

Learning from promising primary care practice models
for the USA



Strengthening primary care to improve health: Learning for the USA from high and middle income countries

Rene Loewenson and Sarah Simpson

with input from
Alexandra Nolen (USA desk review), and
Kalen Moat, John Lavis, Brian Hutchison (Canada case study),
Patricia Frenz Tania Alfaro, Mauro Orsini (Chile case study),
Dionne Kringos, Niek Klazinga (the Netherlands case study),
Andy Pennington, Margaret Whitehead (England case study)

Training and Research Support Centre

August 2014

Training and Research Support Centre



Support for this research was provided by a grant awarded by Charities Aid Foundation (America)
from the Robert Wood Johnson Foundation Donor-Advised Fund

Cite as: Loewenson R, Simpson S with Nolen A and country case study teams (2014) 'Strengthening primary care to improve health: Learning for the USA from high- and middle-income countries', Training and Research Support Centre, August 2014

Acknowledgements:

The paper was written by R Loewenson and S Simpson who alone are responsible for the views expressed in this publication. They do not necessarily represent the official views, decisions or policies of the Training and Research Support Centre or the Robert Wood Johnson Foundation. We are grateful for input from A Nolen whose US desk review separately published informed the US content and who reviewed the paper and made input to the US evidence and entry points. We also wish to thank the case study teams whose background papers, separately published, informed the evidence on promising practice: K Moat, J Lavis, B Hutchison; P Frenz, T Alfaro, M Orsini, R Alaniz, H Aguilera, J Acevedo, X Sgombich, C Díaz, A Infante; D Kringos, N Klazinga; A Pennington and M Whitehead. Thanks to A Papamichael, M Masotya and C Ellis for reviews of papers in specific areas. We gratefully acknowledge external peer review by US reviewers: P Conway, L Sessums, S Mende, MJ Ladden and J Macinko, and International reviewers: M Harris, E Kelley and H Montenegro.

Cover photo credits: Neil Parekh/SEIU Healthcare, Neighborhood Centers Inc, myfuture.com, Christiana Care, MCSA Joshua Adam Nuzzo (all used under the Creative Commons Attribution license).

The report has been copy edited by Virginia Curtin Knight. Design and layout by Blue Apple Projects

This work was completed as part of a programme being implemented by the Training and Research Support Centre. It is funded by the Robert Wood Johnson Foundation (RWJF) through Charities Aids Foundation America. For more than 40 years RWJF (www.rwjf.org <<http://www.rwjf.org>>) has worked to improve health and healthcare, to build a national culture of health that will enable all Americans to live longer, healthier lives now and for generations to come. Follow RWJF on Twitter at www.rwjf.org/twitter <<http://www.rwjf.org/twitter>> or on Facebook at www.rwjf.org/facebook <<http://www.rwjf.org/facebook>> .

Redistribution of the material is encouraged by the publisher, provided that the original text is not altered, that the original source is properly and fully acknowledged and that the objective of the redistribution is not commercial gain. This creative commons attribution-non commercial-share alike license does not apply to figures and tables for which specific permissions have been obtained for use in this document as stated under them. These figures and tables are protected by the terms of their own copyright license.





Strengthening primary care practice to improve health: Learning for the USA from high- and middle- income countries

Rene Loewenson and Sarah Simpson

with input from

Alexandra Nolen (USA desk review), and
Kalen Moat, John Lavis, Brian Hutchison (Canada case study),
Patricia Frenz Tania Alfaro, Mauro Orsini (Chile case study),
Dionne Kringos, Niek Klazinga (the Netherlands case study),
Andy Pennington, Margaret Whitehead (England case study)

Training and Research Support Centre

August 2014

Table of Contents

Executive summary	1
1. Introduction and Methods	3
1.1 Background	3
1.2 Desk reviews and analysis of databases	3
1.3 Country case studies	4
1.4 Analysis across the country case studies	4
1.5 Limitations	4
2. Conceptual framework	5
2.1 Attributes of primary care	5
2.2 Conceptual framework	5
3. Improving PC in the USA	9
4. Ten areas of promising PC in HMICs	11
4.1 Enabling sociopolitical contexts	11
4.2 Measures to widen equitable universal financing and coverage	14
4.3 Purchasing arrangements to incentivise improved practice in PC	18
4.4 Ensuring health value for money in medicines and technology	22
4.5 Producing, organising and supporting a PC-oriented workforce	25
4.6 Organising early, first contact and continuity of care	29
4.7 Providing comprehensive, co-ordinated person/population focused PC	33
4.8 Measures for consistent quality improvement in PC practice	35
4.9 Supporting and informing innovation in PC	37
4.10 Involving empowered patients and communities in PC services	39
5. Recommendations and areas for follow up	42
5.1 Value for money outcomes from promising practices	42
5.2 Recommendations from promising practice in PC	44
5.3 Enabling conditions, facilitators and brokers	49
5.4 Areas for follow-up work	50
6. References	51
Acronyms	59
Appendices	60

Executive summary

The project ‘Learning from promising primary care practice models for the USA’ is being implemented through the Training and Research Support Centre with partner institutions with support from a grant awarded by Charities Aid Foundation of America from the Robert Wood Johnson Foundation Donor-Advised Fund. It aims to identify and describe promising primary care (PC) practices and approaches in high- and middle-income countries (HMICs) that have relevance to United States (US) application, particularly from countries with better health outcomes at lower costs than in the USA.

This paper presents a synthesis of evidence to address this question from three desk reviews, analysis of international data and country case studies in Canada, Chile, England and the Netherlands. The context, service models and organisation, social roles and health outcomes of PC were reviewed together with how change in PC is managed and sustained. Value for money of different approaches was assessed by concomitant consideration of health, healthcare, satisfaction (client and provider), quality and cost outcomes.

We identified challenges and opportunities for improving health outcomes from PC in the USA that focused our investigation of PC in other HMICs, including:

1. At national level:
 - a. Obtaining social, political and stakeholder support for the regulation, value-for-money assessment and public health measures needed to achieve health goals;
 - b. Providing for informed public participation in health sector decision making;
 - c. Harmonising standards and sharing practice across states on prepayment coverage, quality and widening the scope of practice of PC professionals;
 - d. Ensuring co-ordinated and affordable prepayment insurance arrangements that cover all social groups, wider risk pools and cross subsidies across funders;
 - e. Moving from fee for service to capitation and blended payments; with incentives to support comprehensive care, interprofessional teams and quality improvements;
 - f. Improving price incentives and public literacy to reduce non-beneficial treatments; and
 - g. Strengthening recognition, training and scope of practice for interprofessional teams.
2. At PC practice level
 - a. Strengthening comprehensive person and population-centred first contact;
 - b. Strengthening PC as first contact and improved continuity of interaction between PC practices, clients, specialist and emergency services;
 - c. Building PC competencies for community and preventive care; for mental, dental health services and co-ordination with other sectors to address health determinants;
 - d. Improving access to PC and PC co-ordination of referral services, to reduce inappropriate use of emergency and referral services at a cost to people and services;
 - e. Strengthening adherence to quality guidelines and providing appropriate payment incentives and support for quality improvements and for reduced waste;
 - f. Supporting uptake of innovation, especially for smaller, less resourced practices;
 - g. Involving clients and communities in decision making, from individual care plans to community health and service priorities, spending and performance review; and
 - h. Strengthening social empowerment and health literacy, including through community health workers and links with social networks that promote well-being.

The range of promising policies, system features, PC models, approaches and measures in HMICs, and particularly in the case study countries, that have been used to address such challenges are presented in 10 sub-sections of the report. Many of these measures are interlinked and mutually reinforcing, including in terms of value for money. The evidence points to practices in HMICs that were associated with improvements in health and value for money, further detailed in the country case studies, that were relevant for the USA:

1: Refocus on communities and population health:

Improved PC practice is centred on patients and communities, links individual to population health and provides for meaningful social roles. This has been fostered by health literacy programmes and networks; by Health Champions (as in the UK), expert patients and community health workers; by social media and online health information and by active education outreach on insurance and service entitlements (as in Chile). Services themselves need to be health literate, training providers in cultural and communication competencies (as in the Netherlands). A population health approach calls for co-ordination with other (municipal) social services (as in Chile and Netherlands), using participatory epidemiologic and family mapping to identify and plan for the needs of particular social groups and families, and to foster joint action on community health problems (as in Chile), with Healthwatches that bring community voice to planning, including in national processes (as in the UK).

