



Welcome to the winter edition of the NHMRC Partnership Centre for Health System Sustainability (PCHSS) newsletter.

The Partnership Centre is a \$10.75M, five-year collaboration involving 17 lead investigators, 20 expert advisors and over 40 system implementation partners from around Australia. Our vision is that our research findings significantly influence the development of a resilient health care system that is affordable, cost-effective and delivers improved health outcomes for all Australians.

Breaking News: Health system sustainability research gets \$12.4 Million funding boost

More than \$12 million in new grant funding has been awarded to NHMRC Partnership Centre for Health System Sustainability (PCHSS) investigators 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.

Upcoming events

- 18 October 2019 - Mark your calendars for the [John Deeble Lecture and panel discussion](#) at Parliament House in Canberra, ACT. Professor Johanna Westbrook will be joined on this distinguished panel by Professor Ian Frazer (CEO and Director Translational Research Institute), the Hon Nicola Roxon (Chair HESTA), Mr Romlie Mokak (Commissioner, Productivity Commission).
 - 13 November 2019 – Save-the-date for the PCHSS' health simulation event – "[Treatment overload: Lifting the burden of too much healthcare](#)" in Sydney, NSW. Speakers include Professors Jeffrey Braithwaite and Paul Glasziou (PCHSS) and Ms Elizabeth Koff (Secretary, NSW Health).
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PCHSS: Year in review

July marked the end of our second fiscal year. In this edition, we look back at some of the accomplishments from the three Research Themes and the Centre-wide activities.

Publications

In the past year, PCHSS investigators published **20** peer-reviewed papers, which were directly enabled by PCHSS funded research, and a further **192** papers related to health system sustainability. These include papers in high-impact journals such as the *Lancet* (e.g. Professor Coiera's article on [the fate of medicine in the time of AI](#)) and the *Annals of Internal Medicine* (for example, Professor Glasziou's team's work on the potential for [overdiagnosis of heart problems](#)

using current test methods). The [full list of papers](#) is available on our website.

Here is a selection of our papers from Year 2:

- Cunningham FC, Ranmuthugala G, **Westbrook JI**, **Braithwaite J**. [Tackling the wicked problem of health networks: The design of an evaluation framework](#). *BMJ Open*. 2019; 9(5).
- Fraser H, **Coiera E**, Wong D. [Safety of patient-facing digital symptom checkers](#). *Lancet*. 2018; 392(10161):2263-4.
- Pathirana T, Hayen A, Doust J, **Glasziou P**, Bell K. [Lifetime risk of prostate cancer overdiagnosis in Australia: quantifying the risk of overdiagnosis associated with prostate cancer screening in Australia using a novel lifetime risk approach](#). *BMJ Open*. 2019; 9(3):e022457.
- O'Connor DA, **Buchbinder R**. [More signals that overuse of healthcare is a pervasive problem contributing to health system waste](#). *Internal Medicine Journal*. 2019; 49:815-7.
- O'Connor D, **Gray LC**, Phillips B. [Telemedicine for diabetes and heart failure: an evidence review](#). *MJA InSightPlus*. 2019; 5.
- Lo K, **Karnon J**. [In-DEPtH framework: evidence-informed, co-creation framework for the design, evaluation and procurement of health services](#). *BMJ Open* 2019; 9(5): e026482.

Outreach and capacity building

In Year 2, the PCHSS expanded its collaborations to include 60 health system researchers and the support of 27 non-academic institutions. Overall, PCHSS researchers met with stakeholders (policy makers, health professionals, consumers, etc.) more than 170 times. Information about some of the key events is available on our website, including a summary of the [annual PCHSS Investigator meeting](#), our webinars on [alternative](#)

[models of care](#) and [commissioning health services](#), as well as an overview of our [workshop on systematic reviews of non-research literature](#).

We also worked to inform policy and implement our research findings within the system. For example, Professor Westbrook gave expert oral and written [testimony](#) to the Royal Commission into Aged Care Quality and Safety hearings in Darwin. Professor Jon Karnon and Dr Kenneth Lo developed and trialled a new framework for commissioning health services with two PHNs. Check out the [infographic of the process](#) on our website. The Centre Coordination and Research Unit developed a framework for assessing potential and actual research impact. The framework formed part of a commissioned report to Research Australia on the broad translational impacts of research investment through the MRFF.

Media contributions and opinion pieces

Our investigators were in the news close to 300 times in Year 2 in popular press articles, radio and television interviews, and opinion pieces. Our research into medication usage and electronic prescriptions systems in aged care facilities and our work on prostate cancer, which showed that over 40% of prostate cancers are over-diagnosed (e.g. [The facts behind prostate cancer over-diagnosis](#) (Glasziou P, *Financial Review*) has generated great interest from the press.

Past articles are available on the [PCHSS News and Media](#) website.

Here are a few of our most recent news articles:

- [How music therapy provides real clinical results](#) (Glasziou, P. *MD Linx*, 19 August 2019)

- [Call for risky painkillers to be made pharmacist only](#) (Lind, K. *The Daily Telegraph*, 8 August 2019)
 - [The deadly perils of not investing in medical AI](#) (Coiera, E. *Medical Republic*, 8 July 2019)
 - [What to know about prediabetes, prehypertension, and other prediseases](#) (Doust, J. *Consumer Reports*, 1 August 2019)
 - [Is Australia's healthcare system prepared for increases in chronic illness?](#) (Braithwaite, J. *ABC Health Report*, 8 July 2019)
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The latest news from PCHSS' research themes and the Centre Coordination and Research Unit

Using Analytics, Technology and Shared Data

This Research Theme tackles the big questions in informatics and healthcare: including shared health information; big data; quality, effectiveness and cost of care; and the impact of telehealth. Professors [Johanna Westbrook](#), [Enrico Coiera](#) and [Len Gray](#) lead this research.

