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# Evaluation of the Health Care Homes trial

Volume 1: Summary report

## Revision history

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0.3	20 May 2022	Incorporating comments from the Evaluation Working Group (EWG)
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# Introduction

## Overview of the Health Care Homes Trial

The Health Care Homes Trial (HCH trial) started on 1 October 2017 and ended on 30 June 2021. HCH incorporated elements of the patient-centred medical home (PCMH), focusing on coordinated and comprehensive primary care that is responsive to patients' needs and preferences. The key features of the HCH trial were:

- Voluntary enrolment of patients to a general practice – their health care home – nominating a GP as their preferred clinician.
- Tools to identify patients at risk of hospitalisation and stratify them to a complexity tier.
- A bundled payment for every enrolled patient based on their tier (for services relating to the patient's chronic conditions), replacing Medicare fee-for-service.
- Training resources to support transformation of practices towards the HCH model.
- Facilitation for practices to transform, provided by Primary Health Network (PHN) practice facilitators.
- Use of electronic shared care planning tools, giving authorised health professionals and patients access to up-to-date electronic medical records.

A comprehensive evaluation of the trial was also commissioned, including formative elements to improve program design and summative elements to assess outcomes.

Practices participating in the trial implemented different models, but common to these was the intention to:

- Involve patients, families, and their carers as partners in their care.
- Provide enhanced access to care.
- Provide team-based care through shared information and care planning.
- Deliver evidence-based care appropriate to patients' needs.

Practices from 10 PHNs across Australia participated. The 10 PHNs were selected to maximise geographic and socio-economic diversity amongst the populations represented and leverage chronic disease programs operating in these regions. Practices within the PHNs were selected following an expression of interest issued in late 2016. One of the Department of Health's considerations in selecting practices was to ensure a mix of locations, practice size, ownership status and staffing levels. This was so the model could be tested in different contexts.

The Department initially recruited 200 practices and announced the successful practices in mid-2017. Not all practices that were selected proceeded with the trial. Some also withdrew soon after joining the trial. Practices continued to be recruited until mid-2018 to replenish practices that didn't proceed or withdrew early. Participating practices received a \$10,000 grant to help with implementing the model.

The trial was originally intended to run between October 2017 and June 2019, with patients enrolled up to December 2018. An extension was announced in the second half of 2018 with patient enrolment extended to June 2019 and the trial to June 2021.

A risk stratification tool (RST) was commissioned by the Department. The first stage involved extracting data from the practice's clinical management system. Practices had to use this tool to initially identify patients suitable for enrolling in the program. The second stage of the RST used the Hospital Admission Risk Program (HARP) tool, which required a clinician to assess a patient's eligibility to be enrolled in the program based on further clinical factors and factors affecting self-management. If a patient was assessed as being eligible for the program, the results of the HARP were used to allocate the patient to a tier for payment purposes.

Practices received a bundled payment for each patient, with the amount determined by the patient's tier. There were three tiers, where tier 3 was the most complex and had the highest payment. The bundled payment was intended to cover the costs of care delivered by the practice related to a patient's chronic health conditions. Practices could still bill Medicare for HCH enrollees for other services related to the patient's acute conditions and certain other items.

Practices had to develop a care plan jointly with each enrolled patient, and update this regularly. They also had to install and use shared care planning software to develop the care plan and share it with the patient's other health care providers outside of the practice as well as with the patient (and where relevant, their carer/ family). Practices could select one of a few shared care planning software systems that were self-assessed by vendors as meeting the requirements for HCH. Many practices were guided by their PHN in the choice of software.

The Department of Health commissioned online training modules to be developed along with supporting materials, which were available to practices and their staff. The Department provided funding to the 10 participating PHNs to support practices and facilitate the implementation of HCH. The PHN facilitators and other PHN staff provided support to HCH practices in their region. This included practical support with installing software and training to use the software, enrolling patients, and identifying priorities and implementing changes within the practices. Most PHNs also created a regional HCH community of practice and organised training workshops for HCH practice staff. PHN practice facilitators received training and ongoing support through webinars and coaching by a national facilitator.

## Overview of the Community Pharmacy in Health Care Homes Trial

In August 2018, under the Sixth Community Pharmacy Agreement (6CPA), the Australian Government funded the Community Pharmacy in Health Care Homes Trial, which supported patients participating in the HCH trial by offering them a range of patient-centred, coordinated medication management services from community pharmacists, including:

- Medication reconciliation and assessing the patient's medicines regimen.
- Identifying potential medication-related issues and agreeing medication management goals.
- Developing a medication management plan (MMP) with the patient and their HCH.
- Providing regular follow-up reviews.
- Providing additional support services for more complex patients, such as dose administration aids, blood glucose monitoring, blood pressure monitoring and asthma management planning.

Patients could choose the pharmacy that the practice referred them to.

Online training modules were also developed for the community pharmacy trial, aimed at community pharmacies, along with other materials to support pharmacies in their implementation. The Pharmacy Guild, working with PHNs, provided training workshops and other support to participating pharmacies.

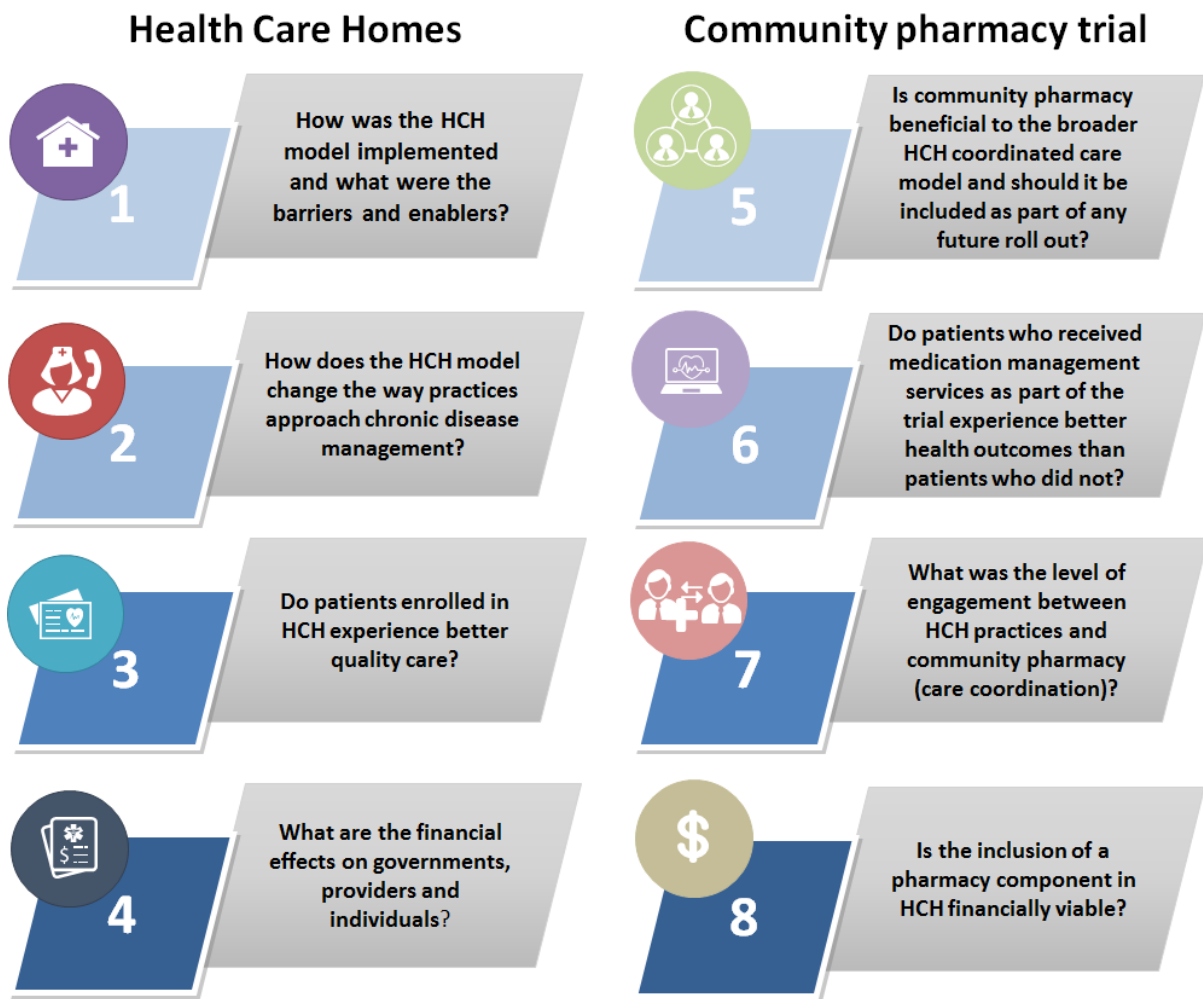
## Evaluation

The HCH trial, including the community pharmacy trial, was evaluated by a consortium led by Health Policy Analysis (HPA). The consortium included the Centre for Big Data Research in Health (CBDRH, University of New South Wales), the Centre for Health Economics Research and Evaluation (CHERE, University of Technology Sydney) and individual experts from Australia and abroad. The evaluation methods were detailed in the HCH evaluation plan.<sup>1</sup> Figure 1 shows the key evaluation questions.

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<sup>1</sup> Health Policy Analysis. (2019a). *Evaluation of the Health Care Homes program – Evaluation plan (Updated 2019)*. <https://www1.health.gov.au/internet/main/publishing.nsf/Content/Evaluation-of-the-Health-Care-Homes-Program>. Note that this reference is to the version of the plan that was updated to accommodate the extension of the trial. The updated plan maintained the evaluation approach and measures published in the original plan but added data collection points due to the extension.

Figure 1: Key evaluation questions



### Evaluation design

The evaluation used mixed methods. The design was predominantly convergent (that is, quantitative and qualitative data collected separately but compared at the time of analysis to corroborate or expand findings), with some sequential elements (that is, quantitative results informing qualitative data collection or vice-versa, for example, results of practice surveys informing exploration in case study interviews).

The quantitative components used quasi-experimental and before-and-after designs. For the quasi-experimental analyses, selected outcomes for HCH patients were compared with outcomes for equivalent patients from non-HCH practices. Similarly, measures for HCH practices were also compared with non-HCH practices. For the before-and-after analyses, measures for HCH practices and patients were compared before or at the start of the trial with measures after implementation.

Quantitative data sources included extracts from practice clinical management systems and linked data that included Medical Benefits Schedule (MBS) data, Pharmaceutical Benefits (PBS) data, hospitalisations data, emergency department data, residential aged care data and national deaths data.

The qualitative components aimed to provide information about how the trial was implemented, and insights into participants' experiences with the trial. These data were collected through case studies of selected practices that included interviews with the practices, practice staff, practice patients and their carers, PHN staff and other stakeholders.

#### Box 1: Impact of COVID-19 on the evaluation

COVID-19 impacted practices from March 2020. Evaluation surveys and interview topic guides were enhanced in the last round of data collection to include questions aimed at understanding the impact of the pandemic on practices' implementation of the HCH model and operations during the pandemic. The impact of the pandemic was also reflected in secondary data sources. These impacts have been analysed in this report. Evaluation activities were not affected by the pandemic, except that case study interviews in the final data collection round were mostly conducted via tele/videoconference.



# Practices, pharmacies, and patients

At the end of the trial on 30 June 2021, 106 practices remained. A further 121 practices had participated at some stage but withdrew (withdrawal rate of 53%). Half of the practices that withdrew had not enrolled any patients or had enrolled less than 10. Practices of a medium size, independently owned, and/or located in a remote and/or most socioeconomically disadvantaged area were less likely to withdraw from the trial.

Selected practices could start enrolling patients from the start of the trial in October 2017, and the rest from December 2017. Enrolment ended on 30 June 2019. Over this time, 11,332 patients were enrolled. The mean number of patients per practice peaked in July 2019 (the end of the enrolment period). Practices remaining in the trial in June 2021 had enrolled 89 patients on average, although there was considerable variation, with 47% enrolling less than 50 patients and 19% enrolling less than 20 patients.

At the trial end, 7,742 (68%) patients remained. More than one third of patients who withdrew did so because their practice withdrew. Among all patients who enrolled in the trial, 7.3% opted out. In interviews with practices, staff commented that patients who opted out did not understand the HCH model or wanted more one-on-one time with their GP.

Patients were assigned to one of three risk tiers for the purposes of the bundled payment. Tier 3 was the most complex and 33% of HCH patients were assigned to this. Most patients were assigned to tier 2 (49% of patients). Tier 1 was the least common (18% of patients).