2: Reach, equitably include and bring all into PC:

Insurance coverage has been supported by active follow up of underserved groups, in local languages and settings (as in the Netherlands); with public education on a benefit package offered free at point of care, and service guidance for and monitoring on its delivery (as in Chile). Enrolment is a key measure for first access, with flexibility to choose a practice and provision for portability (as in England and the Netherlands). Voluntary enrolment can be encouraged by incentives (as in Quebec), with safeguards against excluding complex cases and links with other agencies to reach out to homeless people. After-hours care is facilitated by guaranteed opening hours and shared PC practice arrangements, in PC co-operatives, located near or in hospitals (as in Chile and the Netherlands), with information links to PC (in the UK) and options for online and phone consultation.

3: Think and act more comprehensively in improving health:

The weak interface between population health and personal PC services undermines both. A more comprehensive paradigm calls for use of population health evidence to plan and monitor services (as in Chile and the UK); for comprehensive models that combine the medical and psychosocial dimensions of care across the life course (as in Chile); and, delivered by a mix of health and allied professionals in PC teams, co-ordinating PC with public health and other services. Community health centres that are population based with service models organised around social groups and community entry points facilitate comprehensive

care, supported by bundled payments and co-ordinated planning (as in the Netherlands). Co-ordination of care calls for a stronger PC role in referral, supported by incentives and for improved PC 'expert generalist' competencies to build public trust in this role (as in the UK).

4: Organise and enable the key capacities to deliver:

A multidisciplinary PC team demands recognition and training of expert generalist GPs (as in the UK) and of nurse, other professional and community worker roles (as in some PC models in Ontario, Canada), with extra measures for disadvantaged areas (as in Scotland). Moving from fee for service (FFS) towards capitation and blended payment improves value for money. It was achieved in Ontario by providing a range of PC models that improved incomes and incentivised capitation. Incentives can also support quality, access, equity and innovation (as in the UK and the Netherlands) but need exceptions to allow for specific needs and regular review to avoid thresholds becoming ceilings. Value for money is enhanced by evidence-based assessment with public involvement (as in the UK); by guidelines, and tools; quality circles and peer review and continued professional education for *all* staff (as in Chile).

5: Support 'learning practice' and 'thinking politics':

PC is a site of innovation with high demands on information, communication and learning. This has been strengthened through interoperable information systems across services; phone and online outreach with clients; telecare for specialist input and automated data capture for reporting and reviewing performance. Meso-level forums and networks support exchange, collaboration and evidence informed policy, strengthened by measures such as Chile's innovation circles on key areas of practice or the Netherlands support organisations, and by new funds from governments (Canada) and insurers (the Netherlands).

An exchange of experience across countries can inspire innovation and share learning. For example, many countries still need to build stronger links between PC and population health systems and to better organise social roles in PC.

Wider implementation of system-level evaluation of PC innovations and an institutional framework that facilitates learning from innovation would not only support exchange within and across countries, but also provide the evidence and exchange needed to inform and cultivate public, professional and political support for promising practice.

1. Introduction and Methods

1.1 Background

With health reforms underway in the USA there is interest in learning about primary care (PC) approaches from other HMICs, and particularly those that have achieved improved health outcomes at lower levels of health expenditure.

To contribute to this, the project: ‘Learning from promising primary care practice models for the USA’ is identifying and describing promising PC practice models and approaches from international experience with better health outcomes at lower costs than in the US that have relevance to US application, to inform dialogue on models and measures that could be adapted in the USA. It is being implemented through the Training and Research Support Centre (TARSC) with partner institutions in case study countries and funded by Charities Aids Foundation America as a project for the RWJF.

This paper provides a synthesis of the conceptual framework, analysis of international databases, desk reviews and country case studies on PC, discusses evidence on promising models and approaches in PC that have relevance to the challenges and opportunities in the USA, and recommends practices and approaches that can be considered for adaptation in the USA. It notes, from HMIC experience, enablers and challenges for introducing, managing and sustaining innovation and issues that need further exploration in follow-up work.

The five review papers and four country case studies that provided evidence for this paper are separately reported and provide detail of information raised in the paper.

1.2 Desk reviews and analysis of databases

The desk reviews implemented for the work (with the number of papers they drew on):

- a. developed the conceptual framework (Loewenson and Simpson 2014; 44 papers).
- b. explored contexts, systems and PC services in the USA (Nolen 2014; 320 papers);
- c. reviewed PC practice in HMICs (Simpson 2014; 160 papers); and
- d. analysed twelve international datasets on health spending and health outcomes in HMICs to identify those achieving higher health value for money (Loewenson 2014).

Drawing on the evidence from the desk reviews and the data analysis, a synthesis was produced of sixteen areas of opportunity and challenge for PC in the USA, and of relevant policy, PC model and supporting system options from other HMICs where there is evidence of improved health value for money (Loewenson et al. 2014a). This synthesis was used to select and frame the terms of reference for four HMICs for deeper country case study work, to gather evidence and identify learning on the contexts for and specific features of PC practice that have had positive impact on health, relevant to the opportunities and challenges for PC in the USA.

We provide further detail on all areas of the methods in *Appendix 2*.

Analysis of data from World Development Indicators (WDI) for 65 indicators from 130 HMICs for 2000 and 2010-2012, more fully described in *Appendix 2* and Loewenson (2014), indicated that:

- For total expenditures on health per capita and as a percent of Gross Domestic Product (GDP), any HMIC satisfies the criterion of having a lower level of health spending.
- All but four HMICs achieved better survival outcomes at much lower per capita expenditures than in the USA and nearly half had better survival outcomes than in the USA across the seven indicators assessed.
- Outcomes in the USA worsened compared to other HMICs between 2000 and 2012 (World Bank 2013; WHO 2013c; Loewenson 2014 and *Appendix 2* for more detailed evidence).

The analysis pointed to seventeen countries with similar population size and structure where improved outcomes were found in four or more of seven indicators of health expenditure and health/healthcare outcomes (Loewenson 2014). Chile was added for having a multi-insurer model, with significantly lower expenditure per capita than the USA has and with reforms underway to strengthen PC. The data on these seventeen countries were triangulated with evidence from the desk review of practice in PC in HMICs (Simpson 2014), categorised within the key areas of relevance to the USA.

The countries showing both a higher frequency of promising practice in the desk review and a higher frequency of improved health outcomes in the database analysis were Australia, Canada, Chile, Cuba, Denmark, the Netherlands, New Zealand, Thailand and the United Kingdom. These were identified as potential case study countries (See *Appendix 2 Table A2* and Loewenson et al. 2014a for more detailed evidence).

Within the resources available to the project, and after review of the findings with RWJF, four countries were selected for deeper country case study work: the UK (focusing on England), the Netherlands, Chile and Canada (particularly focusing on Ontario and Quebec).

1.3 Country case studies

The selected countries reflect a diversity of region, context, measures and service models relevant to the key areas of challenge and opportunity identified in the USA. All country case studies were country wide, but the UK case largely focused on England, to allow for an in-depth discussion on the system. The Canada case study focused on Ontario and Quebec, as provinces with two-thirds of Canada's population that have shown rapid innovations in PC.

The country case studies gathered evidence through document review and key informant interview within the major domains of the conceptual framework shown *Section 2.2*. They gave attention to policies and practices that addressed the sixteen dimensions identified as pertinent to current challenges in US PC (outlined in *Section 3*), with evidence where available on effect on health and value for money. Further details on their methods and the ethics approvals are found in *Appendix 2* and in the full country case study reports (Frenz et al. 2014; Kringos and Klazinga 2014; Moat et al. 2014; Pennington and Whitehead 2014).

The case studies included an example from the lens of a person with a chronic condition (and/or multimorbidity) that demonstrates how the system delivers and the person experiences features identified as promising, from community and primary prevention and through the care pathway, with the evidence from this integrated in the findings and shown in *Appendix 4*.

1.4 Analysis across the country case studies

The evidence in the case study reports was summarised within the conceptual framework against the sixteen areas of focus identified in the US review.

From this and feedback from US peer reviewers we identified ten areas of promising practice in PC relevant to the USA, presented in *Section 4*. The case study reports provide greater detail on these practices, with examples provided in *Appendix 4*.

Section 5 provides evidence on the dimensions of value for money that the measures addressed. The factors that enable or block promising practice were tabulated and common findings presented in *Section 5* and *Appendix 6*.

1.5 Limitations

The desk reviews may have excluded practice not included in published literature, although this was addressed in part by including grey literature and key informant interviews in the case studies. Given varying definitions of health system indicators across countries, the analysis of indicators largely used one database. National aggregate data do not adequately reflect the variation within countries or the complexity of systems, so qualitative evidence was included in the analysis. Time and resource constraints across the whole project limited original data collection, including on cost benefit analysis.

With limited published evaluations of PC reforms, many reforms in progress in countries and difficulties in attribution (Hogg and Dyke 2011), it is difficult to link directly areas of practice and value for money. Judgements on what is considered promising and on impacts also need to consider both immediate and longer term time frames. Noting these constraints, peer review from the US and other countries helped to inform, enrich and focus the background and country papers and to question and validate evidence and conclusions.

