



ANNUAL REPORT

YEAR 3 2019-2020

PCHSS RESEARCH LEADS & PARTNER ORGANISATIONS

- + **CIA** Chief Investigator first listed
- + **RL** Research Lead Investigator
- + ***** System-based implementation partner organisation

National Collaborators

- Consumers Health Forum of Australia
- Aged Care Guild
- Independent Hospital Pricing Association
- HammondCare

Western Australia

- Dr Delia Hendrie ^{RL}
- Prof Liz Geelhoed ^{RL}
- Dr Darren Gibson ^{RL}
- WA Dept of Health*

South Australia

- Prof Jon Karnon ^{RL}
- PHN Country SA*
- PHN Adelaide*

Victoria

- Prof Tony Scott ^{RL}
- Prof Rachelle Buchbinder AO ^{RL}
- Prof Helena Teede ^{RL}
- Circle Health*
- Monash Partners*
- Dept of HHS Victoria*
- PHN South Eastern Melbourne*
- Cabrini Health*

Queensland

- Prof Paul Glasziou ^{RL}
- Prof Len Gray ^{RL}
- Prof Robyn Ward AM ^{RL}
- Metro South Health*
- Queensland Health*
- PHN Brisbane South*
- James Cook University*

NSW

- Prof Jeffrey Braithwaite ^{CIA}
- Prof Enrico Coiera ^{RL}
- Prof Johanna Westbrook ^{RL}
- Dr Teresa Anderson AM ^{RL}
- Dr Jean-Frédéric Levesque ^{RL}
- Mr George Leipnik ^{RL}
- Mr James Downie ^{RL}
- Prof Christine Bennett AO ^{RL}
- A/Prof Annette Schmiede ^{RL}
- Sydney LHD and Sydney Health Partners*
- Macquarie University Hospital*
- PHN Sydney North Health Network*

ACT

- Ms Leanne Wells ^{RL}
- ACT Health*

Tasmania

- University of Tasmania*
- Dept of HHS Tasmania*
- PHN Primary Health Tasmania*

Funding Partners



Government of **Western Australia**
Department of **Health**



The **NHMRC Partnership Centre for Health System Sustainability** is a \$10.75 million, five-year collaboration involving 17 lead investigators, 20 expert advisors and over 40 system implementation partners from around Australia. The Centre is led by Professor Jeffrey Braithwaite. In its third year, the Centre continued to expand its internationally recognised research to improve healthcare services and systems.

+ VISION

To produce research that contributes to the development of a resilient healthcare system—one that is affordable, cost effective, and delivers improved health outcomes for all Australians.

+ WHY IS THE PARTNERSHIP CENTRE NEEDED?

Even before the strain on the Australian healthcare system caused by the COVID-19 pandemic, the system was challenged by multiple threats to its capacity to deliver high-quality care. These include ageing populations, increasing rates of chronic, and complex diseases, growing cost pressures from new medical technologies and medicines, wasteful spending on low-value care, inefficiencies arising from system fragmentation and limited use of data and evidence to support reform. Our Centre aims to explore these and other challenges to health system sustainability and develop and evaluate a set of practical interventions that are appropriate from clinical, patient, and economic perspectives.

+ WHAT DOES THE PARTNERSHIP CENTRE DO?

We are committed to generating and disseminating ideas and evidence to improve the performance of the health system so that it delivers care efficiently and effectively over the long-term. Our Centre seeks to maximise health system improvement in the real-world by bringing together people who provide, plan, and need healthcare. As our Chief Investigator, Professor Jeffrey Braithwaite, says “collaboration underpins all productive change”. The three broad themes of our research are:

- Using analytics, technology and shared data
- Reducing waste and low-value care
- Promoting better value for the health dollar

