

UNDERSTANDING PATIENT CENTRED MEDICAL HOME (PCMH) TRANSITIONS IN WESTERN SYDNEY



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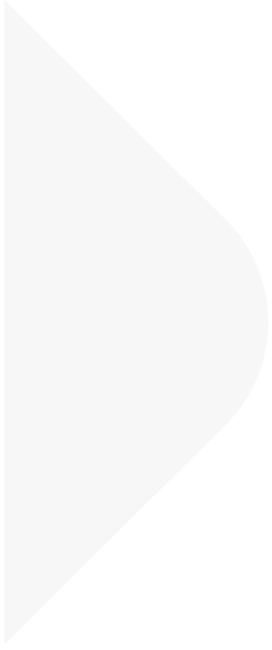
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ACRONYMS

ACRONYM	DESCRIPTION
AHP	Allied Health Professional
BP	Best Practice
FTE	Full Time Equivalent
GP	General Practitioner
HCH	Health Care Homes - Australian Government general practice model based on PCMH models
HC	High Capacity (for PCMH transition)
ICP	Integrated Care Program
IT	Information Technology
KPI	Key Performance Indicator
Linked-EHR	Electronic shared care plan linking patient's general practitioner and other members of their multidisciplinary care team, developed by WentWest Ltd
LC	Low Capacity (for PCMH transition)
LGA	Local Government Area
LHD	Local Health District
Medical Director [TM]	Commercial general practice electronic health record
MBS	Medicare Benefits Schedule
My Health Record	National online electronic health record system
NSW	New South Wales
PCMH	Patient Centred Medical Home
PDSA	Plan, Do, Study, Act quality improvement cycle
PENCAT	General practice electronic health record data extraction tool
PHN	Primary Health Network
PREMs	Patient Reported Experience Measures
PROMs	Patient Reported Outcome Measures
RACGP	Royal Australian College of General Practitioners
SEIFA	Socio-Economic Indexes For Areas
SLA	Statistical Local Area
TM	Trade Mark
Top Bar [TM]	Commercial user interface linking electronic health record to other applications
WentWest Ltd	Western Sydney Primary Health Network
WSICP	Western Sydney Integrated Care Program
WSU	Western Sydney University

EXECUTIVE SUMMARY

INTRODUCTION

Appropriately resourced and structured primary healthcare is recognised as key to an effective and efficient healthcare system. There is accumulating evidence that patient-centred medical homes (PCMHs) can deliver high quality primary health care. In Australia an ageing population, increasing prevalence of chronic disease and increasing health costs have prompted both government and professional organisations to consider PCMH models of care. A number of western Sydney general practices have been involved in projects supporting transformation from a traditional Australian general practice model to a variety of practice models with features of the PCMH. Western Sydney, an area of cultural diversity and with one of the largest Aboriginal and Torres Strait Islander populations in Australia, includes some areas of particular socio- economic and health disadvantage.

Eight western Sydney practices are being supported by WentWest (the local Primary Health Network) to transition to a PCMH model. Approximately 60 practices (including the PCMH practices) are participating in a local integrated care pilot which is implementing aspects of a PCMH model, and approximately 22 practices have been selected to participate in the national pilot of "Health Care Homes". Twelve practices initially engaged in PCMH transition are no longer participating. This local constellation of practices adopting varied approaches to PCMH transformation has provided an opportunity to explore the challenges and barriers to implementation of PCMH models of care in an Australian context.

Through the research reported in this paper, we aimed to describe PCMH implementation in western Sydney, in particular:

- To describe the current continuum of primary care transformation in western Sydney;
- To describe costs and resource needs associated with adopting the PCMH model; and
- To demonstrate feasibility of evaluation approaches and data collection methods for future research.

METHODS

The Western Sydney University (WSU) research team was guided by an Evaluation Advisory Group from WentWest and received ethics approval from the WSU Human Research Ethics Committee (H12003). We purposively sampled a range of practices, seeking maximal variation according to size, patient demographics including socio-economic status, and approach to PCMH transition. Amongst non-PCMH practices, we recruited practices with both high and low capacity for PCMH transition, based on E-health access, accreditation status and diversity of workforce. Following an initial invitation from WentWest we contacted practices to arrange interviews with key stakeholders including practice principals, general practitioner (GP) contractors, practice nurses and practice managers. Interviews were conducted either face to face or over the telephone (according to participant preference), recorded and transcribed verbatim. Interviewees were offered the opportunity to review transcripts. We analysed the interview data thematically. The preliminary analysis was reviewed by the Evaluation Advisory Group to ensure construct validity.

The costing analysis was based upon recall by practices using an iterative approach with each practice visited a number of times. Prior to the first interview, practices were sent a

'generic costing guide' listing potential activities. This was intended to prompt recall and discussion. During subsequent follow-up visits, together with the designated practice leads, we identified specific transitional activities for each practice and the associated costs.

RESULTS

QUALITATIVE ANALYSIS

Analysis of the interview transcripts revealed four overarching themes describing transformations to PCMH models of care: PCMH vision; implementation of PCMH strategies; structures and processes related to transformation; and outcomes of PCMH models of care.

Interviewees from the PCMH practices described a **common purpose and a shared vision** aligned to PCMH values, as key to enabling practices to begin the transition process. This needed to extend to all staff, with PCMH interviewees suggesting staff understanding of and connection with the PCMH vision enabled them to embed PCMH values within a team-based care model and to build the trust required to take on new roles. Conversely, lack of practice alignment with PCMH values and vision was seen as a barrier, particularly in practices that had left the PCMH group. At times lack of engagement was attributed to inertia or resistance to change and could be demoralising for those more willing to consider change. Interviewees also attributed staff non-engagement with the PCMH vision as resulting from a lack of financial incentive to change. Some non-PCMH interviewees doubted the value of a PCMH model and expressed concern about government agenda and risks of reduced GP focus on patient care and additional GP burden.

Implementation of PCMH strategies was considered in relation to leadership, pace of transformation, and support and training. **Leadership** was seen as crucial in driving change. It was provided by practice principals and where these leaders were not engaged, it was difficult to implement change. Leadership in PCMH practices was observed to facilitate team engagement and require leadership training. Many interviewees commented on the **time and effort required** for PCMH transitioning. Several described breaking down implementation into workable components and celebrating small achievements, whilst maintaining a focus on the PCMH vision. Others reflected on the importance of implementing change slowly to avoid change fatigue. Ongoing PCMH **support and training** were described by PCMH interviewees as essential and WentWest's key role was highlighted, particularly through individualised, in-practice support. Yet several PCMH interviewees, particularly practice managers and nurses, voiced uncertainty about operational aspects of the PCMH model and requested training relevant to their needs. Non-PCMH practices recommended feedback from PCMH practices. Whilst acknowledging current **information technology (IT) support**, interviewees described challenges with software and recommended provision of reliable, fully functional IT systems from the outset. Interviewees from all practice types highlighted the need for staff training in computer literacy, particularly for senior GPs. Resistance to learning about or using computer software was seen as a barrier to PCMH transformation.

Structures and processes related to PCMH transitions included team-work, staffing and space, data informed practice, and external stakeholder communication. The current GP fee for service remuneration was cited as a structural barrier to transformation. Whilst multidisciplinary teamwork was seen as important across all practice types, the shift to team-based care from GP-driven patient care was a cultural shift in PCMH practices.

Teamwork was described as facilitating holistic, streamlined care and enabling staff to extend their roles. Practice nurses, highly valued across all practice types, were described in transitioning practices, as overseeing care management in a more **nurse-driven model of care**. **Communication** often through team meetings, (“huddles” in PCMH practices) was essential for effective team-based care. The view of some GPs that patients were “theirs”, was said to limit the practice nurse role. Overburdening staff with new PCMH roles was also a risk. Interviewees from all practice types, especially lower capacity non-PCMH practices, described challenges recruiting and retaining staff in western Sydney. PCMH practices noted a need for committed, like-minded staff especially additional practice nurses, and were challenged by staff losses due to PCMH transitions and lack of financial incentives including limited practice nurse funding. The **space required** to work as a multidisciplinary team was a barrier for some practices.

PCMH interviewees described the importance of collecting and analysing patient data for **quality improvement** through patient care planning, reminders and recalls, and tracking population health. Plan-do-study-act improvement cycles, other quality improvement activities, use of key performance indicators and data comparison between practices were all strategies suggested to improve data quality as well as health outcomes. **Whilst IT was a key enabler** for quality improvement, most interviewees described challenges including with shared health records such as Linked-EHR and My Health Record. These challenges also impacted on communication with external stakeholders particularly hospitals.

Another barrier to PCMH models of care was the **fee for service remuneration** seen by many to encourage throughput rather than quality care, and by some as causing patients to undervalue GP health care. Care planning incentive payments were also reported as used for remuneration rather than for planning quality care. PCMH interviewees described the current remuneration model as a poor fit with PCMH models of care, and the proposed Health Care Homes trial remuneration was also considered to be inadequate and poorly targeted.

Outcomes attributed to PCMH care models included improved health, enhanced patient and care-provider satisfaction and health system cost efficiencies. The holistic, comprehensive team-based, patient-centred care model, particularly the focus on preventive care and enhanced follow up with patient registration was said to result in **positive patient outcomes**. Though some patients were said to find the new approaches challenging, there was consensus concerning benefits of single point of care. Interviewees from PCMH and integrated care practices described **improved job satisfaction** as a result of working together in a team to improve care, with staff upskilling, multiskilling and career progression reported. An integrated PCMH model of care was perceived to **save health systems costs** by reducing hospital admissions and re-admissions. Patient registration was proposed to reduce care duplication.

COST ESTIMATES

Our economic analysis attempted to estimate the additional costs to five of the eight PCMH practices of making the transition to a PCMH model. The greatest cost in the initial two years of transition was time costs including that spent in initial ‘one-off’ leadership/training activities, and also in anticipated recurring activities related to operating a team based model of care. The total ‘one-off’ time commitment, summed across the five practices, for leadership and training to prepare for PCMH was 4,546 hours. The estimated additional hours required to operate the new model of care totalled 7,218 hours per year, summed

across all five practices. These were real opportunity costs to practices and staff, which we valued as lost revenue and income respectively. Across the five practices, total one-off costs for leadership and training were approximately \$385,000 and the total (and annual recurring) cost in introducing a new model of care was estimated at \$764,000. In the following 12 months all practices intended to invest in new staff and/or IT at a projected cost of \$463,000 in total. Overall, the total cost for the five practices to transition to a PCMH model of care over a three year period was estimated to be \$1.612 million in financial outlays and opportunity cost. All practices indicated they were likely to incur additional costs (such as new staff, infrastructure and IT) in the next 12 months, subject to review of their experience and contingent upon practice profitability.