2. Conceptual framework

2.1 Attributes of primary care

There are diverse definitions of PC, focusing differently on purpose, attributes and goals, some aspirational and some substantive. The emphasis and interpretation given to what PC includes and seeks to achieve differs across countries, cultures and contexts (White and Marmor 2009; Lester and Roland 2009). PC is a core component of the primary health care (PHC) approach,

itself evolving, albeit consistently anchored in core values that put people at the centre of service delivery, through measures that organise population health, prevention and care according to need and that involve people in decisions and actions on their health (WHO 2013b). Notwithstanding these caveats, we found in several sources common attributes of PC that were used as guidance for this work (see *Box 1*).

Box 1: Common attributes of primary care

Primary care includes:

1. first contact, accessible healthcare services, where demands are clarified and information, reassurance or advice are given, diagnoses made and where the majority of health issues should be resolved;
2. of different practice sizes and levels of integration with social and community services;
3. that address the population's main physical, mental and social health concerns, integrating their biomedical, psychological and social dimensions;
4. responding to social, cultural and economic norms and contexts;
5. based on sound knowledge of their patients and community, using population health and clinical guidelines and evidence;
6. in an integrated, co-ordinated, comprehensive approach to population health; health promotion, disease prevention, personal care and rehabilitation;
7. supporting continuity of care - guiding and supporting referral to other levels of the system and other supporting services, and engaging in intersectoral collaboration;
8. putting people at the centre of service delivery;
9. within a family and community orientation;
10. through a sustained partnership between people and patients and a multidisciplinary collaborative team of health workers, including community health workers (CHWs);
11. supported by effective information use and sharing.

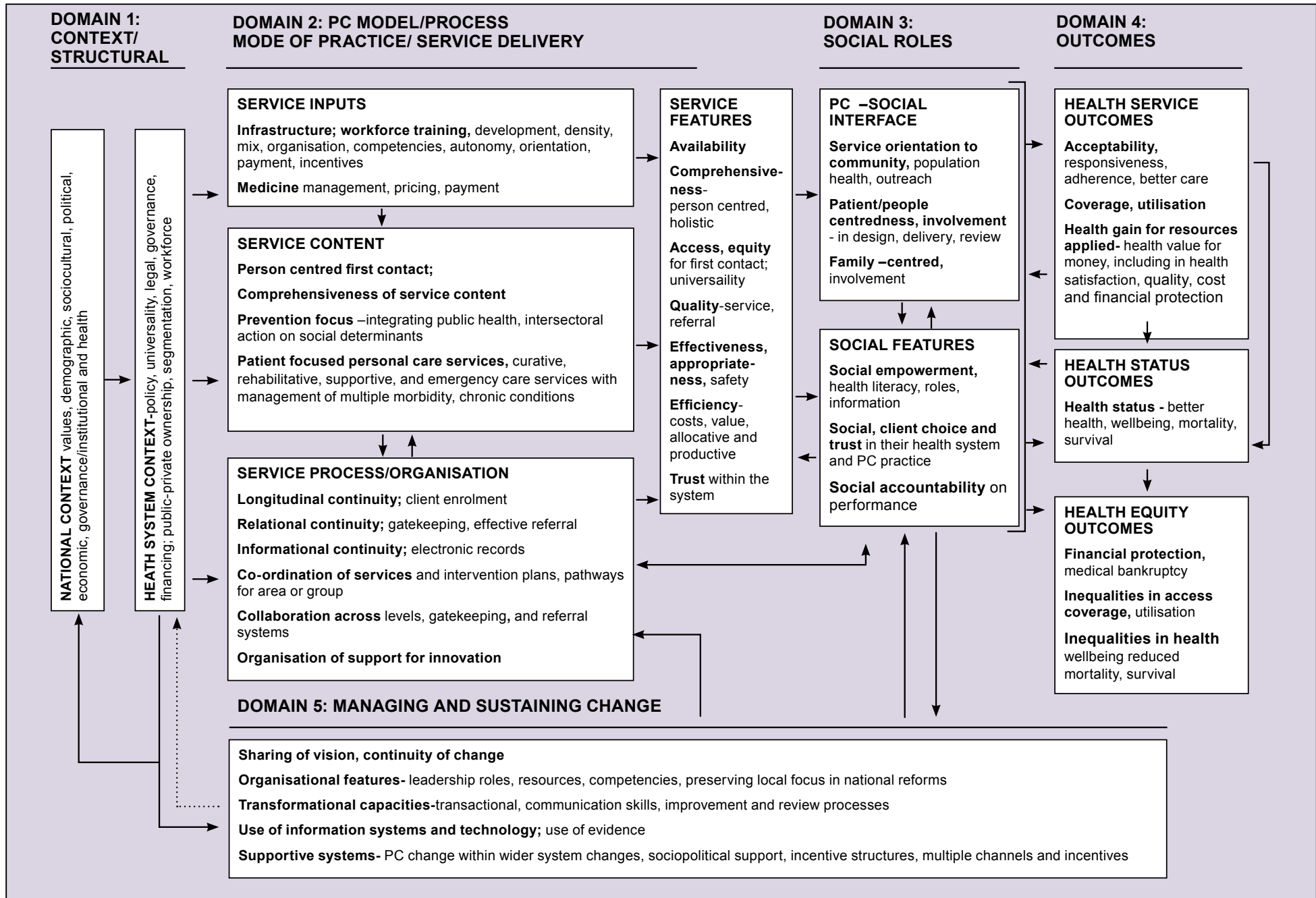
Sources: Kruk et al. 2010; WHO 2013b; Loewenson and Whitehead 2012; Molla et al. 1996; Kringos et al. 2013a; Harzheim et al. 2006; McMurchy 2009; Lester and Roland 2009; Kitreerawutiwong et al. 2010; Starfield et al. 2005.

2.2 Conceptual framework

A conceptual framework was developed to guide the organisation of evidence from the background reviews and the country case studies, provided in more detail in Loewenson and Simpson (2014) and shown in *Figure 1*.

The framework was intended as a guide and not an exhaustive or prescriptive checklist.

Conceptual framework for analysis of the role of PC



Source: Loewenson and Simpson , 2014.

Five key domains were identified:

- 1: **Context:** to locate the PC models and features within their social, political and economic contexts and within the contexts of the policies, laws, governance, organisation and financing of the health systems they are located in, including to judge their relevance to the US context;
- 2: **PC practice and service delivery:** to understand the specific features of PC systems that contribute to improved health outcomes, particularly in the context of populations with higher chronic disease burdens, and noting the measures to ensure coverage in more disadvantaged groups and those in high health need. This included the inputs to, content of and process or organisation features of PC, as detailed in *Figure 1*.
- 3: **Public and social roles:** to understand how the PC systems and practices interact with and organise individual, family and community roles, and social features such as culture, capabilities and power that affect this interaction;
- 4: **Outcomes:** to assess the nature and direction of the health service, health status and health equity outcomes, detailed in *Figure 1*, associated with different PC models and features, while noting the influence of context and the difficulties with attribution; and
- 5: **Managing and sustaining change:** to understand the organisational development, leadership competencies, organisational capacities, information and support systems that play a role in making, supporting and sustaining improvements in PC.

Elements more commonly noted in the literature as associated with different dimensions of health and healthcare outcomes and value for money were included as *constructs* within these domains, shown in *Figure 1*. Information on these constructs is summarised in *Appendix 1 Table A1* and detailed in Loewenson and Simpson (2014), together with indicators for their measurement, used to guide the selection of indicators in the database analysis. The different terminologies are clarified where they are used in the report.

The framework covers dimensions of PC systems:

- at *macro level* (especially Domain 1 on the general and wider health system context);
- at *meso level* (the networks, institutions and processes that connect local level services and their relationships with communities, raised in Domains 2 and 3); and
- at *micro level* (the local PC and social organisation and processes in Domains 2 and 3).

Domains 2 and 3 thus capture both system-wide and local-level content, with country context often determining their level. Domain 4 refers to those health, healthcare and health equity outcomes specific to the PC process in Domains 2 and 3, whilst noting difficulties with attribution. Domain 5 on managing and sustaining change interacts with Domains 1, 2 and 3, at all levels, influencing on and being influenced by these other domains. For example, promising *local* innovation can, as shown later in this paper, change attitudes towards *macro*-level policies, with their wider implementation supported by the presence of meso-level incentives.

While *Figure 1* is two dimensional to simplify presentation, PC systems are noted to be complex, dynamic and adaptive with multiple interactions between constructs, suggested by arrows in *Figure 1*.

