapt and function effectively in the event of a disturbance.



MEDICATION SAFETY AND eHEALTH

Professor Johanna Westbrook
johanna.westbrook@mq.edu.au



Medication error and inappropriate medication therapy are two of the oldest, most costly and least tractable safety problems which health systems face. Information technology has the potential to make medication management safer and more effective. With that expectation, health systems worldwide are making vast investments in information technology. Our research is investigating the ways in which information technology can reduce medication errors and support improved medication therapy decisions and outcomes. This includes research on the design and use of electronic decision support systems.



SAFETY AND INTEGRATION OF AGED AND COMMUNITY CARE

Professor Andrew Georgiou
andrew.georgiou@mq.edu.au



Delivering care and services to ageing populations is a significant challenge internationally. Communities and health systems are seeking effective ways to plan and manage the health and support services required to enable citizens to actively engage in society and maintain a high quality of life. Information and communication technologies (ICT) can help meet these challenges by offering direct assistance (e.g. telehealth) which promote individuals' engagement and social connection and, through large-scale electronic health record systems, which can enhance the integration and coordination of care across health care sectors. Our research is investigating these issues including the use of community support services by older people, the quality of care provided within residential aged care facilities and the role of ICT.



WORK INNOVATION, COMMUNICATION AND eHEALTH

Professor Johanna Westbrook
johanna.westbrook@mq.edu.au



Understanding the way clinical care is delivered is central to supporting effective and safe delivery models including the design of new models. Applying novel measurement techniques, the Centre has undertaken leading research investigating the impact of interruptions on error production and patient safety. Information and communication technologies (ICT) provide an opportunity to reshape the composition of teams who deliver care, and the processes of care delivery. ICT may both enhance and disrupt patterns of work. Our research investigates patterns of clinicians' work, and how ICT influences workflow and workloads. We apply a broad range of methods including direct observational methods, social network analysis and qualitative techniques. Projects have included investigation of the relationship between interruptions to work and error, the impact of electronic health record systems on workflow and efficiency, and clinicians' actions in response to electronic decision support alerts. This research covers broad discipline areas such as cognitive psychology, process engineering, communication processes, health informatics and operations research.



PRIMARY CARE SAFETY AND eHEALTH

Associate Professor Meredith Makeham
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The field of patient safety in primary care is an emerging research area which encompasses a broad range of settings and themes. There is limited scientific evidence of the risks to patient safety in primary care settings, although there is some understanding that the provision of primary healthcare from a safety perspective could be greatly improved. eHealth is integral to many of our daily processes in the delivery of safe primary healthcare in Australia and other countries with a similarly developed healthcare system - it is a major component in the interface of primary care with secondary and tertiary healthcare settings. We are currently conducting projects that are defining the nature of threats to patient safety in primary care, and examining interventions that reduce these threats. We are investigating the use of eHealth in primary care settings, including electronic clinical information systems, My Health Record, secure messaging and electronic medication management and decision support systems.





Exploring the gap between GP and aged care facility medication charts

For residents living in residential aged care facilities (RACF), having their GP come to them is an important part of their health care.

Residents' medication charts are kept up to date at their facilities, however, when a change needs to be made by their doctor, this presently requires a duplication back at their GP's practice record system. If this doesn't occur, often due to time constraints, these changes are not reflected in the records at the GP's office, which could create a risk to patient safety in an emergency.

"Ideally a GP's medication list for their RACF patients at their practice is up to date and the same as the aged care facility, but this is not always the case and may be due to things like time pressures or simply remembering to make those alterations again at the other location," explains Associate Professor Meredith Makeham from the AIHI Centre for Health Systems and Safety Research.

Associate Professor Makeham, whose research focusses on the impact of digital health initiatives on patient safety, has recently undertaken a large research study known as the General Practice and Residential Aged Care Concordance of Medications (GRACE-Med) Study, which compared the information held in GPs' records with that held by aged care facilities.

"The study demonstrated that GPs looking after residents in aged care facilities keep a medical record for their patients back at their practice, but the list of current medications can be quite different. This could have major safety implications when digital health systems that share information between GPs' practices, pharmacies, hospitals and aged care facilities are used, such as the national My Health Record system.

"We analysed the differences in over 5000 medication orders, and how much of a risk these differences posed to patient safety.

We found that the majority of orders contained a difference, and around 20 per cent of the differences involved a high risk medicine for these residents."

Associate Professor Makeham says that many clinicians in primary and secondary care are probably aware that the GPs' medication records may not match those held by residential care facilities, and take steps to confirm medication lists when a patient is admitted to hospital, for example.

"But it's really important to improve our understanding of how large this medication gap at our general practices really is, and the level of risk it poses for these residents, particularly as we move toward using more digital health tools like Shared Health Summaries that might be generated from our GP practice software.

She says the qualitative findings of the study are also highlighting the fact that busy GPs, whose intention it is to keep their records up to date, are facing a number of barriers to achieving this, and digital health may have a large role to play in developing solutions to reduce these medication record differences.

"Our focus is on reducing avoidable threats to patient safety. Hopefully this study will provide baseline evidence needed to help drive digital health improvements in aged care. We need to try to automate changes to medication records in aged care facility and GP systems, to reduce the risk for these residents from a safety point of view." This research is funded by the National eHealth Transition Authority (NEHTA).

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Testing the limits

In hospitals many tests are ordered, from pathology to X rays and other medical imaging, but reviews have found that results aren't followed up for between 20 and 62 percent of inpatients and up to 75 percent of emergency department patients – with some potentially life-threatening consequences.

Professor Andrew Georgiou from the Centre for Health Systems and Safety Research says that a 2011 NSW Clinical Excellence Commission review showed that 11 percent (3/27) of reported clinical incidents resulting in patient harm (including patient death), and 32% (24/75) of clinical incidents with major consequences for patients, were related to poor test result follow-up.

“Some results take longer than others to become available and patients either in the emergency department or on the wards may be sent home before all results arrive,” he says.

“Unless there is a follow-up mechanism, such as a designated officer whose job it is to check results received after a patient has been discharged, then the results may go unread.” A doctor may also order tests and finish their shift with the doctor taking over unaware that the tests have been ordered, so they don't get followed up.

“There is a collaborative responsibility to review and take any necessary action on this information, but it often doesn't happen,” Professor Georgiou says.

To overcome this issue, Professor Georgiou's team are undertaking a five-year study into how information is communicated in hospitals. It includes identifying existing lines of communication as well as what protocols need to be established to ensure that information is clearly communicated, particularly when the results may be critical to the patient's wellbeing.

“For example, if there is a sudden change in a patient's test results, the pathology

department (for example) needs to first recognise that there is an issue, then contact the doctor straight away. If that doctor is not available, then the pathology department needs to know who else they can contact to ensure the information is passed on.

The study is also exploring how both IT and patients themselves can help ensure results end up in the right hands.

“Paper is cumbersome, so we are looking at ways to design system alerts that will help smooth the passage of information around the healthcare system.

“We are also looking at patients; why they aren't notified and what role they see themselves playing,” he explains, adding that in the US, some hospitals offer a patient portal, where patients can access their electronic health records and make appointments to discuss those results.

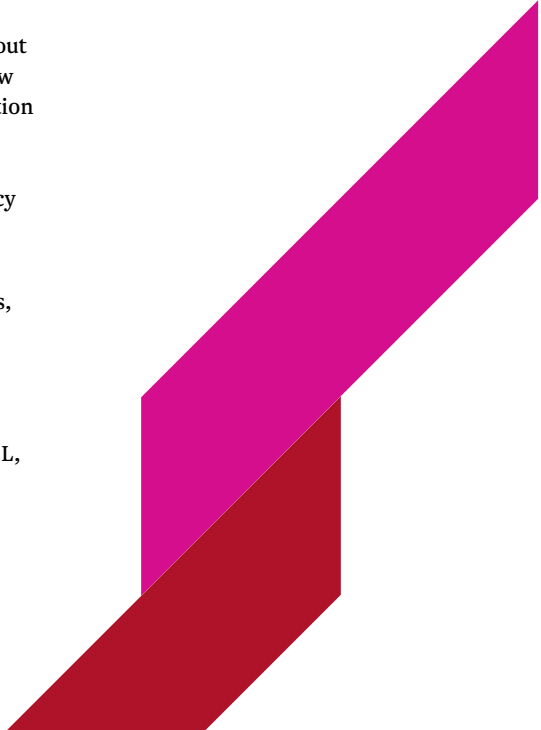
“For that to work, we have to make those results meaningful, by improving patients' health literacy and establishing patients as partners in their own care.

“Once our study is complete we will put out guidelines and frameworks that will allow hospitals to audit their own communication lines and develop protocols that are appropriate to their needs, which may vary considerably between the emergency department and the wards.”

This research is funded by an NHMRC Partnership Projects Grant with partners, Sydney Eastern Area Laboratory Service (SEALS) and Australian Commission on Safety and Quality in Health Care. Chief investigators: Georgiou A, Westbrook JI, Greenfield D, Horvath A, Wakefield D, Li L, Hillman K.

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Centre for Health Informatics (CHI)

WHAT WE DO

The potential for information and communication technology (ICT) to change the ways healthcare systems work is enormous. In some settings its effects will be incremental; in others, radical. Some of the changes are easy to predict; others are clouded in uncertainty. At Macquarie University, the Centre for Health Informatics (CHI) within the Australian Institute for Health Innovation, focusses on studying the many facets of this process in all its complexity.

CHI is the largest academic group in Australia researching the emerging discipline of health informatics, and is building an international reputation as a research leader in the application of information technology to healthcare. Its principal aim is to map the complex organisational systems that shape today's health systems and to design and evaluate rigorous, system-wide interventions that provide a sustainable platform for future healthcare systems in areas including intelligent search systems, safety models and standards, communication systems, and the application of data mining to healthcare.

Our work at CHI is of direct relevance to clinicians, administrators and policy makers at all levels of government. Consequently, CHI is a highly collaborative research centre working in partnership with major healthcare providers, research institutions and governments, including the NSW Department of Health, the National Institute of Clinical Studies and the Commonwealth Department of Health.







Log Entry: 0013
RESEARCHER ID: 4492
Connection status

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A-F

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REC

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M-R
T-Z

Input signal-OK
00:1509:1963

COLLABORATION

OUR VALUED PARTNERS FOR 2015 INCLUDED:

National

Austin Hospital, Melbourne
 Australian Commission on Safety and Quality in Health Care
 Australian Patient Safety Foundation, South Australia
 Blackdog Institute, UNSW
 Centre for Healthcare Resilience and Implementation Science, MQ
 Centre for Health Systems and Safety Research, MQ
 Centre for Infectious Diseases and Microbiology, Westmead Hospital, NSW
 Centre for Research on Evidence Based Evidence, Bond University, Queensland
 Clinical Excellence Commission, NSW
 Clinical Trials Centre, Sydney University
 Department of Computing, MQ
 Flinders University, South Australia
 The George Institute, Sydney
 The Kirby Institute, UNSW
 Macquarie University Hospital, MQ
 Prince of Wales Hospital, Sydney
 Royal Hospital for Women, Sydney
 St Vincent's Hospital, Sydney
 School of Computer Science and Engineering, UNSW
 School of Public Health and Community Medicine, UNSW
 Simpson Centre for the Health Services Research, UNSW
 South Australia Health
 South Western Sydney Local Health Network, Cancer Services
 Spokade Pty. Ltd. Sydney
 Sydney South West Area Health Service General Practice Unit

University of Adelaide, SA
 University of Melbourne, VIC
 University of Sydney, NSW
 University of Technology, Sydney (UTS), NSW
 University of Western Sydney, NSW
 UNSW Australia
 UNSW Counselling and Psychological Services, UNSW
 UNSW Health Service Clinical Research Unit for Anxiety and Depression (CRUFAD), UNSW
 Westmead Hospital, Sydney

International

Aalborg University, Denmark
 Biomedical Research Centre, Stanford Medicine
 Danish Centre for Health Informatics, Department of Development and Planning, Aalborg University, Denmark
 Harvard Medical School, USA
 Indraprastha Institute of Information Technology (IIIT), Delhi, India
 Johns Hopkins University, USA
 Schizophrenia Cochrane Review Group, Nottingham Univerisyt, UK
 Medical Informatics Research Centre, Ben Gurion University of the Negev, Israel
 Université de Lille Nord de France, France
 University of Applied Sciences Weihenstephan-Triesdorf, Bavaria
 University of Texas – Memorial Hermann Center for Healthcare Quality & Safety, Houston, Texas, USA
 University of Tromso, Norway

Key research streams



HEALTH INFORMATICS

Professor Enrico Coiera
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Health informatics and e-health enables Australia's health system to benefit from the digital revolution and translate advances into effective working health services. Led by Professor Enrico Coiera, the research conducted enables improved clinical outcomes and efficiencies to ensure our health system is sustainable. New tools are being created to support self-management and new ways of collaboratively engaging with health services to improve patient outcomes are being investigated. Professor Coiera also leads the NHMRC Centre of Research Excellence in e-health which targets major evidence gaps in the safety and quality of clinical and consumer e-health systems.



PATIENT SAFETY INFORMATICS

Associate Professor Farah Magrabi
farah.magrabi@mq.edu.au

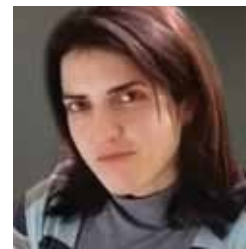


The use of information technology (IT) or digital health is revolutionising care delivery. Our research is focussed on monitoring the patient safety risks of digital health using reports of critical incidents and automated methods for surveillance of IT systems. By better understanding the origins of these risks, problems can be detected early and we can mitigate hazards ahead of harming patients. We are also investigating models for the safety governance of digital health. In 2015 our classification for IT safety was endorsed by the American Nursing Informatics Association, and was used by the US Joint Commission to investigate 120 sentinel events and to formulate national guidelines. A/Prof. Magrabi received the Sax Institute Research Action Award in recognition of the international impact of her research on policy and practice to improve health IT safety.



HEALTH ANALYTICS

Dr Blanca Gallego Luxan
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The Health Analytics Lab focusses on developing and testing new analytic tools to support learning health care systems. The availability of digital biomedical data and the ability to collect, store and analyse has transformed healthcare into a learning system which delivers information in real time at the point of care. The Lab, led by Dr Gallego Luxan is developing and testing models of such learning systems for future electronic health record systems, providing clinical decision-support systems which impact on patient safety and quality of care. Our core strength lies in the combination of deep analytic and computing theory and methods with understanding of clinical decision support systems.



COMPUTABLE EVIDENCE LAB

Dr Guy Tsafnat
guy.tsafnat@mq.edu.au



The Computable Evidence Lab (CEL), led by Dr Guy Tsafnat, researches, develops and tests software tools that help clinicians make effective and evidence-based decisions. Collectively the team focusses on three main areas. One: Developing tools that synthesise evidence from the literature using computational linguistics and machine learning. Two: Automating evidence synthesis by integrating individual synthesis tools into synthesis workflows that automatically keep the evidence up-to-date at all times. Three: Integrating evidence from multiple sources such as the literature, clinical records, genetics and other sources.



