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RACGP Foundation and HCF Research Foundation

Impact Report 2012-2018

General practice research underpins clinical practice and is the foundation of the quality, innovative, efficient, and effective general practice required to deliver positive patient outcomes and a healthier Australia.

The RACGP Foundation/ HCF Research Foundation grants are now in their eighth year. The research funded by these grants aims to inform practice, improve health services, and position Australia's healthcare system to better meet the needs of Australians, improving the health of Australians and keeping them out of hospital.

Feedback from grant recipients has always been extremely positive. The grants have enabled important research, which otherwise might not have been funded due to a scarcity of funding for GP research, and the lack of availability of small-medium sized grants. Many recipients have found it useful to undertake a smaller study with the grant funding, with the intention of it leading to larger scale funding from NHMRC, MRFF and other funding bodies.

In addition, the grants have contributed to career development and training in general practice research. The grants have provided experience and outcomes that have contributed in a variety of ways to the careers of general practitioner researchers, which is particularly important in the current general practice research environment. Results of the research have been widely disseminated to audiences within the research community as well as end users and the general public.

The RACGP Foundation/HCF Research Foundation Research Grants have so far provided some important outcomes and led to further research that will impact on general practice. The following report provides a summary of each funded project and the impact it has had to date.

Understanding the compounding co-morbidity, psychosocial impairment and disability of increasing levels of obesity in adults with type 2 diabetes.

Prof John Dixon (2012)

Summary of aim and results

The aim of this study was to investigate, among adults with T2DM, whether emotional well-being, diabetes self-care behaviours, perceived burden and healthcare service provision differ between those with and without severe obesity, using the Diabetes MILES-Australia dataset. Diabetes MILES–Australia was a national survey of 3,338 adults with diabetes, focusing on psychosocial issues.
The findings showed that severely obese Australians with type 2 diabetes have compounding stresses in their lives. They are less likely to be employed and are on lower family incomes. They have high levels of depression and mental stress, and find healthy eating choices and exercise difficult to achieve, maintain and of great burden. Their faith in diet and exercise appears strained. These patients look principally to their GP for advice and assistance with management of their diabetes.

Outcomes

Several publications arose from this work. One of these was cited in a book: The Massachusetts General Hospital Handbook of Behavioral Medicine: A Clinician's Guide to Evidence-based Psychosocial Interventions for Individuals with Medical Illness.[1]

Prof Dixon used data from this grant at numerous meetings in Australia and internationally. It received best clinical presentation prize at the ANZOS meeting in Wellington 2013. The study also led to his research group at Baker IDI becoming more focused on equity of access to care and obesity stigmatization and discrimination in their research.

Prof Dixon reported:

> *[The grant] generated a wonderful collaboration between teams at Deakin and Baker IDI, It stimulated great interest in our research team and the findings have numerous messages and implications for caring for patients with clinically severe obesity. It has enabled our team to continue to engage in primary care research with immediate translational potential.*
> *[The results] changed our thinking about how to engage severely obese diabetic patients in lifestyle interventions. We have now established an obesity interest group with the RACGP and enhanced GP understanding about the importance of understanding clinically severe obesity.*

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[1] Vranceanu, Ana-Maria & A. Greer, Joseph & Safren, Steven. (2017). The Massachusetts General Hospital Handbook of Behavioral Medicine: A Clinician's Guide to Evidence-based Psychosocial Interventions for Individuals with Medical Illness. Humana Press 2017.

Development of a clinical tool to assess anticholinergic medicines overload in general practice.

Dr Parker Magin (2012)

Summary of aim and results

Many common medicines used by older people have anticholinergic effects, for example: dry mouth, blurred vision, confusion. Although there is some evidence these medicines may also have effects on physical functioning that could impact on older people's ability to remain independent, there is no definitive research, and thus no specific clinical guidelines for minimising risks associated with these medicines for older community living people. While anticholinergic medicines are prescribed for multiple problems, often by multiple doctors, general practice is the setting where most patient adverse medicine effects are managed. This study describes anticholinergic burden in a large cohort of older women and identifies medicines and combinations of medicines that make the greatest contribution to this burden; to inform development of a draft clinical tool explicitly for the general practice setting, that can be used to flag high risk anticholinergic medicines use.