DISCUSSION

FACILITATORS AND BARRIERS TO PCMH TRANSITIONS IN WESTERN SYDNEY

Facilitators of transition to a PCMH model included:

- Shared vision
- Leadership
- Committed staff working as a team
- Good communication both within practice teams and with other health care providers especially hospitals
- Patient registration and continuity of care
- Support from the Primary Health Network

Challenges and barriers included:

- Inertia (often linked to lack of financial motivation)
- Belief in GP "ownership" of patients
- Resistance to technological change
- Challenges in finding the right staff
- Inadequate IT
- Lack of space for team-based care
- Constraints of the current fee for service model and inadequacy of funding for PCMH models such as the Health Care Home model
- Cost to the practice

THE COST OF PCMH TRANSFORMATIONS

The substantial costs we have documented are likely to be an underestimate given most practices indicated that further investment in infrastructure may be required to sustain and improve the PCMH model. Practices need reserves to draw upon and altruistic staff willing to absorb opportunity costs of training and longer hours of work in a new model of care. Whilst PCMH care models are evidenced to improve health outcomes, if less affluent practices cannot afford to transition, there is a risk of widening inequalities across the population.

Revenue impacts of the PCMH model of care were outside the scope of our study and will only become fully apparent over time. However, at present the transition to PCMH is at net cost to the practices. Further, two of the five practices now intend to transition to Health Care Homes (HCH); that model of care will apply to an enrolled subset of patients, rather than a whole of practice transformation. HCH brings with it a change in funding arrangements,

including a 'one-off' payment of \$10,000 and a three-tier patient payment intended to approximate the value of Medicare revenue for HCH-enrolled patients [1]. If the transitional activities costed in our study apply to HCH practices going forward then the new funding model may be inadequate, given it does not appear to (adequately) account for the significant additional time costs of preparing for and operating a new model of care.

STRENGTHS AND LIMITATIONS

Our research has provided a rich understanding of the process of transitioning to a PCMH model, including facilitators and barriers experienced by practices engaged at a variety of levels in PCMH transitions. This transition process continues, and so both the reported experience and the costs estimates are preliminary. Also cost estimates are based on recall and future estimates, which most practices found challenging since the implementation process is still underway. Those practices engaged in PCMH are 'early-adopters' and may not be representative of the general practice population, however as a result of this research we have developed tools for analysis and evaluation of PCMH transitions and base line data for comparison with future research in this important area of health service innovation.

Dr Paul Grundy and WentWest CEO Walter Kmet



RECOMMENDATIONS FOR THE FUTURE

The PCMH model enables the provision of patient-centred care that can enhance patient experience, improve work life of health care providers, improves population health outcomes, and reduces costs to the health system, and possibly to the patient. Our research has provided a rich understanding of the process of transitioning to the PCMH model, including facilitators and barriers. Interviewees described a range of strategies to assist in the transition. These are summarised below:

FOR WENTWEST IN ITS ROLE AS A PHN:

- ▶ Continue to promote the vision and values of the PCMH model
- ▶ Continue to provide PCMH information, training and support for interested practices in western Sydney including leadership training for those practices considering transition
- ▶ Provide customised support and feedback to non-PCMH practices drawing on experiences of PCMH transitioning practices
- ▶ Provide ongoing tailored support visits for transitioning practices
- ▶ Ensure thoroughly enabled IT systems to facilitate real time access to information shared between health care providers in the community and in the hospital setting
- ▶ Continue in-practice IT support, and training and assistance with clinical audit
- ▶ Continue to support enhanced multidisciplinary collaboration including co-location of allied health care providers and specialists
- ▶ Support practices in exploring ways of creating additional space for co-location of services
- ▶ Consider providing assistance in recruiting and employing PCMH staff e.g. sharing across practices
- ▶ Enable opportunities for practices to learn from each other during the transition process and subsequently
- ▶ Promote the PCMH concept and model of care to all stakeholders including governments, policy makers, health managers, practitioners and patients
- ▶ Advocate for changes in general practice funding that rewards quality rather than throughput, and will enable a PCMH model of care
- ▶ Promote our costing estimates, particularly to recognise the significant time costs of transitioning to, and operating a team-based model of care that is currently unfunded
- ▶ Continue to monitor these transitions including impact on ongoing costs, practice revenue and health outcomes.

FOR TRANSITIONING PRACTICES:

- ▶ Developing a shared vision of patient-centred, team-based care is essential
- ▶ Strong leadership, is necessary throughout the transition process
- ▶ Engage all staff in the change process
- ▶ Allow time for change and take in small steps
- ▶ Ensure there is sufficient time for communication e.g. in team meetings, staff huddles
- ▶ Ensure patient centred care is at the centre of the PCMH transition and that patients are engaged and supported in the change process e.g. Use the GP relationship as a way of introducing patient registration, preventive health care and team-based care to the patients

- ▶ Provide ready access to the practice for registered (empanelled) patients
- ▶ Build practice capacity through encouraging and supporting staff to take on new roles, as well as through engagement of allied health care providers and specialist services according to practice needs
- ▶ Empower and enable all staff including GPs to work at the top of their licence
- ▶ Use audit data to evaluate and constantly improve clinical care, for example through the PDSA cycle.

Attendees at PCMH launch in 2015



INTRODUCTION

PATIENT CENTRED MEDICAL HOME APPROACHES

Well supported primary healthcare with the patient at the centre and with a focus on preventative healthcare is recognised as key to an effective and efficient healthcare system aiming to achieve the Quadruple Aim - improving patient and provider experience, and the health of the population, while decreasing costs [2-4]. Strong primary healthcare also increases equity of access to health services for disadvantaged populations [5].

The transformation of primary healthcare practices into patient-centred medical homes (PCMHs) is seen as a way of enabling and enhancing high quality primary care [6]. In the United States the PCMH model has been active and evolving for over a decade. In June 2006 the American Academy of Family Physicians launched the first large-scale national demonstration of the PCMH [7]. The concept was based on transforming primary healthcare practices through restructuring patient care; enhancing patient experience of care, improving efficiency and use of information technology (IT), thereby improving health outcomes and ultimately, reducing emergency room visits, hospital admissions and overall cost [4, 8, 9]. More recently PCMH practice transformation has been described in relation to ten building blocks characterising high-performing primary care [10].

There is accumulating evidence that a PCMH model is associated with improved patient experience of care, reduced staff burn out, and fewer hospitalisations compared with traditional models of primary healthcare [11-14]. In a systematic review of PCMH research, all studies reported enhanced patient experience. Practices that had transformed to a PCMH model for the longest time and those with the most co-morbidity in their patient cohort, demonstrated the greatest impact [3].

With an ageing population and increasing prevalence of chronic disease in Australia, there is a pressing need for high-performing primary healthcare [15]. The Royal Australian College of General Practitioners (RACGP) has promoted the PCMH as a means of transforming delivery of primary healthcare [16]. With one in two Australians living with a chronic disease [17] prevention strategies and team management of chronic disease are essential [18].

The Australian government's Health Care Homes (HCH) initiative being rolled out in 2017 has been in response to the need for patients with chronic and complex conditions to have improved access to coordinated integrated care, tailored to their health needs [15, 19]. Patients will have access to their nominated health care provider who will coordinate their chronic disease management, and practices will receive a payment for each enrolled patient per quarter, as well as a one-off funding allocation to support set-up costs [20].

There are challenges and barriers to implementation of a PCMH model [12, 21-23]. The time and resources required to implement the model and to transform work processes [7, 24] incurs substantial costs, both one-time and ongoing [6]. More research on the actual change process including challenges and barriers to implementation in an Australian context is essential in order to inform PCMH transformation.

WESTERN SYDNEY CONTEXT

Western Sydney is made up of 14 local government areas (LGAs) and has a range of socio-economic contexts. [25]. The 2011 Socio-Economic Indexes for Areas (SEIFA) indicates that some areas in western Sydney are ranked as extremely disadvantaged, such as Mt Druitt,

and yet other areas are classified as affluent such as Baulkham Hills in the Hills Shire [26]. Western Sydney has one of the largest Aboriginal and Torres Strait Islander population in New South Wales (NSW) as well as a high percentage of the population, up to 44% in some areas, born overseas [27].

There are currently approximately 350 general practices in western Sydney. These range from solo practitioners to large group practices, and include both private and corporately managed services. WentWest is contracted to the Australian Government to support primary health care in western Sydney as the Primary Health Network. WentWest views the PCMH model as a key means of improving primary healthcare and its Strategic Plan (2016-2019) includes a focus on supporting practices to implement PCMH models of care [28].

A related strategy, the Western Sydney Integrated Care Program (WSICP), was designed as a model to provide co-ordinated and integrated care for improving the management of chronic diseases in western Sydney and to strengthen the PCMH model. Funded by the NSW Ministry of Health, the program aimed to integrate care between primary care providers and the hospital system and specifically targeted chronic diseases most prevalent in the region such as diabetes, cardiac failure and chronic obstructive pulmonary disease [29, 30].

A number of western Sydney general practices have been involved in a variety of projects supporting transformation from a traditional Australian general practice model to a model with features of the PCMH model. These include:

- Eight practices supported by WentWest to incrementally implement the '10 building blocks of high-performing primary care' [10] in order to transition to a PCMH model;
- Twelve practices that were engaged in PCMH transition with WentWest in 2014-2015 but are no longer participating;
- Approximately 60 practices (including the current eight PCMH transitioning practices) that have been supported through WSICP to implement some aspects of the PCMH model [30];
- Approximately 32 practices that expressed an interest in engaging in the Australian government funded HCH pilot. Of these practices, 22 have been chosen to take part in the demonstrator model with 11 practices to commence in the initial October 2017 roll out.

There also remain many practices in western Sydney that are not known to be currently engaged in any large-scale practice transformation or quality improvement initiative. This variation is depicted in Figure 1.