EVIDENCE SURVEILLANCE

Dr Adam Dunn
adam.dunn@mq.edu.au

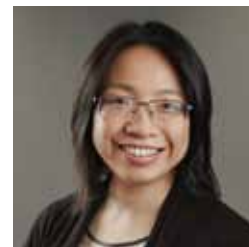


The Evidence Surveillance team develops new ways to measure and mitigate biases in evidence-based medicine, spanning the entire process of evidence-based medicine from the design and undertaking of clinical trials through to the representation of evidence in the public domain. The team have expertise in data mining, clinical epidemiology, network science, and machine learning. In 2015, the team researched new methods to support the automatic detection of reporting biases in clinical evidence and used a new system of evidence surveillance to sample health information consumption on Twitter, which will be used to support public health practices.



CONSUMER INFORMATICS

Dr Annie Lau
annie.lau@mq.edu.au



Dr Annie Lau leads the Consumer Informatics team which focusses on those with the highest stake in our healthcare system—patients and healthcare consumers. Her research program investigates the ‘impact’, ‘design’, and ‘science’ of Information and Communications Technology (ICT) on consumers, patients and their carers. The team have developed Healthy.me, a research platform which allows individuals to connect with health services, peers, information sources, and tools to manage their health together with a mobile app for self-management and consumer engagement. They are also researching how patients and consumers use social media for health purposes (i.e. e-health sociology), and examining ways for “social network intervention” to change the network around us to achieve better health outcomes.

Understanding health informatics' inherent risks

The use of information technology (IT) or digital health is revolutionising healthcare, with 97 per cent of GPs using electronic records systems and IT systems playing a mission-critical role in hospitals.

"IT has the potential to bring many benefits to quality and safety but we need to understand the risks as well," explains Associate Professor Farah Magrabi, who leads the Centre for Health Informatics' research program on Patient Safety Informatics.

Her team has pioneered the study of IT-related harms by looking at different data sets from both Australia and overseas to help identify the role IT plays in patient safety risk.

"We have made a major contribution to documenting the risks of IT to patient safety by examining incidents in Australia, the USA and England," she adds. "From our analysis of IT safety events, we have developed a new classification system for IT risks. This has become the de facto international standard for analysing IT safety events."

"Our work is also shaping policy to govern IT safety in Australia and overseas."

Risks arise when technology does not work as intended, for example, when a prescribing system fails to display important allergy information, patients can be harmed.

Risks also arise when technology does not fit with our bodies or cognitive abilities. "Our analyses of safety events across England over a five-year period revealed that human factor issues were over-represented in the events involving patient harm."

For example, if prescribing systems require users to scroll through too many options, or they are not arranged intuitively, then patients may be prescribed the wrong medication simply through a pick list error.

"How many times have you hit the send button on your email and said 'oops', or mistakenly picked the wrong option when shopping online? It's easy to do, but when that happens in health there can be real consequences," she says.

Associate Professor Magrabi says that risks inherent in IT are also different from other sources of risk.

"A safety incident such as a fall is usually confined to one patient, but an IT incident has the potential to expose multiple patients to the risk of harm."

"In 2015 for example, an IT system failure affected hospitals across an Australian state. We know from our analysis of UK data that such events can disrupt the delivery of care and harm patients."

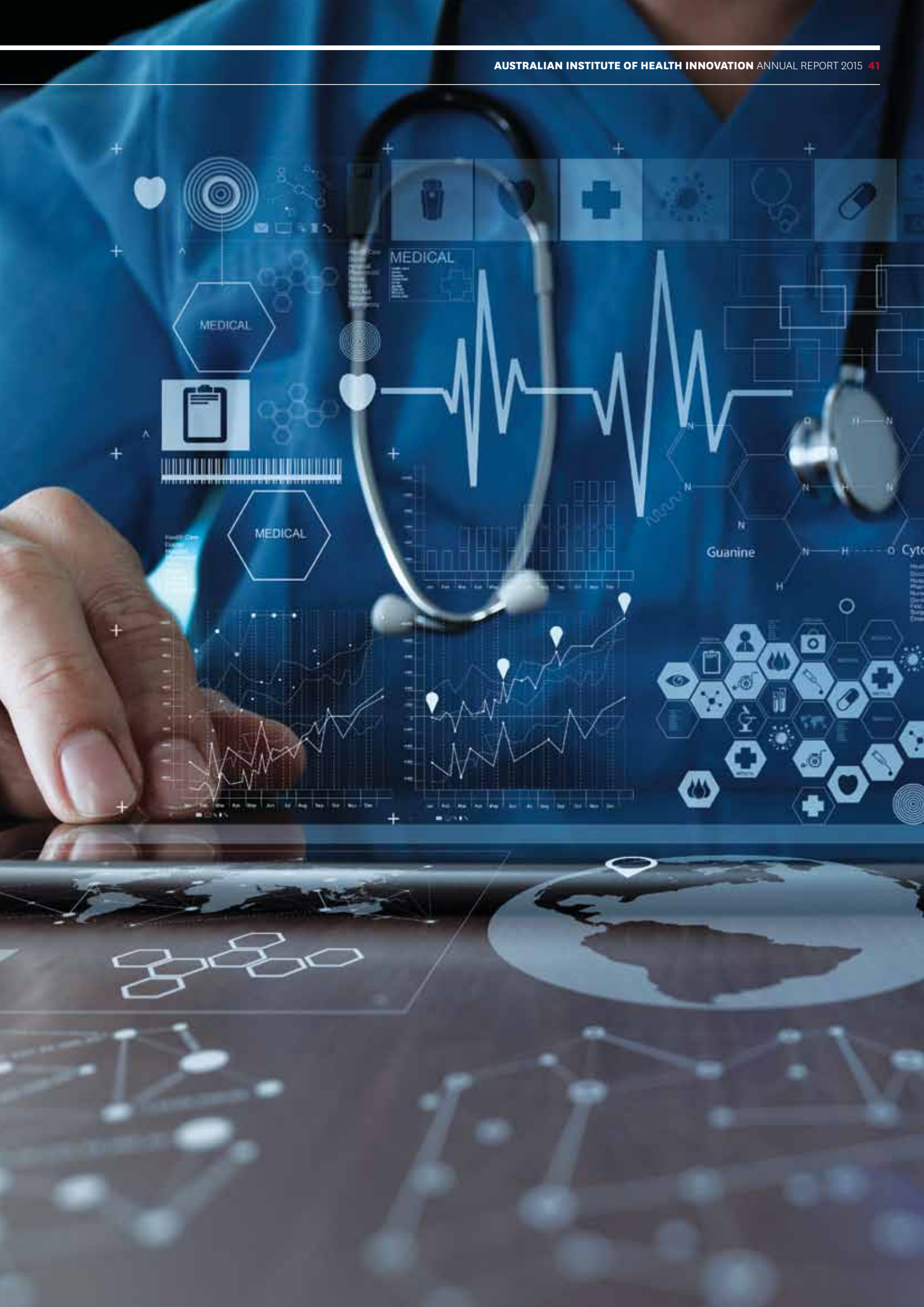
It's an issue we need to take seriously, she adds. "We need to be actively managing the risks of digital health alongside our efforts to introduce technology."

"By better understanding the origins of this risk, problems can be detected early and we can mitigate hazards ahead of harming patients."

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MEDICAL



MEDICAL

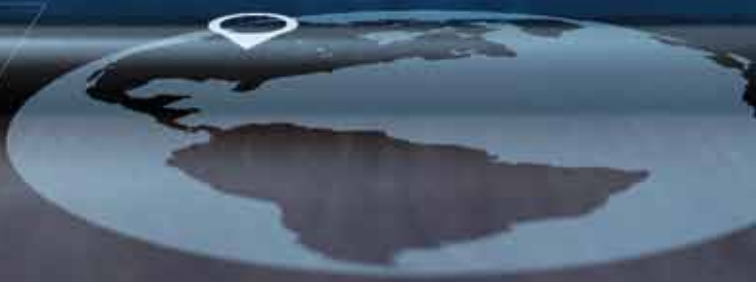


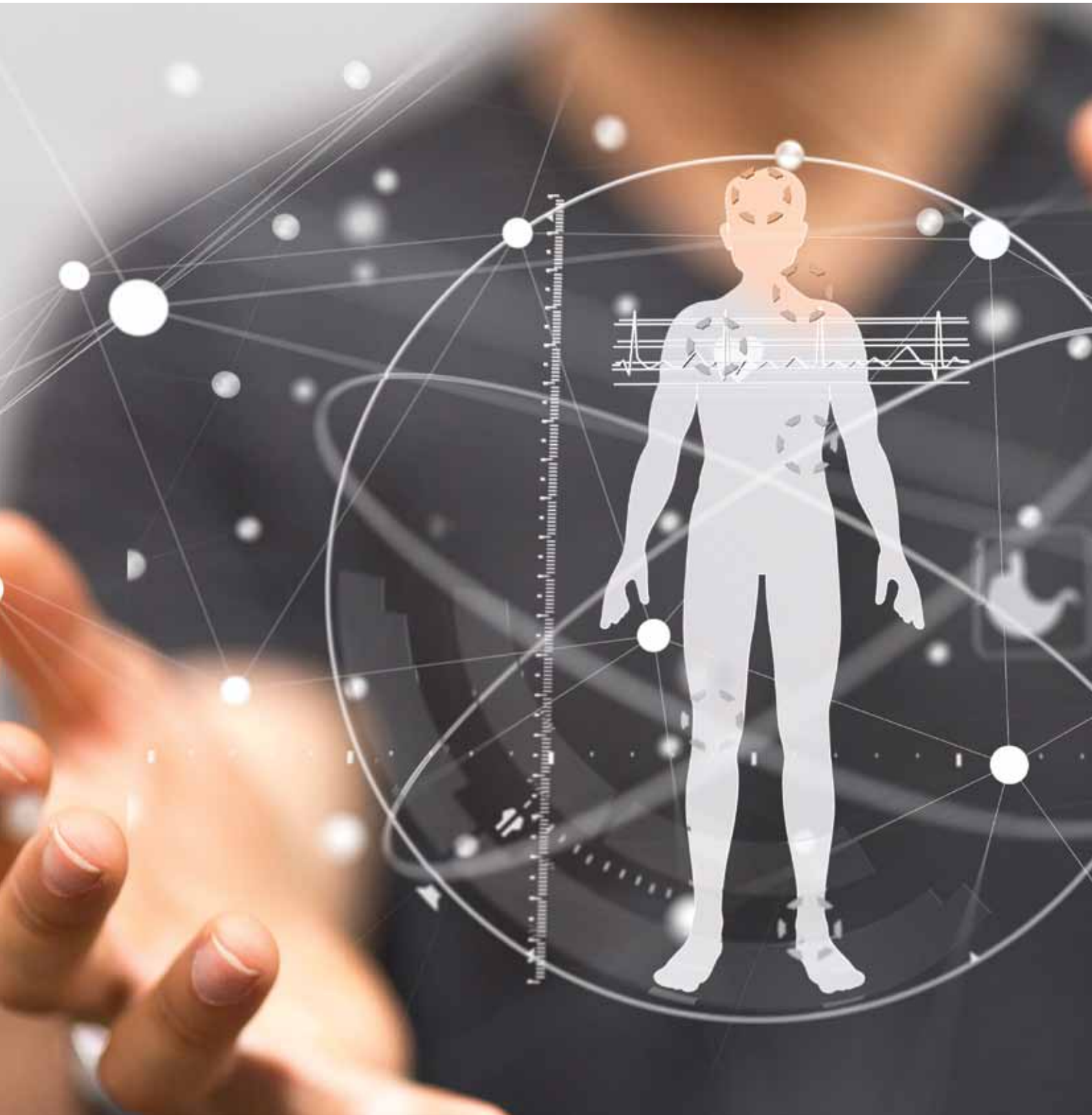
MEDICAL



Guanine

Cytosine







Getting a taste of health information diets

In a time when information about just about anything is available to anyone with a computer, bias and conflicts of interest have the capacity to cause unintended harm in the wider community.

Dr Adam Dunn, a Senior Research Fellow in the Centre for Health Informatics, is looking at how conflicts of interest bias research. He is using publicly available government grant funding databases to study the differences in what people said they were going to study, what they actually studied, and their published results – or whether they elected not to publish.

“We’re also looking at the system to examine how clinical evidence is produced, how that evidence is then synthesised in reviews and how that information is then communicated to the public and makes its way into practice,” he explains.

“Our goal is to help make it easier for people to judge the information they read.”

He says they are also trying to understand the ‘information diets’ of people in different cities and countries.

“We’re doing this by setting up ‘rain gauges’ for different communities that will collect information in the form of news and social media. We will then be able to compare information and misinformation, around vaccinations, for example, and look at how that affects people’s decisions.

“We know that there are places in California and the North Coast of NSW where people are basing their decisions on misinformation.

“If we understand what information people are consuming then we can develop appropriate materials to help give them an evidence-based perspective,” he says, adding that despite the antivaccination movement attracting a lot of media attention, lack of access to healthcare is the primary cause of people missing vaccinations.

“We need to be careful about monitoring health information available online and understanding how it impacts people’s behaviour,” Dr Dunn adds. “No matter how well we do medical research, the useful health information being produced can often be drowned out by less credible sources of information.”

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AIHI's large scale research initiatives

CARETRACK KIDS: A \$2.5 MILLION RESEARCH PROJECT INVESTIGATING THE QUALITY AND SAFETY OF CHILDREN'S HEALTHCARE

CareTrack Kids, will, for the first time, determine the percentage of healthcare encounters at which Australian children receive evidence- or consensus-based care for 19 paediatric conditions (e.g asthma, diabetes, upper respiratory tract infections, gastroenteritis, and attention deficit hyperactivity disorder) during 2012-2013 and examine the frequency and type of adverse events involving Australian children. In addition, we will run an intervention study to evaluate asthma control, using contemporary smartphone technology, and consumer engagement.

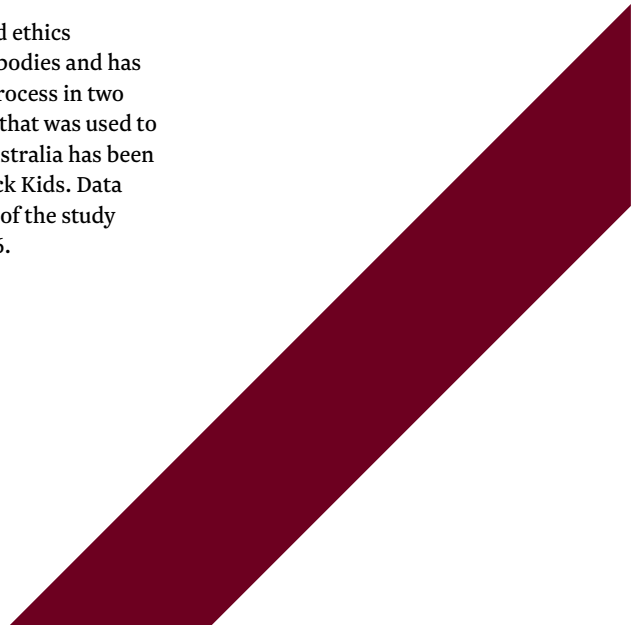
The AIHI, through Macquarie University and the University of South Australia is leading an international research team funded by National Health and Medical Research Council (NHMRC), and partnership contribution from Bupa Health Foundation, Sydney Children's Hospitals Network (SCHN), NSW Kids and Families, Children's Health Queensland, the South Australian Department of Health, and the NSW Clinical Excellence Commission. The research is also supported by the Australian Commission on Safety and Quality in Health Care.