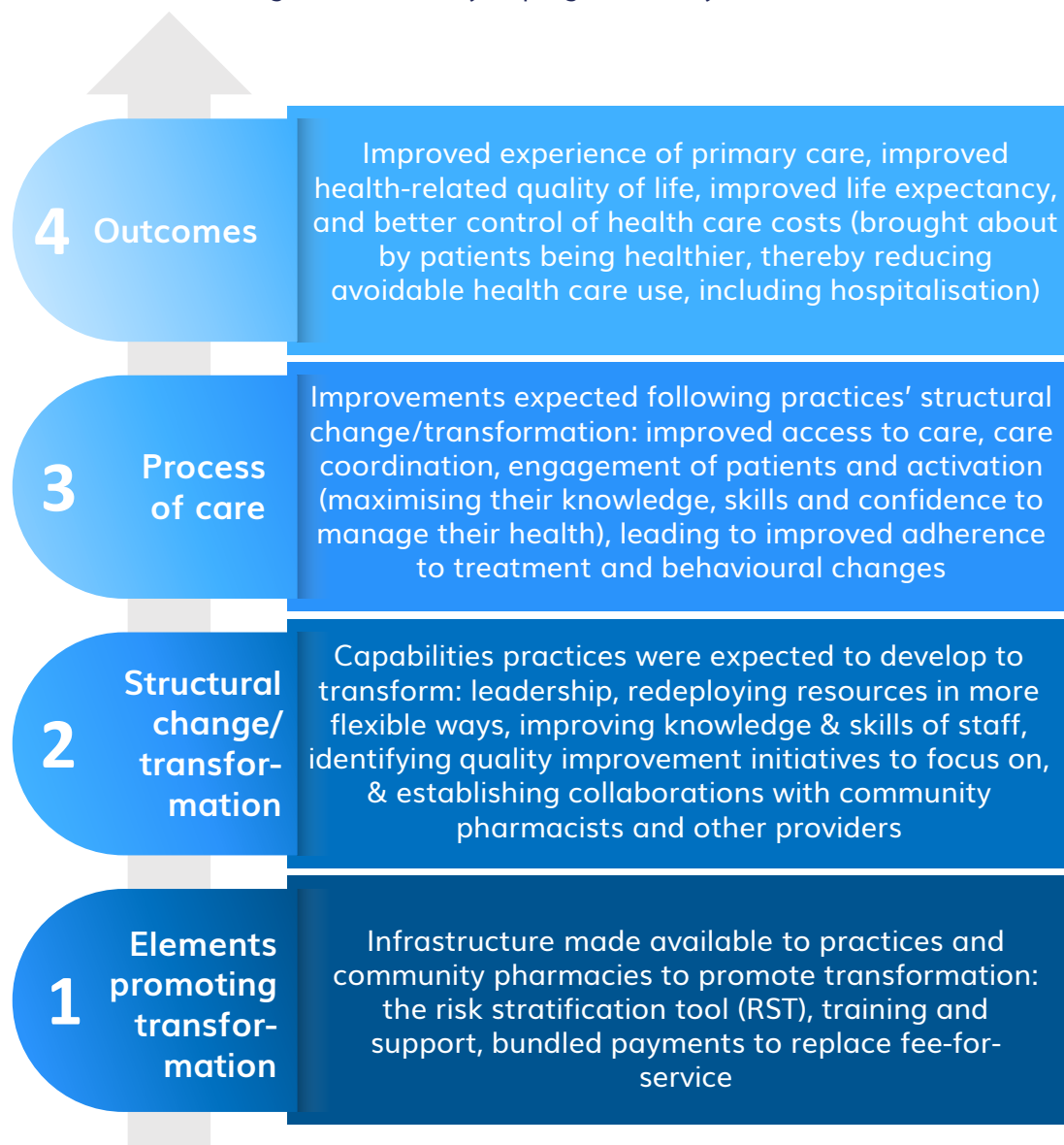
For the community pharmacy trial, while 689 pharmacies registered to participate, only 95 had undertaken a consultation with at least one patient over the course of the trial. These pharmacies each consulted with 16 patients on average (although more than half of the pharmacies consulted with less than five patients). To receive a service from a pharmacy as part of the trial, patients had to be referred by a GP. Patients receiving services were referred from 40 of the 165 HCH practices that enrolled more than one patient.

Community pharmacies conducted an initial medication review with 1,531 HCH patients. Follow-up reviews were not mandated and only scheduled if they were of benefit to the patient. Of the patients with an initial review, 845 had one follow-up, 588 had two, 402 had three, and 150 had four.

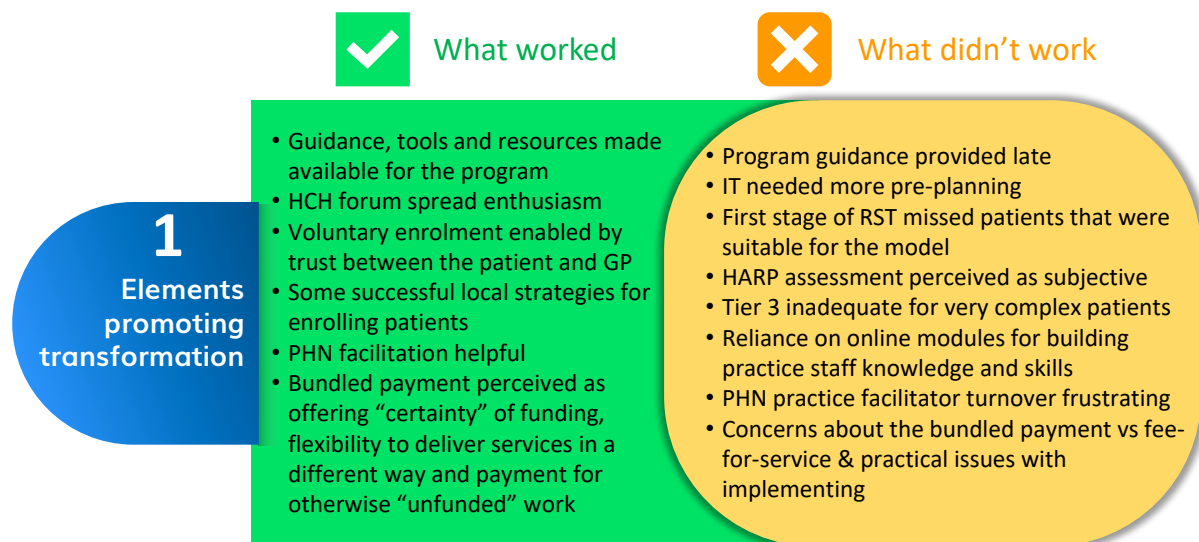
# Key findings

Before the start of the trial, the evaluation team, working with the Department of Health and the Evaluation Working Group (EWG), developed a conceptual model or “program theory” of how the HCH intervention was intended to work (Figure 2). The community pharmacy trial was later incorporated into this model. The model was used to guide the evaluation and analyse how infrastructure established for the implementation of HCH contributed to structural and process changes within practices and engagement of patients and outcomes. The sections below summarise the evaluation findings for each level of the program theory.

Figure 2: Summary of program theory for HCH



# 1. Elements promoting transformation



**Program management:** To oversee and guide program implementation, the Department established governance and advisory groups at the national level and within each PHN. Previous evaluation reports<sup>2,3</sup> described how these groups operated. Guidance for practices and participating GPs was developed. In general, this guidance was useful, but PHN staff and practices reported that advice on key elements of the program was received late, and in some instances, was not sufficiently comprehensive. This in turn – together with issues in installing the risk stratification tool (RST) software, which was a critical step in being able to enrol patients – delayed the set-up of administrative procedures in practices for enrolling patients and billing. The Department created and supported additional resources to support implementation, including information sheets, FAQs, videos, handbooks, and checklists, a network of clinical champions, and an assurance and compliance approach (focused on education and support for practices). **For future large-scale reforms, comprehensive guidance and other relevant information should be provided to practices early, to ensure that they understand what is involved and give them time to prepare for change.**

**Practice recruitment:** The Department managed the selection of practices as a grant program. PHNs were not directly involved in the selection but were asked to comment on practices that the Department was considering selecting. Some PHNs commented that they should have been more closely involved in selecting practices for the trial, as their view was that PHNs have a better understanding of the readiness of their practices to participate in initiatives such as HCH. While the evaluation didn't assess the extent to which this affected practices' participation in the trial, many of the practices that withdrew towards the end of the enrolment period stated that they did so because the transformation to a HCH would be too challenging for them. At that stage these practices had not enrolled any patients or

<sup>2</sup> Health Policy Analysis. (2019b). *Evaluation of the Health Care Homes program – Interim evaluation report 2019*. <https://www1.health.gov.au/internet/main/publishing.nsf/Content/Evaluation-of-the-Health-Care-Homes-Program>

<sup>3</sup> Health Policy Analysis. (2020). *Evaluation of the Health Care Homes program – Interim evaluation report 2020*. <https://www1.health.gov.au/internet/main/publishing.nsf/Content/Evaluation-of-the-Health-Care-Homes-Program>

enrolled very few, indicating their lack of readiness. PHNs also thought that by being involved earlier, they could have more effectively engaged with their practices before the start of the trial to help them tailor the model to local needs. They recommended that for similar initiatives, **PHNs' knowledge of and relationships with practices locally is better leveraged.**

The initially selected practices (n=173) were due to start the trial at the end of 2017. However, at the end of March 2018, 109 practices had not yet enrolled any patients and a further 38 had enrolled less than 10. Implementation issues and barriers to enrolment identified by PHNs and the Department were addressed as they arose. For example, the Department developed an enrolment checklist and created videos of how successful practices approached enrolment. **Staggering implementation for large-scale initiatives could help with refining processes and information systems, and result in more efficient and better use of resources to support practices. Lessons from earlier cohorts could also be applied to later cohorts.**

PHNs felt that there wasn't enough information given to practices about the program when they applied, as they observed that some practices were surprised by the requirements. Other practices just hadn't read the agreement closely. PHNs suggested that clearer information was needed about what being a HCH involved and that information sessions for practices that were thinking of applying would have been useful. Practices not being clear about the requirements of the trial resulted in withdrawal once the expectations became clear, or practices taking time to understand the requirements after they joined the trial, thus delaying patient enrolment. For large-scale initiatives, it is important to **allow time for and invest in developing and communicating information about the initiative to practices before they agree to participate. This should include providing information sessions about the initiative for interested practices.**

PHNs observed that practices faced challenges launching HCH within the practice when practice owners (including the head office of practices that were part of a corporate group) or practice managers had submitted the expression of interest to participate in the trial but had not sufficiently discussed the submission with others in the practice, particularly GPs. Insufficient consultation within the practice resulted in some practices declining the offer once selected, and others who took up the offer to withdraw subsequently. It also meant that implementation was delayed due to the need to get buy-in from key people in the practice. For future practice-wide initiatives, **there should be confirmation that GPs within the practice have been adequately informed about the initiative and that they support its implementation.**

HCH practices were paid a one-off \$10,000 incentive grant (GST exclusive). The amount was intended to incentivise participation in the trial and facilitate readiness. Although the actual set-up costs were not quantified by the evaluation, many practices commented that the \$10,000 grant was insufficient to cover the costs of IT set-up and ongoing licensing and maintenance costs, time for staff train and the additional time for operationalising the program (such as enrolling patients and designing and implementing the model). Some practices cited the costs of setting up, particularly IT, as the reason for withdrawing from the trial. For future initiatives, **incentive payments should aim to meet the costs of participation. Set-up costs can be reduced by tackling some issues system-wide rather than each practice**

resolving the issues individually. An example is compatibility of new critical software with existing software.

**Risk stratification:** The first stage of the RST used a predictive risk model (PRM) drawing on practice data to identify patients who were candidates for the HCH model. While most practices reported that the patients identified at this first stage were suitable for enrolment, there were other patients who were also suitable that the PRM didn't identify. GPs could override the score returned by the PRM and invite patients to participate in the second stage of the process to assess eligibility. GPs used the override function for close to one third of patients who proceeded to the next stage of the risk stratification process. This raises whether hospitalisation is the appropriate measure of risk for determining a patient's primary care needs. **Future risk stratification systems for primary care could consider re-framing the basis for determining tiers and setting payment rates. Broader outcomes than hospitalisation could be factored into the expected use of or need for primary care resources.** These will be most effective **when practice data can be combined with other data sources in real time,** including data on pharmaceutical utilisation, hospitalisations, and emergency department attendances.

The second stage of the RST used the Hospital Admission Risk Program (HARP) tool to determine the eligibility of patients to be enrolled in the program, and if eligible, to assign them to a tier for payment. Practices thought that some of the questions in the HARP were too subjective and would have liked more training to standardise the application of the tool within their own practice and across practices. **For any future initiatives using risk stratification, further training for clinicians in the tools, including improving their understanding of how the tools work and how assessment questions should be interpreted, are needed for consistent application.**

The RST used in HCH was developed quickly to meet the needs of the trial, with limited data. There is a long history of development and application of RSTs internationally, including tools focussed specifically on primary care. The literature emphasises that the technical attributes of these systems, specifically predictive performance, is only one factor in their successful use. Amongst other factors, they need to make sense to clinicians. Assessment of costs of options needs to balance factors such as licence fees for existing products and the costs of developing, enhancing, and maintaining new tools. It is not clear that the PRM and HARP represent optimal approaches in the primary care setting. Additionally, their use in the trial was limited, and the potential for broader utility has not been explored. There is scope for **compiling research on RSTs and evaluating how these existing tools perform in Australian primary care, before seeking to further enhance the tools used for the trial or developing other Australian-specific tools.**

The RST software interfaced directly with practice clinical management software, and as mentioned previously, many practices reported challenges in installing the software and making it work within their local systems. **For future initiatives, integration of critical software, such as risk stratification, with practice clinical management systems should be considered early, and relevant vendors engaged early to make this work.** In addition, the HCH trial found that the data relating to diagnoses relevant for the RST drawn from the practice clinical management systems was recorded in the systems in different ways (for example, using a medical classification taxonomy or free-text descriptions), making it

challenging to easily extract relevant diagnoses. Efforts are required to **systematically improve the consistency with which health conditions are recorded within practice clinical management systems and ensure information about conditions has sufficient granularity to support risk stratification** and other purposes such as quality improvement and deriving quality of care and performance indicators.