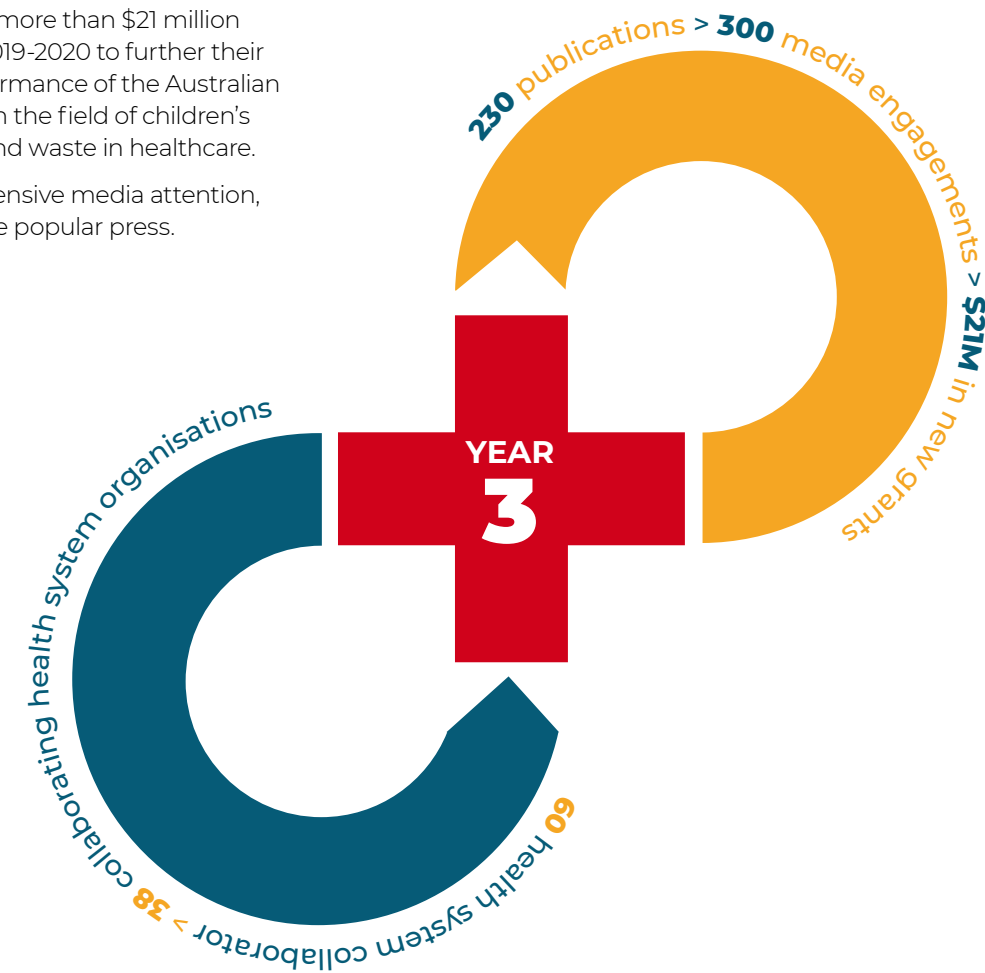
ACHIEVEMENTS IN YEAR 3 (2019-2020)

PCHSS' third full year of operation saw the publication of 49 peer-reviewed papers (more than double the previous year) and 10 reports/white papers. An additional 173 papers relating to health system sustainability were published by our researchers. We expanded our network of collaborators to include over 60 health system researchers and 38 non-academic institutions.

We continued our work with health consumer researchers, embedding them into research teams and projects. Over the course of the year, we worked extensively with system partners across Australia through research projects, consultations, joint meetings, and workshops. In November, we hosted over 80 health system experts and stakeholders in our "Treatment overload: Lifting the burden of too much healthcare" event in Sydney, with the participation of the Secretary of NSW Health Ms Elizabeth Koff. The day featured a dynamic simulation game on healthcare complexity. Videos of the event on our YouTube channel have been viewed over 1,000 times.

PCHSS investigators won more than \$21 million in new grant funding in 2019-2020 to further their work to improve the performance of the Australian health system, including in the field of children's cancer, lower back pain, and waste in healthcare.

Our research received extensive media attention, with over 300 stories in the popular press.



This research theme tackles important questions in informatics and healthcare, including using big data to improve care, diagnostic testing and medication management as well as designing analytics to guide better healthcare decisions. Researchers are also examining how telehealth might best be deployed and funded to improve healthcare across the country.



RESEARCH THEME

USING ANALYTICS, TECHNOLOGY & SHARED DATA

Professors Johanna Westbrook, Enrico Coiera, and Len Gray

Research on patients with dementia in Australian aged care facilities revealed that some patients with dementia were being unnecessarily sedated with antipsychotic drugs for more than 200 days at a time, twice as long as the maximum time recommended. This research by Professor Westbrook's team was covered by over a dozen media outlets.

Professors Westbrook and Andrew Georgiou completed an extensive project examining pathology test ordering for 11 different tests (such as vitamin D, folate and prostate specific antigen (PSA) for prostate cancer screening) by GPs over time. The results are available on the Australian Government Department

of Health website and are being prepared for publication.

New technologies, such as digital scribes (tools designed to automatically capture clinician-patient verbal interactions), have the potential to reshape the practice of medicine. However, digital scribes are not living up to their full potential. Research by Professor Coiera's team revealed multiple obstacles to the effective use of digital scribes, including technical challenges to capturing conversations, extracting relevant information, and insufficient access to medical data for training the deep learning systems used by digital scribes. Furthermore, clinicians

expressed concerns that digital scribes would detract from their engagement with important personal aspects of care. PCHSS researchers are currently working to develop digital scribes that are fit-for-purpose and acceptable to patients and clinicians alike.

The Telehealth research stream had been investigating the uptake, costs and outcomes of telemedicine long before the COVID-19 pandemic began. They have applied their extensive experience in this field to identify ways that telemedicine can be used to respond to global emergencies and to safeguard mental health in times of crisis.