The study found that high anticholinergic medicines burden in this group may be driven more by use of multiple lower anticholinergic activity medicines rather than by use of higher anticholinergic activity medicines. This is a novel and important finding for clinical practice. While we might expect that doctors would readily identify anticholinergic burden as a risk for a woman using high level anticholinergic medicines, they may be less likely to judge a woman as at risk for anticholinergic burden when she was using multiple lower level anticholinergic medicines, as this medicines regime would be less likely to be a flag for potential risk. These results, using a simplified measure of anticholinergic burden, need to be confirmed across a longer time period, and the impact on outcomes such as falls and disability need to be confirmed.

Outcomes

The research brought together a group of researchers with a broad set of research skills who continued to work together on this topic. The project was a valuable opportunity for an academic registrar to be involved in a project with different methodology to her own research and to work with a range of senior researchers.

The research team has since conducted further research on anticholinergic medications in the elderly. Further funding was received from The Mason Foundation (2015): The impact of changes in the anticholinergic load of medication regimens on the cognitive status and quality of life of people with dementia.

An unsuccessful NHMRC Project Grant application was submitted in 2014. (Note that only 2-4% of NHMRC funding is allocated to primary care research.)

Dr Magin's work in this area lead to him becoming a member of the guideline development team for Evidence-based Clinical Practice Guideline for Deprescribing Cholinesterase Inhibitors and Memantine.[2]

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[2] Reeve E, Farrell B, Thompson W, Herrmann N, Sketris I, Magin P, Chenoweth L, Gorman M, Quirke L, Bethune G, Forbes F, Hilmer S. Evidence-based Clinical Practice Guideline for Deprescribing Cholinesterase Inhibitors and Memantine. Sydney: The University of Sydney; 2018. Available at: https://cdpc.sydney.edu.au/research/medication-management/deprescribing-guidelines/

An innovative educational intervention to support GPs during the treatment of breast cancer patients.

Prof Moyez Jiwa (2012)

Summary of aim and results

Women who have been treated for breast cancer in Australia can consult their general practitioner at any time following treatment. However, in most cases they depend on their specialists to advise on any acute side effects. There is no evidence that they would not be appropriately advised by a GP. The aim of this study was to evaluate a brief, internet-based educational program for GPs to manage standardised patients presenting with symptoms or side effects immediately after breast cancer treatment.

This study with vignette-based feedback showed promising results suggesting that managing the common adverse effects of cancer treatment could be delegated to general practice. Such an intervention could support the application of shared models of care. A larger study, including management of adverse effects in real patients, needs to be conducted before it can be safely recommended. However, noting that some patients with potentially life-threatening adverse effects may not be managed appropriately suggests a need for safeguards to protect patients in a study with bona fide patients.

Outcomes

The grant assisted in the development of research capacity in general practice by enabling the researchers to deploy video vignettes to explore practitioner motivation and ability to deal with unusual and potentially difficult clinical scenarios. Since then they have used video vignettes in a number of other studies.

Prof Jiwa reported:

> *The RACGP Foundation is one of the few grant bodies that specifically funds research in general practice. Such funding allows researchers such as myself to maintain a productive research career. Publication profile is one of the key factors that determine grant success. The publication from this grant was published in a major open access academic journals and will be cited in future grant applications.*

A qualitative assessment of Shared Medical Appointments (group consultations) as a novel alternative model for Type 2 Diabetes.

Prof John Dixon (2013)

Summary of aim and results
In the US, shared medical appointments (SMAs) have been shown to lower direct medical costs, improve clinical outcomes, improve patient satisfaction, engage patients powerfully, provide peer support and maximise the value of patient time spent at the primary care office. In addition, they improve health care providers' satisfaction and enhance teamwork, collaboration and communication across disciplines. A cost reduction of 20-30% has also been shown in some cases, which, given the lifetime costs of diabetes, would represent a considerable saving to any health system.

In this study, patient and provider satisfaction with SMAs after they had experienced these (at least with self-selected patients who attended these groups), was almost unanimous. Patients most enjoyed (a) peer support and hearing experiences and getting information from others (b) the feeling of not being alone with your disease (c) having more time with the doctor for asking questions, and having questions one may not have thought to ask being asked by others (d) interest in other peoples' ailments and how they dealt with these and (e) the much greater relaxed atmosphere of the group approach to treatment. Almost all wanted to continue with SMAs instead of 1:1 consultations in some cases, but perhaps more so, as well as, standard medical consultations. Most agreed however, that SMAs would reduce the number of standard consultations they would attend. Provider (GP) satisfaction came from (a) less need for repetition of lifestyle advice (b) apparent better uptake of advice when agreed to by peers (c) the opportunity to better educate patients, and (d) the relaxed atmosphere and ability to focus on patients, not record keeping, because of facilitator help.

