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Appendix 3

This appendix was part of the submitted manuscript and has been peer reviewed.
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Appendix to: Janamian T, Jackson CL, Glasson N, Nicholson C. A systematic review of the challenges to implementation of the patient-centred medical home: lessons for Australia. *Med J Aust* 2014; 201 (3 Suppl): S69-S73. doi: 10.5694/mja14.00295.

Appendix 3: Characteristic of studies included in the review

First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
Alexander[1] 2012	US	Exploratory	Qualitative, semi structured interviews with representatives of physician organisations and primary care practices pursuing Patient Centred Medical Home (PCMH). Exploration of policy barriers.	Practitioners and staff at 16 physician practices in Michigan as well as key leaders of physician organisations	10
Arend[2] 2012	US	Exploratory	Review of the history and literature on evidence of the effectiveness of the PCMH	US context	8
Bates[3] 2010	US	Exploratory	Review of literature presenting evidence on the performance of PCMHs and the degree to which they use Electronic Medical Records.	4 PCMH demonstration sites in US publications (N. Carolina Medicaid, Geisinger, Four Small Practices, Group Health).	10
Berenson[4] 2010	US	Exploratory	Comparison and review of payment options to support the PCMH	US context	9
Bitton[5] 2010	US	Descriptive	Qualitative: Cross sectional comparative key informant interviews. Domains of interest-project history, organisation & participants, practice requirements, medical home recognition, payment structure, transformation	26 demonstration sites for PCMH across 18 states involving 14000 physicians caring for 5 million patients. Leaders from PHCH demonstration projects with external payment reform.	8
Bitton[6] 2012	US	Descriptive	Qualitative case study approach with structured site visits, interviews, observations and artefact reviews. A grounded taxonomy of 8 insights stemming from the experiences of PCMHs	5 primary care practices composed of a single office with 3-8 physicians Two states in north eastern US	9
Crabtree[7] 2010 3	US	Experimental/ quasi experimental	Mixed methods-Summary of findings of independent evaluation team using a multi-method evaluation strategy analysing data from direct observation, in-depth	36 family practices randomised to facilitated or self-directed groups. Results of independent evaluation of National Demonstration Project	10

* Types of studies reviewed included perspective, conceptual, critical reviews, quantitative, qualitative and mixed method studies - primarily fell within the domain of health care evaluation, policy and program development [31] therefore a program evaluation study design typology was chosen to categorise the 'type of study' for included studies.[33]

First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
			interviews, email streams, medical record audits and patient and clinical staff surveys. Critical analysis of results of an evaluation using for 4 key questions. Recommendations given based on results of questions and literature review.		
Fernald[8] 2011	US	Descriptive	Qualitative: iterative analysis of field notes, interviews and documents to identify early barriers to change and strategies to overcome them	Evaluation of Colorado Family Medicine residency PCMH project- 9 Colorado family medicine residency training programs and 10 residency practices participated in a program to transform them into PCMHs.	9
Fifield[9] 2012	US	Experimental / Quasi Experimental	Quantitative: Randomised Control Longitudinal Trial:18 intervention practices received 6 months of intensive and 12 months of less intensive practice redesign support, two years of revised payment and 18 months of care management support. Controls received yearly participation payments. Measures used: the extent to which practices achieved medical homeness overtime using NCQAs recognition program (nine standards)	18 supported practices and 14 control practices in 5 primary counties of New York City.	10
Fisher[10] 2008	US	Exploratory	Description of barriers to the potential capacities of the medical home including resistance to collaboration, lack of public and political support and difficulty controlling costs. Approaches to overcoming barriers outlined. (Perspective)	Identifies implementation gaps of PCMH in the US setting across continuum of care	8
Friedberg[11] 2008	US	Descriptive	Quantitative: Cross sectional survey to assess current prevalence of recommended structural capabilities among primary care	State-wide survey of over 400 primary care practice sites in Massachusetts in 2007. One	10