A range of outcomes is shown in *Figure 1*, relating to health status, healthcare and health equity. *Health equity* is understood as the absence of avoidable differences (inequalities or disparities) in health status, in access to healthcare and in health determinants and, importantly, the application of resources in relation to health need.

The project team was specifically requested to explore PC models that deliver improved healthcare and health status outcomes ‘at lower cost’. We adopted a *value for money framework* outlined in *Box 2* for addressing this question, as it allows for concomitant consideration of cost with other important dimensions of health service performance and benefit in health outcomes, especially in relation to health need.

We also note that achieving improved health outcomes for lower total health expenditure does not necessarily imply that the level of expenditure on PC *itself* should be falling. Indeed investments and higher expenditures on PC in initial stages may drive wider downstream improvements in overall health system spending and have been associated with a slower growth in healthcare expenditure (Kringos et al. 2013b).

Box 2: Applying a value for money approach in assessing costs of PC

Management policies that focus purely on short-term cost containment risk damaging public trust and provider confidence in PC, and can undermine the measures for *first* access (that is for PC to act as the entry point to the health system) and those for quality improvement, both important for longer term value for money. Key informants in the country case studies also raised this caution. We thus concur with the understanding that an assessment of value for money in PC should integrate health outcomes, satisfaction (covering client and provider satisfaction), quality and costs, and that these factors be considered concomitantly. Such concomitant consideration is argued to provide a more balanced analysis of measures that have longer term population health benefit (such as prevention interventions) against those that may reduce costs in the short term (such as cost sharing) but lead to greater future health costs due to financial barriers and poorer health outcomes; and of cost reductions (such as by not spending on prevention and PC) that may lead to increased costs to the wider health system and economy (such as in time spent on social care and lost productivity).

In this research we thus used a concept of value for money that:

- a. **Integrates improved health and healthcare outcomes, client and provider satisfaction, quality of care, cost and financial protection**
- b. In relation to cost, identifies systems, models and measures that have
 - **lower levels of cost escalation** (rather than aggregate costs alone);
 - lower relative administrative costs and wastage;
 - **improved coverage of prepayment systems and financial protection**; and
 - achieve **improved health benefit for resources applied**, particularly for disadvantaged groups. Where evidence supports this, and the wider cost benefit to health systems, society and economy, it is included in the paper, whilst noting the limitations raised in *Section 2.4*.

As a definitional note, *cost sharing* refers to payments made at the time of care, termed out-of-pocket payments, and includes co-payments made by insured clients. *Prepayment* refers to payments for care made in advance of the time of care and includes tax and insurance funding. The term *coverage* is used to refer to the share of a target population that has received a service or is included in a funding scheme. *Financial protection* refers to protection from payments for healthcare leading to net income falling below poverty thresholds. *Prevention* interventions reduce exposure to the risk factors and environments that cause disease and prevent disability in those exposed.

Sources: Sans-Corrales et al. 2006; Glenngård 2013; Hale et al. 2012; Knapp et al. 2013; Karter et al. 2003.

3. Improving PC in the USA

There is much innovative practice in the USA, and recent data suggest that PC coverage and quality has been improving (AHRQ 2012). There is, however, a widely recognised spending and quality crisis in the US health system, with higher levels of avoidable hospital admissions than Organisation for Economic Co-operation and Development (OECD) averages (OECD 2013a,b) and last or near last ranking on access, efficiency, equity and health outcomes relative to ten other OECD countries (Davis et al. 2014). In the face of this the USA is currently undergoing health policy reforms, particularly through the enactment of the Patient Protection and Affordable Care Act (ACA) and supporting measures. Notwithstanding their limitations, these reforms have motivated or supported change, to

- improve insurance coverage, affordability and financial protection;
- support patient-centred and sometimes community-centred PC;

- provide incentives for improved quality of care and population health outcomes;
- support initiatives for prevention and public health activities in PC;
- improve outcomes in relation to access, quality, and value for money; and
- increase effective use and reporting of health information (Nolen 2014; RWJF 2012a).

An outline of the health system and PC in the USA is more fully provided in a background desk review (Nolen 2014) used to identify key areas of focus against which to draw evidence from other HMICs. From the US review we identified sixteen challenges, eight at macro level and eight at PC system/practice level, shown in *Box 3*. We focused the review of PC in the case studies on these areas of concern in the USA, as presented in *Section 4*. *Box 3* provides in brackets the sub-sections in this paper that most closely address the challenges shown:

Box 3: Sixteen areas of challenge and opportunity for improving PC in the USA

Context, policy and system level challenges and opportunities

1. Obtaining social, political and stakeholder support for (i) *regulation of insurers and providers* to avoid cost escalation, wastage or unbalanced spending and to widen coverage and benefit sharing, (ii) for *value-for-money assessment of new technology* and application of findings in benefits and payment systems, and (iii) for *addressing public health risks and reducing inequities* within and between states (*Sections 4.1, 4.4 and 8*);
2. Providing for *meaningful informed public participation* in health sector decision making at national and state level and for public information on health service performance (*Sections 4.1 and 4.10*);
3. *Harmonising standards* for prepayment coverage, quality goals, for widening scope of practice of PC professionals, including nurse practitioners, while allowing for local flexibility and ensuring mechanisms to promote promising practices across states (*Section 4.2*);
4. Ensuring *co-ordinated and affordable prepayment* insurance arrangements that cover all social groups, including publicly funded provisions for groups susceptible to catastrophic health spending (adults at 0-100% federal poverty line not covered by Medicaid; undocumented immigrants) (*Section 4.2*);
5. Ensuring the benefits of *consolidation for wider risk pools and cross subsidies* across funders, while addressing risks of reduced competition and rising costs from corporate consolidation (*Section 4.2*);
6. *Moving from fee for service to capitation and blended payments* and providing incentives to control administration costs and wastage; to support interprofessional team approaches; quality improvements; and to promote patient contact, non-clinical inputs, community health and prevention measures (*Section 4.3*);
7. Improving price negotiations, procurement, incentives, public literacy to *control and reduce use of non-beneficial treatments* and cost drivers; and to shift prescriber practices away from higher cost medicines and technologies towards equivalent lower cost options (*Section 4.4*); and

8. *Supporting team work* and, beyond payment measures in (6), extending recognition, licensing provisions for, improved/fair remuneration of, and the selection, training, continuing medical education and orientation of interprofessional teams in PC, including general and specialist PC physicians, nurse practitioners (NPs), physician assistants (PAs), nurses, social workers, medical assistants and community health workers (CHWs) (Section 4.5).

Opportunities and challenges within PC practice level

1. Strengthening *comprehensive co-ordinated person and population-centred first contact*, for older and minority groups, and for addressing chronic and multimorbidity and mental health (Sections 4.3 and 4.7);
2. Strengthening *PC as first contact*, with enrolment of catchment populations, improved continuity of interaction and follow up between PC practices and clients, families and communities (termed *longitudinal continuity*), taking social diversity, inequality or disadvantage into account, to overcome low coverage, late uptake and poor acceptability of services, especially for particular social groups (low income, Hispanic, black, older and young people and migrants) (Section 4.6);
3. Including *competencies* for mental, dental health, preventive, palliative, ambulatory care and counselling services in PC, to follow up acute episodes; and co-ordinate across agencies and services to address food, housing, transport and other public health issues (Sections 4.5-4.7);
4. Improving *organisation of relational continuity* (or co-ordination across levels of care) and PC referral roles (gatekeeping); to reduce inappropriate use of hospitals and emergency services, duplicate testing, medication and treatment; wasted time and poor/delayed communication between laboratories, clinicians and patients and reducing defensive medicine practice. Integrating urgent care and retail clinic services into wider services and improving information flows with referral services (*or informational continuity*) (Section 4.7);
5. Strengthening *adherence to quality guidelines* and providing appropriate payment incentives and support for quality improvements and reduced waste (Sections 4.3 and 4.8);
6. *Supporting uptake of innovation* for quality improvements; EMR and IT, team approaches, and mental and dental healthcare; especially for smaller/solo, less resourced PC practices and elder practitioners; including through resources and peer-to-peer and networks (Sections 4.8 and 4.9);
7. *Involving clients and communities in decision making*, from individual care plans to community health and service priorities, spending, organisation and performance review (Section 4.10); and
8. Strengthening *social empowerment and health literacy*, including through community health workers; information outreach; participatory approaches; linking PC with social networks promoting well-being, supporting early healthcare uptake, and adherence to treatment plans (Section 4.10).

Source: Loewenson et al. 2014a.

The four countries selected for deeper case study work - Canada (Ontario and Quebec), Chile, England and the Netherlands - reflect a diversity of contexts and systems (see Table 1).