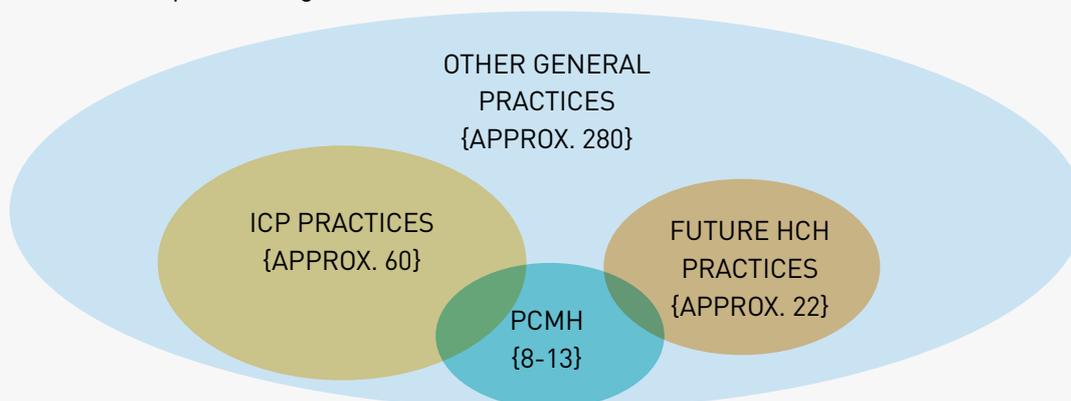


Figure 1. Variation in practice type in western Sydney

As PCMH transitions are relatively new to Australia and are being widely promoted as the way of future Australian general practice [16], it is important to build an understanding of what the model looks like in this context, how the transition process is experienced by the health care providers involved, and what are the costs of implementing and sustaining the model.

The differing engagement with a range of PCMH models in Western Sydney provides a valuable opportunity to explore these transformation experiences across a wide range of practice types.

RESEARCH AIMS

The goal of the research reported in this paper was to describe PCMH implementation in western Sydney. The three specific aims were:

- To describe the current continuum of primary care transformation in western Sydney. This included looking at experiences and perspectives of PCMH transition among health care providers, as well as examining the barriers and facilitators to PCMH transitions.
- To describe costs and resource needs associated with adopting the PCMH model. This involved examining the practice-level costs and resource needs associated with adopting a PCMH model.
- To demonstrate feasibility of evaluation approaches and data collection methods for future research. This involved trialing a costing tool to collect and analyse data on one time and ongoing costs of PCMH transformation at the practice level.

OUTLINE OF THE REPORT

This report presents the findings of our research. The methods section provides a detailed description of the research design including ethics approval, participant recruitment, development of the interview schedules and analytic approaches.

In the results section we report on our data analysis. This is divided into two sections, a thematic analysis and a cost analysis. The thematic analysis is based on the semi-structured interviews conducted with health professionals from different types of practices. A more detailed description of this qualitative analysis is included in Appendix A. The cost analysis is based on interviews with five of the practices supported by WentWest to transition to a PCMH model. Appendix B: Table 1 includes the generic costing guide used to structure the initial cost interview schedule and detailed costing results.

In the discussion, we draw together findings of the research by reflecting on areas of achievement, facilitators and barriers to PCMH transitioning. Based on our research, we present recommendations for ongoing and future transitions.

METHODS

THE RESEARCH TEAM

The research team from Western Sydney University and University of Sydney comprised:

- Dr Christine Metusela who conducted the interviews, led analysis of the interview data, and drafted this report;
- Associate Professor Kenny Lawson who led the cost analysis;
- Professor Tim Usherwood who advised on research methods, and on analysis and interpretation of the data;
- Ms Lisa Angus designed the research, advised on implementation and commented on interpretation of the findings;
- Professor Jennifer Reath led the research team, convened meetings of the Evaluation Advisory Group and advised on data collection, analysis, interpretation, and reporting.

Key staff of WentWest brought content expertise in PCMH and the western Sydney context. They met regularly with the research team as the Evaluation Advisory Group providing guidance and feedback at all stages of the research. This group included:

- Associate Professor Walter Kmet, Chief Executive Officer;
- Ian Corless, Director Integrated Care and Commissioning;
- Dr Jaspreet Saini, Director Clinical Governance;
- Shahana Ferdousi, Data Manager;

Katherine Veale, Health Care Homes Transition Manager helped with recruitment.

ETHICS APPROVAL

We received ethics approval from the Western Sydney University Human Research Ethics Committee (H12003).

SAMPLING AND RECRUITMENT FOR QUALITATIVE INTERVIEWS

We purposively sampled a range of practices to maximise variation looking at characteristics including practice size, patient demographics and approach to PCMH transition. All eight PCMH transitioning practices in Western Sydney participated in the research. Former transitioning practices that participated were involved in the PCMH initiative at the initial stages only. The sample of ICP (Western Sydney Integrated Care Program) and non-PCMH practices was selected to provide varied SEIFA (socio-economic indexes for areas) levels. Amongst the non-PCMH transitioning practices, we aimed to recruit those with both high and low capacity to transition to a PCMH model, based on whether they were E-health enabled, their general practice accreditation status and their workforce diversity (allied health and practice nurse engagement) [8, 21, 22].

In consultation with the Evaluation Advisory Group we agreed on key stakeholder groups within the practices likely to provide a variety of perspectives on PCMH transitions. These included practice principals, GP contractors, practice nurses and practice managers. The sampling frame is reported in Table 1.

Practices identified in the sampling frame above were initially informed about the study by WentWest staff via email with a request for contact details to be provided to the WSU

research team. Following this initial contact, both WentWest support workers and the WSU study team followed up in order to obtain consent for interviews. Once practice consent was provided the research coordinator (CM) scheduled interviews. We continued recruitment over a period of six months until our sample reached a total of 35 participants stratified across the different participant groups as described in Table 1.

Table 1: Sampling strategy and design

Group	Total	Sample Size	Expected Participants	Actual Participants
Active PCMH practices	8	8	6-8 practices	8 practices
			18-24 individuals	24 individuals (12 practice principals; 3 GP contractors; 6 practice managers; 2 practice nurses; 1 dietician)
Former PCMH practices	5+	5	2-3 practices	2 practices
			2-3 individuals	2 individuals (1GP contractor; 1 practice principal)
ICP practices	60-65	12-15	5-6 practices	5 individuals
			5-6 individuals	5 practices (5 practice principals)
Non-PCMH practices	~250	10 high capacity	10 practices (5 high capacity)	10 practices (5 high capacity; 5 low capacity)
		10 low capacity	10 individuals (5 low capacity)	10 individuals (9 practice principals; 1 practice manager)
Total			23-27 practices	25 practices
			35-43 individuals	41 individuals (35 qualitative interviews; 6 cost interview participants)

DATA COLLECTION: QUALITATIVE RESEARCH

In consultation with the Evaluation Advisory Group and informed by the literature, we designed three semi-structured interview guides to facilitate the collection of interview data: one for PCMH transitioning practices; one for former PCMH transitioning practices; and the other for non-PCMH practices, including ICP practices.

In accordance with best practice in qualitative research, prior to the interviews, all participants consented including to having the interview recorded. Interviews were conducted by CM either face to face or over the telephone according to participant preference. All interviews were transcribed verbatim by an independent transcription service. Transcripts were checked for accuracy and interviewees offered the opportunity to review the transcript [31, 32].

QUALITATIVE ANALYSIS

We analysed the data thematically using an iterative approach in order to discern patterns and meanings which were important in answering the research questions [33, 34]. Our thematic analysis was inductive and data-driven, ensuring themes best reflected the participant view expressed without trying to fit the data into a preconceived coding framework.

Four research team members coded two interviews each to identify patterns within the transcripts. The four researchers discussed their initial coding and agreed on core initial themes while CM continued to code the remaining transcripts. Three members of the research team later reviewed and refined the coding frame in order to confirm the agreed coding frame and to identify any new codes emerging. The coding frame was also provided to the Evaluation Advisory Group for larger group discussion and to further ensure the validity of the data. N-Vivo 11 ® software was used to aid organisation of data.

RECRUITMENT FOR COST INTERVIEWS

All eight PCMH practices in western Sydney were informed that data collection for the project consisted of two parts – a qualitative component and a cost interview. Following the initial invitation from WentWest and at the time of the qualitative data collection by CM an explanation was provided regarding the process of the cost interview. Prior to participation these practices were sent a cost template (see Appendix B: Table 1) to help them prepare for the interview.

DATA COLLECTION: ECONOMIC COSTING

SCOPE OF THE RESEARCH

Given the objective of the economic analysis was to investigate the costs associated with practices transitioning to a PCMH, data collected reflected the economic costs borne by practices only. We did not assess the impacts of PCMH transition on revenue generation, nor on patient health outcomes. Therefore, this is not an economic evaluation (e.g. cost benefit analysis or cost effectiveness analysis), but a costing exercise that assesses the additional investments made by practices. As PCMH transitions are a work in progress, complete data regarding practice investment will take longer to emerge and our estimates should be considered preliminary.

Guided and supported by Wentwest, practices tailored the transition process to their own context, therefore we sought to investigate and provided specific estimates for each of the practices individually. As no process had been established at the outset of the transition process for recording investments over time and WentWest 'Implementation Plans' did not include a detailed investment plan, our economic costing analysis is a retrospective analysis that relies on recall by practices. Hence we took an iterative approach whereby each practice was visited a number of times.

Finally it was recognised by both the research team and the practices themselves, that WentWest played a pivotal role in leading, coordinating, and facilitating the transitional process at substantial cost to that organisation.

COSTING INTERVIEWS

Prior to the first interview, practices were sent a 'generic costing guide' listing potential activities which was intended to prompt recall (see Appendix B: Table 1). This document was informed by the literature [6] and the researchers' experience.

Cost interviews were conducted by KL with five of the eight PCMH transitioning practices. One of the transitioning practices was undergoing significant unrelated change, and could no longer be described as PCMH transitioning so was excluded from the sample, one practice was a non-respondent and another was not able to provide sufficient data. These decisions were approved by the Steering Group. The interviews were carried out face to face, over two to three sessions in each practice with practice principals and practice managers according to practice preference.

The initial one hour interview used the costing guide to prompt discussion regarding the transitional process and investments made. Following the initial interview, KL followed up through visits, emails and telephone calls to derive cost estimates for each practice.

COST INTERVIEW ANALYSIS

In an effort to contextualise the economic costing analysis we captured baseline characteristics for each practice. The characteristics chosen were validated by practices as most relevant to the transition process. They included patient population, practice staffing levels, and grants received to aid the transition process. These data along with the costings estimates were recorded at the time of the interviews. The practice demographics and costings were entered into a spreadsheet format. KL undertook descriptive analysis of this data.

WentWest team 2016



Western Sydney GP's with representatives from Kaiser Permanente Southern California. Since 2014, WentWest has been working with leading PCMH experts worldwide on the establishment of the model within the Australian context.