**Training:** The Department of Health engaged AGPAL to develop online training modules for practices and train and coach PHN practice facilitators through train-the-trainer workshops, coaching webinars, and a dedicated national practice facilitator to provide support as required. PHNs also offered various training opportunities. For the community pharmacy trial, the Pharmacy Guild of Australia and the Pharmaceutical Society of Australia collaborated on a set of eLearning training modules for community pharmacists.

For both the HCH trial and the community pharmacy component, the online modules were not widely accessed. Practice staff identified the time to complete the modules as one factor for their low uptake (each of the 11 modules was about an hour long not including time for suggested exercises/activities). Practices suggested improvements that included making the material more concise and providing more practical examples. The low participation in training impacted practices' understanding of the HCH model, with consequences for its implementation, as described in the next section.

Community pharmacies felt that they were already providing most of the services being offered to HCH patients, and hence one reason for the low uptake of the community pharmacy modules was pharmacists' claim that they already knew the content.

PHNs established forums, including communities of practice, and ran various training activities in which practices could interact with other practices in the region. Both practices and community pharmacies liked this style of training and would have liked more of it. However, for many of the PHNs, the activities weren't maintained. Reasons included practice withdrawals (leaving a small number of practices within a region and thus low participation), staff turnover, and later the COVID-19 pandemic (which resulted in re-prioritisation of focus).

**For future initiatives, training materials should be succinct and practically oriented, and supplemented with other modes of training that involve interactions particularly with peers, for example, communities of practice.**

The HCH forum of November 2019 (held two years into the trial) hosted by the Department of Health inspired those that attended. Many practices commented that they would have enrolled more patients if the event were held before patient enrolment closed. The event allowed participants to hear from peers about what they were doing, and to discuss their concerns and barriers to implementation formally and informally. In addition, GPs commented on the importance of learning from their peers, and the need to be a part of something more broadly. In future large-scale initiatives, **national or state level events should be held in the early stages of implementation, involving practices, PHNs and other stakeholders, to efficiently build knowledge about the model and its implementation, strengthen motivations within practices and amongst GPs, foster peer-to-peer learning and create relationships between participating practices and practice facilitators.**

**Practice facilitation:** The Department of Health funded PHNs to help practices in their transformation. Fundamental to the practice facilitator role was the ability to assess each practice's readiness, culture and environment, and tailor changes to the unique needs of the practice. In the early stages of the trial, PHN practice facilitators helped practices with the administrative processes and tasks related to the trial, including implementing software, identifying and implementing strategies to recruit patients and interpreting and addressing trial requirements. Facilitators also helped practices in assessing their capabilities as a HCH. Following the end of the enrolment period, the facilitators focussed on helping practices develop or refine their model of care and build the healthcare "neighbourhood" by raising awareness of the program amongst other providers in the region and reaching out to community pharmacies.

At the beginning of the trial, PHN practice facilitators felt that they had little guidance or clear expectations of the role. One of the issues that impacted the advancement of the role was turnover of facilitators. New facilitators had to re-establish relationships with practices and rebuild trust, in addition to developing their knowledge of HCH and their skills in supporting practices.

A major challenge that practice facilitators faced in their role was getting access to key staff in the practice, particularly GPs. Access was achieved through having rapport and trust with practice staff, and hence practice facilitators spent a good deal of their time building relationships. Some facilitators reflected that their relationships with practices changed from focusing on tasks to focusing on the goals of change, and that this was due to having built trust. However, practice facilitators also thought that **initiatives that can benefit from external facilitation should set out in advance clear expectations for practices and their staff in working with external facilitators.**

**Practices largely thought that external facilitation was valuable to achieve the level of transformation needed for a practice to operate as a HCH.** Where they were critical, it was that they didn't get enough support, or they were frustrated with the high turnover of practice facilitators. For future reforms, **more resilient approaches for delivering practice facilitation** are needed.

Practice facilitators require specific knowledge and skills, which go beyond having experience as a primary care clinician or having worked in primary care. Building these skills within a local workforce is possible but challenging. There are advantages in placing practice facilitation roles with PHN-based teams responsible for supporting practices in quality improvement. For example, this can ensure that related PHN initiatives can be leveraged. However, there is also a need for facilitators with more advanced skill sets who can be consistently available to support practice transformation. Advanced level facilitators should be available to work directly with practices in transformative change but should also work collaboratively with PHN-based facilitators. This will help integrate facilitation with PHN initiatives and build the skill set among the local PHN workforce. For future large-scale initiatives, **practice facilitation provided directly to practices should be undertaken by a mix of staff within advanced facilitation skills, located in meso or national level organisations, and staff embedded within PHN-based teams responsible for supporting practices in quality improvement.**



**Bundled payment:** The bundled payment was both a motivator and deterrent for practices to participate in the HCH trial. As described later, the economic analysis undertaken for the evaluation showed that the bundled payment resulted in a higher overall level of payment for practices compared with what they would have received under the MBS fee-for-service payments alone. However, practices entered the trial with different perceptions about the adequacy of the bundled payment. Some practices believed that the bundled payment offered greater certainty of funding, flexibility to deliver services in a different way and the ability to pay for otherwise “unfunded” work. For example, **feedback from Aboriginal Community Controlled Health Services (ACCHS) was that the bundled payment was a more viable and appropriate payment approach for these settings.** This partly reflects that ACCHS are typically offering a team-based approach in which there is much greater reliance on nurses, Aboriginal health practitioners and workers, and allied health professionals, and that these service providers are only partially and inadequately supported through MBS revenue. Additionally, the bundled payment offered greater predictability in revenue and opportunities to use funds more flexibly in addressing priority needs of practice populations.

Other practices perceived that the bundled payment offered less certainty compared with fee-for-service, that there was more work involved than what was covered by the payment, and that the payment wasn’t sufficiently “front-loaded” to account for the additional work required for patients upfront. Most practices considered that the payment for tier 3 (the highest) was insufficient for very complex patients. Some practices and GPs reported that they avoided enrolling these very complex patients. For future initiatives, **finer-grained tiers are required for a bundled payment to better reflect the complexity of patients assigned to each tier.**

Some practices found it challenging to work out how to distribute the bundled payment between GPs and the practice. **Guidance and tools are needed to help with practical implementation of payment reform among practices with different revenue sharing schemes for their GPs, and the information required to manage a bundled payment within a practice should be captured in the practice clinical management software.**

More generally, practices found it difficult to easily determine which services were covered by the bundled payment versus those could be charged separately. **Future initiatives involving bundled payments should be clearer about what is included in or is outside of the bundle** rather than GPs and practices trying to interpret this, such as determining what is related to a patient’s chronic conditions versus what is acute. These distinctions may also not be required, and instead handled through **payment design.** **For example, a blended payment may be used in which a modified fee-for-service payment rate is used alongside a bundled payment that covers planning, coordination, and other chronic disease management activities.**

**Patient enrolment:** The HCH trial involved voluntary enrolment of patients to a practice and a GP. Patients with long-standing relationships with their GPs who also trusted their GP were prepared to enrol. However, patients need a clear value proposition to commit to an initiative. Practices struggled with articulating this, sometimes because the practice principals thought that they were already providing good quality care and/ or their approach was consistent with the HCH model, and it was hard to identify what additional benefits patients would receive under the new model. Practices also reported that sometimes nurses lacked



confidence in explaining the model to patients and delivering a clear and consistent message about its goals. Consequently, some patients reported being confused by staff's explanations of the model. Practices reported that distilling the goals of the model into benefits that patients could understand and getting the GPs to talk to patients about the model were effective in recruiting patients. Practices could benefit from **practical guidance on how to succinctly communicate the benefits of an initiative to patients and their carers/families and address their concerns**. In some instances patients didn't enrol or withdrew early because they were concerned that they would not see their GP on a regular basis. This potentially requires further information for patients and a cultural shift from receiving care from an individual at the practice versus a team. For future initiatives, **time should be factored in for patients, families, and carers to build confidence in a wider primary care team**.

Various strategies to inform patients of the advantages of enrolment were implemented by practices, with the support of PHN staff. Other than advice from the patient's GP, the more successful initiatives involved information sessions for groups of patients at which GPs, practice staff and PHN staff described how the program would work, its objectives, and the advantages for patients, and where patients could ask questions and have them answered. **A communication strategy explaining the benefits of enrolment to the wider practice population would have complemented these initiatives and should be incorporated into future initiatives around voluntary enrolment**.

Practices did not approach some patients flagged as potentially suitable by the RST mainly because they thought it would not be financially viable to do so based on the patient's past attendance patterns. Practices generally approached patients to enrol who were already motivated to manage their health and who they thought were activated or were willing to try new things. For future initiatives, **strategies are needed to recruit patients who are less motivated, activated and/or willing to try new things, and for whom the initiative may be most beneficial**.

Time was a major issue for practices in enrolling patients. Explaining the program, getting consent, assessing the patient's eligibility, creating a care plan, and registering patients on multiple platforms were time-consuming. Practices recommended that for similar programs in the future, **enrolment processes should be significantly streamlined, whereby relevant information is recorded once and used for multiple purposes**.

Services Australia (then the Department of Human Services) created a mechanism through which patients agreeing to be enrolled could be flagged through the Health Professional Online Services (HPOS) system. Ideally, **suppliers of practice clinical management software should also have been engaged before the start of the trial to create enhancements to their systems** for HCH enrolees to be simultaneously flagged in practice clinical management software and visible to practice staff. Some software suppliers implemented these enhancements, but much later in the trial.

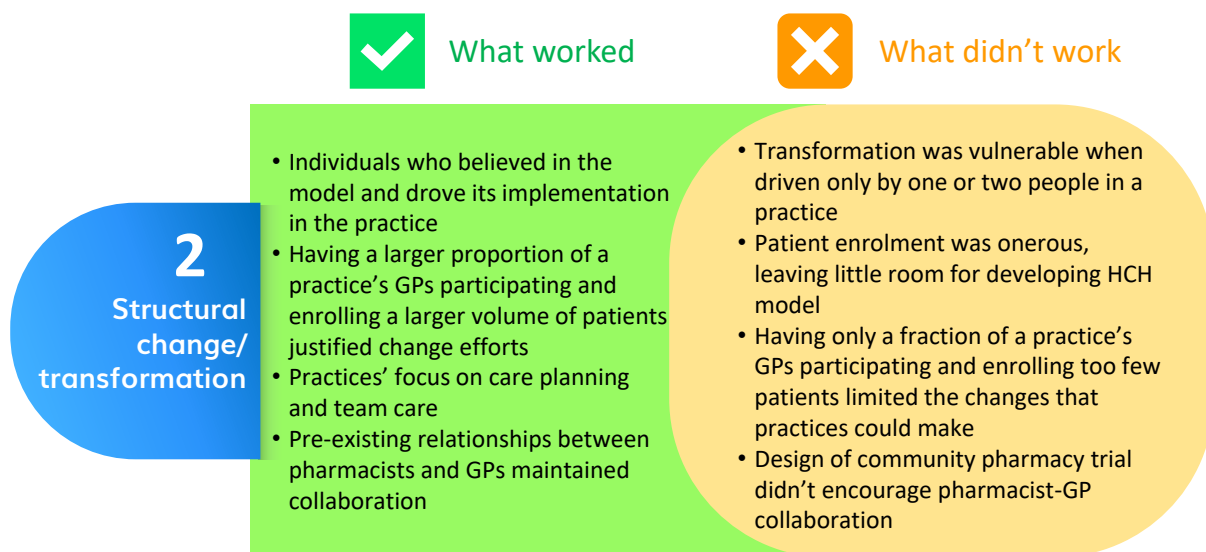
**Referrals to community pharmacies:** Patients referred to community pharmacies as part of the trial were referred from 40 of the 165 HCH practices that enrolled more than one patient. Therefore, 125 practices did not refer any patients. Many practices reported barriers to referring patients to community pharmacies. These related to the time investment to educate and engage community pharmacies, problems with shared care planning software, needing

to be convinced about the benefits that pharmacists offered to their patients, limited patient understanding of the model and the small number of HCH patients in their practice. Some practices already had access to a clinical pharmacist in the practice through other arrangements. Other practices had arrangements with community pharmacists pre-dating the trial.

Other key reasons that practices didn't refer patients were lack of awareness of the community pharmacy trial and concerns about community pharmacists working outside of their scope of practice or providing unnecessary services to patients.

Where pharmacies had a long-standing relationship with a HCH practice, they tended to have more referrals. This was particularly the case where the pharmacy was within the same building or next door to a practice. However, there were instances where practices referred to a pharmacy that they didn't have a previous relationship with, and this was made possible by pharmacists proactively contacting practices in their area to let them know about their services and the benefits for patients. Several PHNs played an important role in fostering communication between HCH practices and community pharmacists, for example in facilitating forums.

## 2. Structural change/ transformation



**Leadership and change management:** Amongst the practices participating in HCH, there were practice leaders who were strong believers in the model and initiated involvement in the trial. While this was effective in launching the initiative in these practices, different leadership was potentially needed at different stages of implementation. For example, some practices withdrew in the middle of the trial because they didn't have the leadership necessary to drive transformation. Leadership was also unstable in many practices because it came from only one or two people.