They have had much lower increases in per capita health expenditure (US\$ PPP) than in the USA (Figure A2, Appendix 2). In all four countries PC plays a significant role, providing a majority of their health service consultations, but receiving 10% or less of total healthcare expenditure. PC does not appear to be a major cost driver in their health systems. Higher and rising spending is reported on hospitals, services for care of older people, prescription medicines and quality of long-term care and on the costs of avoidable use of emergency care and poor co-ordination of care for complex conditions (Kringos and Klazinga 2014; Pennington and Whitehead 2014). In Canada post-2005, recent increases were also attributed to rising physician pay levels (Marchildon 2013; Moat et al. 2014).

There are also rising expectations of future benefits from PC in these countries. In Chile it is expected that PC will be an entry point and core of a network of services for new models of care that work collaboratively with families, communities and intersectoral actors (Frenz et al. 2014). In other HMICs, PC addresses shortfalls in access in vulnerable groups.

Advances in telemedicine, miniaturisation and implantable devices, minimally invasive surgery and other technological advances are seen to reduce costs through reduced hospital stays and a shift from secondary to primary care, especially for chronic conditions, albeit with caution about equity in access (Kringos and Klazinga 2014; RIVM 2012; National Public Health Service for Wales 2006). Such high expectations of PC services demand investments to yield returns – including in professional teams and competencies - particularly after periods of neglect (Moat et al. 2014).

4. Ten areas of promising PC in HMICs

This section provides brief information on ten areas of promising practice in PC that have relevance to the areas of challenge and opportunity for PC in the USA identified in *Box 3*. Features of these practices are profiled in boxes and appendices, and further detail provided in the full country papers (Moat et al. 2014; Pennington and Whitehead 2014; Frenz et al. 2014; Kringos and Klazinga 2014).

4.1 Enabling sociopolitical contexts

The USA has a significantly larger population than the case study countries have, and the Netherlands and the UK have a higher population density than that of the other countries (see *Appendix 3*). Chile, with about a third of the per capita GDP as the others, has a life expectancy equal to the others, and marginally higher than that in the USA. Like the USA, Canada is a federation with eleven distinct jurisdictions of governmental authority. England, the Netherlands and Chile have unitary states, with local governments that take on delegated roles and authorities of the state. These constitutional differences affect PC, as noted later in this section.

A study of PC indicators in 31 European countries found that countries where people value government responsibility for welfare provision also have relatively strong PC, enabling reforms that support access to, scope, strength and comprehensiveness of PC (Kringos et al. 2013c). The UK appears to have the strongest state role of the four countries, with its National Health Service (NHS) underpinned from the outset by explicit principles, supported across political parties that have guided NHS policy and reforms for more than 60 years (*Box 4* on page 13).

The principles have enabled introduction of many of the measures in the UK described in *Section 4*. The other three case study countries have a spectrum of ‘social bargains’ between private and public providers and funders. Support and processes for the role of the state and for solidarity/equity in health services is evident in all to a greater degree than in the USA (see *Table 1* and *Appendix 3*). In Canada, the government’s role in PC has support as a ‘core social bargain’, with acceptance of two-tier and for-profit delivery of services outside those provided in PC or hospitals (Moat

et al. 2014). In Chile rights-based approaches have been used to raise *both* state duties and public responsibilities (Frenz et al. 2014). In 2008 in Chile, in a ‘13 steps to equity agenda’, these rights and equity values were operationalised through an explicit agenda, supported by financial incentives, training and building public and wider sectoral support (Vega 2011).

At the same time social values, political culture and economic conditions are changing in all four case study countries. In addition to demographic change, *both* rapid economic growth (as in Chile) and economic crisis (as in Europe) have been associated with rising costs of care and increased socioeconomic inequality, including in health determinants. The opportunities of new technologies raised earlier also bring unclear consequences for cost burdens, access to care or personal freedoms and privacy (Stol and Nelis 2010).

Information technologies offer opportunities for public and patient input to decision making on services, discussed further in *Section 4.10*, but a more literate society is also becoming more individualistic and consumerist (Kringos and Klazinga 2014). These trends create challenges for health systems and healthcare professionals to reach and appropriately care for socioeconomically and culturally diverse communities. In the Netherlands, for example, medical schools are required to include a comprehensive set of cultural competencies in their training (Kringos and Klazinga 2014).

They also raise contestation between different interests in and visions of health system reform discussed in *Section 5*. In England health system reforms post-2000 that have increased the role of competition and internal markets are argued to be without public mandate, to undermine or dismantle many of building blocks that make the NHS efficient, effective and equitable and to potentially erode its professional ethos (Pennington and Whitehead 2014). Scotland has not applied many of these reforms. In the Netherlands, a more individualistic and educated society interacts with a state that has shifted from a welfare to a participatory model, resonating more with US political culture (Kringos and Klazinga 2014).

Table 1: Health sector profiles of the four selected case study countries and the USA

Feature	Canada	Chile	Netherlands	UK: (England)	USA
Service type and funding	Provincially administered universal public insurance funded service	Public (FONASA) and private (ISAPRES) insurance	Statutory health insurance system with universally mandated national insurance	Tax-funded national health service, funded from general taxation	Mainly private health insurance; public insurance (Medicaid) tax funded
Share of population with private insurance	67% in 2010 as supplementary for dental, eye, long-term care and other uninsured services	Private -17% Public -75-80% (2013)	98% (2009)	11% (2011); all use NHS services, private insurance mainly for elective care	56% (2011)
PC provider ownership	Private	99% public	Private	Private GPs working to national public contract	Private
% solo PC practices	23%	0%	42% (2009)	12% (2013)	32% (2010)
Types of personnel in PC practices	Doctors, nurses, NPs, pharmacists, dieticians, mental health workers	Doctors, nurses, midwives, kinesiologists, dentists, nutritionists, physiotherapists, paramedics, psychologists, speech/ occupational therapists	GPs, practice/ community nurses, midwives, pharmacists, dentists, occupational/ speech/ physiotherapists, psychologists	GPs, general practice and specialist nurses, nursing assistants, health promotion workers, administrative staff	Doctors, nurses, NPs, physician assistants (PAs), social workers, care managers and educators
Other personnel linked to / PC practices	Social workers, health educators	Social workers, environmental health, pre-school teachers	Social workers, dieticians	District nurses, health visitors, midwives, social workers, mental health counsellors, dieticians, podiatrists, physiotherapists	CHWs, social workers, patient 'navigators'(i)
Primary care payment	Mostly fee for service; some capitation and P4P	Private: fee-for-service Public: capitation and P4P	Mixed capitation; fee for service	Mixed capitation; fee for service; P4P	Mostly fee-for-service; limited capitation; salary, P4P
Registration with PC required	No; only in some capitation models	Yes FONASA No ISAPRE	Yes	Yes	No
PC gatekeeping role	Incentives vary across provinces, Ontario pays specialists more if a GP referred patient	Yes	Yes	Yes	No except for some insurance plans
Share of health sector interactions at PC level	na	68.2% medical attendances; 93.7% new consultations	96%	90% at PC level 9% outpatient secondary care; 1% inpatient hosp	60% visits to PC physician (2008)
% total health expenditure on PC	na	29.6% of <i>public sector budget</i> spent at PC level	15% total health expenditure	10% total health expenditure	na
Patient satisfaction, 2012	38% (ii)	User survey 2013 FONASA 4.7 / 7 ISAPRE 5.1 / 7	51% (ii)	62% (ii) 87% GP users satisfied;	29% (ii).
% adults with below average income not visiting doctor in past yr due to cost 2011	7%	na	16%	1%	39%

Sources: Thompson et al. 2013; Allin and Rudoler 2013; Hutchison et al. 2011; NIVEL 2009; Moat et al. 2014; Frenz et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014; Kringos and Klazinga 2014 in press; OECD 2013b; Marchildon 2013; Rice et al. 2013; Nolen 2014; Westert and Wammes 2013; Schäfer et al. 2010. Key: na= not available; P4P= payment for performance; (i) people who assist clients to use the system; (ii) patients who indicate the system works well, minor changes needed.

Box 4: Principles informing the UK National Health Service over 60 years

A values base and set of principles have acted as ‘building blocks of ... an integrated whole’ over a sustained period (60 years in the UK NHS), with public and cross party support, informing how challenges are addressed. These principles are:

- *Universal entitlement*: with everyone included as a right, without any test of eligibility;
- *Equitable financing*: through progressive general taxation, so that everyone contributes in proportion to their income into a general fund, in which risk is pooled to support cross subsidies for solidarity, protecting all from catastrophic costs if they fall ill;
- *Free at the point of use*: with no user charges or co-payments for using the services, so that money does not stand in the way of obtaining care, a key issue in equity;
- *Comprehensiveness*: covering the range of services from prevention and health promotion (covering a range of social and environmental interventions) to treatment, rehabilitation and palliative care; primary to tertiary care; covering mental and physical health; chronic and acute conditions;
- *Equality of geographic access*: with a commitment to improve the geographic distribution of and access to services, and reach everyone with essential healthcare;
- *Same high standard of care for all*: establishing national standards of quality to ‘level up’, so standard of care is not dependent on where a person lives or his or her status;
- *Selection on the basis of need*: so that in situations of scarcity, no one should gain access to a service ahead of others in equal need by money or other social influence; and
- *Encouragement of a non-exploitative ethos*: through high professional and ethical standards, minimising incentives for service providers to make profits from patients.