RESEARCH THEME

REDUCING WASTE & LOW-VALUE CARE

Professors Paul Glasziou and Rachelle Buchbinder

The cost of healthcare worldwide is rising unsustainably. To counter this growth, alternative service models that are cost effective and maintain the quality of care are needed. Professor Buchbinder and her team conducted a scoping review of systematic reviews (which included more than 550 reviews) to identify and synthesise evidence on alternative healthcare delivery arrangements in high-income countries. This research aims to support future health system

planning by identifying new models of care delivery and other sustainability initiatives.

The lifetime risk of cancer diagnosis and mortality in Australia is overestimated by current calculation methods. New research by Professor Glasziou and colleagues revealed that many of the most common cancers are over-diagnosed—that is, detected cancers that would likely not have substantially affected a patient's health had

they gone undetected or untreated. Professor Glasziou's team found that the rates of over-diagnosis for some of these cancers—particularly prostate cancer—were significant. This research was widely covered in the media with over 70 stories.



Researchers from this theme are finding ways to reduce wasteful or low-value care, which accounts for 30% of all healthcare, and to deliver needed care more efficiently.



This research theme covers four major areas: Using financial incentives to promote value-based healthcare; priority setting and decision-making in healthcare organisations; the impact of markets, competition and choice in healthcare; and the impact of a collaborative research program on cost savings and efficiencies in healthcare settings.



RESEARCH THEME

PROMOTING BETTER VALUE FOR THE HEALTH DOLLAR

Professors Tony Scott, Jon Karnon and Dr Delia Hendrie

Several reports have been produced this year by PCHSS' health economists including one on how market forces impact the aged care sector and another on avoidance of healthcare during the pandemic. The report *Nursing Home Competition, Prices and Quality: A Review and Some Lessons for Australia* by Professor Scott and his colleagues revealed that greater competition did reduce prices. They also found that the availability and accessibility of public reporting of nursing home quality had important implications for how competition affects quality and pricing. In their

report *Who is avoiding necessary health care during the COVID-19 pandemic?*, Professor Scott found that Australians experiencing high levels of financial and mental stress were most likely to miss needed healthcare.

Two Primary Health Networks (PHNs) trialled the in-DEPth (Evidence-informed, co-creation framework for the Design, Evaluation and Procurement of Health services) framework to develop evidence-informed procurement specifications for services for people with mental health concerns or alcohol and other substance

abuse problems. Developed by Professor Karnon and Dr Kenneth Lo, in-DEPth supports a systematic approach to commissioning services that are evidence-informed, contextually relevant and informed by stakeholder perspectives.



The Observatory on Health System Sustainability conducts research on factors that affect the sustainability of health systems nationally and internationally. The Observatory team also coordinates engagement with investigators, stakeholders and funders, and facilitates the wide dissemination and translation of all PCHSS research outcomes. Associate Professor Zurynski is Australia's first Associate Professor for Health System Sustainability and together with Professor Jeffrey Braithwaite leads the Observatory Team.



Centre Coordination and Research

OBSERVATORY ON HEALTH SYSTEM SUSTAINABILITY

Professor Jeffrey Braithwaite and Associate Professor Yvonne Zurynski

This year Professor Jeffrey Braithwaite, Associate Professor Zurynski, and colleagues published a systematic review of the literature on healthcare sustainability from a systems or organisational point of view. "Built to Last?" examined definitions, theoretical frameworks, and measures of sustainability. It found that few studies evaluated the sustainability of interventions over the long term.

Professors Braithwaite, Paul Glasziou, and Johanna Westbrook published a paper in BMC Medicine about stagnation in healthcare system performance. Previous research has shown that 60% of care on average is in line with evidence or consensus-based guidelines, 30% is some form of

waste or of low-value care, and 10% is harm. This 60:30:10 Challenge has persisted for three decades. A learning health system is the solution to this ongoing problem.

In November, we collaborated with the Consumers Health Forum of Australia and the Royal Australian College of General Practitioners (RACGP), in a roundtable meeting on the subject of social prescribing in Australia. Social prescribing is a practice in which health professionals connect patients with social services and social groups to address social determinants of poor health, including social isolation, and lack of physical activity. The outcomes of the roundtable include a report, a stimulus paper, and a rapid review.

We also published a variety of editorials in outlets such as Croakey News, MJA Insight+ and The Conversation. These included articles on patient safety, breaking down the silos in healthcare, and the importance of climate sustainability to health system sustainability, to name a few.

For more details on our research and a full list of publications, please see our website: healthsystemsustainability.com.au.

LIST OF PUBLICATIONS

SHARED HEALTH INFORMATION

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LOWER COST DELIVERY OF EFFECTIVE AND APPROPRIATE SERVICES

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PRIORITY SETTING AND DECISION-MAKING IN HEALTHCARE ORGANISATIONS

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OBSERVATORY ON HEALTH SYSTEM SUSTAINABILITY

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"Collaboration underpins all productive change."

– Chief Investigator (A), Professor Jeffrey Braithwaite

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