Outcomes
From the findings in this study and the team's previous work and international experience, it appears that Shared Medical Appointments may have a significant role in the Australian Health Care system for managing chronic disease similar to the international findings noted above. The current study was not designed or powered to measure medical outcomes, but to gauge the acceptability of the process as a proof of concept in Australia.

Prof Dixon reported that the grant provided the opportunity to build momentum and test for the first time the acceptability of SMAs for both practitioners and patients. The trial results were published in three peer reviewed publications. Additionally, a range of articles were published in the non-peer reviewed press and media, such as MJA Insights, Australian Practice Nurses Association Journal, Journal of the Northern Rivers General Practice Network, Medical Observer, and ABC Radio National (broadcast Dec 2014). The team also presented widely at conferences to health professionals including doctors, practice nurses, and allied health professionals. In addition GPs who participated in the study presented to other GPs including a presentation at GP14 in Adelaide.

The trial included over 220 patient visits to 24 SMAs in eight primary care centres on the east coast of Australia. It provided strong support for a range of other important activities including:

- Co-operation on a continuing basis with Medicare re the establishment of a special Medicare item number for SMAs, including a submission to the Medical Services Advisory Committee (ultimately unsuccessful)

- Developed and trialled two certified Facilitator training programs under the auspices of the Australasian Society of Lifestyle Medicine (ALMA) in 2014
- Developed a Facilitator training manual to ensure quality control in the provision of SMAs in Australia
- Provided the team with the evidence required to build stronger applications for future funding.

Prof Dixon reported:

> *This grant allowed us to extend the conversation on SMA throughout the Medical Profession in Australia. Notwithstanding the specific results and the momentum gained for this initiative which we believe to be a paradigm shift in healthcare delivery, GPs and their clinics were directly involved in the research. We believe that those individuals and clinics involved had such a positive experience and learned much about the research process that capacity has been built in these practices, as well as within these practices' spheres of influence.*
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> *In terms of the careers of the team: the grant allowed us to develop as a team that is capable of providing more Australian Context evidence to support this pioneering work not only into SMA but also chronic disease management more generally. The publications, presentations and reputation that we are developing are critical to this project.*

For Professor John Dixon it provided the perfect synergy with his research direction which focuses on a better understanding of obesity and type 2 diabetes, developing and testing novel therapy, and delivering better care through enhanced clinical pathways. Prof Dixon went on to receive an NHMRC Research Fellowship in 2015: Clinically severe obesity: A better understanding of a complex condition, improving health outcomes through effective therapies, and delivering a comprehensive clinical pathway, $675,810.

For Professors Garry Egger and John Stevens the benefits to career have to been to enhance reputation and provide them with further evidence of their clinical research skills, including, project design, implementation, project management, publication and presentation towards for other research applications.

Prof Egger has continued to conduct research into SMAs. Through ALMA, he delivers, evaluates, and trains health professionals to deliver SMAs. For example, the Possums Clinic for mothers and babies in Brisbane (led by a former RACGP Foundation researcher Dr Pam Douglas) has collaborated with Professor Egger in training health professionals in, and running Shared Medical Appointments, since 2015.

Developing End of Life Care Skills for General Practice: What Patients want from Primary Care.

Prof Geoffrey Mitchell (2013)

Summary of aim and results

The aim of this grant was to identify the expectations of patients and their carers about the care they received when nearing the end of life. The reason for this project is that, with the rapid ageing of the population, the prevalence of people dying will increase rapidly. The proportion of people aged over 65 is set to exceed 25% by 2050. Currently the number of people in that age group is rising by about 5% per annum. Currently about 80% of specialist palliative care services see patients with cancer. However, most people do not die of cancer, rather a combination of organ failure, frailty and multi-morbidity. Much of the medical care of this group will take place in general practice. If general practice is to be readied for the oncoming demand for end of life care, planning needs to commence now ensures that the workforce is trained and equipped for this work.