The Chief Investigators leading the research are Professor Jeffrey Braithwaite (AIHI), Professor Adam Jaffe (UNSW, SCHN), Professor Les White (Office of Kids and Families, SCHN, UNSW), Professor Christopher Cowell (SCHN),

and Professor Mark Harris (Centre for Primary Health Care and Equity, UNSW). In addition Associate Investigators and an International Advisory Group are contributing, creating a strong synergistic collaboration between researchers, policy makers, the Australian Government, private health sector, safety and quality specialists, paediatricians and general practitioners.

We aim to deliver a range of important outcomes in this highly significant research, which is overdue, internationally relevant, and supported by all relevant national and international communities. It will garner new knowledge about health care delivery systems and provide baseline data on appropriate care for common paediatric conditions. The rate and extent of adverse events in children will be identified. CareTrack Kids will embrace methodological extension and innovations in research of this kind, including demonstrating the use of a wiki process for indicator assessment and a novel smartphone intervention. This work will create substantial information of value to national international researchers, policymakers, patient groups and practitioners.

CareTrack Kids has obtained ethics approvals from all relevant bodies and has run a pilot data collection process in two states. A web-based system that was used to collect data in CareTrack Australia has been modified for use in CareTrack Kids. Data collection for the main part of the study commenced in January 2016.







A \$10.8M CHALLENGE: TRANSLATING RESEARCH INTO BETTER CARE

AIHI is working to reshape the future of healthcare in Australia and internationally by moving beyond conventional smallscale, localised efforts to build theoretically sound new approaches that achieve systems-wide change. Backed by a \$10.8m NHMRC grant, the third largest Program Grant announced in 2012, the AIHI team and their international partners are focussing on the translational challenge for healthcare. That is, how we can implement sustainable, large-scale improvements across complex, dynamic healthcare systems.

Despite decades of research effort, patients in modern healthcare systems still receive care that is highly variable, frequently inappropriate and all too often unsafe. Although there is widespread agreement among clinicians, academics, policy-makers and funding bodies that a breakthrough is urgently needed, progress has been frustratingly slow. This is in large part because we do not yet understand the foundational processes of translating evidence into practice.

Five research streams are investigating and deploying effective, transferrable approaches to translating evidence into better clinical practice, while concurrently building our knowledge of the theory and science of implementation.

ADAPTIVE ANALYTICS

Employing emerging 'big data' methods to develop evidence-based clinical indicators for system feedback and to test their power to predict patient risk.

END-OF-LIFE CARE

Understanding the collaborative decision-making processes between patients and clinicians and extent of inappropriate or futile treatments being offered to end-of-life patients.

LEVERAGING E-HEALTH

Focussing on medication orders using electronic systems across aged care, primary care and hospital settings.

CONSUMER MOBILISATION

Overcoming barriers to engagement by both consumers and healthcare providers in monitoring and improvement processes.

IMPLEMENTATION SCIENCE

Unravelling how context shapes effective implementation by applying an explicit translational model to our improvement strategies (1-4 above), and by executing an international study assessing complex adaptive ecosystems in a collaborative project with eight countries in Europe.

NHMRC CENTRE FOR RESEARCH EXCELLENCE IN E-HEALTH (CRE)

The NHMRC Centre for Research Excellence in e-health (CRE) is now in its fourth year of a five year \$2.5m funded program. The Centre has investigators from Macquarie University, UNSW, Bond University, Sydney University and the University of South Australia. The investigator team has extensive national and international experience and a strong track record of translation into policy and practice. The CRE targets major evidence gaps in the safety and quality of clinical and consumer e-health systems.

In the last 12 months our research has focussed on three main areas.

- 1 **Consumer e-health**
- 2 **Decision support**
- 3 **E-health safety**

We've developed a number of tools to support health management, clinical decisions and monitor problems with patient care.



OUR TOOLS ARE AVAILABLE FROM EHEALTH.EDU.AU AND ARE:



Healthy.me is a personal health management system which allows individuals to connect with health services, peers, information sources, and tools to manage their health. Currently it is a research platform available in web-based and mobile app platform (iOS, Android).



Quick Clinical is a federated meta-search engine. This means that it does not search the literature like a regular search engine. Rather, Quick Clinical connects to several search engines, queries each one in parallel, and collates the results.



TechWatch is an online system for general practitioners to monitor problems with e-health in general practice that are creating risks for patient care.





Key events

AIHI RESEARCH SYMPOSIUM 2015

The relocation to Macquarie University of the AIHI – Australia’s foremost healthcare systems research institute – has opened up new opportunities for academic and industry collaboration across a wide range of multi-disciplinary research projects. With healthcare now close to 10% of GDP in most advanced economies, the AIHI is pioneering innovative new models and approaches to help healthcare providers and governments simultaneously improve patient outcomes, prevent medical errors and reduce costs. The AIHI’s first symposium, held in March 2015 at Macquarie University, introduced the university’s researchers and industry representatives to the Institute’s nationally and internationally significant health systems research, such as the ground-breaking CareTrack Australia project.

The Symposium was attended by over 150 participants from within Macquarie University and many organisations representing healthcare and education ranging from; hospitals, medical device companies, health and aged care providers, pharmaceutical and medical technology companies and universities.



Images: Chris Stacey







Image: Chris Stacey

RESILIENT HEALTH CARE: MOVING FROM SAFETY-I TO SAFETY-II

This one-day conference brought together a faculty of leading international experts in the field of patient safety. With just over 100 participants registered for this event, held at the Manly Novotel Hotel, the day was a highly interactive event, with keynote talks, panel discussions and group work.

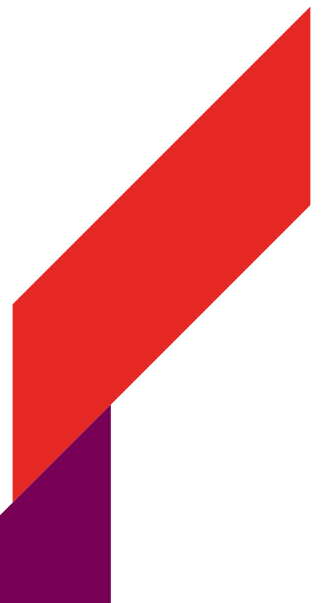
Participants who attended this event left with:

- a better understanding of the way international focus on patient safety is changing to include everyday clinical work as a whole, complementing existing effort focussing on things going wrong.
- a greater ability to identify new methods for keeping patients safe in a constantly changing environment.
- new perspectives, ideas and plans for building a safer environment for patients under care.

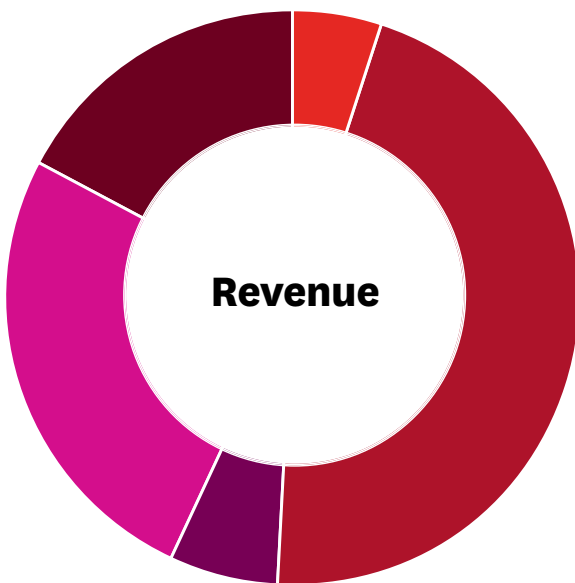
The speakers were:

- **Professor Erik Hollnagel**, Denmark and lead editor of Resilient Health Care, 2013 and author of Safety-I and Safety-II: The past and future of Safety management, 2014;
- **Professor Robert Wears**, USA, and lead editor of the Resilience of Everyday Clinical Work, 2015 and Research Professor at the University of Florida;
- **Professor Jeffrey Braithwaite**, Australia, and lead editor of Reconciling Work-As-Imagined and Work-As-Done, 2015 and Health Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries, in press;

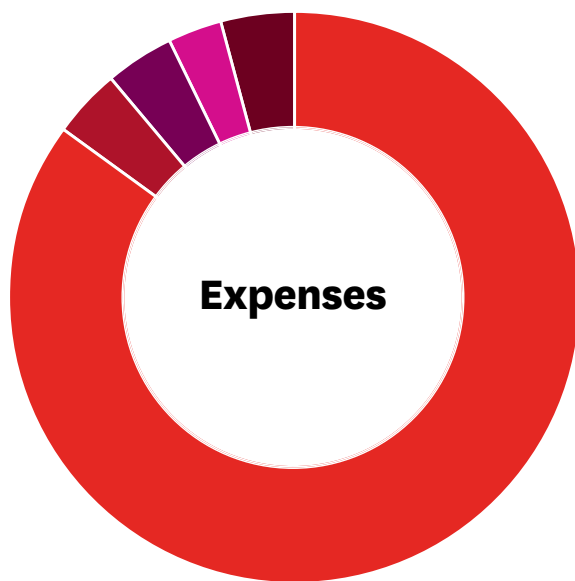
- **Dr Lacey Colligan**, USA, and founder of Sharp End Advisory, LLC and an expert in pediatric and intensive care;
- **Dr Janet Anderson**, UK, Research fellow in the Patient Safety and Service Quality Research Centre, King's College;
- **Dr Robyn Clay-Williams**, Australia, research expert in aviation, human factors and organisational resilience;
- **Dr Paul Lane**, Australia, Deputy Director, ICU The Townsville Hospital, Medical Director, The Townsville Skills Centre and co-designer of the Townsville Ten Cs resilience model; and
- **Associate Professor Andrew Johnson**, Executive Director Medical Services at the Townsville Hospital and Health Service and co-designer of the Townsville Ten Cs resilience model



Financial highlights



● Australian Research Council	5%
● National Health and Medical Research Council	46%
● Government grants	6%
● Partner funding	26%
● Contract research	17%



● Employee related expenses	85%
● Consultants and contractors expenses	4%
● Staff development and training, travel and entertainment	4%
● Other expenses	3%
● Repairs and maintenance	4%



Our staff

NAME	POSITION
ACADEMIC STAFF	
DIRECTORS/PROFESSORS	
Braithwaite, Jeffrey	Director AIHI and CHRIS
Coiera, Enrico	Director CHI
Westbrook, Johanna	Director CHSSR
ASSOCIATE PROFESSORS	
Callen, Joanne Leighton	Honorary Associate Professor, CHRIS
Georgiou, Andrew	Associate Professor, CHSSR
Greenfield, David	Associate Professor, CHRIS
Magrabi, Farah	Associate Professor, CHI
Makeham, Meredith	Associate Professor, CHSSR
Mitchell, Rebecca	Associate Professor, CHRIS
Rapport, Frances	Associate Professor, CHRIS
SENIOR RESEARCH FELLOWS	
Baysari, Melissa	Senior Research Fellow, CHSSR
Dunn, Adam	Senior Research Fellow, CHI
Gallego Luxan, Blanca	Senior Research Fellow, CHI
Li, Ling	Senior Research Fellow, CHSSR
Pont, Lisa	Senior Research Fellow, CHSSR
Tsafnat, Guy	Senior Research Fellow, CHI
RESEARCH FELLOWS	
Borotkanics, Robert	Research Fellow, CHSSR
Clay-Williams, Robyn	Research Fellow, CHRIS
Hogden, Anne Vaughan	Research Fellow, CHRIS
Kim, Mi-Ok	Research Fellow, CHI
Lau, Annie	Research Fellow, CHI
Maali, Yashar	Research Fellow, CHI
Perez Concha, Oscar	Research Fellow, CHI
Raban, Magdalena Zuzanna	Research Fellow, CHSSR
Siette, Joyce	Research Fellow, CHRIS
Taylor, Natalie Jayne	Research Fellow, CHRIS
Wang, Ying	Research Fellow, CHI

3
DIRECTORS/
PROFESSORS

7
ASSOCIATE
PROFESSORS

6
SENIOR
RESEARCH
FELLOWS

11
RESEARCH
FELLOWS

44
ACADEMIC
STAFF

17
POST-DOCTORAL
RESEARCH
FELLOWS

30
PROFESSIONAL
STAFF

NAME	POSITION
ACADEMIC STAFF	
POST-DOCTORAL RESEARCH FELLOWS	
Blakely, Brette Dyrek	Post-Doctoral Research Fellow, CHRIS
Choong, Miew-Keen	Post-Doctoral Research Fellow, CHI
Debono, Deborah Suzannah	Post-Doctoral Research Fellow, CHRIS
Douglas, Heather Elaine	Post-Doctoral Research Fellow, CHSSR
Karystianis, George	Post-Doctoral Research Fellow, CHI
Laranjo, Liliano	Post-Doctoral Research Fellow, CHI
Lehnbom, Elin	Post-Doctoral Research Fellow, CHSSR
Long, Janet	Post-Doctoral Research Fellow, CHRIS
McCaughey, Euan	Post-Doctoral Research Fellow, CHSSR
Mumford, Virginia	Post-Doctoral Research Fellow, CHRIS
Ong, Mei-Sing	Post-Doctoral Research Fellow, CHI
Prgomet, Mirela	Post-Doctoral Research Fellow, CHSSR
Selwood, Amanda	Post-Doctoral Research Fellow, CHRIS
Surian, Didi	Post-Doctoral Research Fellow, CHI
Tariq, Amina	Post-Doctoral Research Fellow, CHSSR
Zhang, Min	Post-Doctoral Research Fellow, CHRIS
Zhou, Xujuan	Post-Doctoral Research Fellow, CHI
PROFESSIONAL STAFF	
Bilimoria, Reza	Institute Manager
Christian-Hayes, Susan	Manager CHRIS
Crick, Sheree	Manager CHSSR
Dahm, Maria (Mary)	Research Assistant, CHSSR
Hogden, Emily Jane	Research Assistant, CHRIS
James, Wendy	Research Assistant Part Time, CHRIS
Kim, Tae Yeun Tara	Research Officer, CHSSR
Kim, Vitaliy	Computer Systems Officer, CHI
Lake, Rebecca	Research Assistant, CHSSR
Lamprell, Gina	Research Assistant Part Time, CHRIS
Li, Yu Jia Julie	Research Assistant, CHSSR
Li, Zhicheng	Research Assistant, CHRIS
Liu, Jingbo	Computer Systems Officer, CHI
Ludlow, Kristiana	Research Assistant, CHRIS
Marks, Danielle	Research Assistant Part Time, CHRIS
Molloy, Charlotte	Research Assistant, CHRIS
Mullins, Jackie	Administrative Assistant, CHRIS
Pottumati, Denise	Administrative Assistant, CHSSR
Purdy, Helen	Research Officer, CHSSR
Pye, Victoria Elizabeth	Statistician, CHRIS
Raichand, Smriti	Research Assistant, CHI
Robinson, Keira	Statistician, CHSSR