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First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
			practices and evaluate relationship to practice size and network affiliation.	physician chosen at random from each of 412 practices.	
Green[12] 2012	US	Descriptive	Qualitative study. Literature review and analysis of experiences of organizations' transitioning from traditional primary care practice to a PCMH.	PCMH workshop in Alexandria, Virginia in June 2010. Carillion Clinic and the Air Force—contributed the vast majority of the examples and experiences.	6
Harbrecht[13] 2012	US	Descriptive	Description of pilot study	The Colorado multi-payer PCMH pilot involving 16 family or internal medicine practices with approximately 100,000 patients.	5
Jaen[14] 2010	US	Experimental/ Quasi Experimental	Quantitative: clinical trial with practices randomized to facilitated or self- directed intervention groups. Observations done at both the practice level and the patient level. (Details of data collection provided elsewhere). Data on preventive service delivery, chronic care, and patient experiences were collected in the 2 study groups at baseline, 9 months, and 26 months. Evaluation of two types of patient outcomes with repeated **cross-sectional surveys and medical record audits** at baseline, 9 months, and 26 months: patient-rated outcomes and condition-specific quality of care outcomes. Also measured adoption of 39 components of National Demonstration Project model.	36 family practices were selected from 337 applicants across the US Practices were randomized into either a facilitated group or a self-directed group.	10
Landon[15] 2010	US	Exploratory	A review and analysis of potential barriers to implementing the medical home model for policy makers and practitioners	US Health System	9
Leventhal[16] 2012	US	Exploratory	Literature review from medical journals including presentations from a workshop	In 2010 at Alexandria, Virginia on PCMH. Civilian and military	6

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First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
				medical providers, researchers etc were brought together to discuss transition from primary care to PCMH.	
Nutting[17] 2009	US	Descriptive	Qualitative: multi-method evaluation using direct observation, review of progress reports site visits analytic retreats, member checking of the National Demonstration Project on practice transformation to a PCMH. (Early process evaluation)	36 family practices were selected from 337 practices completing comprehensive on-line application. Practices were selected to maximize a diversity of geography, size, age, and ownership arrangements. (Diverse national sample of 36 practices)	8
Nutting[18] 2010	US	Experimental/ Quasi Experimental	Mixed methods: 36 family practices randomized to a facilitated or self-directed intervention group. Measured 3 practice-level outcomes: (1) the proportion of 39 components of the National Demonstration Project model that practices implemented, (2) the aggregate patient rating of the practices' PCMH attributes, and (3) the practices' ability to make and sustain change (adaptive reserve). Used a repeated-measures analysis of variance to test the intervention effects. Qualitative data collected via site visits & staff interviews. Cross sectional survey of patients & practice staff (CSQ).	36 family practices were selected from 337 practices completing comprehensive on-line application. Practices were selected to maximize a diversity of geography, size, age, and ownership arrangements. Practices randomised into facilitated or self-directed groups	10
Nutting[19] 2010	US	Experimental/ Quasi experimental	Qualitative aspect of larger study: 36 family practices randomized to facilitated and self-directed intervention groups. An independent evaluation team used a multi method evaluation strategy, analyzing data from direct observation, depth interviews,	The 36 practices located in 25 states, with 11 in rural communities, 16 in suburban, and 9 in urban. Ten practices were solo physicians, 8 were small practices (2–3 physicians), 10 were medium	7