Overall, there were variable capacities amongst practices to undertake and manage significant change. This reflects that practices are busy places with little "absorptive capacity" for innovation, mostly due to their small size. Also, practices operate in a culture of fee-for-service as the main payment mechanism and therefore, a large shift in mental models

was required for the scale of change that HCH entailed. Many practices were not ready for this scale of change.

The section *Further analysis of HCH program implementation* (p. 25) details these implementation challenges.

**Practice quality improvement strategy:** For many practices, the initial part of the trial was taken up with installing IT and processes associated with enrolling patients, with very little time for developing their model of care. Most practices turned to working on their models after patient enrolment closed. Practices reflected that they needed time before enrolling patients to set up as a HCH, particularly for practice staff to jointly identify changes they would make and commit to them.

Another issue was that the HCH trial allowed the model of care to be adaptable to local circumstances; there were very few components that were prescribed. While this is a desirable attribute of any intervention, it takes longer for practices to make the necessary adaptations, and this time wasn't available in the HCH trial. Adaptability of the model also resulted in practices focussing on different initiatives, making it difficult to identify the extent to which the model was implemented.

In some practices, practice leaders believed their practice was already operating as a HCH and made no changes to their model of care. PHN practice facilitators observed that many of these practices had a limited understanding of the model and disagreed that their models aligned with the HCH principles.

**For future initiatives, a minimum set of requirements or standards for the operation of the initiative should be established, as well as a process to assess that these requirements or standards are in place (for example, through an ancillary accreditation process specific to the initiative).**

Patients' preferences and values are central to patient-centred care.<sup>4</sup> While involving patients in setting priorities at a practice level wasn't an explicit requirement of practices participating in HCH, it can result in priorities that are more aligned with patient-centred care principles than when health professionals alone set priorities.<sup>5</sup> "*Getting regular and actionable input from patients and families on all care delivery issues, and incorporating their feedback in quality improvement activities*" was practices' lowest scoring item on the HCH-A tool (a tool for practice's to assess their capabilities as a HCH) at the beginning of the trial (item 26, *Measurement of patient centred interactions*). It had also only improved marginally by the end of the trial (upward movement of 0.98 units [95% CI 0.03 to 1.94] for practices that completed the tool both at the beginning and at the end of the trial). Also, in case study interviews, no practice mentioned involving patients or their carers/families in identifying priorities for practice change. These findings suggest an opportunity to **develop the capacity of practices to engage patients, families, and carers in designing and implementing change.**

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<sup>4</sup> World Health Organization. (2015). *WHO global strategy on people-centred and integrated health services: interim report*. <https://apps.who.int/iris/handle/10665/155002>

<sup>5</sup> Boivin, A., Lehoux, P., Lacombe, R., Burgers, J., & Grol, R. (2014). Involving patients in setting priorities for healthcare improvement: a cluster randomized trial. *Implementation science* : 15, 9, 24.

The most significant challenges for many practices in following through with their model of care changes were, first, having too few patients enrolled, and second, having only a fraction of their GPs participating in HCH. Having too few patients resulted in insufficient flexibility with the bundled payment to introduce new roles or make any significant changes to patient care. Not having most of the GPs in the practice participate made it hard to implement practice-wide changes. For future similar reforms, **agreements with practices should include targets for patient and GP participation, set to reflect the need to achieve an appropriate scale and the need for a whole-of-practice involvement and commitment to change.**

The most common changes that practices reported were improved care planning, more regular recalls of patients to undertake key chronic disease measures and clinical reviews, priority access (usually to a HCH nurse), ability to call the practice for any needs or issues arising (for example, repeat prescriptions, specialist referrals).

Many practices also focussed on and reported improvements in team care. Team care was reinforced by routine team meetings or “huddles” and preparing patients for the team approach. GP lack of willingness to delegate care responsibilities (due to mindset or risk management) was a barrier for some practices in enhancing team-based care. Key enablers for team-based care, which were also barriers when not present, were staff engagement with the model, patients’ willingness for their health to be managed by other members of the team and their awareness of the goals and mechanisms of the HCH model, and use of the practice’s shared care software by external providers.

**Increased flexibility in deploying resources:** Practices that enrolled more patients were more likely to report increased flexibility in deploying practice resources. Nevertheless, some felt that regardless of the number of patients, the financial model didn’t allow them to provide more services or hire additional staff.

Participating pharmacies were also challenged by having too few patients. Of the 95 pharmacies that consulted with more than one patient, more than half consulted with less than five patients, and on average, each consulted with 16 patients.

**Staff experience:** Staff experience varied, which is not surprising given the variations in the level of change practices implemented. Only about one third of staff who had been employed at their practice before the introduction of HCH reported their role had changed due to the practice’s participation in the program. Staff tended to rate aspects of their work more positively in the final survey compared with the baseline, although this difference was not statistically significant.

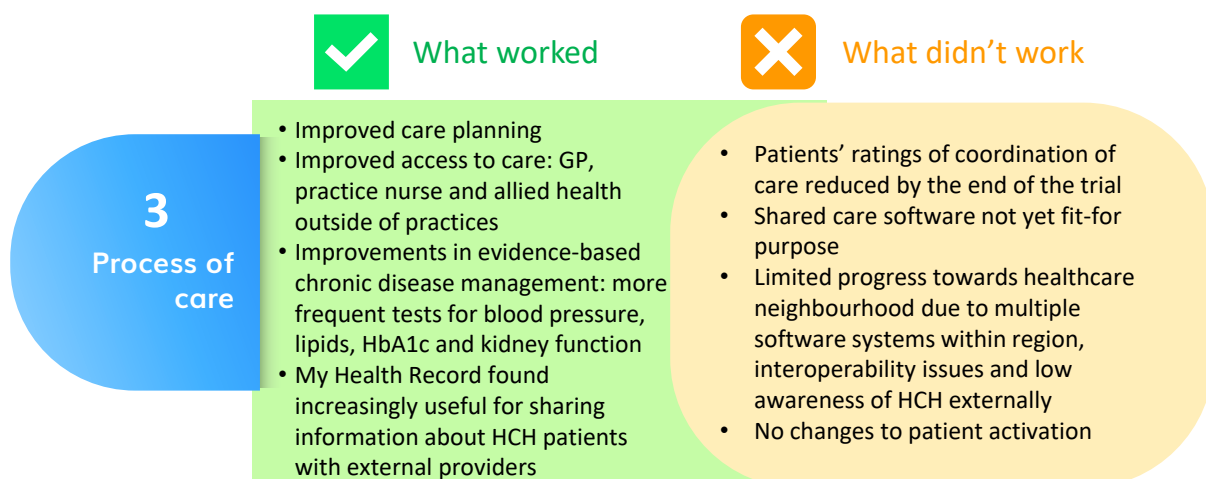
**Increased collaboration between pharmacists and GPs:** In a few instances pharmacists reported that the trial enhanced their communications with practices. Others struggled with communicating with GPs and sharing care. They felt that there wasn’t enough trust established through the trial to effectively collaborate with GPs.

Where pharmacies had pre-existing relationships with HCH practices, they also reported receiving acknowledgment from the GP/practice about their medication recommendations for a patient. Otherwise, pharmacists received no feedback and didn’t know whether their recommendations had even been read.

The literature emphasises trust between GPs/practices and pharmacists for successful referral of patients and shared care. The HCH model didn't involve embedding pharmacists in practices nor promoted a relationship between a single pharmacy and a HCH practice. While it is important for patients to have choice, the model also meant that practices had to maintain relationships with multiple pharmacies, diluting opportunities for establishing trust.

While some practices felt that pharmacists had a vital role in patient care and chronic disease management and saw value in the community pharmacy trial, many were unaware of the trial. GPs identified "patient education" as the top benefit provided by community pharmacists to patients. "Education and support" were also identified by GPs as the top ways in which community pharmacists' expertise could be better used towards improving the care for HCH patients and other patients with chronic illnesses. The literature also suggests that **collaboration between GPs and pharmacists could be enhanced through an initial focus on establishing clear roles and responsibilities and having these agreed between the practice and pharmacist.** Collaboration can then be further enhanced by **maximising opportunities for interactions that build trust between the teams.**

### 3. Processes of care



**Care planning:** Care planning was improved through the HCH trial. HCH practices, particularly ACCHS clinics, reported more comprehensive care plans, greater engagement with patients in developing the plans, and enhanced communications between team members, including visiting services.

Practices reported still supplying patients with a paper-based copy of their care plan despite the availability in some practices of a patient portal to access the plan. Some practice staff perceived that only a proportion of patients were keen on accessing their care plan through a portal/shared care planning tool, and identified barriers to greater uptake, including comfort with technology (for example, due to older age) and low health literacy.

**Access:** The evaluation data suggest improved access to services for HCH patients following enrolment. This includes access to their GP and a practice nurse, and to allied health services outside of the practice.

**Coordination and shared care:** Although practices and practice staff reported improvements in coordination of care over the course of the trial, patients' ratings of coordination of care decreased in the last survey compared with the first survey.

Shared care with other external providers generally didn't change during the trial. While practices supported the idea of tools for communicating patient information between providers, the wide range of software tools used within regions created interoperability issues and led to a lack of familiarity with the systems used amongst providers. The uptake of shared care planning will accelerate when most health care providers have access to and actively use shared care plans. **This is more likely to occur where a common platform for shared care planning is available or when shared care planning software meets interoperability standards that allow relevant data on plans to be communicated between platforms.**

Lack of awareness of HCH and the small scale of patients and GPs participating also constrained the use of shared care software by external providers. These issues are consistent with the finding from the literature that electronic information exchange is a necessary precondition, although not sufficient, for successful care collaboration through a medical or healthcare neighbourhood. In future initiatives designed to improve shared care planning, strategies are required to **raise awareness about the initiative among health care providers that general practice works closely with (for example, allied health providers, hospitals, community pharmacists),** and training these providers on how to access the plans.

Over the course of the trial, there was an increase in practice ratings of the usefulness of My Health Record for sharing information about HCH patients with external providers. Close to half of the practices reported a moderate or significant increased use of My Health Record since the trial start. This suggests that **care plans could be uploaded to My Health Record, which is the most widely used, accessible and secure record available to patients, GPs and primary care clinicians and other health service providers.** The major limitation of My Health Record in its current manifestation is that documents that are uploaded are static. There is limited capacity to facilitate communication between diverse service providers and limited functionality to allow patients, GPs, and others to track progress against patient goals set out in the plans. **Ideally, My Health Record would be enhanced to provide additional functionality that better matches what is required for shared care planning.** In the meantime, **better systems for facilitating shared care planning need to be supported, which integrate with My Health Record.**

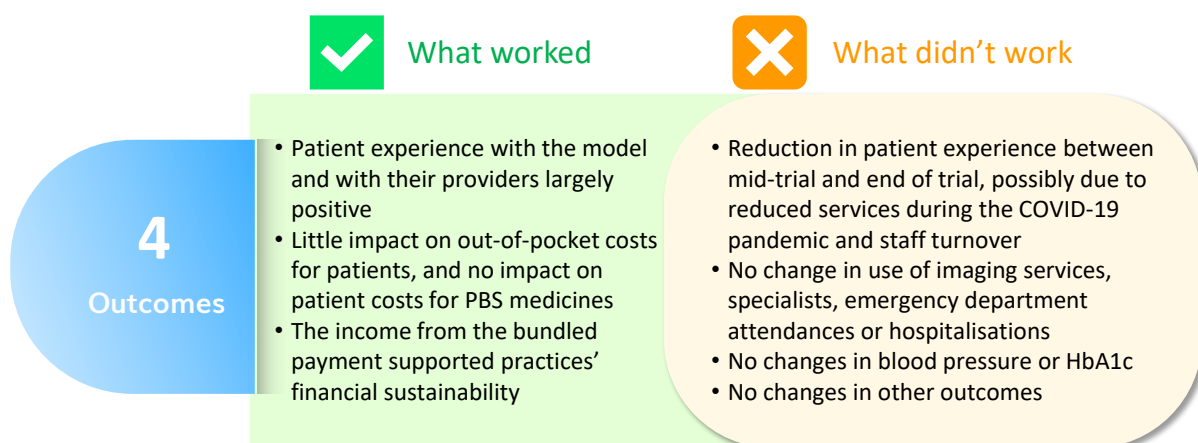
**Organised, evidence-based chronic disease management:** Improved care planning and access led to some improvements in evidence-based chronic disease management. Specifically, for HCH patients there was an increase in the frequency of clinical measures relevant to chronic illness management in the two years following enrolment, and these were maintained at a higher frequency than for comparator patients. These included measurements for blood pressure, lipid tests, HbA1c and kidney function tests. This finding was corroborated by other analysis that showed that in the period following enrolment, HCH patients had slightly greater numbers of MBS claims for pathology tests than comparator patients and significantly higher number of claims for HbA1c tests than comparator patients. Also, a larger proportion of HCH patients than comparator patients received an annual influenza vaccination.



**Patient activation:** The HCH model focussed on patient activation (patients' knowledge, skill, and confidence to self-manage their chronic conditions) as a key goal of GP and practice staff engagement with patients. In turn, activation aimed to improve patients' adherence to treatment and behavioural changes, hypothesised to lead to better patient outcomes. However, practices' uptake of this component of the HCH model were patchy. **Strategies to enhance the capacity of GPs and practice staff to engage with patients in ways that achieve higher levels of patient activation are needed.** These may include **more active training** (for example, involving role plays with others), in which practitioner skills are developed and refined, and **PHNs may be able to support practices in measuring patient activation and providing feedback** on practices' improvement efforts.