NAME		POSITION	
PROFESSIONAL STAFF (CONTINUED)			
Shi, George		Computer Systems Officer, CHI	
Testa, Luke		Research Assistant, CHRIS	
Ting, Pei		Statistician, CHRIS	
Tsiros, Denise		Manager Operations and Students, CHI	
Vecellio, Elia Julian		Research Assistant, CHSSR	
Waldie, Jenny		Business Manager, CHI	
Walter, Scott		Statistician, CHSSR	
Zheng, Wu Yi		Research Assistant, CHSSR	
NAME		TITLE	POSITION
VISITING STAFF			
Day, Richard		Professor	Visiting Professor
Devinney, Timothy		Professor	Visiting Professor
Hillman, Kenneth		Professor	Visiting Professor
Hollnagel, Erik		Professor	Visiting Professor
Hyde, Paula		Professor	Visiting Professor
Ingebrigtsen, Tor		Professor	Visiting Professor
Mannion, Russell		Professor	Visiting Professor
Mark, Annabelle		Professor	Visiting Professor
Matsuyama, Yukihiro		Professor	Visiting Professor
Øvretveit, John		Professor	Visiting Professor
Runciman, William		Professor	Visiting Professor
Shaw, Charles		Professor	Visiting Professor
Suñol, Rosa		Professor	Visiting Professor
Thompson, Richard		Professor	Visiting Professor
Wears, Robert		Professor	Visiting Professor
Beuscart-Zephir, Marie-Catherine		Dr	Visiting Fellow
Carson-Stevens		Dr	Visiting Fellow
Chuang, Sheuwen		Dr	Visiting Fellow
Corbett, Angus		Associate Professor	Visiting Fellow
Cunningham, Frances		Dr	Visiting Fellow
Gardiner, Brett		Dr	Visiting Fellow
Groene, Oliver		Dr	Visiting Fellow
Hannan, Terry		Associate Professor	Visiting Fellow
Hinchcliff, Reece		Dr	Visiting Fellow
Hooper, Tamara		Ms	Visiting Fellow
Horvath, A Rita		Professor	Visiting Fellow
Johnston, Brian		Mr	Visiting Fellow
Lindeman, Robert		Associate Professor	Visiting Fellow
Lipworth, Wendy		Dr	Visiting Fellow
Long, Paul		Mr	Visiting Fellow
Low, Lena		Dr	Visiting Fellow

51
VISITING STAFF
AND STUDENTS

15
VISITING
PROFESSORS

31

VISITING
FELLOWS

NAME	TITLE	POSITION
VISITING STAFF (CONTINUED)		
Moldovan, Max	Dr	Visiting Fellow
Nugus, Peter	Dr	Visiting Fellow
Pain, Charles	Dr	Visiting Fellow
Pantle, Annette	Dr	Visiting Fellow
Pawsey, Marjorie	Dr	Visiting Fellow
Pelayo, Sylvia	Dr	Visiting Fellow
Pereira, David	Dr	Visiting Fellow
Plumb, Jennifer	Dr	Visiting Fellow
Ranmuthugala, Geetha	Dr	Visiting Fellow
Robinson, Maureen	Ms	Visiting Fellow
Roffe, David	Mr	Visiting Fellow
Short, Alison	Dr	Visiting Fellow
Westbrook, Mary	Associate Professor	Visiting Fellow
Wiles, Louise	Ms	Visiting Fellow
Wilson, Roger	Professor	Visiting Fellow
VISITING STUDENTS		
Anderson, Niels	Master Students enrolled at Aalborg University, Denmark	Visiting student
Anderson, Simon	Master Students enrolled at Aalborg University, Denmark	Visiting student
Bang, Christian	Master Students enrolled at Aalborg University, Denmark	Visiting student
Gabarron, Elia	PhD Research Placement, The Arctic University of Tromso, Norway	Visiting student
Meyer, Sonny	Master Students enrolled at Aalborg University, Denmark	Visiting student

5

VISITING
STUDENTS



Postgraduate students

AIHI 2015 POSTGRADUATE CANDIDATES

MASTERS OF RESEARCH, YEAR 2

Dennis Jasch
Georgina Kennedy

MASTERS OF PHILOSOPHY

Christoph Camphausen
Brian Johnston
Ken Lee
Natalie Page
Sasa Popovic

DOCTORATE OF PHILOSOPHY

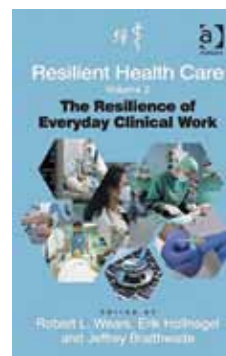
Tom Bowden
Craig Campbell
Tobias Hodgson
Andre Jenkins
Klay Lamprell
George Larcos

David Lyell
Katherine McConnon
Bella St Clair
Scott Walter
Victoria Walton
Su-Jen Yap

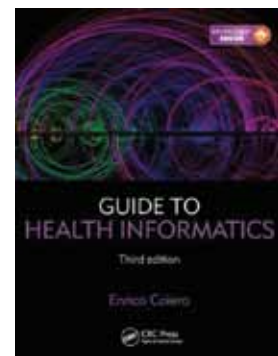
Books we've published



1



2



3



4



5

1. **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
2. Wears RL, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol. 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
3. **Coiera E**. *Guide to Health Informatics*. 3rd ed. United Kingdom: CRC Press Imprint; 2015.
4. **Georgiou A**, Grain H, Schaper L, editors. *Driving Reform: Digital Health is Everyone's Business*. Amsterdam: IOS Press; 2015.
5. Sarkar I, **Georgiou A**, de Azevedo Marques P, editors. *eHealth-enabled Health*. Amsterdam: IOS Press; 2015.

Publications 2015

AS AT 31 DECEMBER, 2015

BOOKS

1. **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
2. **Coiera E**. *Guide to Health Informatics*. 3rd ed. United Kingdom: CRC Press Imprint; 2015.
3. **Georgiou A**, Grain H, Schaper L, editors. *Driving Reform: Digital Health is Everyone's Business*. Amsterdam: IOS Press; 2015.
4. Sarkar I, **Georgiou A**, de Azevedo Marques P, editors. *eHealth-enabled Health*. Amsterdam: IOS Press; 2015.
5. Wears RL, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol. 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.

BOOK CHAPTERS

1. Aase K, **Braithwaite J**. *What is the role of theory in research on patient safety and quality improvement? Is there a Nordic perspective to theorising?* In: Aase K, Schibevaag L, editors. *Researching Patient Safety and Quality in Health Care: A Nordic Perspective*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015. (Accepted November 2015).
2. Ammenwerth E, De Keizer N, Craven C, **Georgiou A**, **Magrabi F**, Nykänen P, Scott P. *Recommendations for health IT training*. In: Ammenwerth E, Rigby M, editors. *Evidence-Based Health Informatics*. Amsterdam: IOS Press; 2015. (Accepted 3 November 2015).
3. Bambach M, **Mitchell R**. *Safe systems approach to reducing serious injury risk in motorcyclist collisions with fixed hazards*. *Accident Analysis and Prevention*. 2015; 74:290-6.
4. **Braithwaite J**. *Part I Africa and Western Asia*. In: **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015. p. 7-8.
5. **Braithwaite J**. *Part III South Eastern Asia and Oceania*. In: **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015. p. 111-2.
6. **Braithwaite J**, **Clay-Williams R**, Hunte C, Wears RL. *Understanding resilient clinical practices in Emergency Department ecosystems: Can this help with reconciling work-as-imagined and work-as-done?* In: **Braithwaite J**, Wears R, Hollnagel E, editors. *Reconciling Work-as-Imagined and Work-as-Done*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
7. **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J. *Introduction*. In: **Braithwaite J**, Matsuyama Y, Mannion R, **Johnson J**, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
8. **Braithwaite J**, Matsuyama Y, Mannion R, Johnson J. *Discussion: Integrating, and synthesizing the evidence across countries*. In: **Braithwaite J**, Matsuyama Y, Mannion R, **Johnson J**, editors. *Healthcare Reform, Quality and Safety: Perspectives, Participants, Partnerships and Prospects in 30 Countries*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
9. **Braithwaite J**, **Plumb J**. *Exposing hidden aspects of resilience and brittleness in everyday clinical practice using network theories*. In: Wears R, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, United Kingdom: Ashgate Publishing Ltd; 2015.
10. **Clay-Williams R**, **Braithwaite J**. *Realigning work-as-imagined and work-as-done: Can training help?* In: **Braithwaite J**, Wears R, Hollnagel E, editors. *Reconciling Work-as-Imagined and Work-as-Done*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
11. **Clay-Williams R**, **Johnson J**, **Debono D**, **Braithwaite J**. *The path from policy to practice: Resilience of everyday work in acute settings*. In: Waldorf S, Pedersen A, Ferlie E, Fitzgerald L, editors. *Managing Change - From Health Policy to Practice*. London: Palgrave Macmillan; 2015.
12. **Coiera E**, **Magrabi F**. *Information system safety*. *Guide to Health Informatics*. Boca Raton, FL, USA: CRC Press, Taylor & Francis Group; 2015. p. 195-220.
13. **Debono D**, **Braithwaite J**. *Workarounds in nursing practice in acute care: A case of a ward care arms race?* In: Wears R, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015. p. 23-38.

14. **Debono D**, Wille J, Skalicky D, **Johnson J**, Leitner R, Chenoweth B. *Improving care for people with intellectual disability*. In: **Johnson J**, Haskell H, Barach P, editors. *Case Studies in Patient Safety: Foundations for Core Competencies*. Burlington, MA: Jones and Bartlett Learning; 2015. p. 101-16.
 15. **Dunn AG**, **Arachi D**, Bourgeois FT. *Identifying Clinical Study Types from PubMed Metadata: The Active (Machine) Learning Approach*. *Studies in Health Technology and Informatics*. 2015/08/12 ed 2015. (216) p. 867-71.
 16. **Georgiou A**. *Finding, appraising and interpreting the evidence*. In: Ammenwerth E, Rigby M, editors. *Evidence-Based Health Informatics*. Amsterdam: IOS Press; 2015. (Accepted 21 September 2015).
 17. **Georgiou A**, **Vecellio E**, **Li L**, **Westbrook J**. *The impact of an Electronic Medical Record on Repeat Laboratory Test Ordering Across Four Australian Hospitals*. *Studies in Health Technology and Informatics: 2015 IMIA and IOS Press*; 2015. (216) p. 917.
 18. Hemsley B, **Georgiou A**. *The Personally Controlled Electronic Health Record (PCEHR) for adults with severe communication impairments: Findings of pilot research*. In: Georgiou A, Grain H, Schaper L, editors. *Driving Reform: Digital Health is Everyone's Business 2015*: IOS Press; 2015.
 19. Hermawan S, **Blakely B**. *Indonesia*. In: Braithwaite J, Maysuyama Y, Mannion R, Johnson J, editors. *The impact of healthcare reform initiatives on quality and safety*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015. p. 123-32.
 20. Hollnagel E, **Braithwaite J**, Wears R. *Epilogue*. In: Wears R, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
 21. Khanom A, Wright S, **Rapport FL**, Doel MA, Clement C, Storey M. *The "Lives at Risk" study: Philosophical and ethical implications of using narrative inquiry in health services research*. In: Edwards SaS, T, editor. *The Handbook of the Philosophy of Medicine*. Germany: Springer; 2015.
 22. **Magrabi F**, **Ford D**, **Arachi D**, **Williams H**. *Death despite known drug allergy*. In: Johnson JK, Haskell HW, Barach PR, editors. *Case Studies In Patient Safety: Foundations for Core Competencies*. Burlington MA: Jones & Bartlett Learning; 2015. p. 247-60.
 23. Nugus P, **Braithwaite J**. *Harold Garfinkel: Lessons on emergent behaviours in complex organisations*. In: Collyer F, editor. *Palgrave Handbook of Social Theory in Health, Illness and Medicine*. London: Palgrave Macmillan; 2015. p. 251-61.
 24. **Rapport FL**, Hartill G. *Making the case for poetic inquiry in Health Services Research*. In: Prendergast M, Galvin K, editors. *Poetic Inquiry II - Seeing, Caring, Understanding*. Rotterdam, The Netherlands: Sense 2015. p. 211-66.
 25. Reynolds M, James K, **Westbrook J**. *Innovations in dispensing*. In: Dean-Franklin B, Tully MP, editors. *Safety in Medication Use*. London, UK: Taylor and Francis; 2015. p. 239-48.
 26. Wears R, Hollnagel E, **Braithwaite J**. *Preface: Another view of patient safety*. In: Wears R, Hollnagel E, **Braithwaite J**, editors. *Resilient Health Care Vol 2: The Resilience of Everyday Clinical Work*. Farnham, Surrey, UK: Ashgate Publishing Ltd; 2015.
 27. **Westbrook JI**, **Baysari M**. *Technological approaches for medication administration*. In: Dean-Franklin B, Tully MP, editors. *Safety in Medication Use*. London, UK: Taylor and Francis; 2015. p. 229-37.
 28. **Westbrook JI**, **Baysari M**. *Electronic prescribing and medication administration record systems*. In: Dean-Franklin B, Tully MP, editors. *Safety in Medication Use*. London, UK: Taylor and Francis; 2015. p. 213-28.
 29. **Westbrook JI**, Caldwell G, Dean-Franklin B. *Interventions for safer work systems*. In: Dean-Franklin B, Tully MP, editors. *Safety in Medication Use*. London, UK: Taylor and Francis; 2015. p. 199-250.
 30. **Zhou X**, **Coiera E**, **Tsafnat G**, **Arachi D**, **Ong M-S**, **Dunn AG**. *Using social connection information to improve opinion mining: Identifying negative sentiment about HPV vaccines on Twitter*. *Studies in Health Technology and Informatics 2015*. (216) p. 761.
 31. Balas E, Vernon M, **Magrabi F**, Gordon L, Sexton J. *Big data clinical research: Validity, ethics, and regulation*. *Studies in Health Technology and Informatics* 2015; 216:448-52.
- REFEREED JOURNAL ARTICLES**
1. Alhawassi M, Krass I, **Pont LG**. *Impact of hospitalization on antihypertensive pharmacotherapy among older persons*. *Drugs - Real World Outcomes*. 2015; 2(3):239-47.
 2. Alhawassi TM, Krass I, **Pont LG**. *Hypertension in older persons: A systematic review of national and international treatment guidelines*. *Journal of Clinical Hypertension (Greenwich)*. 2015; 17:486-92.
 3. Allen D, **Braithwaite J**, Sandall J, Waring J. *Towards a sociology of healthcare safety and quality*. *Sociology of Health and Illness*. 2015; Published Online First: 17 December 2015.
 4. Al-Shorbaji N, Hanmer L, Hussein R, **Magrabi F**, Moen A, Moura L, Park H, Scott P. *Discussion of "evidence-based health informatics: How do we know what we know?"*. *Methods of Information in Medicine*. 2015; 54(4):308-18.
 5. Bambach M, **Mitchell R**. *Estimating the human recovery costs of seriously injured road crash casualties*. *Accident Analysis and Prevention*. 2015; 85:177-85.
 6. Bambach M, **Mitchell R**, Mattos G. *Mean injury costs for run-off-road collisions with fixed objects: Passenger vehicles and motorcycles*. *Journal of Transportation Safety and Security*. 2015; 7(3):228-42.
 7. Baxter R, Kellar I, **Taylor N**, Lawton R. *What methods are used to apply Positive Deviance within healthcare organisations? A systematic review*. *BMJ Quality and Safety*. 2015; (Accepted 4 October 2015).
 8. Baxter R, **Taylor N**, Kellar I, Lawton R. *Learning from positively deviant wards to improve patient safety: An observational study protocol*. *BMJ Quality and Safety*. 2015; (Accepted 8 October 2015).
 9. **Baysari M**, **Westbrook JI**. *Mobile applications for patient-centered care coordination: A review of human factors methods applied to their design, development and evaluation*. *IMIA Yearbook of Medical Informatics*. 2015; 10(1):47-54.