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First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
			e-mail streams, field notes. Four 2- to 3-day evaluation team retreats were held during which case summaries of all practices were discussed and patterns were described	sized (4–6 physicians), and 8 were large (≥7 physicians). Twenty-two practices were owned by physicians, 1 by a governing board, and 13 by larger hospital or medical systems	
Nutting[20] 2011	US	Descriptive	Mixed methods: Evaluation team describe lessons learnt and insights from the US's first national medical home demonstration, which ran from June 1, 2006, to May 31, 2008, (36 family practices randomized to a facilitated or self-directed intervention group) (Process evaluation)	Diverse national sample of 36 practices	6
Patel[21] 2012	US	Descriptive	Mixed methods: Process and outcome evaluation (practices compared to state averages on the identified quality metrics). Qualitative feedback from physicians on ways of improving/modifying program	35 Practices in New Jersey with Horizon health care services. Practice locations varied from 1 to 12. Size varied from 1- 27 physicians. Initial focus on diabetes management later expanded to include all Horizon patient members	6
Reid[22] 2010	US	Quasi –experimental	Quantitative- A two group, quasi-experimental, before-and-after evaluation over 2 years was used to gauge the prototype clinic's impact on cost, quality and experience. (Surveys, data extraction-note methods described in another paper by Reid) Researchers analysed and described differences at the medical home prototype compared to controls for patient experience, provider burnout, quality of care, and costs at baseline, twelve months, and twenty-one to twenty-four months	The Group Health Cooperative, a non-profit, consumer-governed, integrated health insurance and care delivery system based in Seattle, Washington was compared to controls.	8

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First Author [ref] year	Country	*Type of study [32,33]	Methodology	Setting and population	Quality rating [29-30] Score out of 10
Rich[23] 2012	US	Descriptive	Case study of 5 programs: Report is a summary of work by the Agency for Healthcare Research & Quality and Mathematica Policy Research on policies and strategies to help smaller primary care practices transform into effective medical homes that serve patients with complex needs.	Five programs selected for in-depth study based on 4 criteria: (1) serve frail elderly or adults with disabilities; (2) work with a variety of small primary care practices, defined as fewer than 10 primary care clinicians; (3) coordinate care across medical & social service systems (4) operating at least 2yrs	5
Rittenhouse[24] 2011	US	Descriptive	Quantitative study: national cross sectional telephone survey. Examined processes that correspond to four joint principles of PCMH: physician-directed medical practice; care coordination and integration; quality and safety; and enhanced access.	National Study of Small and Medium-Sized US Physician Practices, which provides the first national data on the use of medical home processes in practices that have 1-19 physicians.	9
Rosenberg[25] 2012	US	Descriptive	Quantitative: Observational paired design study to assess the impact of UPMC Health Plan's patient-centered medical home program. Analysis of cost, service use, and clinical quality data for the two-year period 2008 and 2010. Using a difference of differences approach, compared changes for UPMC Health Plan members served by sites participating in the PCMH program to changes for members served by the rest of the plan's primary care network.	The 10 primary care sites (Pennsylvania) -selected based on physicians' willingness to participate in UPMC Health Plan's PCMH program. All sites were in urban settings. All UPMC Health Plan adult members who received primary care at any of the ten sites in calendar years 2008–10 were included.	9
Stenger[26] 2010	US	Exploratory	Critical review of legislative documents from state legislative session in 2007 that included concept of medical home. Case study analysis of secondary qualitative data re field notes of interviews with key stakeholders	Oregon 2007. Key stakeholders	10

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True[27] **2012**	US	Descriptive	Qualitative: observation, semi structured interviews, internal organisation document review. Described impact of readiness for implementation on efforts of pilot teams to make changes to improve access and identify successful strategies used by early adopters to overcome barriers to change. (Formative evaluation)	First 18 months of implementation in one Veterans Integrated Service Network (VISN) across 6 states. Interviews with local implementation teams eg administrators, primary care provider & staff at primary care clinics located at 10 medical centers & 45 outpatient clinics.	9
Wise[28] **2011**		Exploratory	Qualitative comparative case study- assessed primary care practices' readiness for PCMH implementation. Interviews with 8 practice teams with higher PCMH scores & 8 with lower PCMH scores, plus leaders of the physician organizations (66 semi structured interviews)	16 practices from 12 different physician organizations located in 8 counties across Michigan	10

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