This project undertook a series of qualitative interviews of patients, carers, GPs and primary care nurses, in order to determine what those most affected by life limiting conditions need from their primary care providers. A systematic review on the role of general practitioners in palliative care was also conducted. This was a revision of the last review on the subject in 2002. The review shows that providing structured means of involving GPs in end of life care integrated between specialists and GPs improves outcomes for patients.

As a result of the study, the investigators recommend the deliberate development of policies that facilitate the role of primary care at the end of life care. These can be at a system level, by encouraging the recognition of patients at the end of life and facilitating the development of advance care plans. At a local level, initiatives that actively bring primary care practitioners together with specialist services improve outcomes for patients should be encouraged. The long-term goal of this project is to develop a system to run a minimum dataset for palliative care in general practice.

Outcomes

This research led to the following outcomes:

- NHMRC Centre for Research Excellence in End of Life care 2015-19
- Leishmann Foundation Grant in 2016
- A second RACGP Foundation/ HCF Research Foundation grant in 2017
- A PhD scholar (on a scholarship) has been progressing some of this work and working towards the national minimum dataset.

The knowledge gained is foundational to facilitating primary palliative care. The qualitative study has progressed the development of a national minimum dataset. Collaborations have developed between a national and international network of primary palliative care researchers undertaking the systematic review. Also between Monash University, University of Western Australia and University of Queensland researchers working on the national minimum dataset for primary palliative care.

The grant enabled the update of the only systematic review on the role and performance of GPs in palliative care. The last one was done in 2002 by Prof Mitchell has been cited over 100 times as the only academic work evaluating the GP role in end of life care. There has been a quadrupling of the literature to include, coming to 262 papers. Six inter-related papers have arisen from this work, and it is an internationally significant body of work. The systematic review will become the world's standard reference for the role of GPs in palliative care.

The qualitative data has informed further work (see Prof Mitchell's 2017 grant below) looking at collecting real time data on the nature of end of life care in Australia. The researchers plan to collect this data and build an ongoing dataset that compliments the Palliative Care Outcomes Collaborative (PCOC) data that is prospectively collected on end of life care in specialist palliative care settings. This is a national first and a world's first real time dataset of palliative care. This will be done using sentinel networks of GP practices reporting on any death that occurs in that practice. This work will lead to a number of publications and public presentations, which will inform future primary care practice and health policy.

Involvement in this project has been important in enhancing the capacity of our GP registrar, Dr Robert Walsh. Rob has been involved in all facets of developing and implementing this research. The careers of this research team have been enhanced by the awarding of the grant, and involvement in the research process. The team is a mix of junior, mid-career and senior researchers. We have also leveraged our membership of a research collaborative group - the Primary Care Collaborative Cancer Clinical Trials Group, funded by Cancer Australia. Their core group of support staff has supported the systematic review process, thereby reducing the burden on the core group.

A pilot study of a systematic patient-centred and practice nurse coordinated model of ACP in Australian general practice.

A/Prof Joel Rhee (2014)

Summary of aim and results
This study indicated that with adequate training and support, nurses working in general practice settings are able to initiate and facilitate advance care planning (ACP) conversations with patients that result in positive patient outcomes. Nurse involvement in ACP can have significant benefits for patients, as they are able to clarify their preferences, make their wishes known, and reduce future burden for families. There is a need to provide additional support to patients in having these discussions with their family. ACP should be flexible, guided by patient preferences, and allow for shared-decision making if appropriate. ACP delivered by general practice nurses has the potential to address barriers to uptake whilst maintaining patient satisfaction.

Outcomes
The study has advanced knowledge in the field of ACP directly through its findings, and indirectly by enabling the development of a larger study, a clinical trial in ACP funded by the NSW Ministry of Health Translational Research Grants Scheme (subsequently extended). It provides important evidence to support the involvement of practice nurses in ACP, and recommends education and training of the GP workforce in ACP, especially practice nurses.

The findings informed the development of training and resources for the *Advance Project*[3], an evidence-based toolkit and a training package specifically designed to support Australian general practices to implement a team-based approach to initiating ACP and palliative care into everyday practice. Funded by the Australian Government Department of Health ($2 million), the first phase targeted general practice nurses, and an extension expanded the project to include GPs and practice managers. Dr Rhee is GP Education Lead and an Advisory Board member on this project.