Source: Pennington and Whitehead 2014.

In a context of persistent social inequality, however, this shift has also provoked concerns and led to measures described in the paper to balance regulation and voluntarism in ways that do not compromise universal access and financial protection, discussed further in this section. The manner in which countries have addressed these tensions is thus an unfolding issue in all four countries.

In Chile, conflicting political forces and values have dominated at different times in the last century, alternately expanding the role of private or public sector health services and increasing public spending or reducing private sector regulation. This fragmented and weakened the health system and affected equity in outcomes (Lenz 2007). In the early 2000s, social demand for equal rights led to a range of comprehensive rights-based social guarantees, including healthcare. They were delivered through measures that also sought to address social inequalities and profile the ‘caring’ nature of the state, including by expanding access to PC and innovative social protection approaches. Examples of this are *Chile Solidario* (Chile in Solidarity) and *Chile Crece Contigo* (Chile Grows with You), accompanying individuals, families and the community throughout the life course, with heightened intervention at critical stages or in situations of vulnerability (Frenz 2007). When the Piñera government gave more focus to hospitals and private providers in 2010–2013, local authorities, health professionals and social movements sustained and developed comprehensive PC and social protection approaches at local authority level,

organising evidence to gain support for their inclusion when new windows of opportunity opened in national policy, as they have in 2014 (discussed further in *Section 4.7*; Frenz et al. 2014).

Such local approaches may remain isolated examples without support for their wider implementation. In the Netherlands, local innovation demonstrated and generated evidence on models. Scale up was facilitated by engaging insurer support for pilots and by evidence from ongoing evaluation (Kringos and Klazinga 2014). For example ‘Utrecht Healthy’ in 2008, was a co-operation between Utrecht municipality (the third largest city in the Netherlands) and Agis Health Insurance (a major Dutch health insurance company) to integrate fragmented services, strengthen prevention and build professional competencies for services aimed at improving the health of people living in a deprived district, Overvecht (Van den Broeke et al. 2014). It showed evidence of reduced referrals to hospitals, improved out-of-hours access and longer GP consultations (Kringos et al. 2014 in press). In Ontario a range of PC models has been implemented to address the need to win professional and public support for changes (Moat et al. 2014). The important question of what enables or blocks local innovation from scaling up is discussed further in subsections 4.5 and 4.9 and in *Section 5*.

Changing normative and sociopolitical contexts are thus shaping how PC is understood or delivered, as raised

in *Section 2*. On the one hand, the experience of these countries indicates that a *consistency of values, principles and vision* has been an important feature of the longer term stability needed to build strong PC systems providing quality services to all in relation to need. Even local innovation needs to plan for the long term, with Kringos and Klazinga (2014) pointing to long time lags before higher level uptake or legal reform. At the same time the experience also shows that *public, professional and support across political parties* cannot be assumed but needs to be cultivated, negotiated, organised and informed, including to protect gains in PC and health systems against destructive reforms. Popular discontent with social inequality and poor access to health services, organised social movements, public health reformers in key positions in federal, state and local-level health bureaucracies, local innovation, links with international practice and evidence on outcomes of PC innovation have all played a role in generating support for the PC systems and practices described in subsequent subsections, all of which have some relevance to the USA.

The US context may be even more challenging. The USA cannot perhaps make the same assumption of public support for state intervention and has to win support for reforms, particularly for measures that regulate markets to control costs or provide cross subsidies in health spending. It appears that providing space for innovation, with options for real, measured and documented experience at state or local government level that is communicated to key actors, may be necessary to build support for PC improvements.

4.2 Measures to widen equitable universal financing and coverage

Improving insurance coverage as a means to improved access to services is a central feature of the current US reform, with measures to expand insurance enrolment, cover and affordability, especially for groups with high health need. The devolved federal system with many powers decentralised to state level raises opportunities for local flexibility, but also creates challenges for wider adoption of promising practices, such as on coverage by insurance or licensing/scope of practice arrangements for health professionals. While federal (and state) health exchanges have facilitated information exchange on and application processes for insurance plans and the number insured has expanded significantly, there is scope to further harmonise administration, to simplify processes and reduce costs, to harmonise benefit packages across schemes and to expand coverage of insurance to low-income Americans and undocumented workers (Nolen 2014).

In contrast to the USA, *Table 2* shows that *all four countries have achieved universal or near universal levels of coverage of prepayment*, through insurance or tax-funded schemes. Such progress is argued to be achieved by measures for:

- i. Improving revenue mobilisation through progressive prepaid financing options;
- ii. Minimising fragmentation in funding pools, to achieve risk- and income-cross subsidies and to enable risk-adjusted equalisation of budgets or payments to healthcare providers or *purchasing agencies* (also termed payers in the USA);
- iii. Simplifying and promoting the benefit package to increase transparency and awareness of provider obligations and public entitlements; and
- iv. Promoting more active purchasing, identifying the health service needs of the population, aligning services to these needs, paying providers in a way that creates incentives for efficient provision of quality services, monitoring the performance of providers and taking action against poor performance (Kutzin 2013; McIntyre 2012).

This section explores how the four countries have achieved high levels of coverage, within these broad areas of health financing.

Mandatory prepayment and pooling of funds

Significantly all four case study countries have mandatory prepayment (two using taxes and two using insurance). In the Netherlands' insurance system, for example, inclusion in insurance is mandatory, insurers are obliged to include applicants, and individuals not included are actively followed up in person and at point of care (See *Box 5*).

All four countries have a form of national or subnational pooling, of risk adjustment/cross subsidy – on health needs and wealth - and needs-based allocation (*Table 2*).

They achieve this in different ways: In devolved states, like Canada, federal tax funding provides government with levers to support access and coverage. Similarly in the USA, federal pooling of taxes for Medicaid generates an incentive for states that have opted out of Medicaid expansion to reconsider, as they lose the tax support and the economic activity generated from the expansion (Kaiser Family Foundation 2014; Radley et al. 2014; Nolen 2014). In Canada, tax revenue is pooled at federal level and allocated by the Canada Health Transfer to provincial governments, who pool this revenue and allocate it to provincial health insurers on condition that they conform to standards of universality, portability of insurance, public administration, access and comprehensiveness (Hutchison et al. 2011).

Table 2: Financing arrangements in the case study countries and the USA

Area	Canada	Chile	Netherlands	UK (England)	USA
Main source of health financing	Tax funding	Multiple insurers, with choice of insurer Mandatory % income to public (FONASA) or private (ISAPRE) insurer	Mandatory insurance, choice of insurer Income dependent contribution with annual ceilings	Tax funding	Multiple private insurers; Medicare (payroll); Medicaid (tax)
Pop covered*	100%	97-98%	98-100%	100%	84% (2011)
Fund pooling/ segmentation	Funding pooled at national and provincial level, per capita allocation to provinces	Public insurer pooled and risk adjusted Private insurers have no risk pooling	All premiums centrally pooled and risk adjusted	Funding pooled at national level and risk adjusted to general practice level	Segmentation of funds by scheme
Cost sharing arrangement for PC	PC free of charge	FONASA PC free of charge ISAPRE co-payment for services	PC free of charge for basic benefit. Some co-payment for other services	All healthcare free of charge Some co-payment for dental care, eye-tests	Vary by scheme. No co-payment for EHB /PC preventive services
Financial protection	No co-payments for physician/ hospital services Co-payment on medicines outside hospitals with exemptions varying by province	Free for low income, chronically ill, people with disability, seniors Income related cap on OOP	Free for children OOP cap Compensation on OOP or insurance costs for chronically ill, people with disability	Free for all Some co-payments as above for prescriptions but waived for groups and conditions (includes 91% people)	No co-payment at CNC FCHQ: for older people and some people with disability on Medicare
Medical OOP % h/ hold consumption 2011	2.4%	4.6%	1.5%	1.5%	2.9%
Healthcare OOP / capita US\$ PPP 2011)	\$666	na	na	\$338	\$987
Benefit package	No national statutory benefits package, scope defined in Canada Health Act 1984. Specific services defined by provincial govts negotiated with medical association or by administrative bodies (Ontario)	Defined benefit- AUGE guaranteed for public and private insured. Increased services added over time. Positive list of benefits in FONASA's PC family health plan and catalogue of hospital/specialist procedures (covered by private plans).	Positive list on medical procedures, medicines. Standard package includes PC, secondary care, medicines; dental care for <18s; physiotherapy and ambulatory mental healthcare	All healthcare (plus few exceptions above) Comprehensive PC, secondary, tertiary care; prevention; medicines. NHS has statutory duty to make NICE approved technology available to all	Varies across states. Basic health benefits and services required in 10 service areas in the EHB
Dental health, eye care coverage (i)	No, varies by plan	Yes for dental care; No for eye care	Yes for dental care to 18yrs; No for eye care	Yes, some exemptions for specific groups	No, except in children.
% sent for duplicate tests in past 2 yrs (2012) (ii)	9%	na	7%	6%	17%
% treatable at PC visiting ED in past 2 yrs (2012) (ii)	41%	na	26%	16%	40%

Sources: Loewenson et al. 2014a; OECD 2013a, 2013b, 2014; Paris 2014; Thomson et al. 2013; Frenz et al. 2014; Moat et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014; Rice et al. 2013; Nolen 2014.