10. **Borotkanics RJ**, Locke P. EPA's methodology to inform TSCA premanufacturing notification decision-making: A critical analysis based on chemicals regulated by consent order. *Journal of Toxicology and Environmental Health*. 2015; (Accepted July 2015).
11. **Borotkanics RJ**, **Thrush M**, Locke P. Analysis of ToxCast data - in vitro and physicochemical properties – in the accurate classification of chemicals that induce hepatocarcinogenesis in vivo. *Applied In Vitro Toxicology*. 2015; (Accepted September 2015).
12. **Braithwaite J**. Bridging gaps to promote networked care between teams and groups in health delivery systems: A systematic review of non-health literature. *BMJ Open*. 2015; Accepted 27 August 2015.
13. **Braithwaite J**, Wears RL, Hollnagel E. Resilient health care: Turning patient safety on its head. *International Journal for Quality in Health Care*. 2015; Published Online First: 20 August 2015.
14. Cai X, **Perez-Concha O**, **Coiera E**, Martin-Sanchez F, Day R, Roffe D, **Galleo B**. Real-time prediction of mortality, readmission, and length of stay using electronic health record data. *Journal of the American Medical Informatics Association*. 2015; Published Online First: 15 September 2015.
15. **Callen J**, **Georgiou A**, **Li J**, **Westbrook JI**. The impact for patient outcomes of failure to follow up on test results – how can we do better? *Electronic Journal of the International Federation of Clinical Chemistry* 2015; 26(1):38-46.
16. **Callen J**, Giardina TD, Singh H, **Li L**, Paoloni R, **Georgiou A**, Runciman WB, **Westbrook JI**. Emergency physicians' views of direct notification of laboratory and radiology results to patients using the internet: A multisite survey. *Journal of Medical Internet Research*. 2015; 17(3):e60.
17. Campbell C, Caldwell G, Coates P, Flatman R, **Georgiou A**, Horvath A, Lam Q, Scheider H. Consensus statement for the management and communication of high risk laboratory results. *The Clinical Biochemist Reviews*. 2015; 36(3):97-106.
18. Cardona-Morrell M, **Prgomet M**, **Lake R**, Nicholson M, Harrison R, **Long J**, **Westbrook J**, **Braithwaite J**, Hillman K. Vital signs monitoring and nurse-patient interaction: A qualitative observational study of hospital practice. *International Journal of Nursing Studies*. 2015; Published Online First: 29 December 2015.
19. **Choong MK**, **Tsafnat G**, Hibbert P, Runciman WB, **Coiera E**. Comparing clinical quality indicators for asthma management in children with outcome measures used in randomised controlled trials: a protocol. *BMJ Open*. 2015; 5(9):e008819.
20. **Clay-Williams R**, **Braithwaite J**. Reframing implementation as an organisational behaviour problem: Inside a teamwork improvement intervention. *Journal of Health Organization and Management*. 2015; 29(6).
21. **Clay-Williams R**, Colligan L. Back to basics: Checklists in aviation and healthcare. *BMJ Quality and Safety*. 2015; (Accepted 24 April 2015).
22. **Clay-Williams R**, Hounsgaard J, Hollnagel E. Where the rubber meets the road: Using FRAM to align work-as-imagined with work-as-done when implementing clinical guidelines. *Implementation Science*. 2015; 10(125).
23. Clement C, **Rapport FL**. Patient and health professionals' perspectives on the use of ciclosporin and infliximab when treating acute severe ulcerative colitis: An added dimension to the CONSTRUCT Trial. *Trials*. 2015; 16(Supplementary 2):72.
24. **Coiera E**. Technology, cognition and error. *BMJ Quality and Safety*. 2015; 24(7):417-22.
25. Conner M, McEachen R, **Taylor N**, O'Hara J, Lawton R. The role of affective attitudes and anticipated regret in predicting health behaviours: A meta analysis. *Health Psychology* 2015; 34(6):642-52.
26. **Creswick N**, **Westbrook J**. Who do hospital physicians and nurses go to for advice about medications? A social network analysis and examination of prescribing error rates. *Journal of Patient Safety*. 2015; 11(3):152-9.
27. **Dahm MR**, Yates L, Ogden K, Rooney K, Sheldon B. Enhancing international medical graduates' communication: The contribution of applied linguistics. *Medical Education*. 2015; 49(8):828-37.
28. Denecke K, Bamidis P, Bond C, Gabarron E, Househ M, **Lau A**, Mayer M, Merolli M, Hansen M. Ethical issues of social media usage in healthcare. *Yearbook of Medical Informatics*. 2015; 10(1):137-47.
29. Diasinos N, **Baysari M**, Kumar S, Day R. Does the availability of therapeutic drug monitoring, computerised dose recommendation and prescribing decision support services promote compliance with national gentamicin prescribing guidelines? *Internal Medicine Journal*. 2015; 45(1):55-62.
30. **Dunn AG**, Leask S, **Zhou X**, Mandl KD, **Coiera E**. Association between exposure to and expression of negative opinions about human papillomavirus vaccines on social media: An observational study. *Journal of Medical Internet Research*. 2015; 17(6).
31. Edwards SL, Sergio Da Silver AL, **Rapport F I**, McKimm J, Williams R. Recruitment of doctors to work in our 'hinterland': First results from Swansea Graduate Entry Programme in Medicine. *Rural and Remote Health*. 2015; 15(3187).
32. Fairbrother G, Chiarella M, **Braithwaite J**. Models of care choices in today's nursing workplace: Where does team nursing sit? *Australian Health Review*. 2015; Published Online First: 23 March 2015.
33. Forster M, Dennison K, **Callen J**, **Georgiou A**, **Westbrook JI**. Maternity patients' access to their electronic medical records: use and perspectives of a patient portal. *Health Information Management Journal*. 2015; 44(1):4-11.
34. **Gabarron E**, **Lau AY**, Wynn R. There is a Weekly Pattern for Health Searches on Wikipedia and Is the Pattern Unique to Health Topics? *Journal of medical Internet Research*. 2015; 17(12).
35. **Galleo B**, **Magrabi F**, **Concha O**, **Wang Y**, **Coiera E**. Insights into temporal patterns of hospital patient safety from routinely collected electronic data. *Health Information Science and Systems*. 2015; 3(Suppl 1).
36. **Galleo B**, **Walter SR**, **Day RO**, **Dunn AG**, Sivaraman V, Shah N, Longhurst C, **Coiera E**. Bringing cohort studies to the bedside: Framework for a 'green button' to support clinical decision-making. *Journal of Comparative Effectiveness Research*. 2015; 4(3):191-7.
37. **Georgiou A**, **Prgomet M**, Lymer S, Hordern A, Ridley L, **Westbrook J**. The impact of a health IT changeover on Medical Imaging Department work

- processes and turnaround times: A mixed method study. *Applied Clinical Informatics*. 2015; 6(3):443-53.
38. Giardina TD, Callen J, Georgiou A, Westbrook JI, Greisinger A, Esquivel A, Forjuoh SN, Parrish DE, Singh H. Releasing test results directly to patients: A multisite survey of physician perspectives. *Patient Education and Counseling*. 2015; 98(6):788-96.
 39. Greenfield D, Debono D, Hogden A, Hinchcliff R, Mumford V, Pawsey M, Westbrook J, Braithwaite J. Examining challenges to reliability of health service accreditation during a period of healthcare reform in Australia. *Journal of Health Organisation and Management*. 2015; 29(7):912-24.
 40. Greenfield D, Hinchcliff R, Hogden A, Mumford V, Debono D, Pawsey M, Westbrook J, Braithwaite J. A hybrid health service accreditation program model incorporating mandated standards and continuous improvement: Interview study of multiple stakeholders in Australian health care. *International Journal of Health Planning and Management*. 2015; Published Online First: 5 June 2015.
 41. Greenfield D, Hogden A, Hinchcliff R, Mumford V, Pawsey M, Debono D, Westbrook J, Braithwaite J. The impact of national accreditation reform on survey reliability: a two year investigation of survey coordinators' perspectives. *Journal of Evaluation in Clinical Practice*. 2015; Published Online First: 25 January 2016.
 42. Harvey L, Mitchell R, Brodaty H, Draper B. The influence of dementia on injury-related hospitalisations of older people in Australia. *Injury*. 2015; (Accepted 26 September 2015).
 43. Harvey L, Mitchell R, Brodaty H, Draper B, Close J. Dementia: A risk factor for burns in the elderly. *Burns: Journal of the International Society for Burn Injuries*. 2015; (Accepted 24 October 2015).
 44. Hemsley B, Balandin S, Sheppard J, Georgiou A, Hill S. A call for dysphagia-related safety incident research in people with developmental disabilities. *Journal of Intellectual and Developmental Disability*. 2015; 40(1):99-103.
 45. Hemsley B, Georgiou A, Hill S, Rollo M, Steel J, Balandin S. An integrative review of patient safety in studies on the care and safety of patients with communication disabilities in hospital. *Patient Education and Counseling*. 2015; (Accepted 28 October 2015).
 46. Hibbert PD, Hallahan AR, Muething S, E, Lachman P, Hooper TD, Wiles LK, Jaffe A, White L, Wheaton GR, Runciman WB, Dalton S, Williams HM, Braithwaite J. CareTrack Kids—Part 3 Adverse events in children's healthcare in Australia: Study protocol for a retrospective medical record review. *BMJ Open*. 2015; Published Online First: 8 April 2015(5:e007750).
 47. Hmar R, Kannangara D, Ramasamy S, Baysari M, Williams K, Day R. Understanding and improving the use of Allopurinol in a teaching hospital. *Internal Medicine Journal*. 2015; 45(4):383-90.
 48. Hodgson T, Coiera E. Risks and benefits of speech cognition for clinical documentation: a systematic review. *Journal of the American Medical Informatics Association*. 2015;ocv152.
 49. Hooper T, Hibbert P, Hannaford N, Jackson N, Hindmarsh D, Gordon D, Coiera E, Runciman W. Surgical site infection—a population-based study in Australian adults measuring the compliance with and correct timing of appropriate antibiotic prophylaxis. *Anaesthesia and Intensive Care Journal*. 2015; 43(4):461-7.
 50. Hooper TD, Hibbert PD, Mealing N, Wiles L, Jaffe A, White L, Cowell CT, Harris MF, Runciman WB, Goldstein S, Hallahan AR, Wakefield JG, Murphy E, Lau A, Wheaton GR, Williams HM, Hughes C, Braithwaite J. CareTrack Kids—Part 2 Assessing the appropriateness of the healthcare delivered to Australian children: A study protocol for a retrospective medical record review. *BMJ Open*. 2015; Published Online First: 8 April 2015(5:e00774).
 51. Kanesarajah J, Waller M, Zheng W, Dobson AJ. Factors associated with low unit cohesion in Australian Defence Force members who deployed to the Middle East (2001-2009). *Journal of the Royal Army Medical Corps*. 2015; (First Published Online: 13 November 2015).
 52. Lamprell G, Greenfield D, Braithwaite J. The paradoxes of gender mainstreaming in developing countries: The case of health care in Papua New Guinea. *Global Public Health*. 2015; 10(1):41-54.
 53. Laranjo L, Arguel A, Neves AL, Gallagher AM, Kaplan R, Mortimer N, Mendes GA, Lau AY. The influence of social networking sites on health behaviour change: a systematic review and meta-analysis. *Journal of the American Medical Informatics Association*. 2015; 22(1):243-56.
 54. Laranjo L, Neves AL, Costa A, Ribeiro RT, Couto L, Sá AB. Facilitators, barriers and expectations in the self-management of type 2 diabetes—a qualitative study from Portugal. *The European journal of general practice*. 2015; 21(2):103-10.
 55. Laranjo L. Cuidados de saúde centrados na pessoa e tecnologias de informação e comunicação: perspetivas atuais e futuras. *Revista Portuguesa de Medicina Geral e Familiar*. 2015; 31(6):372-4.
 56. Larcos GS, Collins LT, Georgiou A, Westbrook JI. Nuclear medicine incident reporting in Australia: Control charts and notification rates inform quality improvement. *Internal Medicine Journal*. 2015; 45(6):609-17.
 57. Lau AY, Arguel A, Dennis S, Liaw S-T, Coiera E. "Why Didn't it Work?" Lessons From a Randomized Controlled Trial of a Web-based Personally Controlled Health Management System for Adults with Asthma. *Journal of Medical Internet Research*. 2015; 17(12).
 58. Lehnbohm E, Makeham ME, Douglas HE. The uncertain future of the personally controlled electronic health record. *Internal Medicine Journal*. 2015; (Accepted 4 June 2015).
 59. Li L, Georgiou A, Vecellio E, Eigenstetter A, Toouli G, Wilson R, Westbrook JI. The effect of laboratory testing on Emergency Department length of stay: A multihospital longitudinal study applying a cross-classified random-effect modeling approach. *Academic Emergency Medicine*. 2015; 22(1):38-46.
 60. Li L, Hains I, Hordern T, Milliss D, Raper R, Westbrook JI. What do ICU doctors do? A multi-site, time and motion study of registrars' clinical work patterns. *Critical Care and Resuscitation*. 2015; 17(3):159-66.
 61. Lian O, Rapport F. Life according to ME: Caught in the ebb-tide. *Health*. 2015; (Accepted 24 October 2015).
 62. Liu P, D'Arcy J, Jin J, Zhang M. Diet and risk of adult leukemia: A multicentre case-control study in China. *Cancer Causes Control*. 2015; 26(8):114-1151.