This grant also helped to develop research capacity in general practice. It provided Dr Rhee with an opportunity to build on his PhD on ACP and how it could be implemented in Australian general practice. The study findings and the track record supported an application for an NHMRC project grant. Dr Rhee considered that the grant and the resultant publications contributed to him gaining an Associate Professor appointment. The grant also allowed him to put together a highly talented group of clinicians and researchers in the field of ACP, palliative care, and primary care. The relationship and trust that the team developed has led to more collaborative research. Finally, the study enabled the researchers to establish links with the Medicare Local, general practices, and Local Health District in the study area, which has allowed them to do more research in primary care.

A/Prof Rhee states:

> *I have benefited greatly and I am grateful to HCF Foundation and RACGP for the funding. It has enabled me to conduct research in an area that is a passionate interest of mine. The research has generated a wealth of knowledge and has shown that it is possible for practice nurses to do Advance Care Planning. It has helped me in my career progression and in the future as I will be using this as a springboard for Category 1 funding.*
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> *Other than the RACGP/ HCF Research Foundation grant or other RACGP grants, there are limited funding opportunities for someone like me who is interested in health services research in the primary care context.*

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[3] See https://www.theadvanceproject.com.au

The GAUGE study: Understanding the relationship between general practice management of chronic disease in older people and their utilisation of secondary care services.

A/Prof Christopher Pearce (2015)

Summary of aim and results
To develop strategies to keep people healthy and out of hospital, it is important to understand the relationship between the care patients receive across both primary and acute care settings. However, there is limited capacity in Australia to examine these relationships at a patient level, due to a critical lack of routinely collected GP data that can be linked to other relevant health datasets. This project developed a valuable new linkage between general practice data from the Melbourne East Monash General Practice (MAGNET) data platform, and emergency department presentation data from the inner east Melbourne region. This was used to examine the relationship between care received in general practice, particularly for issues related to chronic disease, and a patient eventually attending an emergency department.

We found that the presence of one or more chronic diseases was associated with higher levels of general practice care and emergency department attendance, although increased general practice utilization was not associated with less emergency department use. This study adds to the significant policy debate around the development of strategies to decrease emergency department usage, and has developed a valuable new data linkage that can provide further insight into the relationship between primary and acute care. The study has also provided valuable training in data linkage and analysis for the research team, and has allowed the development of new collaborative networks that will support further research conducted.

Outcomes
This study provided an important proof of concept for the linkage of general practice and acute care data sources, a first in Australian health research. This will provide a valuable contribution to general practice and health services research, with the linkage process now being used in other project proposals within the department and its collaborators. The findings are highly relevant to the role of general practice in reducing the burden on acute care services, and will be of interest to general practitioners, primary health networks, and those responsible for organising emergency department services.

Capacity building as a result of this grant was used to support a successful application to the Medical Research Future Fund (approximately $200,000) for further work on using data linkage to integrate primary and acute care settings to prevent illness and reduce avoidable hospital utilisation.

Can A GP Clinic Kiosk/Pod improve clinical data quality and enhance patient empowerment?

A/Prof Paresh Dawda (2015)

Summary of aim and results
The objective of this project was to test the feasibility of a Patient EmPowerment Pod for collecting data on health risk factors from patients and to increase patient engagement with their own health. 250 patients used the health pod over a six month period. Patients were generally positive and found the report card useful in highlighting lifestyle risk factors e.g. physical inactivity, weight and alcohol consumption. Older patients were less likely to use the pod than younger ones. The health report card was useful for patients to reflect on their health issues and as a prompt for discussion with their health professional, family or friends.

Outcomes
This research identifies the opportunities to use technology as an enabler to improve patient engagement and activation in their own health and the potential to improve practice level population health data and facilitate the shift towards population health management. It informs the opportunities to redesign service delivery models and patients flow by embedding technology into the care delivery process. Future research needs to focus on integrating such methods of data collection into routine practice.