Amongst patients who were surveyed at three time points throughout the trial, the level of their activation improved, but this was not statistically significant. Patients enrolled in HCH possibly started with a higher level of activation than patients with chronic disease in the general Australian population.<sup>6</sup> This was corroborated by data from practice surveys and interviews, where practices reported that they tended to enrol patients who were already at a reasonably high level of activation. **Strategies to work with less activated and engaged patients, including those from vulnerable groups, should be developed, evaluated, and shared between practices.**

## 4. Outcomes



**Improved experience of primary health care:** Through the patient survey, most patients reported they were satisfied that their care was well organised, that the doctor or nurse thought about their values, beliefs, and traditions when they recommended treatments and that they were shown how what they did to care for themselves influenced their condition. Features of care that patients reported occurred less commonly included that they were encouraged to attend programs in the community that could help them, that they were given a written list of things they should do to improve their health, that they were contacted after a visit to see how things were going and that they were asked how their visits with other doctors were going.

<sup>6</sup> Consumers Health Forum of Australia. (2019). *Patient Activation in Australians with Chronic Illness – Survey Results*.  
[https://chf.org.au/sites/default/files/20191030\\_rpt\\_patient\\_activation\\_survey\\_report\\_final.pdf](https://chf.org.au/sites/default/files/20191030_rpt_patient_activation_survey_report_final.pdf)

There was no significant change between the first and second surveys in patients' perspectives of the receipt of patient-centred care and cultivation of self-management behaviours. However, between the second and final survey there was a small but statistically significant deterioration. During interviews, patients identified possible reasons for this: the **COVID-19 pandemic**, which reduced services that were available to them previously; and **staff turnover**, which also meant a reduced level of service when the staff member wasn't replaced, or they had to rebuild relationships with new staff.

The community pharmacists interviewed generally considered that the trial was well received by their patients, and in their view, patients' compliance with and general knowledge of their medications improved.

**Reduced avoidable health care use:** HCH patients had similar numbers of claims for **specialist consultations and imaging services** to comparator patients in both the pre- and post-enrolment periods.

Similar levels and patterns of **hospital and emergency department use** were seen in HCH and comparator patients in both pre- and post-enrolment periods, in terms of proportions presenting to emergency departments, admitted to hospital (all-cause, emergency admission, potentially preventable hospitalisations), total number of bed-days, and weighted intensity of admission episodes (that is, National Weighted Activity Units).

For patients in the community pharmacy trial, according to self-report, they had fewer hospitalisations in the six-month period before their last review<sup>7</sup> compared with their initial review, but this was not statistically significant.

**Delayed progression and prevention of disease:** Among HCH patients with type 2 diabetes who had records of blood pressure and HbA1c tests, the proportion of patients **achieving targeted blood pressure** (<130/80mmHg) and **targeted glycaemic control** (HbA1c ≤7%) within the two years following enrolment did not change.

More than half of the HCH patients used five or more unique medicines before enrolment. This remained consistent following enrolment and it was similar to comparator patients. For patients in the community pharmacy trial, patients' medication adherence score improved, as did pharmacists' belief of patients' adherence to their medication regime.

Among patients who had not used residential aged care services before enrolment, small and similar proportions of both HCH and comparator patients had an **entry to an aged care facility** in the follow-up period.

Patterns of **serious cardiovascular events and mortality** in both HCH and comparator patients were comparable, in both the proportions and length of time from enrolment to the event.

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<sup>7</sup> The number of follow-up reviews varied by patient.



**Improved health-related quality of life:** The proportion of patients who rated their health as **very good or excellent** on a general question about their overall health increased in the mid-point and final patient surveys compared with the baseline, but only the increase at the mid-point survey was statistically significant.

The proportion of patients who rated their mental and emotional health as **very good or excellent** on a general question about their mental and emotional health decreased in the mid-point and final patient surveys compared with the baseline, but both were not statistically significant reductions.

Using a health-related quality of life tool that includes subcomponents related to mobility, self-care, usual activities, pain and discomfort, and anxiety and depression (EQ-5D-5L), there were no changes in patients' **health-related quality of life** over the course of the trial.

**Sustainability of health care costs:** For patients, the HCH program had little impact on out-of-pocket costs for Medicare services, and no impact on patient costs for PBS medicines.

On average, the income from the bundled payment supported practices' financial sustainability. That is, while fee-for-service income for patients enrolled in the trial dropped, this drop was more than replaced by the bundled payment. However, as discussed previously, although not the costs of set-up were not quantified by the evaluation, many practices considered the \$10,000 incentive grant insufficient to prepare for the trial and transition to a HCH.

For government, HCH increased overall expenditures on Medicare services, despite significant falls in fee-for-service payments. This was due to outlays related to the bundled payment. There was no impact on government expenditures on PBS medicines or hospital admissions.

Overall, the government spent \$84.7 million on the HCH trial, including the incentive grants and bundled payments.

Due to the very low number of referrals, only a small proportion funds allocated to the community pharmacy trial were used. The impact of community pharmacy on quality use of medicines and cost savings arising from this could not be determined due to low participation in the trial.

## Reasons for the lack of change in key outcome measures

A key issue for the HCH trial was that changes practices implemented during the trial lacked **fidelity** to the original aspirations for HCH as articulated by the PHCAG.<sup>8</sup> That is, while some practices introduced comprehensive changes to chronic disease management, others made few changes. Lack of change was mostly due to low levels of patient enrolment and/or relatively low levels of GP participation in HCH, resulting in insufficient scale to allow meaningful changes to be made.

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<sup>8</sup> Primary Health Care Advisory Group. (2015). *Better Outcomes for People with Chronic and Complex Health Conditions: Final Report*.  
<http://www.health.gov.au/internet/main/publishing.nsf/Content/primary-phcag-report>

Improvements in chronic disease management in a patient population such as the HCH cohort are expected to impact the course of chronic illnesses over the medium- to long-term. The follow-up periods for patients in the HCH trial were a mean of 20 months for hospitalisation outcomes and 32 months for other outcomes. It is likely that these follow-up periods were too short to realistically detect changes in the trajectories of chronic illness and their consequences.

The comparative analysis was based on observational data, and selection biases may be present, both in the selection of practices to participate in the trial and in practices' selection of patients to enrol in the trial. The comparative analysis undertaken for the evaluation used methods (matching HCH patients with comparator patients based on a propensity score) to address observed factors that may bias the estimate of effects. However, there may be unobserved factors at play. For example, as suggested by qualitative data and as shown by the baseline patient activation scores from the patient survey, GPs and practices selected patients who were more activated. This means that the opportunity for improvements in outcome measures were more constrained for the HCH participants, who may have already been receiving and participating in chronic disease management that was closer to "best practice". Additionally, HCH patients were generally patients who had a long association with their GP and practice, suggesting that continuity of primary care for these patients was already higher than other patients. Therefore, HCH patients may have already been benefiting from the superior outcomes that result from continuity.<sup>9,10</sup>

The comparator patients were selected to be as similar as possible to the HCH patients. The estimates of effects therefore do not necessarily reflect the potential for change in chronic disease management and outcomes in the broader primary care populations, which – compared with patients in the trial – include patients with more complex conditions and patients with less complex conditions.

Achieving changes in some of the outcomes intended for the model requires the involvement of the broader healthcare neighbourhood, that is, health care providers external to the practice. Outcomes such as reduced emergency department attendances and hospital admissions may have needed engagement and incentives for other providers and stakeholders across the health system to work with general practice to achieve them. The trial included a bundled payment, which was essentially intended to stimulate changes to chronic disease management within practices, and a community pharmacy component, which was focussed on achieving engagement between practices and community pharmacies, but broader engagement of the health neighbourhood may be required.

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<sup>9</sup> Pereira Gray, D. J., Sidaway-Lee, K., White, E., Thorne, A., & Evans, P. H. (2018). Continuity of care with doctors—a matter of life and death? A systematic review of continuity of care and mortality. *BMJ Open*, 8(6), e021161.

<sup>10</sup> Barker, I., Steventon, A., & Deeny, S. R. (2017). Association between continuity of care in general practice and hospital admissions for ambulatory care sensitive conditions: cross sectional study of routinely collected, person level data. *BMJ*, 356.

## Conclusion

The HCH trial achieved improvements in patient access and chronic disease management processes, but no significant change in patient experience, health care use outside of primary care or health outcomes. Conclusions about outcomes need to be interpreted in the light of the limitations described above, in particular, that implementation of the HCH model amongst the participating practices was patchy, limited by scale, and not to the extent originally envisaged by the PHCAG. Additionally, there was limited capacity to detect changes in outcomes given the short length of the trial.

Overall, the evaluation was not able to reach a conclusion about the value-for-money of the program. Nevertheless, the trial yielded important lessons about voluntary enrolment, risk stratification, bundled payment, processes to support practice transformation, shared care planning, integrating community pharmacists amongst general practice care teams and evaluation, which should be considered for future reform of primary care. These lessons are described at the end of this report.

As patchy implementation of the model amongst the participating practices limited its success, the next section provides a more detailed analysis of implementation.

# Further analysis of HCH program implementation

HCH was modelled on the PCMH,<sup>11</sup> combining the foundational elements of primary care – comprehensive, continuous, accessible first contact care, and coordinated<sup>12</sup> – with evidence-based disease management. It is a complex intervention and disruptive to practices, requiring enduring commitment to sustain and embed within routine practice. In the United States the concept originated in the late 1960s (for medically complex chronically ill children) and wasn't picked up by mainstream primary care until the late 2000s. Its take up in Australia has been more recent.

Before the HCH trial, several PHNs in Australia were introducing PCMH-like initiatives, and some practices were participating in readiness programs. Additionally, some practice leaders had exposure to bundled payments in other countries and generally had positive experiences with the approach.

In the interviews with practices at the beginning of the trial, practices were enthusiastic about the concept and referred to HCH as "the future of primary care". Amongst their motivations to join the trial were limitations of fee-for-service to effectively manage patients with chronic conditions and the emphasis of the model on patient activation and self-management.

Although some practices dropped out early, those that remained at the beginning of the trial, according to the *diffusion of innovations* theory,<sup>13</sup> were the *innovators* (those that had already begun readiness programs before the trial) and *early adopters* (those that recognised that HCH was "the future of primary care" and were interested in learning how to implement the model and potentially influence how it might work in Australia).

Diffusion is the process through which an innovation becomes the norm amongst members of a social system, in this case, general practices. Successful implementation occurs when a critical mass (20–40% of adopters as a rule of thumb) adopts the innovation, leading to a "tipping point" after which others eventually follow. Although the HCH trial with its target of 200 practices did not have a chance of achieving a critical mass amongst general practice in Australia (there are about 8,000 general practices),<sup>14</sup> there were many factors that meant it didn't achieve sufficient traction even amongst the group of practices that participated. These are described below, using the *Consolidated framework for implementation research*

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<sup>11</sup> Primary Health Care Advisory Group. (2015). *Better Outcomes for People with Chronic and Complex Health Conditions: Final Report*.

<http://www.health.gov.au/internet/main/publishing.nsf/Content/primary-phcag-report>

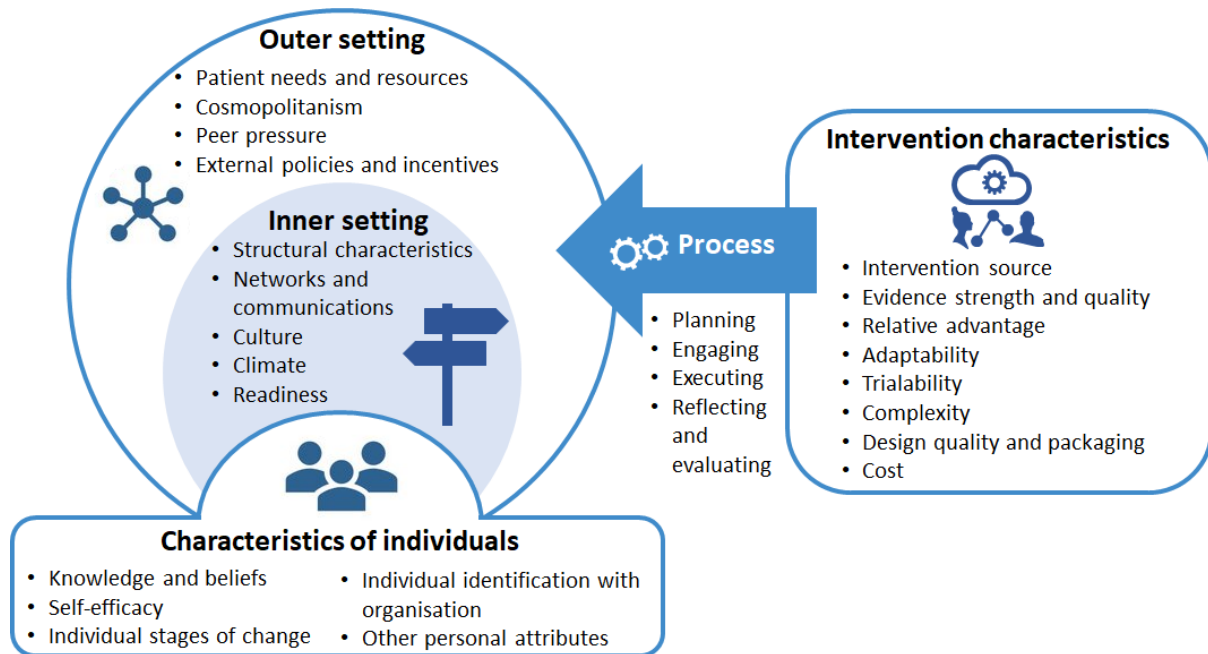
<sup>12</sup> Starfield, B. (1998). *Primary Care: Balancing Health Needs, Services, and Technology*. Oxford University Press.