QUALITATIVE RESULTS

The research team from Western Sydney University and University of Sydney comprised: Results of our data analysis are presented below. A detailed report of the thematic analysis is provided in Appendix A of this report. Illustrative quotations are referenced by practice type and role of participant.

PARTICIPANTS

We undertook a total of 35 semi-structured interviews between March and September 2017. We interviewed 18 participants from PCMH practices, two participants from former PCMH practices, five from ICP practices and 10 participants from non-PCMH practices (five from practices with lower capacity (LC) for PCMH transition and five from higher capacity (HC)). Twenty-three practice principals participated, four GP contractors; five practice managers; and three other practice staff (Table 1). The practices were spread geographically across western Sydney.

THEMATIC ANALYSIS

Analysis of the interview transcripts revealed four overarching themes describing transformations to PCMH models of care. These concern the PCMH vision; implementation of PCMH strategies; structures and processes related to PCMH transformation; and the outcomes of PCMH models of care. Our findings in relation to these themes are described below.

VISION

Alignment of vision and whole of practice engagement with the vision were seen as crucial for practices transition to a PCMH model of care.

Alignment of vision

Interviewees from the PCMH practices described a common purpose and a shared vision aligned to PCMH values, as key to enabling practices to begin the transition process.

...we came together with exactly the same philosophy and it's that like-mindedness that in the end has allowed us to begin the process in this practice. (PCMH 4, practice principal)

...making sure that everyone on the team actually has a common vision or purpose. (PCMH 5, practice principal)

Practice principals in these practices described activities prior to joining the PCMH pilot program that were aligned to PCMH values and stated clearly their commitment to the vision and implementation of PCMH models of care, whether or not the PCMH pilot was extended and continued.

...we were already doing a lot of the things...and trying very hard to achieve some of the changes that are already part of the building blocks in terms of data management, engagement with patients, registration, having people choose their GP, trying for continuity. (PCMH 4, practice principal)

We three directors had a vision. I mean, we wanted it to happen anyway, so whether this is going to roll out or not. (PCMH 2, practice principal A)

Lack of practice alignment with PCMH values and vision was seen as a barrier, as an interviewee from a former PCMH transitioning practice commented.

...the mindset of the practice is probably the problem and unfortunately our practice doesn't really have that mindset about, as much as you'd like to be into the quality and improvement. (former PCMH 1, GP contractor)

In contrast to the commitment of the PCMH practices to the PCMH vision, some non-PCMH interviewees raised doubts about the value of a PCMH model and concerns about government agenda, perceiving the PCMH concept as nothing more than a euphemism, or a means of controlling general practice that would reduce the GP focus on patient care and place additional burden and responsibility on GPs.

The patient centred home is really I think a surrogate just like it was when Medicare was introduced...your 'home' which is a very nice little euphemism. (non-PCMH 5 LC, practice principal)

...it sounds to be quite controlling and people don't like that in Australia. (non-PCMH 4 HC, practice principal)

The government wants to shift the responsibility to the GPs - it's cost saving...give it to the GP to do rather than let us just get on with caring for the patient. I don't see my role as a GP as supervising lots of other allied health professionals. (non-PCMH 4 HC, practice principal)

Whole of practice engagement with the vision

Interviewees from PCMH transitioning practices, particularly practice principals and GPs commented on the importance for all staff to understand the rationale for transitioning to a PCMH model of care. Interviewees suggested that assisting staff to understand and connect with the PCMH vision enabled them to share a common purpose and to embed PCMH values into their philosophy of care.

...they have to understand the why and why we've asked them to do what they're doing...if we can explain why we're doing this and embed that into the belief system of the staff then they will follow. (PCMH 6, practice principal)

So having the team engaged and making them understand why -not just what we're doing but why we're doing it and getting the buy-in is really important to making sure that they feel that their role is important...it's got benefits for themselves, for the patients. (PCMH 5, GP contractor)

Staff engagement with a PCMH vision was seen as crucial for the transition process to succeed. Interviewees from PCMH practices described their staff as a team, and as the foundation of a PCMH model of care. The importance of staff at all levels sharing this common purpose and engaging with the vision was described as starting from recruitment.

...for the team to work together the team has to have a common purpose. (PCMH 5, practice principal)

The key thing is to actually have your team and colleagues be engaged from the onset. (PCMH 3, practice principal)

...you need everybody on every level to know what it's about and be engaged in it and actively engaged. So that involves from the front desk, from the second they walk in. (PCMH 7, GP contractor)

Staff engagement was also seen as building trust within the team and encouraging staff to be more involved in team-based roles.

...the key element is the trust between team members which allows us to share the care much, much more effectively and ensuring that there was enough respect for everyone to be able to share their views. (PCMH 5, practice principal)

...good staff engagement, that is really helping, and that has become evident through the different members of the team taking on more roles. (PCMH 5, GP contractor)

Conversely, interviewees perceived that transitioning to a PCMH model of care as a solo practitioner or without the backing of staff made PCMH transformation difficult.

You've got to partner with someone because you can't do it on your own. (PCMH 4, practice principal)

...if you're not building a team that can help you with these sort of changes, it's not going to go very far unfortunately. (former PCMH 1, GP contractor)

So if there are people in the medical centre who are against the idea, who's not coming along with the ride it just makes the process much harder so that would definitely be the most critical part. (PCMH 3, practice principal)

Some interviewees from PCMH practices and former PCMH practices described a lack of engagement with the PCMH vision among their staff. Some attributed this lack of engagement to inertia and resistance to change.

I've pushed and pushed and pushed, but it was really not easy, because the other GPs weren't interested. The rest of the practice are very happy to be left alone and that's sad but true because there's a lot of inertia. (PCMH 3, practice manager)

...there's always been that resistance to change or doing anything about it...the problem is a lot of people they initially like the idea but then actually well when it comes the time to do something, then people go missing and don't really want to. (former PCMH 1, GP contractor)

One GP contractor who worked in a former PCMH practice and described themselves as the only party interested in pursuing a PCMH model of care within the practice, found the inertia 'demoralising'.

...it can be quite demoralising, a single voice and everyone else is just not interested in what you want to do. (former PCMH 1, GP contractor)

Interviewees also attributed staff non-engagement with PCMH values and vision as due to a lack of financial incentive or reward for practice owners and for GP registrars.

...based on what I've found from the owner of the practice...it would have to be a good financial case for him to actually be willing to make changes. (former PCMH 1, GP contractor)

...another registrar was here for six months. If you are a young doctor coming out of uni with a big HECS debt, why would you go into this? (PCMH 1, practice principal)

If you were a young registrar coming up, why would you do something that's different? It might ultimately be useful to people, but why would you do it if you can generate a reasonable income seeing patients at 10 minute intervals? (non-PCMH 5 LC, practice principal)

IMPLEMENTATION OF PCMH STRATEGIES

Interviewees described their experiences of implementing PCMH strategies particularly in relation to leadership, the pace of transformation process, and PCMH support and training.

Leadership

Among participants interviewed from all types of practices, leadership was seen to be crucial in both driving and implementing change. There was general consensus that the practice principal was responsible for driving change.

...obviously in a practice to actually implement change you need to have leadership. (former PCMH 1, GP contractor)

[Practice Principal] has been the driver behind this a lot...if there is no one driving it or not passionate enough to make the change then it's probably going to be difficult. (PCMH 5, dietician)

...it's the principals that drive the change, if we're passionate about a particular topic, well we'll go out and do things. (non-PCMH 6 HC, practice principal)

Where the practice leaders were not involved in driving the transition to a PCMH model of care, it was very difficult to implement these changes.

...in my position as not as an owner of the practice...as basically a GP that works in the practice and not having the sort of actual leadership, actively engaged in the actual progress, it proved very difficult to actually make changes. (former PCMH 1, GP contractor)

Leadership was also seen, particularly by interviewees from PCMH practices, as facilitating team engagement and encouraging all staff to be actively involved with the PCMH transition process including in decision-making. The need for leadership training was also highlighted.

Before, you felt it was your responsibility to do it all, but now, you've let go a bit more in a team, I think it's good. (PCMH 8, practice principal)

...they haven't had any leadership training or any experience in that area...they need to be able to encourage and negotiate and do conflict resolution. (PCMH 3, practice manager)

Pace of change

Many interviewees commented on the time and effort required for PCMH transitioning.

I think the progress is even slower than I had anticipated. I had anticipated it would be slow, but it's just so slow (PCMH 4, practice manager)

Interviewees described the implementation process as less straight forward than anticipated, stating that it took perseverance and time to see benefits. Several interviewees described the process of breaking down the implementation into workable components and being satisfied with small achievements along the way. Others reflected on the importance of implementing changes slowly, and not too many at once so as to avoid change fatigue.

...the only thing is take it one step at a time because you're never going to achieve the whole thing in a very short period of time...we need to aim for small achievements and be actually happy about those small achievements. (PCMH 3, practice principal)

So one thing is we actually had to learn to not try to do too much. We had to actually learn to respect it...we can't do too many changes. It has to be focused. (PCMH 5, practice principal)

It was also seen as important that the practice leadership kept focussed on the PCMH vision whilst making these smaller changes.

You need to keep a big picture view on it from the Practice Principal or from the senior management side...sometimes people get so task oriented that they just fail to see the bigger picture. (PCMH 7, practice manager)

Support and training

Ongoing PCMH education, support and training were described by PCMH interviewees as essential for their transformation journey. Interviewees highlighted the key role of WentWest in providing this support and training throughout the transition process.

...we couldn't have done it without being educated – all the education we have done on this. All the group work we done on this. All the meetings that we have had. All the leadership skills that we've learnt. All the data skills that we've learnt and the tools that we've been given by WentWest to do all of that. There's no way on earth that we could have done it independently, just no way. (PCMH 6, practice principal)

Interviewees also commented on the value of having practice visits from WentWest, particularly support that was tailored to each practice.

...it's more that on the ground support, in terms of practice support in person that often is beneficial because you want to be doing things...that are tailored for a specific practice. (former PCMH 1, GP contractor)

Among the PCMH practices, there were also several interviewees, particularly practice managers and practice nurses, who voiced uncertainty over the operational aspects of a PCMH model of care and highlighted their need for further support and training. One practice nurse wanted a better understanding of the PCMH model of care on an operational level.

I don't even know what are these changes that we're supposed to be implementing? How does it work? I'd like a precise guideline of what it's supposed to be because I still can't get in my head what exactly is this PCMH...show me a video of a practice that has it in place working. (PCMH 1, practice nurse)

Several interviewees perceived the PCMH training they received not to be applicable or understandable, highlighting the need for training to be relevant to the needs of all staff.