Professor Dawda states:

> *The options for grants that support health services research is very limited. As such this grant was critical and without which this project would have not occurred and hence the benefit to my personal research career would have been missed. In particular, what this grant has done from a personal research career perspective is brought together the paradigms of quality improvement (which is my expertise) together with my growing interest in research/evaluation. This is a further opportunity and potential output that can be considered for this project. The collaboration between researchers (and consultants) across the domains of public health and primary health care, industrial design, software engineering and graphic design was a valuable experience for all involved. Key contributions were made from all members of the multidisciplinary team throughout the study including from the early stages of physical design and development of the pod, design of software and implementation of the patient pod in the GP clinic through to data collection and analysis. Problem solving around key issues of patient empowerment and user experience relative to potential health behaviour change and improved health data collection in a real (as opposed to simulated) environment of a medical clinic contributed to a greater understanding of barriers to improving data quality in the primary care setting using technological innovation.*
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> *This research was an early project in the development of University of Canberra's Health Research Institute (UCHRI) which has been designed to link researchers from diverse disciplines with a common focus on health. This project was an exemplar of the aims of HRI to bring together a multidisciplinary team of researchers and industry partners (Private GP Clinic, CSIRO Data61) to focus on longstanding problems in Australian primary health care.*

Accelerometers in Monitoring Physical Activity in Primary Care (AMPACe).

Dr Tejas Kanhere (2016)

Summary of aim and results

Physical inactivity contributes to significant health concerns worldwide. This study aims to see if using a low-cost wrist-based activity tracker (an accelerometer) has a role in general practice for the purpose of assessing and promoting physical activity. Overweight patient participants across NSW were recruited from 10 general practices, given a free accelerometer (which requires having a compatible smartphone) and then followed up over a period of 6 months to assess if using the accelerometer together with periodic review and advice from their GP will help promote their physical activity levels, as measured primarily by step count.

This research could help provide a valuable tool for GPs to use with patients at risk of weight related disease such as Type II Diabetes.

Outcomes

Unfortunately this project is not yet complete. An extension was approved due to delays with development and testing of the learning module, recruitment of GPs and patients, and extended leave of the research assistant for personal reasons.

Some patients are still within the 6 months follow up period, and the final report is due later in 2019.

Informing policy for patients who have been prescribed antibiotics for an upper respiratory tract infection.

Prof Moyez Jiwa (2016)

Summary of aim and results

Upper respiratory tract infections (URTIs) are a challenge to manage in primary care. Regardless of the cause, the duration and severity of the symptoms vary and a significant proportion of the public believe antibiotics are an effective treatment for viral URTIs. This study used SMS technology to conduct real-time surveillance of patients receiving antibiotic prescription for URTI. It surveyed patients about their symptoms and their symptom management 3 and 7 days after receiving a prescription for antibiotics.

There was considerable individual variation in the presence and severity of URTI symptoms. The majority of patients reported mild symptoms at 72 hours post visit and very mild symptoms or were not sick by day 7. This study provides evidence of patients' experience of URTI symptoms in real time in a primary care setting. GPs can use this information to reframe consultations to discuss what patients should expect during the course of their illness and offer support with symptom management.

The recovery of most patients within days of receiving antibiotics for URTI mimics the trajectory of patients with viral URTIs without treatment. Antibiotics did not appear to hasten recovery. Monitoring of patients in this context using smart phone technology is feasible but limited by modest response rates.

Outcomes

This study provided further evidence that deferred or delayed antibiotic prescription is a safe and effective policy in the management of upper respiratory tract infection (URTI) for the majority of patients. Evidence from this study can be used to develop a patient education aid and GP tool that can be trialled in general practice. This research has the potential to impact the use of delayed prescribing of antibiotics for URTI in general practice in Australia and supports the RACGP's commitment to effective antibiotic stewardship. This knowledge provides a valuable tool in clinical practice to engage patients in the discussion around URTI management. Further testing in a randomized controlled trial is necessary to confirm these observations.

Collaborations have been fostered with the 33 GP clinics who participated in this national study. Participation in this project by GP clinics nationwide provided opportunities for some practices who had never been involved with research to gain insights into the procedures and protocols involved, without a large time investment. This is important in building general practice research capacity.

The methodology employed in this research demonstrates a proof of principle in the surveillance of patients in real time in primary care. The ramifications of such automated surveillance extends not only to self-limiting conditions but also has much wider application in areas such as chronic disease or pain management.

Development of a routine data collection process in community-based end-of-life care.

Prof Geoffrey Mitchell (2017)

Summary of aim and results

There is currently no way of observing what end-of-life (EOL) care is like in primary care, therefore no way of providing systematic EOL care improvement at a time when death rates are set to increase dramatically. We have developed a method to gather primary care data when a death is registered, both retrospectively and prospectively. In this pilot study, we investigate the challenges and potential mitigation strategies of the method as well as feasibility and acceptability of the method with GPs in VIC, WA and QLD.