<sup>13</sup> Rogers, E. (2003). *Diffusion of innovations* (5th ed.). Free press.

<sup>14</sup> Steering Committee for the Report on Government Services, 2021 *Report on Government Services 2020*. Productivity Commission. Table 10A.53. This was based on data supplied by Department of Health using linked data elements from MBS, Practice Incentive Payments and the National Health Services Directory.

(CFIR)<sup>15</sup> (Figure 3). The CFIR incorporates the diffusion of innovations theory and provides a framework for analysing the factors that led to HCH not getting traction across and within practices. It also offers a framework for analysing factors that helped implementation, which is important for future primary care reform.

Figure 3: Consolidated framework for implementation research (CFIR)<sup>16</sup>



### Intervention characteristics

A key issue for many GPs in the HCH trial was the *strength and quality of evidence* for the medical home intervention. Trials testing the effectiveness of the PCMH have been relatively recent and results are mixed.<sup>17</sup> Most evidence has been generated from studies based in the

<sup>15</sup> Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science*, 4(1), 50.

<sup>16</sup> Figure borrowed from Khan, S. (2021). Measuring context: balancing implementation research and practice. *Implementation in Action Bulletin*.

<sup>17</sup> Systematic reviews published at the time the HCH trial was designed provided mixed evidence around effect on outcomes of PCMH initiatives. These include:

- Jackson, G. L., Powers, B. J., Chatterjee, R., Bettger, J. P., Kemper, A. R., Hasselblad, V., Dolor, R. J., Julian Irvine, R., Heidenfelder, B. L., Kendrick, A. S., Gray, R., & Williams Jr, J. W. (2013). The patient-centered medical home: A systematic review. *Annals of internal medicine*, 158(3), 169-178.
- Peikes, D., Zutshi, A., Genevro, J. L., Parchman, M. L., & Meyers, D. S. (2012). Early evaluations of the medical home: building on a promising start. *The American journal of managed care*, 18(2), 105-116.
- Williams, J. W., Jackson, G. L., Powers, B. J., Chatterjee, R., Bettger, J. P., Kemper, A. R., Hasselblad, V., Dolor, R. J., Irvine, R. J., Heidenfelder, B. L., Kendrick, A. S., & Gray, R. (2012). Closing the quality gap: revisiting the state of the science (vol. 2: the patient-centered medical home). *Evid Rep Technol Assess (Full Rep)*(208.2), 1-210.

Subsequent reviews have generally been more positive but highlight that the quality of primary studies is relatively poor. Examples include:

- van den Berk-Clark, C., Doucette, E., Rottnek, F., Manard, W., Prada, M. A., Hughes, R., Lawrence, T., & Schneider, F. D. (2018). Do Patient-Centered Medical Homes Improve Health Behaviors, Outcomes, and

United States, with implementations across diverse institutional settings. With existing evidence not widely disseminated, ambiguous, or perceived as not relevant to Australia, HCH relied on GPs' own experiences of the concept in other systems and opinions of trusted peers. This worked in favour of HCH where those experiences or opinions were positive, and against where they were negative. Amongst the practices that participated, about half of the GPs within the practice participated, illustrating the divided views of GPs about the HCH intervention.

Some practices decided to build their own evidence by *trailing* the implementation with only a few patients in their practice. While trialability is generally a positive feature of an intervention, in the case of HCH, it was counterproductive, as a small number of enrolled patients meant that the initiative was confined to a small part of the practice. One consequence of this was that the bundled payment was insufficient to support significant changes to chronic disease management. Another consequence was that substantial changes could not be justified for such a small component of a practice's work.

Another issue for initiatives like HCH is that immediate benefits are not observable.

Practices do not perceive a *relative advantage* in their implementation. The HCH trial was an opportunity to both build evidence for HCH in Australia and show relative advantage for both patients and practice staff. However, it needed more time to achieve this, and a greater focus on "early wins".

If there is a desire in Australian primary care to grow medical homes, **the evidence for the PCMH concept needs to be compiled and lessons specifically for the Australian context drawn out and disseminated to primary care clinicians and practices through various channels.** The evidence should also draw out the **relative advantage of the model for practices and patients and clearly articulate the problems in primary care that the model can**

### Intervention characteristics



- **Evidence for PCMH fairly new** – GPs not convinced
- Complex intervention – **transformation challenging**
- **Trialable** by enrolling a few patients, **but defeated the purpose**
- **No perceived immediate relative advantage** for practices
- Program designed to be **adaptable, but possibly too much so** – inconsistent implementation of components by different practices

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Experiences of Low-Income Patients? A Systematic Review and Meta-Analysis. *Health Services Research*, 53(3), 1777-1798.

- Veet, C. A., Radomski, T. R., D'Avella, C., Hernandez, I., Wessel, C., Swart, E. C. S., Shrank, W. H., & Parekh, N. (2020). Impact of Healthcare Delivery System Type on Clinical, Utilization, and Cost Outcomes of Patient-Centered Medical Homes: a Systematic Review. *Journal of general internal medicine*, 35(4), 1276-1284.
- John, J. R., Jani, H., Peters, K., Agho, K., & Tannous, W. K. (2020). The Effectiveness of Patient-Centred Medical Home-Based Models of Care versus Standard Primary Care in Chronic Disease Management: A Systematic Review and Meta-Analysis of Randomised and Non-Randomised Controlled Trials [Review]. *International journal of environmental research and public health*, 17(18), 42, Article 6886.
- McManus, L. S., Dominguez-Cancino, K. A., Stanek, M. K., Leyva-Moral, J. M., Bravo-Tare, C. E., Rivera-Lozada, O., & Palmieri, P. A. (2021). The Patient-centered Medical Home as an Intervention Strategy for Diabetes Mellitus: A Systematic Review of the Literature. *Curr Diabetes Rev*, 17(3), 317-331.

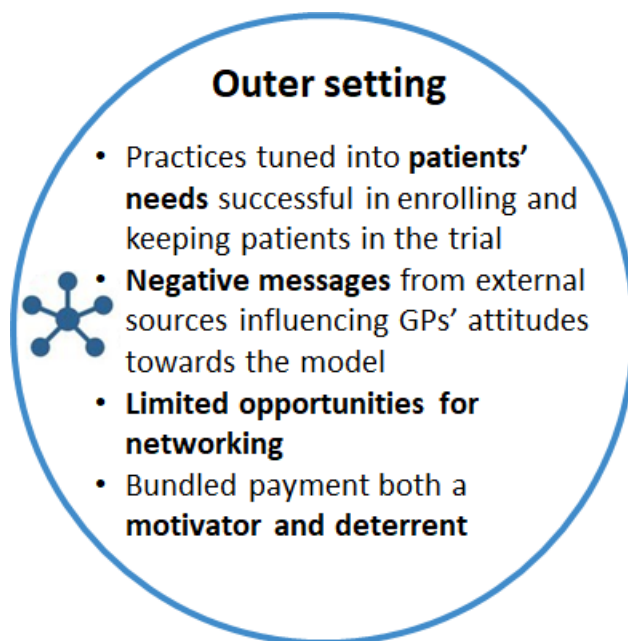
help to address, such as increasing rates of chronic disease amongst the Australian population.

Lastly, while the program was designed to be *adaptable*, allowing practices to develop their own models to meet local needs, adaptation took a long time, and some practices ran out of time to enrol patients. Also, adaptability meant that there was not a core set of initiatives common to all practices, making it difficult to identify the “dose” of the model offered by the practices that participated. As mentioned earlier, for future initiatives, practices should achieve a minimum set of requirements or standards for the operation of the initiative. The presence of these requirements/ standards could be assessed through an ancillary accreditation process.

## Outer setting

The outer setting includes the economic, political, and social context in which organisations operate. For HCH, the key outer elements included the characteristics of the populations that practices provide services to, national and local (PHN) policies and supports, and affiliations and peer networks of practices and individual staff within practices.

Attributes of the outer setting had mixed effects for the uptake and sustainability of HCH. *Patient needs and attributes* were central to HCH. Where practices were tuned into patients' needs, they were successful in enrolling and keeping patients in the trial, including managing patients' expectations about being solely looked after by their GP versus a team-based approach. However, practices tended to select patients who were already motivated to manage their health and who they thought were activated or were willing to try new things. For a wider rollout of similar initiatives, more work is needed on strategies to engage patients who are less motivated and for whom an intervention like HCH may be most beneficial. **This can be helped by public awareness campaigns targeting people with chronic disease, to communicate information in different forms and boost messages conveyed by practices.**



*“Cosmopolitanism” or external networking* worked negatively for practices in the HCH trial due to the dissenting views about the trial from medical professional organisations in particular. Negativity about the trial translated into practices withdrawing or only a fraction of GPs in a practice participating. GPs also commented that HCH lacked a “collegiate feel” compared with other initiatives they had been involved in previously. Efforts to create this sense of community earlier would have been helpful.

Due to the low number of practices implementing PCMH before the trial, *peer pressure* had a limited role in HCH uptake. Peer pressure is usually a motivator for the “late majority”, that is, organisations implementing after the “tipping point”, which is the critical point beyond which



a significant change takes place. HCH implementation did not reach a tipping point amongst Australian general practice.

The practice incentive and bundled payment were *external policies* that attracted practices to participate. However, as practices gained a greater awareness of expectations of them during the trial, and the details of how the bundled payment would work, some practices were deterred from further participation. In future, costs of participation would be reduced by paying attention to ensuring processes (enrolment, risk stratification and shared care planning) are better integrated with practice clinical management systems and that these operate smoothly. Additionally, incentive grants should more realistically reflect the costs of preparing for implementation.

Where bundled payment is considered, finer-grained payment tiers should be considered, particularly reflecting the potential needs of very complex patients. The payment approach could also recognise that there will be additional costs at the time of a patient's enrolment.

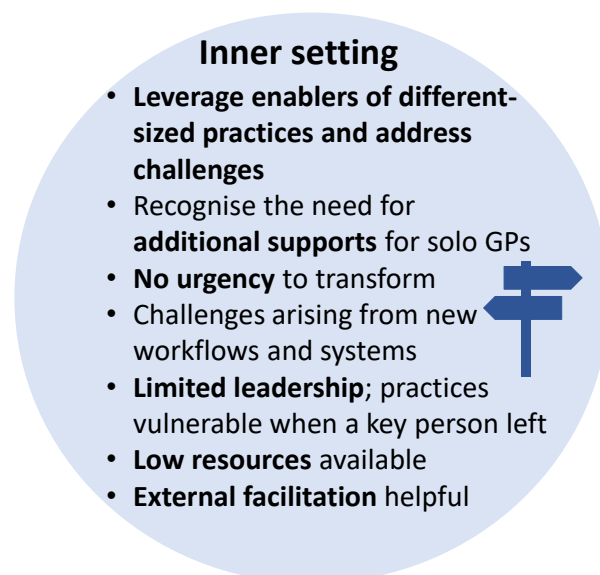
*Benchmarking* reports were developed for participating practices. These could be a motivating factor and a stimulus to improving chronic illness processes. In future, more timely and frequent feedback to practices would be useful. Feedback should include the capacity to flag patients in which care processes may be falling short of relevant standards, so that practices can better address these gaps in chronic illness care.

## Inner setting

The inner setting includes the structural, political, and cultural features of organisations.

*Structurally*, different sized practices faced different challenges. While larger practices had more staff and infrastructure to implement the model, they also took more time for implementation due to the need to get a larger group of people engaged and a wider set of processes to change. Smaller practices had more flexibility to make and implement decisions, but they had less resources and were more greatly affected by turnover of key staff compared with larger practices. For practices of any size, barriers should be identified and addressed, and enablers leveraged to facilitate change.

Solo GP practices within the trial tended to withdraw at a greater rate than other practice types. While solo GP practices face greater challenges in becoming a medical home, the





literature shows that it is possible with appropriate supports, such as from nurses and medical practice assistance, and access to practice redesign expertise.<sup>18</sup>

Teams enhance the **networks and communications** within an organisation and are an important ingredient for successfully driving change. In the case of HCH, it was also one of the components of the intervention itself. **Practice staff turnover impacted the trial, and more effective mechanisms to help teams be more resilient are needed for similar large-scale initiatives.**

For many practices in HCH, **culture** around patient-centred care was an enabler and one of the key motivations for practices to join the trial. However, more work was needed for practices to become truly patient centred.

In terms of **implementation climate**, there was no great urgency that HCH practices faced to implement the initiative. For many practices, HCH was not solving an immediate problem but enhancing patient-centred care. Coupled with busy workloads, this meant that HCH implementation wasn't the highest priority for practices. Other challenges in the implementation climate included the introduction and normalising of new workflows and systems, addressing the reluctance of some GPs to delegate responsibilities to other members of the primary care team, high additional workload for some staff (particularly nurses), and limited time to reflect and evaluate. Factors that promoted implementation included more explicit rewards for additional workload, including non-financial rewards such as empowerment and increased stature and respect. In the practice survey, staff reported that the most rewarding aspect of the model was working towards improved health outcomes for patients, along with the ability to build rapport and establish stronger relationships with patients.