You feel stupid. You're in a room full of doctors, you're not going to put your hand up and say, "I don't understand what you're talking about." (PCMH 1, practice manager)

They were all day and time consuming [PCMH workshops]...I don't understand why we're sitting here colouring in something or drawing something. It's not relevant. Half the time we don't understand what they're talking about. (PCMH 1, practice nurse)

Interviewees from non-PCMH practices who were interested in transitioning to a PCMH model of care suggested that providing customised support and receiving feedback from practices already involved in the PCMH transition would be useful.

...we must have one case manager or something which we could talk, or an Internet website, or a portal with simple answers to get the things done, to tell us how to move forward. When we are linked to that portal, it will take us to that highway to reach the end. (ICP 4, practice principal)

...getting feedback from other people to see what they found beneficial or what they thought have been drawbacks to the system, so we don't have the pitfalls. (non-PCMH 6 HC, practice principal)

Information technology support

While interviewees from all practice types acknowledged receiving IT support, the need for this to be ongoing was highlighted. Interviewees described challenges with software required for PCMH practices, and recommended provision of reliable, fully functional IT systems from the beginning of the PCMH transition.

...over the years we start to launch and see how it's going and that doesn't work. You waste lots of time. You create something, you test it and when it is waterproof then you launch it. (PCMH 1, practice principal)

Other interviewees from all practice types highlighted the need for training in computer literacy for staff, particularly for senior GPs who were reluctant to use computer programs due to lack of exposure to and experience with IT. Resistance to learning about or using computer software was seen as a barrier to PCMH transformation.

The IT is a big issue because we don't know much these days...when we expand there will be a lot of things and we are not computer literate. (ICP 5, practice principal)

The senior doctors are not used to the computer. A lot of them still don't use it. (former PCMH 2, practice principal)

We had a senior colleague here who wasn't into IT. He did not want to have anything to do on a computer. He said, "I've worked there for 40 years, all on paper". (PCMH 1, practice principal)

STRUCTURES AND PROCESSES

Interviewees described their experiences of the structures and processes involved with transitioning to a PCMH. This included experiences with working together as a team, staffing implications, data formed practice and information technologies, communication with external stakeholders, and the challenges of a fee for service approach to remuneration.

Working together as a team

The shift to team-based care for PCMH practices was observed to be a cultural change, with the emphasis no longer on individual (particularly GP) care of the patient, but on working together as a team sharing patient care.

...what we're changing is the culture of, "I don't have to do this alone" and, this particularly stands for the doctors, because we as doctors are trained to be a lone ranger...That's the biggest change...I can just rely on my team to do things because it's our patient. We are going to look after the patient, not I am going to look after the patient. (PCMH 6, practice principal)

Building a multidisciplinary team was seen as important across all practice types. Interviewees particularly among ICP and PCMH transitioning practices described building teams by bringing in allied health care providers and specialists to work in the one location. Non-PCMH practices noted the need for support to build their multidisciplinary teams. Practices that intended to transition to a PCMH model suggested the multidisciplinary team would work more efficiently when it was introduced as part of a PCMH model.

Under one roof we have a multi-disciplinary team...so the patient, the centre, then you've got the doctor, the nurse and all the allied health. (PCMH 2, practice principal B)

We're slowly increasing our allied health numbers...ideally if you can get like a psychologist or a podiatrist then that would be better...then we can start building that sort of multidisciplinary team around which we can involve our patients. (Non-PCMH 6 HC, Practice Principal)

...we have all the allied health professionals...I think with the Patient Centred Health Care Home they might integrate into the system in a more efficient way. (ICP 4, practice principal)

Teamwork was seen as facilitating holistic, streamlined care with efficient work flow and enabling staff to use their skills appropriately. There were many examples of staff extending their roles, for example front desk staff taking on data management tasks. Practice nurses were highly valued across all practice types and in ICP and PCMH transitioning practices interviewees described these key staff taking on more responsibility, particularly with care management tasks. In PCMH practices interviewees described a shift to a more nurse-driven model of care, thereby enabling nurses to work at the top of their licences.

...spirometries can be done prior to the doctor seeing them. Care plan reviews can be started prior to the doctor seeing them and it makes the whole thing a lot easier. (PCMH 8, practice principal)

...of course the nurses, the practice nurses they are so valuable...and form a very integral part of our team. (PCMH 2, practice principal B)

...the medical management will be by the GP, but it will be more care management through the nurse. (PCMH 7, practice manager)

However it was suggested that some GPs viewed the patient as “theirs” and this limited the practice nurse role.

I think the biggest problem that needs to be overcome is the attitude of GPs, that they don't like other people intruding into their patient care...they don't trust that their nurse can actually operate within the scope of their licence and do much more. They have this mindset that nurses do dressings and immunisations and that's it. (PCMH 3, practice manager)

Some interviewees noted that additional activities and tasks incorporated into PCMH staff roles required more time than staff had available. Others recommended greater clarity around staff roles particularly in relation to the PCMH model.

...our front desk staff are already doing maximum with their time. There's no free time for them, so we have to create more time for them to do these extra roles. (PCMH 5, GP contractor)

I don't actually know what my role will be. What will I be expected to do? Other things that I'm not currently doing? (PCMH 1, practice nurse)

Communication was perceived as an essential element for effective team-based care. Many interviewees highlighted the importance of frequent team meetings. Conversely, GP isolation was seen as a barrier to communication and effective change.

...I feel that the meeting is very important because everyone on the team starts to understand why we're doing things (PCMH 5, dietician)

The planning of care in PCMH practices often occurred in team-based sessions called “huddles”. Although the term “huddle” was specific to PCMH practices, team-based discussion of patient needs and sharing and learning together was also valued in non-PCMH practices.

...morning huddles, afternoon huddles where we're talking about planning the care with the people here every day, like the nurse and the front desk so that they know who's coming and why they're coming (PCMH 5, GP contractor)

Lots and lots of chats going on in corridors and people saying, “what about [name], did you see him the other day”? That sort of informal stuff that keeps the whole connectedness very real...there's no question that there's lots of that stuff happening where at least two people stand together and discuss a patient. (non-PCMH 9 HC, practice principal)

Staffing implications

Interviewees from all practice types described challenges in recruiting and retaining staff in the western Sydney region. Recruitment of allied health professionals and practice nurses was difficult especially for lower capacity non-PCMH practices and for solo practitioners.

As a solo practice, it's very difficult for the doctor to employ the practice nurse and bring allied health in the same practice. (non-PCMH 8 LC, practice principal)

The ageing GP workforce was described as another workforce challenge.

...the new generation doctors are reluctant to come to the west. I say that 70% of our doctors are over 50, probably a lot of them over 60 really and the challenges in the next few years when they retire, or cutting down their hours and we will be unable to recruit new general practitioners because they don't come out this way. Recruitment is almost next to impossible (non-PCMH 2 LC, practice principal)

Interviewees from PCMH practices described a range of staffing implications related to implementing the PCMH. The need for recruiting committed like-minded staff with a common vision and purpose was considered imperative, yet practices faced challenges in keeping a stable team and interviewees noted a loss of staff due to the PCMH transition process. Interviewees described the difficulties of retaining GP contractors and practice nurses, when there was little financial incentive for them to stay, and more lucrative alternatives elsewhere.

...you need to have all the stars aligned, have people with the right attitudes and the right skillsets coming in to interview and it is really hard. It's hard to get good applicants and then it's hard to keep them. (PCMH 3, practice manager)

[GP registrars] usually get a better option, better offer. It's a totally different type, but how on earth can you compete? So it's very hard to retain. (PCMH 1, practice principal)

Interviewees from PCMH transitioning practices described a PCMH staffing model as increasing the nurse-doctor ratio. The nurse-driven model of care also required a cultural shift among staff and changes in clinical workflows as teams worked with a panel of patients. Limited funding for practice nurses was noted as a barrier to team-based care operating according to this staffing model.

...the nurse will be the care manager, will be the care coordinator, that's when it's going to be successful you know. Doctors will need to have the input obviously, but it will be driven mainly by the nurse. (PCMH 7, practice manager)

...at the moment the way it works we'll only be able to have five full-time equivalents [practice nurses] pretty much and that may not be enough because I see so much value in having them sharing the care. (PCMH 4, practice principal)

Working together as a multidisciplinary team in the one location was noted to require space. Many interviewees across all practice types described a lack of space and the inability to create more space was described as a barrier to implementing a PCMH model, particularly among non-PCMH interviewees. Some highlighted the need for space to be considered in the initial planning stages. Some interviewees described modifications and additions that could be made to existing structures and one practice principal was buying property near the existing practice to cater for a larger team.

...we can't add on, so we cannot give you allied health professional rooms...there's only two consulting rooms so only two doctors can work at any one time. (non-PCMH 4 HC, practice principal)

We don't have a lot of space to do things, so sometimes that actually limits what we can do in terms of group sessions and things like that. (PCMH 5, GP contractor)

We haven't got any rooms for any of the allied health personnel so I'm just buying a property next door where there will be larger space...this [PCMH] is what prompted me to do it, because we haven't got space. (ICP 5, practice principal)

Data informed practice

PCMH interviewees noted that building a well coded electronic medical record and making time for collecting and analysing patient data, was essential for quality improvement. The clinical audit tool PEN CAT was often cited as enabling PCMH practices to see where quality improvement was needed, plan and prioritise patient care through use of reminders and recalls, and to track population health.

...at first it was just improving data quality and then once we've got good data actually analysing it and seeing where we need to improve and then focusing on those areas. (PCMH 5, GP contractor)

PEN has been fabulous, because you can create an Excel spreadsheet of this doctor's patients who are diabetic, this doctor's patients who have heart disease and then from there you can look at the targets. (PCMH 3, practice manager)

Interviewees described using plan-do-study-act (PDSA) improvement cycles and key performance indicators (KPIs) to encourage quality improvement and some interviewees suggested that use of data comparisons between practices would help to improve data quality as well as health outcomes.

