

**AUSTRALIAN INSTITUTE  
OF HEALTH INNOVATION**

*Faculty of Medicine and  
Health Sciences*



**MACQUARIE  
University**

# Driving innovation and change for better healthcare systems

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To drive innovation and improvements in healthcare delivery and outcomes AIHI researchers are investigating barriers to change – as rapid technological and scientific advances revolutionise our healthcare systems.

# Revolutionise our healthcare systems

By understanding our increasingly complex and adaptive healthcare systems we can identify those organisational and individual characteristics that frustrate improvements and, consequently, build solutions. One major challenge is that healthcare systems often present ‘wicked problems’. That is, issues that are so intricately interconnected that by solving one problem, another may be created. The net result is the need to continually improve how to plan, organise and deliver high quality and safe care. AIHI’s Associate

Professor Greenfield is leading wide-ranging research to assist executives, managers and frontline professionals better coordinate and integrate the many parts of our complex health systems to deliver services more efficiently and improve collaboration across clinical professions and teams. ‘We know all these things flow through to better patient care,’ he says. In particular, Associate Professor Greenfield and colleagues have conducted foundational research to develop the knowledge base for health service accreditation programs.

**‘... issues that are so intricately interconnected that by solving one problem, another may be created.’**



# Driving innovation and change for better healthcare systems



An estimated

# 16.6%

of hospital admissions in Australia are associated with an adverse event, costing up to

# \$900 million per year.

## INNOVATING TO IMPROVE PATIENT OUTCOMES

During hospitalised treatment for an injury, medical complications of care like infections can prolong an individual's recovery. Complications can increase the cost of a patient's hospital stay by an estimated \$7,000. AIHI's Associate Professor Rebecca Mitchell is investigating medical complications of care involving young people and unwarranted clinical variation that can exist between hospitals. By identifying the different types of complications and their risk factors, along with any variation between hospitals, targeted strategies can be designed with the aim of lowering medical complication rates.

# Behaviour change to improve care

AIHI's Dr Natalie Taylor is investigating psychosocial barriers to change. By identifying what drives people to behave in certain ways, interventions can be designed more effectively. By first auditing organisations to identify barriers, Dr Taylor is looking for straightforward ways to do things better to improve patient safety. For example, she has used psychology and implementation science to design interventions such as new packaging for gastric tubes with clear, easy-to-follow instructions, awareness days, screen savers and system changes. The result was fewer errors were made by busy staff in hospitals resulting in fewer adverse patient safety incidents.





# Who we are

**ASSOCIATE PROFESSOR  
DAVID GREENFIELD**

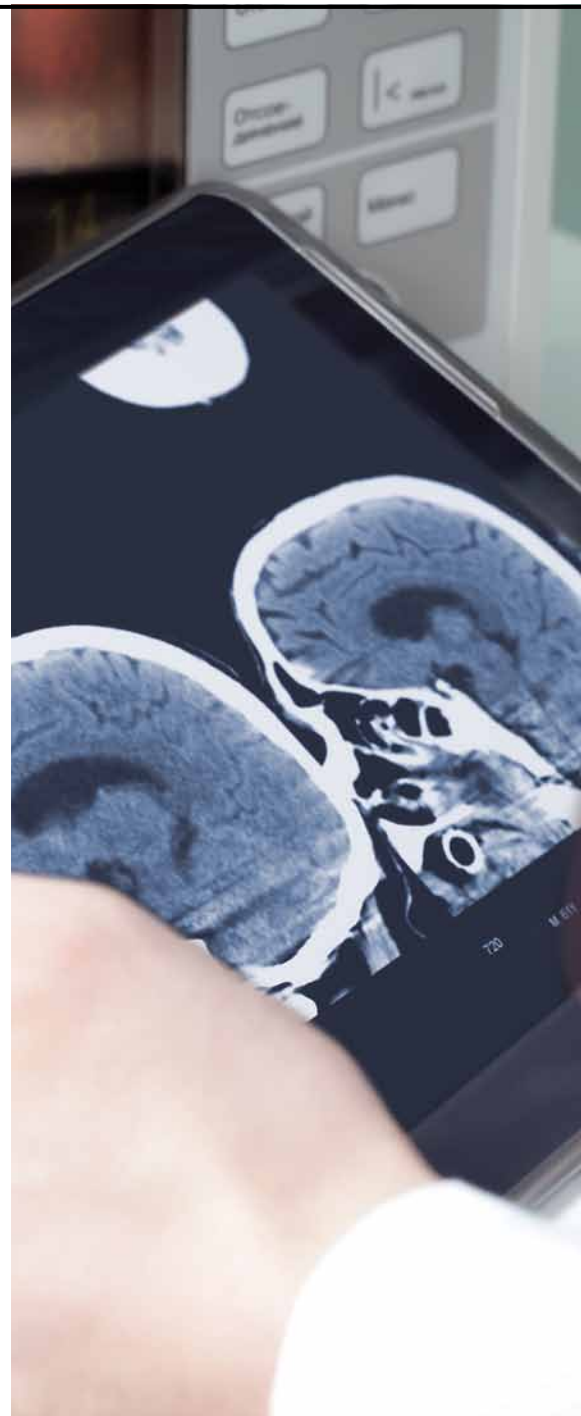
Is a health organisational, systems and improvement research scientist. His research is at the intersection of improvement and implementation sciences. He is researching healthcare complex adaptive systems, health services and the organisation of clinical practice. Within and across these spheres David investigates factors which impact on quality improvement mechanisms and seeks to integrate research findings and evidence into healthcare policy and practice.

**ASSOCIATE PROFESSOR  
REBECCA MITCHELL**

Is a psychologist and injury epidemiologist and her research focuses on the conduct of large-scale injury epidemiological research to guide improvements in health service delivery and health policy. Rebecca has extensive experience in analysing large data collections and linked data collections to investigate health outcomes. She has a strong history of conducting research that has informed public health policy and health service practice, particularly in the areas of hip fracture among older people, paediatric trauma, patient safety, fall injury prevention, work-related injury, water safety, and road safety.

**DR NATALIE TAYLOR**

Is a health psychologist and implementation scientist working in health systems research and studying improving healthcare. Natalie has particular expertise in health and organisational behaviour change, patient safety, and measurement for a range of areas including oncology, cardiovascular disease, obesity, and medication adherence. Natalie is the Stream Lead for Health and Healthcare Behaviour Change Research at the AIHI, and a Visiting Fellow at the University of Leeds and Bradford Institute of Health Research. Her program of research focuses on using behavior change theory and implementation science to enhance health behaviours and improve the quality and safety of healthcare.





#### EXAMPLES OF WHAT WE'VE PUBLISHED

- Conner M; McEachan R; **Taylor N**; O'Hara J; Lawton R, 2014, Role of affective attitudes and anticipated affective reactions in predicting health behaviors. *Health Psychology*
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- **Mitchell R**, Cameron C, Bambach M (2014). Data linkage for injury surveillance and research in Australia: Perils, pitfalls and potential. *Australian and New Zealand Journal of Public Health* 38 (3) 276-281.
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