Key: OOP= out of pocket; (*) for primary and hospital care; PPP= purchasing power parity; Co-pay = OOP in insured people at the time service is rendered; EHB= Essential Health Benefit; CHC= Community Health Centre; FQHC = Federally Qualified Health Centre; ED=Emergency department; (i) As an example of depth of benefits included in basic plans; (ii) indicating efficiency of care and medical overuse.

Box 5: Extending insurance coverage in the Netherlands

Enrolment with basic insurance is an *obligation* for all Dutch citizens. Health insurers *must* accept all citizens who apply for insurance and *must* offer a flat premium for a predefined health service package. Basic curative care is funded through a flat-rate premium and income-dependent contribution, both pooled into a health insurance fund and allocated between health insurers using a risk-adjusted mechanism (based on sex, age, region, pharmaceutical use, diagnoses, socioeconomic status and income). A further mandatory social health insurance is provided for long-term care of chronic conditions, financed largely through income-dependent contributions. The basic benefits package, defined by law, includes care provided by a general practitioner and midwife and a maximum number of care sessions provided by physiotherapists, occupational, speech and remedial therapists and dieticians. Voluntary complementary health insurance is available for services not covered under these two schemes.

Uninsured people are followed up by a government agency (*Zorginstituut Nederland*) by a warning by post to take out health insurance within a limited time, after which, if not covered, the same agency deducts this payment from their income with an additional fine for non-compliance. The small percent of uninsured people, while still obliged to be insured, are those who are difficult to follow up (such as homeless people). Such uninsured people are not penalised on access - they still obtain the healthcare services defined in the basic benefit package and are immediately registered by providers with health insurance. There are mandatory deductibles. (*Deductibles* refer to the amounts paid out of pocket for expenses before the insurance company will cover the remaining costs). People can choose to pay a higher deductible in exchange for a discount on their monthly insurance premium and receive compensation for premiums if their income is below a certain threshold. Chronically ill patients receive a financial compensation when they have spent more than 360 Euro (US\$490) on care. At the moment, when patients visit a healthcare provider that is not contracted by their health insurers, they usually get 80% of the costs reimbursed. According to key informants "There is debate on a change to this system that would abolish the freedom of health insurers to reimburse non-contracted healthcare providers, including for PC. This would reduce patient freedom of choice and stimulate decision making based on quality of care. This is a sensitive discussion because patients value their freedom of choice and such access restrictions have never been implemented before in PC." The mix of measures in the current system has led to 98% of Dutch citizens being insured for health expenses, although there are still inequalities. Lower income groups spend on average 6.2% of their annual income on healthcare co-payments (excluding insurance premiums) compared to 1.6% for higher income groups.

Sources: Schäfer et al. 2010; Westert et al. 2010; Van Laere 2002 in Kringos and Klazinga 2014; RIVM 2012; Van den Berg et al. 2014 in press; Rijksoverheid 2014c.

These financing measures are reinforced when applied with other measures, such as distributing personnel in line with need (discussed in *Section 4.6*); strengthening capacity to absorb resources, supporting quality standards (as discussed in *Sections 4.8* and *4.9*); simplifying and unifying administrative policies and procedures across plans to harmonise benefit packages (in the Netherlands, France and Germany) and linking insurance coverage to residence (France and Chile) (Gauld et al. 2012; Van Weel et al. 2012; Stabile et al. 2013). Expanding fund pools can, however demand complex governance and management arrangements, and consolidation within *private* sector insurers can reduce competition and make cost escalation more difficult to control (Okma 2009). The trade-offs need to be negotiated. For example, Canada's recent shift to funding provinces on a per capita rather than a regional equalisation basis reduced conditions on funding, giving provinces greater latitude to set health goals, but also weakened federal leverage (Marchildon 2013).

The pooling of funding generates opportunities to apply workforce incentives, to incentivise quality improvements and comprehensive models, support meso activities for training and information technology (IT) and other

measures discussed in subsequent sections. It contributes to improved co-ordination of care (Gardner et al. 2013), supports government control of expenditures and facilitates needs-based allocation of resources (Marchildon 2013; Kringos and Klazinga 2014; Moat et al. 2014). Innovations may also demand new funds, such as the CAD\$800 million public PHC Transition Fund, set up in 2000 by the Prime Minister of Canada and Premiers of provinces to accelerate PHC reform, to support demonstration projects and research at provincial and national levels and the uptake of innovation across provinces (Hutchison et al. 2011).

Strengthening prepayment and financial protection

High premiums, catastrophic spending and delayed care are being addressed in the USA by limits on premiums, co-payments and deductibles together with subsidies for low-income groups in the ACA. However, the gap in coverage of insurance still leaves many without financial protection, especially for high-cost cancer treatment, injuries and major surgery. Medicaid benefits are decided at the state level so there are also variations in entitlements even for those who qualify within their state (Rice et al. 2013; AHRQ 2012, 2013; Nolen 2014).

Removing cost barriers at point of care is a key measure for improved equity. *Table 2* illustrates the various measures applied to avoid these costs in the case study countries with lower shares of OOP in UK and the Netherlands and in Canada for physician services. HMICs mainly set no co-payments for PC services (UK, Canada, Denmark, Chile FONASA affiliates, the Netherlands basic benefit) or low or capped co-payments set below inflation levels (Germany), with exemptions for particular groups such as children, pensioners, those on low income and with selected chronic conditions, with disability and chronic conditions (France, UK for medicines, Chile, the Netherlands) (Timmins 2013; Gauld et al. 2012; Stabile et al. 2013). In the two insurance funded systems, free care at point of services was facilitated by having a public insurer (Chile) and in the Netherlands, given that most insurers are non-profit. The latter may be relevant in the USA given the \$3.8 billion set aside by the ACA for a Consumer Operated and Oriented Plan (CO-OP) to provide loans for the creation of non-profit, member-run health insurance schemes, with limited uptake to date (US DHHS RAC 2014).

Providing PC free at point of care does not appear to raise overuse, with better performance on efficiency measures and reduced use of emergency or duplicate testing in such settings, particularly in the UK and the Netherlands (see *Table 2*). Various measures are noted to prevent unnecessary testing and treatment, including the role of PC in co-ordinating referral to secondary care, health literacy and public trust in GP skills. Over-treatment is also reduced by provision of clinical guidelines on care, interactions with specialists and telehealth (the Netherlands), by capitation payment (in the UK) and by financial incentives (in the

Netherlands and Canada) limiting unnecessary referral to specialists, discussed further in *Section 4.6* and *4.10* (Pennington and Whitehead 2014; Moat et al. 2014; Kringos and Klazinga 2014).

Exemptions on co-payments are set at national level and administered locally (as in Chile) or through local authorities (as in the Netherlands). Local administration is argued to allow the system to be more responsive to local needs, but may also raise geographical inequalities in benefits (Frenz et al. 2014; Kringos and Klazinga 2014). Even with selected exemptions, co-payments for services outside the benefit package were found in the Netherlands to represent a higher share of spending by poorer groups and to be more easily met by wealthier groups covered by private insurance, sustaining wealth and social related inequalities in uptake of PC and hospital services and prescription medicines (Van den Berg et al. 2014 in press).

Setting entitlements to benefits

Particularly where there are multiple insurers, as in the USA, *simplifying and promoting a benefit package* is argued to increase transparency on obligations and entitlements and to provide a clearer means for costing and ensuring coverage. The Essential Health Benefit in the ACA reform in the USA is thus argued to support improvements in equity and coverage (information on the services covered are found at Healthcare.gov 2014). Chile's AUGE provides a further example (*Box 6*) (Frenz et al. 2014), progressively expanding the conditions included and supporting expansion of coverage in underserved populations, albeit with ongoing issues on the comprehensiveness of services (see *Section 4.7*).