...it's good to get that feedback about how your data compares to other practices and also how your data compares over time, any improvements that it's making. (former PCMH 1, GP contractor)

I need to know how I compare with other doctors. I want to know who's doing better than me at certain things so I can pick their brain on how to do better. (PCMH 4 practice principal)

Some interviewees from non-PCMH practices also described data informed quality improvement activities.

we were involved with the Improvement Foundation and that was basically looking at improving chronic kidney disease within our practice...there was a whole bunch of things called PDSA Cycles. (non-PCMH 7 LC, practice principal)

...full health assessment, annual health assessments and care plans and other associated activities for people with chronic and complex conditions, and the immunisation side of it we use the computer to help us track all that. (non-PCMH 9 HC, practice principal)

Information technology

The majority of interviewees from all practice types highlighted challenges with IT. Linked-EHR was widely reported to be poorly integrated with GP software, requiring time-consuming manual input of data. Some practices refused to use it. Additionally, it was not accessible to allied health care providers and to non-GP specialists in the community. My Health Record also caused concerns, and was described by interviewees as being clunky to use and time wasting.

What happens with the Linked-EHR is you have to do a whole other care plan for the patient. You can't take the care plan that's already in best practice and put it in there. So it's double work for somebody. (PCMH 4, practice manager)

There is no doubt that one of our major handicaps is our software...the toolbar does not talk to the Linked-EHR and they have to physically put the stuff...lots of GPs in our last meeting for example they stopped using the service because it's a headache, so I stopped and once I

stopped and I don't use it I forget it. (PCMH 1, practice principal)

My Health Record is even worse. It's even more clunky and even more useless to us
It's just another thing which is wasting time. (PCMH 5, practice principal)

A number of interviewees called for one fully integrated electronic system across general practice and hospitals.

...we have to just really get a system, one system, or a system that will talk to other systems... but it needs to be real time. (PCMH 4, practice principal)

Communication with external stakeholders

Interviewees related mixed experiences in communicating with external stakeholders. Some interviewees, including those from PCMH practices, commented on a lack of communication with hospitals including discharge summaries that were not user-friendly and not consistently received electronically. Integrated care plans were not easily accessible in the hospital setting or in other community based services, especially allied health services.

...we still have to call especially at the hospitals. You never get anything from the hospitals, they don't communicate and it's got to be also in a format where it's easy to read. You can't go through a ten-page discharge summary. (PCMH 8, practice principal)

... We try and find the discharge summaries electronically – never there. (PCMH 1, practice nurse)

...in the public system they're not co-operating, they're not communicating well in a timely fashion... you go around in circles. (non-PCMH 1 HC, practice principal)

For others, however, communication had improved and hospital discharge summaries were received promptly.

...what is working better is we're getting lots of referrals from all the hospitals really good now. They come up very promptly, almost immediately. We get them electronically so that actually works really well. (PCMH 6, GP contractor)

We get a lot of discharge summaries electronically now, which is good. (PCMH 8, practice principal)

Remuneration

The constraints of a fee for service model of remuneration in general practice were highlighted by interviewees across all practice types. Many perceived the current Medicare model as encouraging throughput rather than quality care and some interviewees saw the model as causing patients to undervalue the health care provided "free of charge" by GPs. Some interviewees suggested that money was wasted in the health sector including on remuneration for care plans which were reported as used for remuneration rather than for planning quality care.

...getting paid for GP management plans and all that sort of stuff which is just rubbish...because people just churn them out. So if you go to a medical centre, they'll churn one out to get the money whereas they're not actually looking after the patient. (non-PCMH 4 HC, practice principal)

Interviewees from PCMH practices described the current Medicare model as being a poor fit with a PCMH model of care, with costs of running their practice a challenge. Many examples were provided of costs that were not reimbursable under Medicare including non-face to face care provision such as phone consultations, and time required to plan and implement team-based care.

...in the current fee for service model the only way you can generate income for the practice is to see patients and then that really leaves you stuck on the same road (PCMH 5, GP contractor)

...the price is that there is a lot of time getting spent on meetings, on discussions, which are ultimately for the patients...at the moment that has been funded out of our pockets. (PCMH 5, practice principal)

Interviewees discussing the HCH initiative noted the challenges of billing under this PCMH model alongside the current Medicare system and highlighted their uncertainties about the funding provided under this model. Generally, the proposed funding was considered inadequate, particularly for patients with chronic diseases and this perceived funding inadequacy was a barrier for many in engaging with the HCH model.

...how do you charge the other ones? Now this isn't a patient centred, this is a Medicare, this is this one or he's already had his allocated, who pays for that consultation? (PCMH 1, practice manager)

...our issues and concerns are mainly about the unknown-ness of it [HCH]. (non-PCMH 9 HC, practice principal)

...the funding they actually allocate for chronic disease patients is grossly inadequate so if we actually sign up for that we have less resource to try to do what we are trying to achieve. (PCMH 3, practice principal)

Concerns were expressed also about the proposed disbursement of the HCH funding with GP contractors likely to miss out if practice owners received patient care packages. Other interviewees suggested that the HCH model would not fund important elements of the PCMH and that a lump sum payment may not encourage quality care.

...from our point of view yes it's doable, our challenge is the funding for all the non medical staff, so like a medical student assistant, there's no funding for that, even the registered nurses once you've gone beyond five there's no help with that. (PCMH 4, practice principal)

...there was going to be like a lump sum payment for practices and I think that was going to be a problem and a lot of GPs were reluctant because it would be just like a money grab at the end, like how many patients can we all sign up quickly so we can get that initial lump sum and then not do anything with them. (PCMH 7, GP contractor)

Some PCMH interviewees were concerned that ultimately the HCH model may be a distraction from implementing a true PCMH model of care.

...it may actually be a bigger problem because if, for example health care homes required more time to manage financially and more time to report on it then it actually could be a distraction...my personal thought is it might be damaging to the patient centred medical homes. (PCMH 5, practice principal)

OUTCOMES

Interviewees described outcomes of a PCMH model of care. These included improved health outcomes and enhanced satisfaction for patients and health care providers, as well as cost efficiencies for the health system.

Patients

PCMH practices described the positive patient outcomes related to this model of care. Interviewees highlighted PCMH values of patient-centred care where patients were included as members of the care team and engaged in decisions about management of their care. This was described as facilitated by their access to and control of their personal electronic health record.

...to create a type of general practice that it is comprehensive and it is affordable and it is pro-patient, like you put your patient as number one. (PCMH 1, practice principal)

...where the patients get more involved in their care and helping them be part of their decision-making process for their care. (PCMH 5, GP contractor)

The holistic care provided in the PCMH model was also described by interviewees as resulting in positive patient outcomes. A shift to preventative care with effective follow up was noted along with patient education about having regular appointments with their care providers. Computer software aided PCMH practices to be proactive in providing health care.

...we take great pride in making sure a patient's immediate problem is dealt with, their preventative health is dealt with, seeing what happened in the last consultation is dealt with and also formalising that in a kind of reminder list. (PCMH 8, practice principal)

...we managed to follow through those patients more effectively than maybe five years before...and the patients are happy about that. (PCMH 2, practice principal A)

Patient registration was perceived to enable continuity of care, and was said to be particularly important for those with chronic conditions. Interviewees described rewarding patients for their loyalty by setting aside appointments so they could access care whenever it was required.

...we also explained to them [patients] that being part of that team meant that there would be appointment slots that were set aside for them. So if they needed to come in any day, there was going to be a spot to slot them into. (PCMH 3, practice manager)

Team-based care was described by many of the PCMH transitioning interviewees as well as some non-PCMH practices as an important element in a PCMH model of care which had many benefits for patients. Interviewees perceived team-based care as enabling comprehensive care and better meeting the needs of patients from different cultural backgrounds. They described the benefits of using all members of the care team to provide effective patient management, with different members of the multidisciplinary team contributing to care in their areas of expertise.

In a way we learn more about the patient through having them speak to different people, like when they've been seeing the same doctor for so long, sometimes things get forgotten or pushed under the rug, but when it is new eyes, it's like okay, this is an issue, this is something that needs to be done. (PCMH 8, practice nurse)

...but if a nurse reinforces the same thing and maybe a third person, allied health person reinforces the same thing, the chances are they're [patients] more likely to accept or be willing to accept what you're saying...I think the more people involved in care saying the same sort of thing, the better it would be. (non-PCMH 6 HC, practice principal)

Another patient outcome highlighted by interviewees as resulting from a PCMH model of care was the relationship built between the care team and the patient.

So getting the patients more involved in their care team as well so that they build up a relationship with not just the doctors but the nurses and the dietician and the exercise physiologist as well. (PCMH 5, GP contractor)

Interviewees noted that some patients particularly the elderly found new approaches such as the shift to preventive health care and team-based care, challenging. Several interviewees suggested a need for patient education so that patients were informed about the PCMH model and the services available to them in a primary care setting.

One of the things that is on our to do list...is to spend some more time documenting both on our website, Facebook and other opportunities in newsletters to talk about what to expect from a visit to the doctor, what your commitment needs to be if you're going to get the best out of it. (PCMH 4, practice principal)

I don't think they know of a lot of the avenues open to them...So yeah, patient education to let them know, not even just integrated care but just what is available to them and why we see them and do what we do. (PCMH 8, practice nurse)

...the medical assistant or the nurse explained to the patient the concept and then we got the patient to sign, so that they registered to be part of that team. So, explaining to them that what the advantages were and getting a commitment from them. (PCMH 3, practice manager)

There was general consensus regarding the benefits of patients having their health needs met in the one location. Interviewees from ICP practices in particular described access to services in one location as being more convenient for patients, especially the elderly. Co-location of services allowed patients to be seen by multiple care providers, including specialists and allied health care providers, for their various health needs at one location and often during the same visit. This reduced waiting time and enabled more efficient patient care.

...certainly the patients find the convenience useful and they certainly like to come to one place rather than trips here and there given the difficulty with parking and things. (ICP 3, practice principal)

I can see the value of the other GPs, nurses and other allied health working together. A lot more things can be done for the patient a bit more efficiently...if everybody's on site. (ICP 1, practice principal)

Practices

Interviewees from PCMH and ICP practices described their improved job satisfaction as a result of working together in a team. They gave examples of staff satisfaction and sense of achievement through sharing patient care with other team members and through providing continuity of care.

Sharing patient care within the team was perceived as freeing up time for GPs, who were then able to plan and monitor patient care.

It's improving their job satisfaction and involvement in the whole team because they actually become part of the team when they're working like that. (PCMH 5, GP contractor)

...it's good to share the patient care with others too so it frees some of our time. (ICP 5, practice principal)

The physician will have more time really to concentrate on establishing the framework where the patient can be monitored and managed instead of trying to do everything from the start to the end. (ICP 4, practice principal)

Upskilling, multiskilling and career progression were reported as outcomes for staff among interviewees from PCMH and ICP practices. There were examples of receptionists taking on medical assistant training and other staff taking on new tasks in their existing roles that contributed to professional development.