The extent to which practices set goals for their implementation and measured their progress was unclear, but many practices reported prioritising enhanced data collection and data quality in the initial stages of implementation. Benchmark reports provided to practices were helpful but could have been timelier. Also, creating opportunities for practice staff to have input to their content would have made them more useful. A change in the focus of reports may have been appropriate at different stages of implementation. As mentioned previously, the reports could provide a more direct prompt to address issues if they allowed staff to flag patients in which care standards were not being met.

Practices in the HCH trial were at various stages of **readiness for implementation**. Some practices had already participated in PCMH readiness programs before the trial and were better prepared for enrolling patients and identifying changes they wished to achieve. However, many were not well prepared. Allowing time for practices to prepare for change before "going live" with an initiative would be helpful. This is especially important for general practices that usually have very little "absorptive capacity" for innovation, mostly due to their small size. **Our conclusion is that a preparatory period of six to 12 months would have been**

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<sup>18</sup> Fifield, J., Forrest, D. D., Martin-Peele, M., Burlison, J. A., Goyzueta, J., Fujimoto, M., & Gillespie, W. (2013). A randomized, controlled trial of implementing the patient-centered medical home model in solo and small practices. *Journal of general internal medicine*, 28(6), 770-777.

desirable, combined with a process to ensure practices had achieved a minimum set of requirements or standards to operate as a HCH before enrolling patients.

**Leadership** is a marker of readiness and was present in most practices to introduce the initiative into the practice. However, practices may have benefitted from different types of leadership at different stages of implementation. For example, some practices withdrew in the middle of the trial because they didn't have the leadership necessary to drive transformation.

Leadership was also unstable when it came from a single person rather than a team. **A team comprising a GP, a nurse and a practice manager is potentially most effective. Members of this team should be trained and have protected time to plan and work on implementation.**

Adequate **resourcing** also impacted the change process. As small businesses, practices typically have few spare resources, and in the case of the HCH implementation, were particularly cautious about investing in the model due to uncertainty about its future in Australian general practice. The incentive grant was helpful for practices, but as previously discussed, in future initiatives this type of grant should more realistically reflect the initial costs of preparing for implementation.

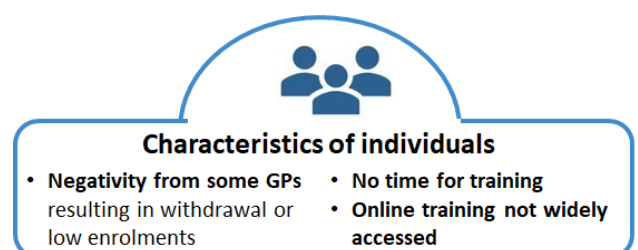
Practices had access to **information and knowledge** about HCH through the online training modules and PHN practice facilitators. The training modules were not widely used, and future initiatives may consider shortening any online training, making them more practical, tailoring some of the content for different types of practice staff, and offering other modes of training.

**External facilitation** can help with readiness. In the HCH trial this was provided by PHNs. It was generally well received by practices and important for future initiatives. However, the high turnover in PHN practice facilitators suggests that more resilient approaches for delivering practice facilitation are needed.

For future large-scale initiatives, **implementation science can help to systematically identify and address barriers to implementation and leverage enablers, and consider system-wide and contextual factors in addition to organisational issues and attitudes and behaviours of individuals.**

## Characteristics of individuals

**Individuals** within practices involved in the HCH implementation were GPs, nurses, other clinical staff, practice managers and administrative staff. GPs' attitudes towards the HCH concept, particularly the bundled payment, were a key issue, and sometimes negatively impacted the progress of implementation. Addressing factors related to the intervention and reworking the bundled payment to reduce risks for general practices are keys to addressing GPs' attitudes.



**Multifaceted strategies are required to address the understanding, attitudes, skills, and confidence of staff in participating practices.** These include the type of training opportunities

described above together with greater opportunities for peer-to-peer learning and re-enforcement.

### Process of implementation

A longer lead time for practices to prepare, define and implement their model of care before enrolling patients would have helped the *process of implementation*.

Lack of time also limited practices' ability to reflect on and evaluate their implementation of HCH. Separating implementation of the model and enrolment of patients would have created more space for practices for evaluation and reflection.



- **Time** needed to plan and define model
- In addition to external facilitation, clinical champions helpful
- Limited time for **reflection/** evaluation

As discussed, many of early frustrations with implementation would have been avoided if processes related to enrolment, risk stratification and shared care planning were better integrated with practice clinical management systems, there were relatively simple steps for practices to implement this functionality, and that once implemented the processes operated smoothly without the need for significant "manual" inputs. This is challenging given the diversity of practice clinical management systems and ancillary applications used by general practices and ACCHS, and would require early engagement of software vendors.

External change agents were enablers for practices but could be enhanced in the ways described previously. Practice facilitation together with a network of clinical champions similar to that established for the HCH trial would be important for future initiatives.

# Key lessons for primary health care reform

Important lessons for primary health care reform can be drawn from the HCH trial. These are described below, organised into the following topics:

- Laying the foundations
- Engaging patients, carers, and families
- Change within practices
- Risk stratification
- Bundled payment
- Shared care planning
- Community pharmacy
- Evaluation

## Laying the foundations

1. For complex programs or innovations such as HCH, **allow adequate time for implementation**, including time for practices to prepare for change before going live with the initiative. Appropriate resourcing and support should be available during this preparatory period. The following should be considered:
  - a. Allow time for and invest in **developing and communicating information about the initiative to practices**. This should include providing information sessions about the initiative for interested practices. Leverage PHN knowledge of practices locally and relationships and use knowledge and relationships of national organisations and networks.
  - b. For practices agreeing to participate in future large-scale initiatives, **expectations should be established early**, ideally through comprehensive guidance and information and a formal participation agreement. The agreement should describe the enhancements practices commit to, and expectations about GP and staff engagement in the change process. Depending on the nature of the reform, the agreement could include **targets for patient and GP participation, set to reflect the need to achieve an appropriate scale, and whole-of-practice involvement and commitment to change**. There should be confirmation that **GPs within the practice have been adequately informed** about the initiative and that they support its implementation.
  - c. After agreeing to participate, practices will need **six to 12 months to prepare** for the types of changes that were envisaged for HCHs. This period should be used to address changes in administrative and clinical processes, engage GPs and practice staff, decide on changes to the model of care, decide how these will be implemented, and begin to inform and engage patients. Through this period, practices, GPs, and other practice staff will benefit from support from external facilitators, training opportunities and peer-to-peer exchange at the regional and national levels.

- d. **External facilitation is valuable for practices** in undergoing the level of transformation needed to achieve aspirations of the HCH model. Facilitation should be offered during the preparatory stage and in the following period, and **expectations about what it entails for practices and their staff be set out clearly in advance**. Rapport and trust between the practice facilitator and practice staff are foundations for success, and this requires building relationships over the medium to long term. External facilitation for practices for quality improvement initiatives should be **provided by a mix of staff with advanced facilitation skills** located in meso or national level organisations and staff embedded within PHN-based teams responsible for supporting practices.
- e. Ensure that **training materials are succinct, practically oriented and tailored to reflect different roles with the primary care team**. Online training should be supplemented **with other modes of training** and initiatives that involve interactions particularly with peers, for example, communities of practice.
- f. For future large-scale primary care initiatives, **use a national event at the start of implementation** to efficiently build knowledge about the initiative and its implementation, motivate participating practices, and build relationships between practices and PHNs. Similar forums should then be held at appropriate intervals.
- g. Ensure **processes involving information collection, use and sharing** – for example for enrolment, changed billing procedures, risk stratification and shared care planning – **are seamlessly integrated with practice clinical management systems**. This is challenging given the diverse systems used by general practices and the need for these to be interoperable with other systems. But future initiatives should aim to avoid the practical roadblocks in installing and integrating IT many practices faced in the HCH trial, which sapped motivation and led some practices to withdraw. Early engagement of vendors of practice clinical management software is needed to ensure enhancements to functionality and integration with other critical software can be achieved.
- h. Participating practices should be offered **financial support that realistically reflects the initial costs of preparing for implementation**. Set-up costs could be minimised by sorting out IT integration issues before practices install software so that practices don't have to do this themselves, and by streamlining software to minimise data input at a practice level.
- i. Before enrolling patients or other initiatives involving direct patient engagement, **practices should have achieved a minimum set of requirements or standards for the operation of the initiative**. The presence of these requirements/ standards could be assessed through an ancillary accreditation process specific to the initiative.
- j. Consider **staggering the time over which cohorts of practices start implementing a large-scale initiative**. Implementation for each cohort would start at reasonably spaced points in time, such as six months apart. The initial cohort would include a small number of practices, with increased numbers in subsequent cohorts. This will allow processes and information systems to be refined, more efficient and better use of resources provided to support practices, and lessons gleaned from earlier cohorts could be applied to later cohorts. Additionally, this approach is more likely to facilitate

application of stepped wedge evaluation design, which is potentially more appropriate for practice level interventions.

## Engaging patients, carers, and families

2. In the implementation of an initiative, **engaging patients, their carers, and their families is critical**. This is so that they are aware of the initiative and what they can expect in how services are delivered to them, as well understand the potential benefits of the initiative for their health and quality of life. The following should be considered:
  - a. Exploit **multiple avenues to build awareness** of an initiative and its benefits amongst communities.
  - b. **Encourage and develop the capacity of practices to engage patients, families, and carers** in designing and implementing changes they will make through the initiative.
  - c. Provide **practical guidance to practices on how to succinctly communicate the benefits of an initiative to patients** and their carers/families and address their concerns.
  - d. Develop **strategies to recruit patients to an initiative who are less motivated, activated and/or willing to try new things**, and for whom the initiative may be most beneficial.
  - e. Recognise that **it will take time for patients, families, and carers to build confidence in a wider primary care team**.
3. Additional strategies are required to **enhance the capacity of GPs and practice staff to engage with patients in ways that achieve higher levels of patient activation**. Better chronic disease management and outcomes rely crucially on patient health literacy, motivation, and willingness and capacity to make lifestyle changes and understand and comply with treatment regimes. The HCH trial aspired to prompt practices to make patient activation central to the way GPs and staff engaged with patients. However, the uptake of these components of the HCH model were patchy. Additionally, practices tended to focus on enrolling patients who were already at a reasonably high level of activation. The following should be considered:
  - a. Passive training on patient activation is insufficient and **needs to be supplemented with training involving role plays with others**, in which practitioner skills are developed and refined.
  - b. **PHNs should consider ways in which they can support practices to obtain regular feedback on levels of patient activation** within practices.
  - c. **Strategies to work with less activated and engaged patients**, including those from vulnerable groups, should be **developed, evaluated, and shared between practices**.

## Change within practices

4. The HCH trial highlighted there is appetite for changing the focus of primary care toward the principles articulated by the Primary Health Care Advisory Group (PHCAG), but that there are **variable capacities amongst practices to undertake and manage significant change**. This reflects that general practices are busy places with little “absorptive capacity” for innovation, mostly due to their small size, and also operate in a culture of fee-for-service as the main payment mechanism. Lessons for practices in managing change include:
  - a. **Make the case for change.** The evidence for the PCMH concept needs to be compiled and lessons specifically for the Australian context drawn out and disseminated to primary care clinicians and practices through various channels. The evidence should also draw out the relative advantage of the model for practices and patients and clearly articulate the problems in primary care that the model can help to address, such as increasing rates of chronic disease amongst the Australian population.
  - b. **Use implementation science to match strategies to implementation challenges.** Implementation science is the “*scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care*”.<sup>19</sup> Implementation science can help to systematically identify and address barriers to implementation and leverage enablers, and consider system-wide and contextual factors in addition to organisational issues and attitudes and behaviours of individuals.
  - c. **Get commitment across the practice.** Use multifaceted strategies to address the understanding, attitudes, skills and confidence of staff in an initiative.
  - d. **Use teams to drive change.** A team comprising a GP, a nurse and a practice manager is potentially most effective. Members of this team should be trained and have protected time to plan and work on implementation.
  - e. **Identify and implement strategies to prepare practices to quickly respond to and adapt to change and reduce dependency/risks associated with a key person.** Strategies might include:
    - i. Documenting desired practices/systems for new employees to take up.
    - ii. Making available regular training for new staff who join the practice. Make the training part of induction.
    - iii. Diversifying skills among team members so others can take on aspects of a role if someone leaves.

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<sup>19</sup> Eccles, M. P., & Mittman, B. S. (2006). Welcome to Implementation Science. *Implementation Science*, 1(1), 1.