The aims of this project were to: 1) develop a questionnaire that can be used to routinely and efficiently collect data on EOL care in general practice; and, 2) pilot test this questionnaire for feasibility and acceptability for routine data collection of EOL care in general practice; and, 3) develop and pilot a routine data collection method of de-identified patient data that is relevant to EOL care in the general practice setting.

A routine data collection protocol for EOL care in general practice was successfully piloted. Participants were generally positive and suggested improvements are implementable. An automated EMR data collection tool needs to be further developed and implemented to improve chances for success.

Outcomes

A sentinel network has been shown to be feasible. An Australia-wide network of GPs collecting EOL care data will represent a foundational development in the profession. The learnings and insights gained from both the questionnaire and data extracted (once appropriately analysed) could be used to inform decisions from national-level policies to individual GPs own quality improvements and professional development. The data could even be used to develop or strengthen prediction and/or assessment tools. Even from the current pilot studies, initial analysis of the data shows promising insights into EOL care in the field of general practice in Australia.

As part of the preparation of this project, the researchers developed a briefing paper with assistance from the Deeble Institute and presented the proposal to the Commonwealth Department of Health Divisions of Primary care, Cancer and Chronic Disease and Palliative care in March 2018.

Prof Mitchell reports:

> *This project could not have been completed without this funding. As a result of the project we will be able to leverage further funding using the findings of the grant. We believe its impact on future practice for end of life care will be very important in providing end of life care of high quality and consistency in the future.*

AusTAPER Pilot: Team Approach to Polypharmacy Evaluation and Reduction (AusTAPER) pilot.

Prof Parker Magin (2017)

Summary of aim and results

Polypharmacy can be defined as taking five or more medicines. In older patients polypharmacy can often entail taking potentially inappropriate medicines (medicines for which the potential for harm may outweigh the potential for benefit) and has been associated with adverse health outcomes. The Team Approach to Polypharmacy Evaluation and Reduction (AusTAPER) pilot study was a small study which trialled a sophisticated process involving online technology, a structured approach, and shared decision-making, to facilitate GP, pharmacist and patient engagement in using best current evidence on medicines benefit and harm in older patients to inform reviews of patients' medicines regimens.

The study established the overall feasibility and acceptability of the AusTAPER process. The study:

- Adapted the Canadian formulary of the original TAPER to an Australian formulary. This proved to be a more onerous and technically more complex task than anticipated and the work involved has produced a resource that will be suitable for, and potentially of considerable value in, Australian general practice.
- Established that the AusTAPER process is practicable, efficient, and acceptable to patients, GPs, and pharmacists
- Established that, in the experience of the participating GPs, AusTAPER performs very well compared to current mechanisms for community-based pharmacist-GP medication reviews.
- As well as adapting TAPER for Australian general practice and establishing that it has a potential role in Australian general practice, this pilot trialled processes for a proposed RCT of the use of AusTAPER in Australian general practice. In particular, it trialled processes of practice, GP and patient recruitment and data collection.

Outcomes

The findings suggest that the integrated on-line engagement of pharmacists and GPs and the structured approach to evidence gathering and processing, and collaborative decision-making involving patient, GP and pharmacist has considerable potential advantages over current medicines review processes for older patients.

The study facilitated GP-geriatrician collaboration in this important research area. The geriatrics-based members of the project team in Sydney and Perth learnt more about the culture and logistics of general practice and how to engage with general practices and GPs in conducting community-based research. This will be of importance for a proposed RCT informed by this pilot.

For Prof Magin, working with experienced geriatrician clinician-researchers provided valuable learning around deprescribing and the practical difficulties in researching it.

The results will inform an application for an RCT, and the work already undertaken will enable that RCT to be conducted in a more efficient manner.

The practices participating in the study were very positive about their participation in the current study and were positive about participation in other practice-based research.

OCEAn-NETs (Occasions of care explained and analysed - Nominated Extra Topics)

Prof Lyndal Trevena (2018)

Summary of aim

Over half of all patients in Australia are not managed according to prevention guidelines. Better use of 5-year cardiovascular disease (CVD) risk assessment tools by GPs can improve the quality of care for patient at risk of heart disease and stroke. Similarly, osteoarthritis is common and increasing amongst the Australia community, particularly with an ageing population and rising rates of obesity. There is concern that unnecessary X-rays, procedures and medicines are being used whilst highly effective treatments such as exercise and weight loss are less frequently used.