...they're [front desk staff] very keen to be upskilled and to do different things. It's improving their job satisfaction and involvement in the whole team. (PCMH 5, GP contractor)

...I started upskilling as well. So I started doing spirometry, I started doing the care plan together with [Practice Principal], I started doing reviews of patients with diabetes and heart failure and respiratory disease. (PCMH 5, dietician)

We've got our senior receptionist going through the medical assistant course...what we had was a really interesting progression, because our receptionist was learning about cholesterol targets and blood pressure targets and how often all these different tests should be done, so it was a good learning curve for her. (PCMH 3, practice manager)

Interviewees particularly valued nursing skills in a PCMH model of care. Practice nurses took on tasks that enabled them to use their skills to best advantage.

...most of the care will be done by the nurse and the doctor has to come in and just do the basic stuff...so we promote them and say practice nurses this is what you do and you are a carer and you are a clinician and you help us. (PCMH 2, practice principal B)

I have just given permission for the nurses to go through my list of patients booked in for tomorrow, concentrate and be driven by the care-plan of those patients. (PCMH 6, practice principal)

The use of care plans was reported to drive holistic, preventative care with computer software an essential component in improving care planning and teamwork in carrying out the plan.

...be driven by the care-plan, particularly with those ones that have got chronic disease and have a look at what can be done opportunistically in terms of preventative care. (PCMH 6, practice principal)

I'm quite happy for any other team member to review a patient and then advise me and of course we can then discuss about a much more comprehensive management plan for a lot of patients. (PCMH 5, practice principal)

Health system and costs

Interviewees from all practice types described the impact of a PCMH model of care on the cost effectiveness of the health system. An integrated PCMH model of care was perceived to assist in reducing hospital admissions and avoidance of re-admissions through improving care in the community. This was proposed as likely to improve health outcomes and reduce costs.

...my absolutely conviction is that we already save so much money because we just don't have patients go to hospital, it's hardly ever, we take such good care of them. (PCMH 4, practice principal)

The general practitioner will work more efficiently preventing the patient from re admissions so I can see less hospitalisation. (non-PCMH 1 HC, practice principal)

I will go so far as to say for the health system as a whole that if we can reduce hospitalisations you can improve overall outcomes. (PCMH 5, practice principal)

Some interviewees also described patient registration as helping to facilitate a cost effective health system by reducing duplication of medical testing and unnecessary prescribing.

...if I knew that they'd done that test I wouldn't have to repeat it...and save a bucket load of money in tests that don't need to be repeated. (PCMH 4, practice principal)

[Patient registration] would make a lot of difference. It will save the government a lot of money, you don't have all of this shopping around buying drugs here and there...We have so much doubling...ultimately the health dollar will be much less because the patient will be restricted to three or four doctors. (non-PCMH 1 HC, practice principal)

Dr Michelle Crockett, Riverstone Family Medical Practice





Parramatta River



Parramatta Town Hall

COST INTERVIEW RESULTS

RESPONSE RATES

At the beginning of the economic costing eight PCMH practices were identified for inclusion. In the final analysis five practices were included as one practice could no longer be described as transitioning to PCMH; one practice did not respond to repeated invitations to participate; and one practice provided incomplete information. The economic costing analysis can only be credible if comprehensive and well-reasoned estimates have been provided.

PRACTICE DEMOGRAPHICS

Table 2 outlines the baseline characteristics of practices prior to beginning the transition process. The practices are varied in a number of respects, including: the active patient population, staffing levels, and consulting rooms available (see Appendix B: Table 2 for more details). All practices began the process of transition towards PCMH over two years prior to the research, with WentWest providing leadership and training. Although all practices later engaged in the Australian Government HCH trial, by the end of data collection two of the five practices were focussing transitional efforts solely on HCH patients, as opposed to the whole-system change of PCMH.

To protect privacy of practices the names of practices have been replaced with numbers.

COSTING ESTIMATES OF PCMH TRANSITIONS

Table 3 summarises the main costs associated with transition and Appendix B: Table 3 provides further details. Costs are further considered as 'costs incurred' and 'intended costs' over the next 12 months.

COSTS INCURRED

'Costs incurred' is subdivided into two categories – 'One off: Leadership and Training' and 'Recurring: New model of care'.

'One-off: Leadership and training' refers mainly to attendance at WentWest leadership and training events, follow-up practice meetings with practice staff, and time spent by practice staff attending PCMH related training from other sources. These represent time costs that, following conventional practice in economics, are converted to dollar values given they represent real 'opportunity costs' to both individuals (lost income, leisure time) and practices (lost revenue). Practices were asked to detail which team member attended what activities, for how many hours, and the associated hourly rate of that team member. If the activity occurred outside of practice time then the 'time cost' is equivalent to the hourly rate of that staff member. If the activity occurred within practice time then the knock-on impact to practice revenue from the individual not undertaking revenue raising activities (estimated from discussions with practices to be 30% of the hourly rate) was added to the individual's hourly rate.

Overall, the one-off time costs of leadership and training were considerable, totalling 4,546 hours across all practices at a total cost of \$385,000. There was a wide range in the estimates of time costs between practices from \$26,000 (324 hours) to \$107,000 (959 hours). Appendix B: Table 3 provides this detail where possible, depending on what

practices were able to recall. The hourly rate of staff is withheld from the report to respect potential privacy concerns.

Costs described as 'Recurring: New model of care' refer to the implementation of a team-based model of patient care. Associated activities were additional to those undertaken prior to PCMH transitions and will continue (recur) indefinitely into the future. They include "huddles", case management, and data reviews. The dollar value of this time was calculated using the same procedure as above, and then annualised. The costs were again substantial. Overall, the time costs of introducing the model of care totalled 7,218 hours across all practices at a total cost of \$764,000 in lost income and revenue. There was also a wide range between practices, as high as \$250,000 for Practice 1 (using an additional 2,059 hours practice time, per annum) and as low as \$81,000 for Practice 4, although the latter is likely to double as this practice is planning to hire a full-time care manager. As noted these are annual recurring costs to practices.

The activities and time commitments associated with the recurring model of care are likely to change going forward. Most practices are in the early stages of implementation, and there is likely to be a 'learning-by-doing' period to settle on the most effective and efficient approach, including perhaps shared learning between practices.

INTENDED COSTS OVER THE NEXT 12 MONTHS

'Intended costs' over the next 12 months refer to specific additional investments in both staff and IT to support the PCMH model of care. Most practices found this projection of future costs challenging as the model is still evolving, therefore projections were limited to the next 12 months.

Four of the five practices wish to recruit a 'care manager' and/or nurse. Based on advice from the practices these positions have been costed at approximately \$80,000. Administrative support has been costed at approximately \$50,000.

Three practices identified further IT investment required, including laptops, mobile phones (to assist outreach/text reminders), and new workstations. Practice 5 cited the greatest needs in this category. Across all five practices, the total intended investment in staff and IT is projected to be \$463,000. These are likely to be underestimates as at least one practice is planning additional investment not detailed in these estimates.

Overall, it is estimated that across the five practices the cost of transition is approximately \$1.612 million including the opportunity costs of time (training and new model of care) and the intended investment in staff and IT in the following 12 months.

It was noted by practices that there may be additional tasks and activities. These were not included in the costing estimates, as the activities listed were speculative and not specific. Potential activities mentioned by practices included: (i) infrastructure improvement to reconfigure the layout of the practice, such as having more consulting rooms and/or ease of access between rooms to enable better whole of patient care; (ii) updating governance procedures, such as preparation of internal policies/ procedures given modification to workflows; (iii) insurance implications of additional staff being involved in patient care; (iv) telehealth (if remote management become important).

Table 2: Practices included within economic costing analysis – selected characteristics

	Practice 1	Practice 2	Practice 3	Practice 4	Practice 5
Active patient population (approximate)	3,000	7,600	2,990	11,000	8,000
Staffing	1 Principal, 3 GPs (4 FTE), 1 FTE nurse, 4 Receptionists (3 FTE), 1 dietitian (0.3 FTE), 1 exercise physiologist (0.3 FTE), 1 pharmacist (0.2 FTE)	1 Principal, 12 GPs (8 FTE), 2 FTE nurses, 5 receptionists (3 FTE), 1 manager (2 FTE)	1 Principal, 1 GP, 1 GP registrar, 1 medical assistant, 1 nurse, 1 manager, 3 admin staff, various allied health professionals	3 Principal, 4 contractual GPs (2 FTE), 3 GP registrars (2.5 FTE), 6 nurses (2.7 FTE), 6 admin staff (2.8 FTE), various allied health professionals	1 Principal, 8 GPs, 1 manager (0.3FTE), 1 FTE practice supervisor, 2 nurses, 1 data manager (0.4 FTE), 6 admin staff
Consulting rooms/ other if relevant	4 consulting 1 meeting room	8 consulting 1 treatment 2 nurses rooms	7 consulting	9 consulting 2 other medical various others	5 consulting 1 treatment various others
Transition objective	PCMH	PCMH	PCMH	HCH	HCH

*FTE (Full time equivalent) is stated where relevant

Table 3: Economic costs of transition towards patient-centred medical home

	Practice 1	Practice 2	Practice 3	Practice 4	Practice 5	Total
A. Costs incurred:						
1. One-off: Leadership and training - time costs in Dollars						
WentWest training, other (e.g. online modules) - lost income to individuals	56,100	100,750	20,452	43,209	85,032	305,543
Lost practice revenue (20% activities within practice hours; ratio of income to profit is 1.3)	14,586	26,195	5,318	11,234	22,108	79,441
Total	70,686	126,945	25,770	54,443	107,140	384,984
2. Recurring: New Model of Care - time costs in Dollars (being introduced presently)						
Practice team meetings: Huddles, case conferences, data reviews - lost income to individuals	192,502	147,501	82,116	62,499	103,168	587,786
Including lost practice revenue (all activities within practice time; ratio of income to profit is 1.3)	57,750	44,250	24,635	18,750	30,950	176,336
Total	250,252	191,751	106,751	81,249	134,118	764,122
Sub-total	320,938	318,696	132,521	135,692	241,259	1,149,106
B. Intended costs over next 12 months:						
1. Hiring of new staff						
Care manager / Nurse	Under review	79,040	79,040	79,040	79,040	316,160
Administration/reception	Under review	49,400	49,400	-	-	98,800
2. IT: computer hardware and software						
Computers, software	1,000	-	-	14,400	32,700	48,100
Sub-total	1,000	128,440	128,440	79,040	79,040	463,060
Grand Total						1,612,166

DISCUSSION

In this section we provide an overview of the key achievements in western Sydney related to transitioning to PCMH models of care. We also describe key enablers and barriers to the PCMH transitioning process, and consider the cost estimate findings and the implications for PCMH and HCH transitions in the future.