## Risk stratification

5. The HCH trial demonstrated that it is feasible to implement a real-time risk stratification process within Australian primary care services using practice data. Implementing systematic approaches to risk stratification of practice population has uses beyond support of payment innovations such as the bundled payment, including practice population profiling, case finding, benchmarking, utilisation review and support of quality improvement and performance measurement. These are all important for supporting future primary care reforms. The following developments should be considered to support and implement **more robust approaches to risk stratification**:
  - a. **More robust risk stratification systems will be feasible where practice data can be combined with other data sources in real time, including data on pharmaceutical utilisation, hospitalisations and emergency department attendances.** These data sources yield additional information on the conditions that patients have experienced, including newly emerging conditions, functional status, and measures of health care utilisation. Ideally, risk stratification systems implemented in primary care practices should have automated interfaces with systems in which these data can be accessed and relevant algorithms applied, returning the results of the risk stratification algorithms to the practice, and ideally incorporated into the clinical management system. Some states, together with PHNs, have progressed innovations which have achieved some of these elements.
  - b. **Efforts are required to systematically improve the consistency in the recording of health conditions and measurements within practice clinical management systems. This will ensure that information about health conditions and measurements is of sufficient detail and quality to support a range of purposes, including risk stratification, quality improvement, and quality and performance indicators.** There are currently about 10 clinical management systems used by Australian primary care practices. Most include functionality through which GPs and practice staff can flag that a particular health condition is present for an individual patient and record clinical measurement values. Additionally, presence of conditions and the results of clinical measures can be recorded in clinical notes. The classification schemes and terms used to identify conditions vary between these systems. Ancillary applications that interface with these systems – such as those developed by NPS MedicineWise for the MedicineInsight initiative, PEN CS for the CAT 4 and PAT tools and Outcome Health for the POLAR system – use various means to harmonise data from extracts, although these systems in turn use slightly different approaches and final classifications of conditions. Ideally a set of standards should be developed for how conditions and clinical measures are recorded and classified within the source practice clinical management systems. Vendors of practice clinical management systems should be encouraged to enhance their systems over time to meet these standards.
  - c. **Where risk stratification relies on additional clinical assessment processes – such as use of the HARP – provide training for clinicians on the application of the tools that targets improving clinician understanding of how the tool works and how assessment questions should be interpreted for consistent application.** This should include greater clarity on how extreme social disadvantage should be reflected and assessed.



- d. **For risk stratification in primary care, consider a broader range of outcomes than hospitalisation.** For the HCH trial, the predictive risk model (PRM) was developed to reflect the risk of hospitalisation. The HARP was originally developed to reflect the risk of a hospital readmission. Internationally, similar tools applied to general practice settings have been developed to predict a range of other outcomes or service utilisation, including the risk of emergency hospital admission, the risk of attendance to an emergency department, the risk of progressing to a greater level of use of primary care services, and the use of health care resources more generally.<sup>20, 21, 22</sup> These risks are typically correlated, but not perfectly. Focussing on the risk of hospitalisation exclusively misses opportunities to use valuable information that can be generated from a risk stratification process. In particular, risk of hospitalisation may not be the best basis for setting resource requirements in primary care.
- e. **Make the best use of existing research on RSTs and evaluating how these existing tools perform in Australian primary care, before seeking to further enhance the tools used for the trial or developing other Australian-specific tools.** For the HCH trial, the Department commissioned a review of possible risk stratification systems.<sup>23</sup> Subsequently, the development of the PRM was commissioned and this occurred within a short period of time, using a limited set of data.<sup>24</sup> The HARP tool had only limited use in primary care settings before HCH, and limited empirical testing of how it would operate as a basis for a payment model. While both the PRM and the HARP operated moderately well during the trial, it is not clear that they represent optimal approaches in the primary care setting. Additionally, their use in the trial was limited, and the potential for broader utility – case finding, benchmarking, utilisation review and support of quality improvement and performance measurement – has not been explored. There is a long history of development and application of RSTs internationally, including tools focussed specifically on primary care. The literature emphasises that the technical attributes of these systems, specifically predictive performance, is only one factor in their successful use. Amongst other factors, the systems, particular the classes or tiers – need to make sense to clinicians. These systems – like the Australian Refined Diagnosis Groups system used for funding hospitals – need ongoing refinement and calibration. Assessment of costs of options

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<sup>20</sup> Starfield, B., Weiner, J., Mumford, L., & Steinwachs, D. (1991). Ambulatory care groups: a categorization of diagnoses for research and management. *Health Serv Res*, 26(1), 53-74.

<sup>21</sup> Johns Hopkins ACG® System. (2021). *The Johns Hopkins ACG System*. Retrieved October from <https://www.hopkinsacg.org/resource-center/#documentation>

<sup>22</sup> Canadian Institute for Health Information (CIHI). (2022). *Population Grouping Methodology*. CIHI. Retrieved 16/5/2022 from [https://www.cihi.ca/sites/default/files/document/infosheet\\_popgroupmethod\\_en\\_web\\_0.pdf](https://www.cihi.ca/sites/default/files/document/infosheet_popgroupmethod_en_web_0.pdf)

<sup>23</sup> Oliver-Baxter, J., Bywood, P., & Erny-Albrecht, K. (2015). *Predictive risk models to identify people with chronic conditions at risk of hospitalisation* (PHCRIS Policy Issue Review, Issue. [https://dspace.flinders.edu.au/xmlui/bitstream/handle/2328/36226/PIR\\_Predictive%20risk%20model.pdf?sequence=1&isAllowed=y](https://dspace.flinders.edu.au/xmlui/bitstream/handle/2328/36226/PIR_Predictive%20risk%20model.pdf?sequence=1&isAllowed=y)

<sup>24</sup> Khanna, S., Rolls, D. A., Boyle, J., Xie, Y., Jayasena, R., Hibbert, M., & Georgeff, M. (2019). A risk stratification tool for hospitalisation in Australia using primary care data. *Sci Rep*, 9(1), 5011.

should balance factors such as licence fees for existing risk stratification products and the costs of developing, enhancing and maintaining new tools.

## Bundled payment

6. The HCH trial demonstrated that it is feasible to implement a bundled payment approach for Australian primary care services but was unable to reach clear conclusions about the long-term value of this payment reform. Various potential improvements to the approach were identified, and the circumstances in which the approach may be more appropriate, as follows:
  - a. **Finer-grained tiers for bundled payment are required** that better reflect the complexity of patients assigned to each tier. In particular, consideration should be given to an additional tier that reflects very complex patients.
  - b. Consideration be given to re-framing the basis for determining tiers and setting payment rates. As discussed above, risk stratification schemes developed internationally have included **tiers/classes that reflect the expected use of or need for primary care resources**. This approach would be a more appropriate for tiers and payment levels compared with the risk of hospitalisation.
  - c. **Future initiatives involving bundled payments should be clearer about what is included in or is outside of the bundle** rather than GPs and practices trying to interpret this, such as determining what is related to a patient's chronic conditions versus what is acute. These distinctions may also not be required, and instead handled through **payment design**. For example, a **blended payment may be used in which a modified fee-for-service payment rate is used alongside a bundled payment that covers planning, coordination, and other chronic disease management activities**.
  - d. **Develop guidance and tools for practice to help with practical implementation of payment reform**, for example reflecting how to address the impact on different revenue sharing schemes for their GPs.
  - e. **Feedback from ACCHS suggested that the bundled payment – with refinements – may a viable and appropriate approach in these settings**. This partly reflects that ACCHS are typically offering a team-based approach in which there is much greater reliance on nurses, Aboriginal health practitioners and workers, and allied health professionals, and that these service providers are only partially and inadequately supported through MBS fee-for-service revenue. Additionally, the bundled payment offered greater predictability in revenue and opportunities to use funds more flexibly in addressing priority needs within the practice population.

## Shared care planning

7. The HCH trial highlighted many of the challenges in providing effective platforms for undertaking shared care planning. The following lessons can be drawn:
  - a. **My Health Record should be considered as the key repository for care plans**, as it is the most widely used, accessible and secure system available to patients, GPs and primary care clinicians and other health service providers.
  - b. The major limitation of the current version of My Health Record is that documents that are uploaded are static. There is limited capacity to facilitate communication between diverse service providers and limited functionality to allow patients, GPs, and others to track progress against patient goals set in the plans. **Ideally, future enhancements to My Health Record will provide additional functionality that better matches what is required for shared care planning.**
  - c. In the meantime, **better systems for facilitating shared care planning need to be supported, which integrate with My Health Record.**
  - d. Shared care plans **should be easily visible to clinicians through the clinical management systems that they commonly use in their clinical practice**, together with relevant information that shows progress against the goals included in the plan.
  - e. The **uptake of shared care planning will accelerate when most health care providers have access to and actively use shared care plans**. This is more likely to occur where a common platform for shared care planning is available – such as an enhanced version of My Health Record – or when shared care planning software meets interoperability standards that allow relevant data on plans to be communicated between platforms.
  - f. In future initiatives designed to improve shared care planning, **strategies are required to raise awareness about the initiative among health care providers that general practice works closely with** (for example, allied health providers, hospitals, community pharmacists).

## Community pharmacy

8. For any initiatives involving collaboration between community pharmacists and primary care practice teams, **ensure that roles and responsibilities are clear and agreed by both parties**. Collaboration can then be further enhanced through maximising opportunities for **interactions that build trust between the teams**.

## Evaluation

9. The HCH trial highlighted the challenges of conducting methodologically sound evaluation of national primary health care programs and initiatives in Australia. The evaluation benefited from existing efforts to bring together data from various sources, specifically data provisions in the Commonwealth and state and territory government Bilateral Agreements on Coordinated Care. However, data sources covered by these Bilateral Agreements were not able to be joined with data from practice extracts. Practice data extracts had to be sourced from multiple existing arrangements, and new arrangements set up specifically for the evaluation which were independent of the Bilateral Agreements. As discussed in point 5b above, patients' health conditions are recorded in and extracted from practice clinical management systems in different ways. Significant efforts were required to harmonise data across data extraction tools. Another challenge for the evaluation was incomplete information about the characteristics of primary care practices across Australia. The following actions could provide a sounder basis for future evaluation, quality improvement activities and research:
  - a. **Work towards creating an ongoing and enduring research data collection that brings together practice data extracts from a sample of Australian practices, joined with Commonwealth and state-based data, including but not limited to MBS, PBS, hospitalisation data, emergency department data, aged care data and mortality data.** Various initiatives across Australia are progressing towards this goal, but these tend to be jurisdiction-specific, limited to practices using specific software systems for patient clinical management, or limited to practices using or participating in a specific data extraction and/or benchmarking system. These initiatives use different methods for harmonising source data. Each has its own governance and research ethics infrastructure and process and not necessarily established to allow wider use for evaluation and research. Availability of an ongoing, enduring linked data resource with streamlined ethics and governance arrangements would allow evaluations to be conducted more rapidly and at lower cost. Furthermore, regular updates to the linked data resource would maximise the follow-up period post program implementation, which was a significant limitation of the HCH evaluation.
  - b. **As described in point 5b above, efforts are required to systematically improve the consistency in the recording of health conditions and measurements within practice clinical management systems and to standardise data extraction processes. This will ensure that information about health conditions and measurements is of sufficient detail and quality to support a range of purposes, including risk stratification, quality improvement, and quality and performance indicators.**
  - c. **Work towards enhancing existing surveys focussed on patient experience of primary care services, with additional measures related to patient activation and patient-reported outcomes related to primary care.** Consider developing guidance on preferred instruments for these areas that could be more commonly used in Australia in evaluations of primary health care and used for the development of quality indicators and quality improvement activities within the sector. This includes guidance on preferred instruments for Aboriginal and Torres Strait Islander people.

- d. Work towards creating and maintaining a data collection that pulls together **data about the structure and characteristics of all general practices and services managed by ACCHS across Australia, supplemented with additional information collected through regular surveys of practices.** While there is comprehensive data on GPs available, data on the practices within which they work is deficient. Currently there are various sources of data about practices, such as the National Health Services Directory managed by HealthDirect, information held by the Department of Health and Services Australia, the AIHW, PHNs and accreditation organisations. The most recent estimate of the number of practices across Australia was published in the *Report on Government Services 2020*.<sup>25</sup> This included data on location of services<sup>26</sup> but not on ownership, size, staffing structure, other structural attributes and practice populations. General practices are changing over time and the absence of data that tracks these changes and provides a more complete picture of practice constrains evaluation efforts.
- e. As discussed in lesson 1j above, **consider staggering the time over which cohorts of practices start implementation of large-scale initiatives, and use this approach to implement a stepped wedge evaluation design.**<sup>27</sup> In a stepped wedge design, the unit randomised is a cluster (for example, general practice). Eligibility for participation is determined first and then the clusters (practices) are randomised to separate cohorts that start implementation at different points in time. Comparisons of outcomes are then made between each of the cohorts of practices and/or patients within these practices. This design has several advantages – most importantly the use of random allocation to reduce bias – and is practical for system-wide implementation of programs or initiatives.

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<sup>25</sup> Steering Committee for the Report on Government Services, 2021 *Report on Government Services 2020*. Productivity Commission. Table 10A.53. This was based on data supplied by Department of Health using linked data elements from MBS, Practice Incentive Payments and the National Health Services Directory.

<sup>26</sup> See also NPS MedicineWise. (2021). *General Practice Insights Report July 2019–June 2020 including analyses related to the impact of COVID-19*. <https://www.nps.org.au/assets/NPS/pdf/GPIR-Report-2019-20.pdf>, Table 2.2.

<sup>27</sup> Hemming, K., Haines, T. P., Chilton, P. J., Girling, A. J., & Lilford, R. J. (2015). The stepped wedge cluster randomised trial: rationale, design, analysis, and reporting. *BMJ*, 350, h391.

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