Highlights of our activities include:

- New research shows that people with dementia in aged care facilities often receive antipsychotics far longer than recommended. These drugs are meant to be a last resort because they can compromise the health of patients by increasing the risk of stroke and falls. Current guidelines may not be enough to ensure appropriate prescribing ([Lind et al. 2019](#)).
- Why does the implementation of some new technology succeed while others fail? A new paper shows how

information value chain theory can be used to answer this question ([Coiera 2019](#)).

- The 2nd Workshop of the Australian Alliance for AI in Healthcare was held on 19 August in Sydney. Over 60 organisations and close to 100 people attended. Professor Coiera was among the distinguished speakers.

Reducing Waste and Low-value Care

Approximately, 30% of healthcare is not beneficial to patients and not delivered within best practice guidelines. Worse yet, 10% of care is actually harmful to the patient. The teams led by [Professors Paul Glasziou](#) and [Rachelle Buchbinder](#) are undertaking research into reducing waste from unnecessary or inappropriate care and delivering effective and appropriate services at a lower cost.

Examples of our work:

- Lung function naturally declines with age, even in the absence of disease. This research by Professor Glasziou's team suggests that definitions for lung conditions, like chronic obstructive pulmonary disease, need to be changed to account for age to avoid overdiagnosis and overtreatment ([Thomas et al. 2019](#)).
- Estimating the extent of overuse of healthcare in Australia is an important area of research. In a recent editorial, Dr Denise O'Connor and Professor Rachelle Buchbinder reviewed the latest estimates and recommended methods to reduce waste. They suggest that top-down, such as government regulation, and bottom-up initiatives, from health professionals and consumers, are needed to begin to address the problem of too much care ([O'Connor and Buchbinder 2019](#)).

Promoting Better Value for the Health Dollar

This Research Theme, led by Professors [Tony Scott](#) and [Jon Karnon](#) and Dr Delia Hendrie, covers four major areas: 1) using financial incentives to promote value-based healthcare, 2) priority setting and decision-making in healthcare organisations, 3) the impact of markets, competition and choice in healthcare, and 4) the impact of a collaborative research program on cost savings and efficiencies in healthcare settings.

Highlights include:

- People with chronic conditions often don't take their medications as prescribed. This systematic review by Professor Karnon's group shows that behavioural economic interventions could help improve adherence. To be successful, interventions need to be targeted and seek to understand why adherence is low ([Roseleur et al. 2019](#)).
- Established GPs aren't very mobile, even when financial incentives are given. This is the finding of new research from Professor Scott's team. It suggests that financial incentives may need to be rethought ([McIssac et al. 2019](#)).
- A retrospective analysis of Western Australia's Department of Health's Research Translation Program grants, which will inform reporting and facilitate future evaluation of grants, is continuing.

Partnership Centre-wide Activities

The Partnership Centre Team has also been actively promoting health system sustainability research through meetings, workshops and conferences as well as published papers.

Here are a few highlights of what's been happening:

Outreach

- On 21 August, Professor Jeffrey Braithwaite gave a webinar on [Building Resilient Systems for Surgical Improvement](#) for the British Columbia Patient Safety & Quality Council, which can be viewed on their website. Professors Braithwaite and Coiera also participated in an Australian Academy of Health and Medical Science (AAHMS) roundtable discussion on the future of AI in healthcare in July. Professor Braithwaite is currently in Japan speaking at the Resilient Health Care Net conference and meeting.
- Associate Professor Yvonne Zurynski has also given several presentations over the last quarter. She spoke at the Wiser Healthcare 2019 National meeting on the activities of PCHSS and to the Mental Health Design Working Group, NSW Ministry for Health on the findings of a rapid review into the use of electronic medical records in mental health settings. Associate Professor Zurynski is working with the Consumers Health Forum and the RACGP on a survey about social prescribing and has joined the organising committee of the inaugural Australian and New Zealand Consumer Experience and Leadership in Health Summit 2020. She also met with representatives of Western Australia's Country Health Services in June.

Research

- How has the cost of public hospital services changed? Mr Trent Yeend is using over 11 years of data from Australian hospitals to find out. His data models incorporate all the intricacies of the public hospital services, from changes in the number of patients to changes in the types and complexity of treatments these people receive. He's developed the theoretical and methodological approaches to handle the over **45 million records** that'll be generated

through his statistical analyses. The outcomes from his work will give us greater insight into a key element of creating a sustainable health system.

- Associate Professor Zurynski and Drs Ellis, Clay-Williams and Laranjo are completing their rapid review on electronic medical records in mental health settings, funded by the Sax Institute.

Contact

If you would like to partner with a stream of health system sustainability research, or you have an interest in any of the above areas of research, please [contact us](#).

Warm regards,

The Partnership Centre Team on behalf of:

Chief Investigator Professor Jeffrey Braithwaite

Founding Director, [Australian Institute of Health Innovation](#),
Macquarie University



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