KEY ACHIEVEMENTS

The transitioning practices were all aware of the PCMH model and of the ten building blocks of high-performing primary care [10]. It was evidenced from the interviews that all eight transitioning practices were in the process of implementing the building blocks, particularly the four foundational elements of engaged leadership, data-driven improvement, empanelment and team-based care. Interviewees also often described their transition as addressing the quadruple aim of improving population health, enhancing patient experience, reducing costs and improving the work life of health care providers [2].

Many interviewees described their practices as focussing on preventative care and using data to plan and prioritise patient care. There was a strong focus on including patients in making decisions about their health, educating them in navigating the health system, and providing easier access for patients to a range of health services provided in the one location; patient-centred activities that have been demonstrated to enhance patient experience [3]. Interviewees also described using data to analyse and track patient and population health outcomes as a contribution towards improving population health [35].

Transitioning to a PCMH model of care may reduce costs to the health system by decreasing hospital admissions and re-admissions and lessening unnecessary duplication of tests [13]. Accessing multiple providers at one location in a single visit will also potentially reduce costs for patients [3].

Improving the work life of staff was evidenced across all PCMH transitioning practices, particularly through working together as a team and sharing patient care. Opportunities for multi-skilling, up-skilling and working at top of licence were provided through the transition process, and multidisciplinary relationships were strengthened. Consistent with previous research findings, these factors help facilitate work satisfaction, a sense of achievement and professional as well as personal growth and in doing so, improve the experience of providing care [11, 14].

FACILITATORS

Interviewees from PCMH transitioning practices identified various factors that enabled the transition process.

Shared vision

A shared vision centred on the PCMH concept and a strong commitment to the vision by all staff was seen by many interviewees as key to enabling the transition process to begin and to continue.

Leadership

It was seen as essential for practice leaders to be drivers of the transition. To gain the trust of their staff, leaders needed to be able to communicate the vision and to engage with staff in all aspects of the transition, including in decision-making. Leadership helped facilitate team engagement and was important in supporting staff in team-based care.

Right staff

Having the right staff was considered important by many interviewees. This involved recruiting the right staff, who were committed to the vision and to working together as a team, and who were focused on patient outcomes and not on throughput.

Communication

Clear communication between all staff was seen as imperative in the transition process, particularly with the introduction of new approaches to care. Time for team meetings and group sessions called “huddles” where patient care is talked through and planned, was seen as an essential component of team-based care.

Patient registration and continuity of care

Provision of ongoing care by a single practice was described as improving the care provided and also enhancing patient engagement and satisfaction with the PCMH model. Continuity of care was noted as providing satisfaction and a sense of achievement for staff.

Support from PHN

Many interviewees highlighted the importance of support and training throughout the transition process. PCMH education and workshops were seen as crucial but just as important were site visits from the PHN, with support tailored to the individual practice. Practices noted the benefits of site visits for example, to demonstrate practical aspects of the PCMH model, to help with using Linked-EHR and data extraction and to solve IT issues.

BARRIERS

Interviewees described challenges and barriers that they faced in transitioning to a PCMH model of care.

Attitudinal barriers

Resistance to a PCMH model of care and inertia among staff were described as major obstacles to transition. Some interviewees reported that practice leaders and staff were demotivated by lack of financial incentive. Attitudes around patient ownership were noted as obstacles to working together and sharing patient care. Other attitudinal barriers included GPs unfamiliar with IT systems who could be resistant to technological change, as well as GPs close to retirement who might not be interested in pursuing a new model of care at this stage in their careers.

Challenges in finding the right staff

Many interviewees described finding the right staff and keeping a stable team challenging. It was noted to be difficult to recruit skilled staff in western Sydney, and difficult to retain staff particularly when more lucrative alternatives could be found elsewhere. Challenges of an ageing workforce were noted and recruitment of allied health professionals and practice nurses were challenges especially for non-PCMH practices.

Inadequate Information Technology

Interviewees from all practice types expressed frustration with IT software not working well. For PCMH transitioning and WSICP practices, sharing information through Linked-EHR and My Health Record was challenging; systems that required time and effort to establish risked losing patients during the process. Data entry was perceived to be duplicative. All practice types described the need for ongoing IT training and support.

Lack of Space

Interviewees across all practice types commented on the lack of physical space and an inability to create more space to co-locate services within their practice and build a multidisciplinary team. Space was also an essential element in carrying out team-based care activities such as case conferencing and “huddles” and the lack of it was an obstacle to PCMH transition.

Constraints of current fee for service model

Interviewees from all practice types described fee-for-service funding as a constraint to a more patient-centred model of care, with patient throughput rather than quality being rewarded. The current Medicare reimbursement model was noted as failing to support many PCMH strategies with costs such as non-face-to-face consultations not reimbursed. Inadequate funding for general practice nursing staff was also a constraint. Specialist fees were described as an ongoing barrier to patient access and this imposed a burden on GPs when they were required to provide care beyond their expertise.

Uncertainty of funding in PCMH models

Many interviewees from all practice types voiced concerns over funding uncertainties including those related to the Health Care Homes model. The amount of funding for this was perceived to be inadequate to support comprehensive patient care. There were concerns over how GP contractors, nurses and non-medical staff were to be paid, and overall concern about whether the model could damage rather than support introduction of the PCMH model of care.

IMPLICATIONS OF THE COST ESTIMATES

SUMMARY OF THE COSTS

Our economic costing analysis attempted to estimate the additional costs to practices of making the transition to a PCMH. The greatest cost to date, in the two years of transition, has been due to time including that spent in initial ‘one-off’ leadership/training activities, and also in recurring activities related to operating a team-based model of care. Across five practices the total time commitment to leadership and training to prepare for PCMH was 4,546 hours over approximately two years. The total additional hours in introducing the new model of care was 7,218 hours per year across the five practices. These were real opportunity costs to practices and staff, which can be legitimately valued as lost revenue and income according to convention in economics. Across the five practices we recruited, total one-off costs for leadership and training were approximately \$385 000, and the total (and annual recurring) cost in introducing a new model of care is estimated at \$764,000. In addition, all practices intended to invest in new staff and/or IT at a projected cost of \$463,000. Overall, the cost for the five practices to transition to a PCMH model of care over a three year period is estimated to be \$1,612 million in financial outlays and the opportunity cost of time.

Additional costs such as new staff and investments in IT are likely within the coming 12 months. Further investments, large (e.g. infrastructure) and relatively small (e.g. governance) are uncertain at present, subject to review of the working model of care and contingent upon practice profitability.

THE PRACTICE CONTEXT

Practice activities associated with making the transition to PCMH relate to 'system level' change within the practices to both inform the direction of change and the implementation of a new model of care. These activities are not billable in the current 'fee for service' model in Australia, and all practices cited this as a barrier to implementation. Nonetheless, the five practices have made changes and invested in the transitional process.

The costs we have documented are likely to be an underestimate given most practices indicated that investment in infrastructure improvements to the practices were ideally needed such as additional consulting rooms.

An absence of supporting finance may act as a barrier for other practices to initiate and sustain change. Practices would need reserves to draw upon and/or altruistic staff willing to absorb opportunity costs of training and work longer hours in a new model of care. PCMH/HCH is intended to lead to improved health outcomes, however if less affluent practices cannot afford to transition, then there is a risk of widening inequalities across the population.

The introduction of PCMH will also have knock-on implications for revenue generation. This was outside the scope of this study and these revenue impacts will only become fully apparent over time. For instance, part of the rationale for PCMH transition is to free-up the time of general practitioners by reducing the number of patient visits. Alternate general practitioner activities and associated revenue and cost implications are unclear as yet. However, at least in the short run, the transition to PCMH is at net cost. Overall, the costs of transition are considerable, and have been borne by the practices themselves.

LIMITATIONS

The process of transition towards PCMH/HCH continues in all practices, and so the costs estimates are best interpreted as preliminary. The estimates are based upon recall by practices in a retrospective analysis of cost incurred to date, and a projection of future estimates which most practices found challenging since the implementation process is still underway.

Practices engaged in PCMH are 'early-adopters' and may not be representative of the general practice population.

COMMENTS ON HEALTH CARE HOME FUNDING

Two of the practices will focus in the future on HCH models of practice rather than 'whole of practice' change. These two practices themselves felt that the transitional process and model of care activities undertaken as part of PCMH is actually essential for transition to HCH, even though the HCH model of care applies to a subset of patients. For that reason comment is made here regarding the associated HCH funding arrangements. For HCH practices a \$10,000 payment upfront and payment per patient enrolled according to a three tier classification is anticipated [1]. Interviewees expressed concern that the payment structure would not cover the investments made in the transition (both one-off and recurring costs estimated).

This economic costing analysis provides some evidence for these concerns. The upfront payment of \$10,000 is dwarfed by the one-off transitional time costs estimated in the five practices, ranging from \$25,000 to \$107,000 per practice. It was unclear at the time of our interviews how the tiered enrolled patient payment amounts were derived. If this was to be a 'cash-out' of the expected Medicare fee for service arrangement, then no consideration appears to have been made of the 'system-level' time costs of introducing a new model of care, which as we have demonstrated are considerable and recurrent.

HCH is system-level change and consequently it may be advisable to consider an aligned system level payments structure building upon the current arrangement, including for instance: (i) an upfront payment that exceeds \$10,000, (ii) an on-going payment that recognises additional time spent when managing in teams, and (iii) a payment by performance measured using health outcomes.

MONITORING AND EVALUATION IN THE FUTURE

Given the transition to PCMH/HCH remains in progress, it is important to continue to monitor the progress of practices. A costing template is provided in Appendix B: Table 4 to assist with a future costing exercise.

If economic evaluation is planned, there is the potential for comparison of costs, revenue and outcomes across the current practice types, including: (i) between practices: (a) PCMH practices also engaged with HCH versus HCH practices, (b) HCH practices who received PCMH training versus HCH patients without PCMH training; (ii) within practices: (a) patients managed through HCH patients with bundled payments versus PCMH patients managed through Medicare fee for service, (b) patients managed through HCH patients with bundled payments versus patients managed through Medicare (without HCH or PCMH).

Parramatta



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