63. Liu P, Holman C, Jin J, **Zhang M**. Dietary isoflavones intake is associated with a reduced risk of myelodysplastic syndromes. *British Journal of Nutrition*. 2015.
64. Liu P, **Zhang M**, Jin J, Holman C. Tea consumption reduces the risk of de novo myelodysplastic syndromes. *Leukemia Research*. 2015; 39(2):164-9.
65. Liu P, **Zhang M**, Jin J, Holman C. Polymorphisms of 5,10-methylenetetrahydrofolate reductase and thymidylate synthase, dietary folate intake, and the risk of leukemia in adults. *Tumor Biology*. 2015; Published Online First: 5 October 2015:1-11.
66. **Magrabi F**, Baker M, Sinha I, **Ong M-S**, Harrison S, Kidd M, Runciman W, **Coiera E**. Clinical safety of England's national programme for IT: A retrospective analysis of all reported safety events 2005 to 2011. *International Journal of Medical Informatics*. 2015; 84(3):198-206.
67. **Magrabi F**, Liaw S, Arachi D, Runciman W, **Coiera E**, Kidd M. Identifying patient safety problems associated with information technology in general practice: An analysis of incident reports. *BMJ Quality and Safety* 2015.
68. **McCaughey EJ**, Berry HR, Mclean AN, Allan DB, Gollee H. Abdominal functional electrical stimulation to assist ventilator weaning in acute tetraplegia: A cohort study. *PLoS ONE*. 2015; 10(6):e0128589.
69. **McCaughey EJ**, Purcell M, McLean AN, Fraser MH, Bewick A, **Borotkanics RJ**, Allan DB. Changing demographics of spinal cord injury over a 20 year period: a longitudinal population based study in Scotland. 2015; (Accepted September 2015).
70. **Miller A**, Moon B, Anders S, Walden R, Brown S, Montella D. Integrating computerized clinical decision support systems into clinical work: A meta-synthesis of qualitative research. *International Journal of Medical Informatics*. 2015; 84(12):1009-18.
71. Milne J, **Greenfield D**, **Braithwaite J**. An ethnographic investigation of junior doctors' capacities to practice interprofessionally in three teaching hospitals. *Journal of Interprofessional Care*. 2015; 29(4):347-53.
72. Missiakos O, **Baysari MT**, Day RO. Identifying effective computerized strategies to prevent drug-drug interactions in hospital: A user centered approach. *International Journal of Medical Informatics*. 2015; 84(8):595-600.
73. **Mitchell R**, Bambach M. Examination of narratives from emergency department presentations to identify road trauma, crash and injury factors for different age groups. *Health Information Management* 2015; 44(1):21-9.
74. **Mitchell R**, Bambach M. Characteristics and personal injury recovery cost of pedestrian-vehicle collisions by injury severity. *Traffic Injury Prevention*. 2015; (Accepted 27 October 2015).
75. **Mitchell R**, Bambach M, Foster K, Curtis K. Risk factors associated with the severity of injury outcome for paediatric road trauma. *Injury* 2015; 46:874-82.
76. **Mitchell R**, Bambach M, Toson B. Injury risk matched front and rear seat car passengers by injury severity: An exploratory study. *Accident Analysis and Prevention*. 2015; 82:171-9.
77. **Mitchell R**, Cameron C, McClure R, Williamson A. Data linkage capabilities in Australia: Practical issues identified by a Population Health Research Network "Proof of concept project". *Australian and New Zealand Journal of Public Health*. 2015; 39(4):319-25.
78. **Mitchell R**, Draper B, Harvey L, Brodaty H, Close J. The association of physical illness and self-harm resulting in hospitalisation among older people in a population-based study. *Aging and Mental Health*. 2015; (Accepted 22 September 2015).
79. **Mitchell R**, Harvey L, Brodaty H, Draper B, Close J. Dementia and intentional and unintentional poisoning in older people: A 10 year review of hospitalization records in New South Wales (NSW), Australia. *International Psychogeriatrics*. 2015; 27(11):1757-68.
80. **Mitchell R**, Lord S, Harvey L, Close J. Obesity and falls in older people: Mediating effects of disease, sedentary behaviour, mood, pain and medication use. *Archives of Gerontology and Geriatrics*. 2015; 60(1):52-8.
81. **Mitchell R**, Senserrick T, Bambach M, Mattos G. Comparison of novice and full licenced driver common crash types in New South Wales, Australia, 2001-2011. *Accident Analysis and Prevention*. 2015; 81:204-10.
82. **Mitchell R**, Williamson A, Chung A. Comparison of injuries experienced by international tourists visiting Australia and Australian residents. *Asia-Pacific Journal of Public Health*. 2015; 27(2):1683-94.
83. **Mitchell R**, Williamson A, Molesworth B. Use of human factors clarification framework to identify casual factors for medication and medical device-related adverse clinical incidents. *Safety Science*. 2015; 79:163-74.
84. **Mitchell R**, Williamson A, Molesworth B. Application of a human factors classification framework for patient safety to identify precursor and contributing factors to adverse clinical incidents in hospital. *Applied Ergonomics*. 2015; 52:185-95.
85. **Mortimer N**, Rhee J, Guy R, Hayen A, **Lau A**. A web-based personally controlled health management system increases sexually transmitted infection screening rates in young people: A randomized controlled trial. *Journal of the American Medical Informatics Association*. 2015; Jul 15(4):805-14.
86. **Mumford V**, **Greenfield D**, **Hogden A**, **Debono D**, Forde K, **Westbrook JI**, **Braithwaite J**. Development and application of an indicator assessment tool for measuring health services accreditation programs. *BMC Research Notes*. 2015; 8(263).
87. **Mumford V**, **Greenfield D**, **Hogden A**, Forde K, **Westbrook J**, **Braithwaite J**. Counting the costs of accreditation in acute care: An activity-based costing approach. *BMJ Open*. 2015; 5(9):e008850.
88. **Mumford V**, Reeve R, **Greenfield D**, Forde K, **Westbrook J**, **Braithwaite J**. Is accreditation linked to hospital infection rates? A 4-year, data linkage study of *Staphylococcus aureus* rates and accreditation scores in 77 Australian acute hospitals.

- International Journal for Quality in Health Care*. 2015; 27(6):478-84.
89. Nguyen AD, Baysari MT, Kannangara DRW, Tariq A, Lau AYS, Westbrook JI, Day RO. Mobile apps to enhance self management of gout: Facilitating the use of management guidelines [Abstract and Poster]. *Australian Rheumatology Association 56th Annual Scientific Meeting*; 23-26 May 2015; Adelaide, Australia. 2015.
90. Ong M-S, Grand RJ, Natter MD, Mandl KD. Computational Analysis Identifies Comorbidity Network Characterizing Inflammatory Bowel Disease in Common Variable Immune Deficiency. *Journal Of Clinical Immunology*. 2015; 35(3):320-.
91. Ong MS, Olson KL, Cami A, Liu C, Tian F, Selvam N, Mandl KD. Erratum to: Provider patient-sharing networks and multiple-provider prescribing of benzodiazepines. *Journal of General Internal Medicine*. 2015; Published Online First: 30 October 2015.
92. Ong M-S, Mandl KD. National expenditure for false-positive mammograms and breast cancer overdiagnoses estimated at \$4 billion a year. *Health Affairs*. 2015; 34(4):576-83.
93. Patterson ES, Lowry SZ, Ramaiah M, Gibbons MC, Brick D, Calco R, Matton G, Miller A, Makar E, Ferrer JA. Improving clinical workflow in ambulatory care: Implemented recommendations in an innovation prototype for the Veteran's Health Administration. *Generating Evidence and Methods to Improve Patient Outcomes*. 2015; 3(2):1149.
94. Pelayo S, Ong M. Human Factors and Ergonomics in the Design of Health Information Technology: Trends and Progress in 2014. *Yearbook of medical informatics*. 2015;10(1):75-8.
95. Pont LG, Nielen JT, Mclachlan AJ, Gnjjidic D, Chan L, Cumming RG, Taxis K. Measuring anticholinergic drug exposure in older community-dwelling Australian men: A comparison of four different measures. *British Journal of Clinical Pharmacology*. 2015; Published Online First: 28 April 2015.
96. Raban MZ. Data sources for measuring the socioeconomic gradient of hypertension in rural populations of low- and middle-income countries. *International Journal of Epidemiology*. 2015; Published Online First: 14 August 2015.
97. Raban MZ, Walter SR, Douglas HE, Strumpman D, Mackenzie J, Westbrook JI. Measuring the impact of interruptions and multi-tasking on prescribing errors in an emergency department: study protocol. *BMJ Open*. 2015; 5(10:e009076).
98. Rigby M, Georgiou A, Hyppönen H, Ammenwerth E, de Keizer N, Magrabi F, Scott P. Patient portals as a means of information and communications technology support to patient-centric care coordination – the missing evidence and the challenges of evaluation. *IMIA Yearbook*. 2015; 10(1):148-59.
99. Schofield B, Cresswel K, Westbrook JI, Slee A, Girling A, Shah S, Coleman J, Sheikh A. The impact of electronic prescribing systems on pharmacists' time and workflow: Protocol for a time-and motion study in English NHS hospitals. *BMJ Open*. 2015; 5:e008785.
100. Shubin S, Rapport F, Seagrove A. Complex and dynamic times of being chronically ill: Beyond disease trajectories of patients with ulcerative colitis. *Social Science and Medicine*. 2015; 147:105-12.
101. Svetieva E, Zadro L, Denson T, Dale E, O'Moore K, Zheng W. Anger mediates the effect of ostracism on risk-taking. *Journal of Risk Research*. 2015:1-18.
102. Tariq A, Douglas HE, Smith C, Georgiou A, Osmond T, Armour P, Westbrook JI. A descriptive analysis of incidents reported by community aged care workers. *Western Journal of Nursing Research*. 2015; 37(7): 859-76.
103. Tariq A, Georgiou A, Raban M, Baysari M, Westbrook J. Underlying risk factors for prescribing errors in long-term aged care: A qualitative study. *BMJ Quality and Safety*. 2015; (Accepted 25 September 2015).
104. Taylor N, Bamford T, Handi C, Cracknell A. Development of a nasogastric tube safety pack: Medical undergraduates, human factors, collaboration, and innovation. *Academic Medicine*. 2015; (Accepted 7 May 2015).
105. Taylor N, Clay-Williams R, Hogden E, Braithwaite J, Groene O. High performing hospitals: A qualitative systematic review of associated factors and practical strategies for improvement. *BMC Health Services Research*. 2015; 15(244).
106. Taylor N, Clay-Williams R, Hogden E, Pye V, Li Z, Groene O, Suñol R, Braithwaite J. Deepening our Understanding of Quality in Australia (DUQuA): A study protocol for a nation-wide, multi-level analysis of relationships between hospital quality management systems and patient factors. *BMJ Open*. 2015; 5(12).
107. Vaccher S, Kannangara D, Baysari M, Reath J, Zwar N, Williams K, Day R. Barriers to care in gout: From prescriber to patient. *The Journal of Rheumatology*. 2015.
108. Vecellio E, Maley M, Toouli G, Georgiou A, Westbrook J. Data quality associated with handwritten laboratory test requests: Classification and frequency of data-entry errors for outpatient serology tests. *Health Information Management Journal*. 2015; 44(3):7-12.
109. Walter SR, Dunsmuir WT, Westbrook JI. Studying interruptions and multitasking in situ: The untapped potential of quantitative observational studies. *International Journal of Human-Computer Studies*. 2015; 79:118-25.
110. Waring J, Allen D, Braithwaite J, Sandall J. Healthcare quality and safety: A review of policy, practice and research. *Sociology of Health and Illness*. 2015; First Published Online: 11 December 2015.
111. Werth BL, Williams KA, Pont LG. A longitudinal study of constipation and laxative use in community-dwelling elderly population. *Archives of Gerontology and Geriatrics*. 2015; 60(3):418-24.
112. Westbrook JI, Gospodarevskaya E, Li L, Richardson KL, Roffe D, Heywood M, Day RO, Graves N. Cost-effectiveness analysis of a hospital electronic medication management system. *Journal of the American Medical Informatics Association*. 2015; 22(4):784-93.
113. Westbrook JI, Li L, Lehnbohm E, Baysari M, Braithwaite J, Burke R, Conn C, Day R. What are incident reports telling us? A comparison study at two Australian hospitals of medication errors identified at audit, detected by staff and reported to an incident system. *International*

- Journal for Quality in Health Care*. 2015; 27(1):1-9.
114. **Wiles LK, Hooper TD, Hibbert PD, White L, Mealing N, Jaffe A, Cowell CT, Harris MF, Runciman WB, Goldstein S, Hallahan AR, Wakefield JG, Murphy E, Lau A, Wheaton GR, Williams HM, Hughes C, Braithwaite J.** CareTrack Kids–Part 1 Assessing the appropriateness of healthcare delivered to Australian children: A study protocol for clinical indicator development. *BMJ Open*. 2015; Published Online First: 8 April 2015(5:e007748).
 115. Woods C, Conner M, Miles E, Sandberg T, **Taylor N**, Godin G, Sheeran P. The impact of asking intention or self-prediction questions on subsequent behaviour. *Personality and Social Psychology Review*. 2015; Published Online First: 10 July 2015.
 116. Woods C, Conner M, **Taylor N**, Godin G, Sheeran P. The impact of mere measurement on behaviour: A meta-analysis and meta-regression. *Personality and Social Psychology Review*. 2015; (Accepted 5 May 2015).
 117. **Zhou X, Coiera E, Tsafnat G, Arachi D, Ong MS, Dunn AG.** Using social connection information to improve opinion mining: Identifying negative sentiment about HPV vaccines on Twitter. *Studies in Health Technology and Informatics*. 2015; 216:761-5.
 118. **Zhou X, Wang Y, Tsafnat G, Coiera E, Bourgeois F, Dunn A.** Citations alone were enough to predict favorable conclusions in reviews of neuraminidase inhibitors. *Journal of Clinical Epidemiology*. 2015; 68(1):87-93.
- CONFERENCE PAPERS – FULL-PAPER**
1. **Hansen MH, Plocharska MA, Wang Y, Hejlesen O, Magrabi F.** Near-real time monitoring of reports regarding patient safety incidents in hospitals using a web-based interface. *SHI 2015, Proceedings from The 13th Scandinavian Conference on Health Informatics*; 15-17 June 2015; Tromsø, Norway. Linköping University Electronic Press; 2015.
 2. Nguyen AD, **Baysari MT, Kannangara DRW, Tariq A, Lau AYS, Westbrook JI, Day RO.** Mobile apps to enhance self management of gout: Concordance with management guidelines. *Internal Medicine Journal*. 2015. p. 13.
 3. **Ong M, Grand RJ, Natter MD, Mandl KD.** Computational analysis identifies comorbidity networks characterizing inflammatory bowel disease in common variable immune deficiency[abstract]. 2015 *Clinical Immunology Society Annual Meeting: Immune Deficiency & Dysregulation North American Conference*; 9-12 April 2015; Houston USA. Springer/Plenum Publishers 2015. P. 320.
 4. **Tariq A, Georgiou A, Westbrook J.** Enabling seamless information exchange: Lessons from implementation of electronic medication administration records in residential aged care facilities. *19th Triennial Congress of the IEA*; 9-14 August 2015; Melbourne, Australia. 2015.
- CONFERENCE ABSTRACTS AND POSTERS**
1. Alhawassi M, Krass I, **Pont LG.** Effect of hospital admission on antihypertensive medication utilization among older persons [Abstract]. *EUROmediCAT Conference*; February, 2015; Poznan, Poland. 2015.
 2. Alhawassi M, Krass I, **Pont LG.** Hypertension management and control in older persons on admission to an acute care setting [Abstract]. *EUROmediCAT Conference*; February, 2015; Poznan, Poland. 2015.
 3. Alhawassi M, Krass I, **Pont LG.** Prevalence and risk factors for adverse drug reactions in older adults in the acute care setting [Abstract]. *EUROmediCAT Conference*; February, 2015; Poznan, Poland. 2015.
 4. **Baysari MT, Jackson N, Westbrook JI, Day RO.** Use and views of an electronic risk assessment tool for venous thromboembolism – A case for user-centred design [Abstract]. *19th Triennial Congress of the International Ergonomics Association*; 9-14 August 2015; Melbourne, Australia. 2015.
 5. **Baysari MT, Lehnbohm EC, Richardson L, Westbrook JI.** A workshop on how to use the Work Observation Method by Activity Timing (WOMBAT) tool – An easy and precise way to qualify patterns of work and communication [Abstract]. *19th Triennial Congress of the International Ergonomics Association*; 9-14 August 2015; Melbourne Australia. 2015.
 6. **Blakely B, Lipworth W, Mayes C.** Does the new big business of IVF make reproduction a luxury for the rich? [Abstract]. *Working with Diversity Conference of the Australasian Association of Bioethics and Health Law*; 25-29 June, 2015; Wellington, New Zealand. 2015.
 7. **Braithwaite J.** Resilient health care: Achievable reality or delusion? [Abstract]. *Sustainable Healthcare Transformation International Conference on Health System Innovation*; 18 March 2015; Hobart, Australia. 2015.
 8. **Braithwaite J.** Resilient health care in practice: Realigning work-as-imagined and work-as-done [Abstract]. *The 20th International Forum on Quality and Safety in Healthcare*; 23 April 2015; London, UK. 2015.
 9. **Braithwaite J.** Fixing problems that never happened: How to enact Safety-II [Abstract]. *Safety-II and Beyond-Resilience Meets Regulation*; 4 June 2015; Rotterdam, the Netherlands. 2015.
 10. **Braithwaite J.** Improving health services quality—engaging patients and service users as co-creators of resilient healthcare [Abstract]. *The 20th International Forum on Quality and Safety in Healthcare*; 23 April 2015; London, UK. 2015.
 11. **Braithwaite J.** Resilient health care: Reconciling work-as-imagined and work-as-done [Abstract]. *SIA National Safety Convention 2015*; 15-17 September 2015; Melbourne, Australia. 2015.
 12. **Braithwaite J.** Resilient health care in practice [Abstract]. *Complexity and Patient Safety: Ten Years Later 2005-2015*; 23-24 October 2015; Verona, Italy. 2015.
 13. **Braithwaite J.** Resilient health care in practice [Abstract]. *ISQua's Global Leaders Lectures 2015*; 23 October 2015; Verona, Italy. 2015.
 14. **Braithwaite J, Clay-Williams R, Taylor N, Pye V, Li Z, Hogden E, Pantle A.** Deepening our Understanding of Quality in Australia: an update on the DUQuA project [Poster]. 2015 *RACMA Conference: Inequality and Healthcare, Recognising the*