Our grant will support two studies which will be conducted as sub-studies of the larger OCEAn (Occasions of Care Explained and Analysed) study. The OCEAn study builds on the work conducted in the 1998-2016 BEACH study. OCEAn is a cross-sectional study that uses an electronic cloud-based interface to collect comprehensive data about the GP-patient encounter. Data collection will begin with 200 randomly sampled GPs from the 5 Sydney PHNs providing details of 20,000 encounters. The OCEAn study gives us the opportunity to conduct new research projects run as sub-studies (referred to as NETs, Nominated Extra Topics). Each GP participating in OCEAn will record details of 100 patient encounters. Of these, 30 forms will contain the CVD sub-study, and another 30 will contain the OA sub-study, resulting in a sample of 6,000 for each sub-study. The results will show whether the use of formal CVD risk assessment tools is associated with reduced over- and under-treatment. Similarly, the OA sub-study will allow identification of areas where GPs could improve their care and identify areas of variation that might be due to inequity and access issues.

Expected outcomes

Our two sub-studies will provide unique and much-needed information about general practice patterns of care for two of the most commonly managed problems in Australian general practice (CVD prevention and OA knee and hip). Our results will be able to quantify the extent to which evidence is currently being translated into practice. Evidence-practice gaps can therefore be highlighted and strategies developed to address these. Our team of investigators have both a strong policy focus on reducing low value care and on the translation of evidence into general practice. We are working with the National Heart Foundation and the Sydney Musculoskeletal Bone and Joint Health Alliance to improve the implementation of these guidelines into general practice. Both organisations are working with Primary Health Networks to improve evidence uptake. Our results will therefore feed nicely into current quality improvement activities with the PHNs, allowing them to target specific aspects of care where gaps exist.

Developing a prediction model for total knee replacement surgery for people with osteoarthritis in general practice.

Dr Jo-Anne Manski-Nankervis (2018)

Summary of aim

The aim of the study is to develop a model for use in primary care that predicts the probability of knee replacement surgery at 5 and 10 years for people aged 45 years and over with osteoarthritis (OA). The MedicineInsight dataset, consisting of data extracted from over 550 general practices across Australia, will be used to identify patient factors associated with progression to knee replacement surgery in individuals with a diagnosis of knee OA, from which a statistical prediction model will be developed and tested. This important work will underpin the development of a web-based tool and smart phone application that will inform general practitioners and their patients about modifiable risk factors to target to reduce the chance of knee replacement in the future. Given the increases in total costs of knee replacement surgery and the continual rise in total knee replacement numbers, this prediction tool may help reduce healthcare expenditure and resource use allowing more timely access to surgery for those in need. As 12-20% of those who undergo knee replacement surgery do not benefit from surgery, information from the prediction tool may provide the opportunity for patients to avoid this procedure and seek alternate treatment with the possibility of better health outcomes.

Expected outcomes

The prediction model will enhance clinical knowledge around modifiable risk factors that lead to knee replacement surgery in patients with osteoarthritis and will inform clinical practice guidelines around the prevention of knee replacement surgeries.

In the longer term, this study will contribute to the development of a prediction model that will be made available online to all clinicians and patients in the form of a web-based tool and smart phone application. General practitioners may be encouraged to utilise the prediction model at every diagnosis of osteoarthritis to inform patients of risk factors to target to prevent future surgery. Over time, as a result of the model we may expect knee replacement surgery rates to plateau and there may also be an increase in the proportion of patients who benefit from the surgery.

Lastly, through sharing the results of this study and, with time, the direct use of the prediction tool, general practitioners will gain insight into the use of medical record data for the development of tools to prevent chronic disease progression and hence the importance of thorough and standardised recording of diagnoses and clinical activity in the electronic medical record. This may assist in the development of other high-quality prognostic models from general practice patient records.

This study utilises secondary data from general practice clinics to build a prediction model. It addresses how best to use this type of data to develop a reliable and useful prediction model that can ultimately improve outcomes for the patient and reduce overall healthcare expenditure and resources. It is an example of what can be achieved from routinely collected general practice data and may pave the way for the development of different models beyond the osteoarthritis study to address a variety of healthcare concerns that utilise the same statistical methods.