- Healthcare Costs of Inequity*; 9-11 September 2015; Auckland, New Zealand. 2015.
15. Cardona-Morrell M, Prgomet M, Nicholson M, Lake R, Hillman K. Continuous monitoring on general wards to optimize utilization of rapid response teams: are we ready? [Poster]. *MET Conference: 11th International Conference on Rapid Response Systems and Medical Emergency Teams*; 18-19 May 2015; Amsterdam, The Netherlands. 2015.
 16. Clay-Williams R, Hounsgaard J, Braithwaite J. From policy to practice: A new way of developing protocols that work [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 17. Clay-Williams R, Taylor N, Baysari M, Zalitis D. Say 'hello' to the camera: Using simulation to test a video telehealth system and train healthcare professionals to develop rapport with callers [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 18. Clay-Williams R, Taylor N, Baysari MT, Georgiou A, Zalitis D. Say "hello" to the camera: Using simulation to test video telehealth system and train healthcare professionals to develop rapport with callers [Abstract]. *Bringing evidence-based practice and shared decision-making together. 7th International Shared Decision Making (ISDM) Conference and the 4th International Society for Evidence-Based Health Care (ISEHC) Conference*; 19-22 July 2015; Sydney, Australia. 2015.
 19. Clay-Williams R, Taylor N, Baysari MT, Zalitis D, Georgiou A. Using Simulation to test a video telehealth system and train healthcare providers [Abstract and Poster] *International Society for Evidence Based Health Care and the International Shared Decision-Making Conference 2015*; 19-22 July 2015; Sydney, Australia. 2015.
 20. Clay-Williams R, Taylor N, Hogden E, Braithwaite J. Making the medical manager: Educating clinical leaders through collaboration in research [Abstract and Poster]. *Bringing Evidenced-Based Practice and Shared Decision-Making Together 7th International Shared Decision Making (ISDM) Conference and the 4th International Society for Evidence-Based Health Care (ISEHC) Conference*; 19-22 July, 2015; Sydney, Australia. 2015.
 21. Clay-Williams R, Taylor N, Hogden E, Braithwaite J. Making the medical manager: Educating clinical leaders about quality through participation in research [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 22. Debono D, Greenfield D, Hogden A, Braithwaite J. Cohesion and diversity bring opportunity: A survey of the critical elements, strengths and challenges to an Australian primary care accreditation program [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 23. Debono D, Greenfield D, Hogden A, Braithwaite J. Electronic medication management systems: Supporting and challenging nurses' delivery of patient-centred care [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 24. Debono D, Greenfield D, Travaglia J, Braithwaite J. Trade-offs between hospital policy and effective care: The case for and against workarounds in medication safety [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 25. Debono D, Johnson J, Greenfield D, Black D, Braithwaite J. Harnessing workarounds to improve quality of care [Poster]. *Health Roundtable 2015 Innovations Workshops and Awards*; 19-20 November 2015; Sydney, Australia. 2015.
 26. Debono D, Johnston J, Greenfield D. Workarounds as part of the science of improvement [Abstract]. *27th Annual National Forum on Quality Improvement in Health Care*; 6-9 December 2015; Orlando, Florida, USA. 2015.
 27. Debono D, Long J, Taylor N. Using theory and implementation science to improve quality and safety [Poster]. *Health Roundtable 2015 Innovations Workshops and Awards*; 19-20 November 2015; Sydney, Australia. 2015.
 28. Debono D, Taylor N, Long J, Braithwaite J, Chin M, Williams R, Salisbury E, O'Neill S, Dunlop T, Phan-Thien K-C, Eykman E. The referral process as imagined versus the referral process as done: Co-developing a map of the referral process for genetic counselling for patients with a high likelihood risk of Lynch Syndrome [Abstract]. *Innovations in Cancer Treatment and Care Conference*; 15 October 2015; Sydney, Australia. 2015.
 29. Debono D, Taylor N, Long J, Braithwaite J, Chin M, Williams R, Salisbury E, O'Neill S, Dunlop T, Phan-Thien K-C, Eykman E. Referral as imagined versus referral as done: mapping the referral process for genetic counselling for Lynch syndrome patients [Abstract]. *Innovations in Cancer Treatment and Care Conference, Cancer Institute, NSW*; 15 October 2015; Sydney, Australia. 2015.
 30. Draper B, Mitchell R, Harvey L, Brodaty H, Close J. The survival and characteristics of older people with and without dementia who are hospitalised following intentional self-harm [Abstract]. *RANZCP Faculty of Psychiatry of Old Age and APS Psychology and Ageing Special Interest Group Joint Conference 26-28 November 2015*; Adelaide, Australia. 2015.
 31. Georgiou A, Vecellio E, Li L, Westbrook JI. The impact of an Electronic Medical Record on repeat laboratory test ordering across four Australian hospitals [Poster]. *Medinfo 2015*; 19-23 August 2015; Sao Paulo, Brazil. 2015.
 32. Greenfield D, Hogden A, Debono D, Braithwaite J. Stakeholder views of the Australian national safety and quality health service standards: Perspectives from the new world [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 33. Greenfield D, Hogden A, Debono D, Braithwaite J. Professional attitudes to accreditation programs and their impact on safety and quality: A survey of the aged care, acute and general practice sectors in Australia [Abstract and Poster]. *ISQua's 32nd*

- Conference: Building quality and safety into the healthcare system; Doha, Qatar. 2015.*
34. Harvey L, **Mitchell R**, Brodaty H, Draper B, Close J. The influence of dementia on injury-related hospitalizations and outcomes in Australia: A linked data study [Abstract]. *International Conference of Alzheimer's Disease*; 15-18 April, 2015; Perth, Australia. 2015.
 35. Harvey L, **Mitchell R**, Brodaty H, Draper B, Close J. Dementia: A risk factor for burns in the elderly [Abstract]. *39th Australian and New Zealand Burns Association Conference*; 20-23 October 2015; Melbourne, Australia. 2015.
 36. Hemsley B, **Georgiou A**, Balandin S, Hill S, Rollo M, Steel J. Improving the care and safety of adults with severe communication disability in hospital: Applying the generic model of patient safety [Abstract]. *NHMRC Research Translation Symposium*; 27-28 October 2015; Sydney. 2015.
 37. Hemsley B, **Georgiou A**, McCarthy S, Balandin S, Carter R, Hill R, Higgins I, van Vliet P. PCEHR-FIT: Foundation, Implementation, and Translation: Including Adults with Communication Disabilities in PCEHR [Abstract]. *International Society for Evidence Based Health Care (ISEHC) and the International Shared Decision-Making (ISDM)*; 19-22 July 2015; Sydney, Australia. 2015.
 38. Hibbert P, Molloy C, Hooper T, **Braithwaite J**. The global trigger tool: A systematic review of the methods used and outcomes reported [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 39. **Hogden A**, Aho-Ozehan H, Loose M, **Greenfield D**, Ludolph AC, Lule D. Patient-centred decision support tools for ALS/MND [Poster]. *26th International Symposium on ALS/MND*; 11-13 December 2015; Orlando, USA. 2015.
 40. **Hogden A**, **Debono D**, **Greenfield D**, **Braithwaite J**. Partnering with consumers: The Australian experience of the development of a national health service accreditation standard [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 41. **Hogden A**, **Greenfield D**, Nugus P, Kiernan M. Reconceptualising patient-centred care: The role of family carers [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 42. **Hogden A**, Short A, Rajendran H, **Greenfield D**. "It just hit me like a sledgehammer": Impact of indoor noise on the lifestyle choices of older adults [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; Doha, Qatar. 2015.
 43. Hounsgaard J, **Clay-Williams R**. Improving implementation of protocols in the ICU [Abstract and Poster]. *International Forum on Quality and Safety in Health Care*; 21-24 April 2015; London, UK. 2015.
 44. Johnson A, Lane P, **Clay-Williams R**, Klug M. Creating value in healthcare: The role of intensive negotiation skills training [Invited Poster]. *Hospital Authority Convention 2015*; 18-19 May 2015; Hong Kong, China. 2015.
 45. **Lake R**, Li L, Byrne M, Robinson M, **Georgiou A**. What does the research evidence tell us about the impact of telehealth triage services? [Abstract]. *International Shared Decision Making-International Society for Evidence Based Health Care Conference*; 19-22 July 2015; Sydney, Australia. 2015.
 46. Lane P, **Clay-Williams R**. The Ten C's model: A case from Townsville Australia [Abstract]. *Resilient Health Care: Moving from Safety-I to Safety-II* 10 August 2015; Sydney Australia. 2015.
 47. Lane P, **Clay-Williams R**. The ICU escalation plan: A case from Townsville Australia [Abstract]. *2015 Resilient Health Care Net (RHCN) Conference*; 11-13 August 2015; Sydney Australia. 2015.
 48. Lane P, Johnson A, **Clay-Williams R**, Klug M. Negotiation: Influencing change in a complex adaptive system [Invited Poster]. *Hospital Authority Convention 2015*; 18-19 May 2015; Hong Kong, China. 2015.
 49. Lawrence S, van Gellecum Y, Dennis C, **Greenfield D**. The association between HRM, safety and quality: Evidence form a longitudinal analysis of a health service accreditation program [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 50. **Long J**, **Debono D**, O'Neill S, Potter M, **Taylor N**. Enriching cancer research with consumer dialogue [Abstract]. *New Horizons 2015, University of Technology, Sydney*; 23-25 November 2015; Sydney, Australia. 2015.
 51. **Long J**, **Taylor N**, **Debono D**, **Braithwaite J**, Chin M, Williams R, Salisbury E, O'Neill S, Dunlop T, Phan-Thien K-C, Eykman E. Achieving behaviour change for best practice [Abstract and Poster]. *Innovations in Cancer Treatment and Care Conference*; 15 October 2015; Sydney Australia. 2015.
 52. Milne J, **Greenfield D**, **Braithwaite J**. Organisational constraints affecting patient centred care in teaching hospitals: The case for change [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 53. Milne J, **Greenfield D**, **Braithwaite J**. Conundrums in the delivery of patient-centred care: How organisational and physical systems influence doctors' interactions with nurses and allied health professionals [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 54. **Mitchell R**, Bambach M. Examination of injury risk for front versus rear seat car passengers by injury severity: A matched-cohort analysis [Abstract]. *Society for the Advancement of Violence and Injury Research*; 11-13 March 2015; New Orleans, USA. 2015.
 55. **Mitchell R**, Harvey L, Brodaty H, Draper B, Close J. Dementia and poisoning in older people: A 10 year review of hospitalisation records in New South Wales, Australia [Abstract]. *Australasian Injury Prevention Conference*; 25-27 November 2015; Sydney, Australia. 2015.
 56. **Mitchell R**, Lord S, Harvey L, Close J. Obesity and falls in older individuals:

- Estimating fall risk and identifying mediating factors [Abstract]. *19th International Ergonomics Association Conference*; 9-14 August 2015; Melbourne, Australia. 2015.
57. **Mumford V, Greenfield D.** Developing a logic model to evaluate accreditation in Australian acute care hospitals [Abstract]. *32nd New Horizons Conference: Building bridges between basic science and the clinic, academia and the medical industry, Creative Education and Innovative Research*; 23-25 November 2015; Sydney, Australia. 2015.
 58. **Mumford V, Greenfield D, Forde K, Braithwaite J.** Counting the costs of accreditation in acute care: An activity based costing approach [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 59. **Mumford V, Greenfield D, Reeve R, Braithwaite J.** The quest for safety and quality indicators: Linking hospital accreditation scores and hospital acquired staphylococcus aureus infection rates across 78 acute care hospitals [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 60. **Nguyen AD, Baysari MT, Kannagara DRW, Tariq A, Lau AYS, Westbrook JI, Day RO.** Mobile apps to enhance self management of gout: Facilitating the use of management guidelines [Abstract and Poster]. *Australian Rheumatology Association 56th Annual Scientific Meeting*; 23-26 May 2015; Adelaide, Australia. 2015.
 61. **Pont LG.** Changes in drug utilisation at the end of life [Abstract]. *International Conference on Pharmacoepidemiology*; 24 August 2015; Boston, MA. 2015.
 62. **Pont LG.** Using data to change drug utilisation in the real world [Abstract]. *International Conference on Pharmacoepidemiology*; 24 August 2015; Boston, USW. 2015.
 63. **Richardson L, Lehnbohm E, Baysari MT, Walter S, Day RO.** What do junior doctors do during weekend shifts? A time and motion study [Abstract]. *19th Triennial Congress of the International Ergonomics Association*; 9-14 August 2015; Melbourne, Australia. 2015.
 64. **Robertson H, Hayen A, Travaglia J, Georgiou A.** A spatial neuroepidemiology of Australia: Visualising the current and future impact of the dementias [Abstract]. *International Conference on Population Geographies*; 30 June-3 July 2015; Brisbane, Australia. 2015.
 65. **Scott P, de Keizer NJ, Georgiou A, Hyppönen H, Craven C, Rigby M.** Why evidence-based health informatics should have theoretical foundations: Exploring the implications for policy and evaluation [Abstract]. *Medinfo 2015*; 19-23 August 2015; Sao Paulo, Brazil. 2015.
 66. **St Clair B, Greenfield D, Georgiou A.** Sinking our TEETH in: A mixed methods framework to examine the barriers and incentives for participation in dental accreditation programs [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 67. **St Clair B, Greenfield D, Georgiou A.** What do we really know about accreditation, quality, safety and dental services? A multi-faceted approach to review the literature [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 68. **St Clair B, Greenfield D, Georgiou A.** Examining health care culture and attitudes to quality and safety issues. A multi-faceted approach to review the literature [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 69. **Taylor N, Clay-Williams R, Hogden E, Braithwaite J, Groene O.** High performing hospitals: A qualitative systematic review of associated factors and practical strategies for improvement [Abstract]. *Bringing evidence-based practice and shared decision-making together, 7th International Shared Decision Making (ISDM) Conference and the 4th International Society for Evidence-Based Health Care (ISEHC) Conference*; 19-22 July 2015; Sydney, Australia. 2015.
 70. **Taylor N, Clay-Williams R, Hogden E, Groene O, Braithwaite J.** High performing hospitals: A qualitative systematic review of associated factors and practical strategies for improvement [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 71. **Taylor N, Hogden E, Clay-Williams R, Braithwaite J.** The patient view: Testing feasibility of the culturally adapted patient measure of safety [Abstract]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 72. **Taylor N, Hogden E, Clay-Williams R, Lawton R, Louch G, Braithwaite J.** The patient view: Testing feasibility of the culturally adapted patient measure of safety [Abstract]. *Bringing evidence-based practice and shared decision-making together, 7th International Shared Decision Making (ISDM) Conference and the 4th International Society for Evidence-Based Health Care (ISEHC) Conference*; 19-22 July, 2015; Sydney, Australia. 2015.
 73. **Taylor N, Williams R, Debono D, Chin M, Long J, Salisbury E, Butler J, Potter M, O'Neill S, Braithwaite J.** Achieving healthcare professional behaviour change for detection and management of Lynch syndrome [Abstract]. *Clinical Oncology Society of Australia Symposium*; 18 November 2015; Sydney, Australia. 2015.
 74. **Walton V, Greenfield D, Hogden A, Johnson J.** How many rounding processes can a medical ward have? [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.
 75. **Walton V, Greenfield D, Hogden A, Johnson J.** Evaluating the recruitment strategies for a complex multidisciplinary quality improvement project [Abstract and Poster]. *ISQua's 32nd Conference: Building quality and safety into the healthcare system*; 4-7 October 2015; Doha, Qatar. 2015.

Seminars

CONCEPTUALIZING FRAUDULENT STUDIES AS INFECTIOUS VIRUSES: A NEW MODEL FOR HANDLING RETRACTIONS IN THE SCIENTIFIC KNOWLEDGE BASE

PRESENTER:

Professor Kathleen Montgomery

Professor of the Graduate Division at the University of California, Riverside, and Emerita Professor of Organizations and Management in UCR's School of Business Administration.

BIG HISTORY, POPULATION AND COLLECTIVE LEARNING

PRESENTER:

Dr David Baker

Macquarie University

DO HOSPITAL BOARDS MATTER FOR BETTER, SAFER, PATIENT CARE? FRESH EVIDENCE FROM THE ENGLISH NHS

PRESENTER:

Professor Russell Mannion

Chair in Health Systems at the University of Birmingham, Director of Research at the Health Services Management Centre (HSMC).

QUALITY AND SAFETY IN ENGLAND: THE ROLE OF REGULATION

PRESENTER:

David Behan

CBE Chief Executive of the Care Quality Commission

INCIDENT REPORTING DRIVING A CO-PRODUCED PRIMARY CARE IMPROVEMENT AGENDA FOR AUSTRALIA

PRESENTER:

Dr Andrew Carson-Stevens

He leads the PISA Research Group at Cardiff University

THE IMPLICATIONS OF SUMMATIVE USABILITY TEST RESULTS REQUIRED FOR US MEANINGFUL USE CERTIFICATION FOR AUSTRALIAN CLIENTS

PRESENTER:

Associate Professor Anne Miller

AIHI, Macquarie University

TALES FROM THE (ALMOST) FRONT LINE - WHAT'S CLINICAL GOVERNANCE IN REALITY?

PRESENTER:

Dr Annette Pantle

She was the inaugural Group General Manager Clinical Governance and Chief Medical Officer for St Vincent's Health Australia

RESILIENT HEALTH CARE: RE-CONCEPTUALISING PATIENT SAFETY

PRESENTER:

Professor Jeffrey Braithwaite

Foundation Director, Australian Institute of Health Innovation, Director, Centre for Healthcare Resilience and Implementation Science and Professor of Health Systems Research, Faculty of Medicine and Health Sciences, Macquarie University

QULTURUM, IMPROVEMENT AND PATIENT SAFETY HUB IN REGION JÖNKÖPING COUNTY, SWEDEN

PRESENTER:

Dr Axel Ros

Chief Medical Officer, Region Jönköping County, Sweden; Berit Axelsson Development manager at Qulturum, Region Jönköping, Sweden

BUILDING SCALABLE HEALTH ANALYTIC PLATFORM: COMPUTATIONAL PHENOTYPING AND CLOUD-BASED PREDICTIVE MODELLING

PRESENTER:

Associate Professor Jimeng Sun

Associate Professor of School of Computational Science and Engineering at College of Computing in Georgia Institute of Technology

MEDICAL TOURISM: PATIENT, ORGANISATIONAL AND SYSTEM-LEVEL PERSPECTIVES

PRESENTER:

Dr Neil Lunt

Department of Social Policy and Social Work, University of York

APPLYING ERGONOMICS/HUMAN FACTORS TO STUDY AND IMPROVE "PATIENT WORK"

PRESENTER:

Professor Richard J. Holden

Assistant professor of BioHealth Informatics at the Indiana University School of Informatics and Computing, USA, and founding Director of eHealth for the Center for Brain Care Innovation at Eskenazi Health

THE LONG JOURNEY: BUILDING QUALITY AND SAFETY WITHIN THE ELECTRONIC HEALTH RECORD AT MEMORIAL HERMANN

PRESENTER:

Dr Robert Murphy

Associate Professor at the University of Texas School of Biomedical Informatics

WHY BOTHER TO TEACH PATIENT SAFETY BEFORE GRADUATION?

PRESENTER:

Emeritus Professor Kim Oates

Director of Undergraduate Quality and Safety at the Clinical Excellence Commission, Sydney, Australia

NPS MEDICINEWISE AND CHOOSING WISELY AUSTRALIA; IMPROVING USE OF MEDICINES AND MEDICAL TESTS

PRESENTER:

Dr Lynn Weekes

Chief executive officer of NPS MedicineWise

TOWARDS BETTER HEALTHCARE: INTERGROUP COMMUNICATION AND SAFETY AND QUALITY OF PATIENT CARE.

PRESENTERS:

Associate Professor Bernadette Watson

Director of the Applied Psychology program in the School of Psychology at the University of Queensland

Associate Professor Gavin Schwarz

Associate Professor in the School of Management at the UNSW Business School.

WHAT THE ETHICS COMMITTEE IS ALL ABOUT

PRESENTER:

Professor Tony Eyers

Professor of Ethics in Surgery and Medicine in the Faculty of Medicine and Health Sciences, Macquarie University

CSIRO'S E-HEALTH RESEARCH: TRANSFORMING HEALTHCARE THROUGH THE USE OF DIGITAL TECHNOLOGY

PRESENTERS:

Dr David Hansen CEO of the Australian

e-Health Research Centre, part of the CSIRO Digital Productivity Flagship.

Dr Jill Freyne

Senior Research Scientist and Team and Project Leader in the CSIRO e-Health Research Centre.

SUPPORTING RESPONSIBLE SURGICAL INNOVATION - PROFESSOR WENDY ROGERS AND DR KATRINA HUTCHISON

PRESENTERS:

Professor Wendy Rogers

Professor of Clinical Ethics at Macquarie University

Dr Katrina Hutchison

Post- doctoral researcher in bioethics at Macquarie University

CLIMATE CHANGE AND HUMAN HEALTH: CHALLENGES AND OPPORTUNITIES

PRESENTER:

Professor Lesley Hughes

Professor Lesley Hughes , Professor in the Department of Biological Sciences and Pro Vice-Chancellor (Research Integrity and Development) at Macquarie University

MONITORING USE OF EHEALTH ON A NATIONAL LEVEL

PRESENTER:

Professor Christian Nøhr

Professor of Technology analysis and health care planning at Department of Development and Planning, Aalborg University, Denmark

EVIDENCE-BASED IMPLEMENTATION OF THE ELECTRONIC MEDICAL RECORD AND COMPUTERIZED PHYSICIAN ORDER ENTRY

PRESENTER: Dr Natalie Pageler

Director of the Clinical Informatics Department, and an Associate Program Director for the Clinical Informatics Fellowship

PRESENTER: Dr Veena Goel

Fellow in Pediatric Hospital Medicine after completing Pediatrics residency at Stanford Children's


Grants under management

GRANT	INVESTIGATORS	GRANTING AGENCY	GRANT AMOUNT
NHMRC			
The appropriateness of healthcare delivered to Australian Children: CareTrack Kids	J Braithwaite A Jaffe L White C Cowell M Harris	NHMRC	\$1,743,318
Creating safe, effective systems of care: the translational challenge	J Braithwaite J Westbrook E Coiera W Runciman R Day K Hillman	NHMRC	\$10,855,710
Dynamic prediction of hospital length of stay, readmission, and death	B Gallego Luxan F Martin-Sanchez	NHMRC	\$312,069
Real time surveillance for the early detection of e-health related adverse events	M Ong	NHMRC	\$299,564
Safety of clinical software in general practice	F Magrabi	NHMRC	\$289,750
Using collaboration networks to measure bias and inefficiency in the production and translation of evidence about cardiovascular risk	A Dunn	NHMRC	\$214,182
Delivering safe and effective care for children in hospital with eHealth systems	J Westbrook A Georgiou R Day T O'Brien J Karnon L Dalla-Pozza C Cowell L Li M Baysari G Ambler	NHMRC	\$1,082,806
Personally Controlled Electronic Health Records for young adults with communication disabilities: charting the course for successful child to adult health service transition	B Hemsley S Balandin A Georgiou S Hill	NHMRC	\$396,853 (\$77,727 administered by AIHI)

GRANT	INVESTIGATORS	GRANTING AGENCY	GRANT AMOUNT
NHMRC (CONTINUED)			
Delivering safe and effective test result communication, management and follow-up	A Georgiou J Westbrook D Greenfield A Horvath D Wakefield L Li K Hillman	NHMRC	\$1,133,359
Centre for research excellence in e-health	E Coiera P Glasziou S-T Law V Sintchenko W Runciman F Magrabi B Gallego Luxan	NHMRC	\$1,063,152
ARC			
Strengthening organisational performance through accreditation research: the ACCREDIT project	J Braithwaite J Westbrook	ARC	\$2,350,000
Development of an evaluation model for assessing the effectiveness of ICT to integrate services and improve service performance and client experience	J Westbrook A Georgiou	ARC	\$914,044
OTHER			
Hospitalised injury in NSW: a geographical comparison	R Mitchell	University of Sydney	\$35,500
Unwarranted clinical variation following hospitalised injury in young people in NSW	R Mitchell	NSW Kids and Families	\$69,076
Stocktake of data sources relevant to childhood injury in NSW	R Mitchell	NSW Kids and Families	\$49,971
Behaviour change for prevention and management for Lynch Syndrome	N Taylor M Chin R Williams	TCRN	\$100,000

GRANT	INVESTIGATORS	GRANTING AGENCY	GRANT AMOUNT
OTHER (CONTINUED)			
External evaluation expertise and advise to NSML Care Co-ordination Program (CCP) Pilot with Private Health Insurers	J Braithwaite P Hibbert	Northern Sydney Medicare Local	\$40,000
Prince of Wales Joint Project – Hospital-level improvement strategies	J Braithwaite P Bolton	POWH	\$165,000
Trauma Journey Day of Difference	R Mitchell	University of Sydney	\$31,999
Decision support tools for motor neurone disease multidisciplinary care	A Hogden X Cal J Caga D Greenfield	MND Victoria	\$96,000
ISU escalation plan evaluation	R Clay-Williams	Townsville Hospital and Health Service	\$23,375
The appropriateness of healthcare delivered to Australian Children: CareTrack Kids	J Braithwaite L White C Cowell A Jaffe W Runciman G Wheaton H Williams P Hibbert T Hunt N Hannaford	*BUPA	\$400,000
Population Health and Health Services Research Support Program Round 4 Conduct multi-disciplinary research into health sector practices, organisation and management, to directly enhance the delivery of high quality, safe, efficient and affordable health care.	J Braithwaite (for the AIHI)	NSW Health	\$1,000,000
Proof of Concept - Whether national data linkage can be conducted in Australia and cross-border health care use identified + the demonstration project is looking at hospitalised injury morbidity and mortality	R Mitchell	Telethon Institute PHRN	\$127,550

GRANT	INVESTIGATORS	GRANTING AGENCY	GRANT AMOUNT
OTHER (CONTINUED)			
Evaluation of Point of Care Testing (PoCT)	A Georgiou L Li J Westbrook V Mumford	NSW Health Pathology	\$150,947
Assessment of the National Inpatient Medication Chart (NIMC) GP eVersion	M Baysari M Raban A Tariq J Westbrook	Australian Commission on Safety and Quality in Health Care	\$64,737
GP & RACF Medication Concordance Study	M Makeham J Westbrook L Pont R Borotkanics M Raban H Douglas	National EHealth Transition Authority	\$199,874
PhD Awards for Improvement Science	N Taylor	University of Leeds	\$8,530
ME app. Development of cardiovascular calculator	A Lau	University of Sydney	\$30,000
Mobile App for people with type 1 diabetics Mellitus who have stopped engaging with health services	A Lau	Novo Nordisk	\$14,908
To conduct a research review on m-health for HealthDirect	A Lau	Sax Institute	\$25,400
An evidence review of electronic meal ordering systems	L Li M Prgomet J Li A Georgiou J Westbrook	Sax Institute	\$50,000
Road Trauma Research	R Mitchell	UNSW	\$9,600

An aerial photograph of a courtyard. On the left, a modern building with a grey facade and large windows is visible. A concrete walkway leads from the building towards a large, dense cluster of palm trees in the center. To the right of the palm trees is a gravel area. The lighting suggests a bright, sunny day, casting shadows on the ground.

We strive to conduct world-class research with relevance to national and international research communities, governments, policymakers, providers of health services, managers, clinicians, patients and the community. Our work underpins health reforms and systems improvement and provides new tools, perspectives and evidence to help stakeholders who are interested in making the health system more effective, efficient and productive.





What...

We call it a health *system*, but all too often – it isn't represented as “a system”. It's a sector that's been built in pieces over the years, that isn't joined-up – in fact, it's fragmented, and the different components don't talk to each-other sufficiently. Our Institute provides the research needed to improve the system, to connect different parts of the system through e-health and other communication strategies, and create better care for patients. It's an enormous task, and there are huge challenges, but that doesn't mean that we shouldn't try to create the evidence base needed for a sustainable health system in the future. That's what we think about in the Institute, every day.

...next?