Box 6: Health service entitlements in Chile's AUGE

As part of its programme of health reforms in 2005, to redress inequities in access to healthcare and align the health system around national health objectives, Chile introduced the Explicit Guarantees in Health (GES), commonly known as the AUGE plan. The AUGE defines a list of priority health conditions to be covered with diagnoses and treatment. By law, the priority setting process requires the use of national epidemiological, burden of disease and cost-effectiveness studies and must consider social preferences and feasibility. The AUGE has expanded from 25 to more than 80 conditions, increasingly focused on prevention of illness, management of risk factors for chronic conditions at PC level and promotion of health through wellness checks. The prioritised AUGE conditions are included with enforceable guarantees of: timeliness (maximum waiting times), quality (adherence to evidence-based clinical guidelines) and higher levels of financial protection (co-payment ceilings). The AUGE is reported to have improved coverage of dental health and preventive services in high-risk children, reduced morbidity and mortality from conditions included in insurance benefits and reduced hospitalisations and hospital-related mortality from complications related to diabetes and hypertension by 7-10% between 2000 and 2006 (Bitrán et al. 2010) (see *Appendix 5* in Frenz et al. (2014) on the conditions included). At the same time the AUGE, focused more on medical care services, was complemented by other services that supported social inclusion, described later in the paper. As raised by a key informant from academia "*Chile Crece Contigo* brought new wind after AUGE. It had all the psychosocial and biological tools and goals to service population needs. It vindicated the family health model. Whereas AUGE was curative services and medicines, here there was follow up, rescue, promotion and prevention... articulation with other sectors..."

Source: MINSAL 2004; Frenz et al. 2014:5-6.

Benefit packages need to be reviewed and updated, publicly known and supported by the resources and inputs needed to deliver on them. Both Chile and the Netherlands have set defined benefit packages, adding new services over time (and removing others if no longer relevant) (*Table 2*). In Canada, while they sustained universal coverage of healthcare in periods of reduced funding in 1990-1997, no provincial governments changed the benefit package when public spending increased thereafter, despite the recommendation of a Royal Commission and Senate Committee to do so (Marchildon 2013). In Chile there is active public education on the AUGE to make it more widely known, particularly amongst vulnerable or traditionally underserved groups, and guidance is given on the services included to providers (Frenz et al. 2014).

The evidence in this section suggests that in insurance funded systems, widening coverage is best achieved where prepayment is mandatory and where there is active follow up to ensure coverage. Funding services from income related prepayments, with no charges at point of care, would appear to be an important 'bottom line'. Pooling and public funding (whether at national or provincial level) can enable risk cross subsidies and provide funds to incentivise desired practices, provided adequate funds are applied to achieve this. A guaranteed benefit is an important measure to ensure service coverage where there are multiple insurers, if supported by adequate financing and service personnel and public education and guidance on core services.

4.3 Purchasing arrangements to incentivise improved practice in PC

Making a link between PC services and improved health and value for money outcomes is argued to call for more active purchasing or payment systems, identifying (and having the resources to respond to) the priority health service needs of the population, aligning services and their appropriate delivery to these needs, paying providers in a way that creates incentives for the efficient provision of quality services, monitoring the performance of providers and taking action against poor performance (McIntyre 2012).

The US desk review identified a need for stronger controls on administration costs and wastage and for payment arrangements to better support interprofessional team approaches; quality improvements; patient contact, non-clinical inputs, and community health and prevention (AHRQ 2012; Nolen 2014). Some countries have used rationing, benefit exclusion, or co-payments to control costs, but unless protections for low income groups are extremely effective and 'leak free', these can raise barriers to access and inequities in coverage (Stabile et al. 2013).

Fee-for-service (FFS) payments, by far the dominant form of payment for PC in the USA, have been identified in many HMICs as a major driver of cost escalation and wastage, squeezing out necessary but more time-consuming consultations (Pedersen et al. 2012). *Table 3* shows the purchasing arrangements in the case study countries.

While present in all the case study countries, FFS is not the main payment arrangement for PC, except in Canada and in the private sector in Chile. In the other countries, as for many HMICs, there is a mixed provider payment system. This includes a mix of capitation (a set fee per person/patient) and FFS (the Netherlands, England, Italy, New Zealand, Sweden, Switzerland), together with bundled payments especially for chronic disease management (the Netherlands) and performance- (outcome) based financing, or pay-for-performance (P4P) (England, Sweden, Chile) (Thomson et al. 2013; *Table 3*). There are also optional FFS incentives for quality/equity enhancements, such as having longer opening hours, for providing services normally referred to secondary level (the Netherlands) or for comprehensive free reviews for patients with diabetes, care of other chronic conditions, avoidable admissions, mental health referrals and immunisations (New Zealand; Goodyear-Smith et al. 2012).

England provides an example of blended payment arrangements within a tax funded NHS. Practice income is approximately 75% capitation, 20% P4P under the Quality and Outcomes (QOF) framework discussed further below, and 5% as FFS in Enhanced Services' contracts (Roland et al. 2012). A General Medical Services (GMS) contract introduced in 2004 pays a global sum as a weighted capitation formula; a QOF component, designed as a P4P incentive and fees for optional enhanced services (see Box 7). About 60% of practices are on the GMS contract and 40% on locally negotiated Personal Medical Services (PMS) contracts, with form and content of the latter influenced by the GMS (Pennington and Whitehead 2014).

In the Netherlands blended payments from insurance funders are paid in accordance with non-negotiated tariffs for PC services, for a defined package and population health targets set by government. General practitioners receive: (i) a capitation payment for each listed patient determined by their age and catchment area income level; (ii) additional payments for working with a practice nurse and/or collaborating with other practices with patients from deprived areas; and (iii) a fee for modernisation and innovation procedures that potentially substitute secondary care, such as minor surgery or to improve the quality of care, such as using cognitive tests (Kringos and Klazinga 2014; *Appendix 5*). The Netherlands has also introduced bundled payments to reduce fragmentation of services by different providers for prevention and care of chronic conditions.

Table 3: Purchasing arrangements in the case study countries and the USA

Area	Canada	Chile	Netherlands	UK (England)	USA
PC services purchased from	Private PC practices paid from provincial insurance	Public and private PC services paid from insurance; regional health service	Private PC practices Insurers pay care groups to manage bundled payments	Most PC practices physician-owned independently contracting with NHS England	Mostly private PC practices paid by insurers (i)
Primary care payment	Mostly FFS Some Cap	Private FFS Public Cap P4P	Cap, FFS, P4P, GB Bundled payments for chronic conditions	Cap, P4P Optional payments for enhanced services	Mostly FFS Some salary, cap, bundled payment (ii)
% PC revenue from sources	FFS - 89% Other (Cap, P4P, salary) - 11% in 2001	FFS - in private PV Cap -70% P4P-8-23%	Cap - na FFS - na P4P - na GB - na	Cap – 75% P4P – 20% Optional payments as above - 5%	na
Pay-for-performance	Varies across provinces; P4P in FHTs; performance bonuses in FHNs in Ontario	Mandatory, incentives in the public sector for prevention, chronic care, patient satisfaction, efficiency	Voluntary, incentives for prevention, chronic care, patient satisfaction, efficiency	QOF (for diagnosis and management of chronic health conditions)	na
Determination and weightings for capitation payments	Ontario provincial government and OMA negotiate the capitation formula. Weighted by age, sex of catchment population	Set by government/ insurers; Population; geographic zone; deprivation; Fixed amount added for % population +65 yrs and geographic/ sociocultural challenges	Set by government/ insurers Age, sex, health status, catchment area and income level	Patient list size, age, sex; catchment population mortality, morbidity and deprivation. BMA involved in contract negotiations	na
Incentive schemes	Access bonus and payments for enrolling unattached patients— designed to improve access and enhance retention of patients in care	Incentives for child psychomotor development, reduced obesity, Pap smear coverage; dental coverage for children and pregnant women; selected diabetes, hypertension services; functional local health councils	For working with a practice nurse and/or collaborating with practices with patients from deprived areas; A fee for innovations that potentially substitute secondary care	QOF P4P; Optional funding to practices for enhanced services (e.g. patient participation; extended opening hours; online appointment and prescription services)	Varies across schemes and states)

Sources: Loewenson et al. 2014a; OECD 2014; Moat et al. 2014; Frenz et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014; Hutchison et al. 2011; Rice et al. 2013; Nolen 2014; Alexander 2008.

Key: Cap = Capitation; FFS = Fee for service; P4P = Pay-for-Performance; GB = Global Budget, BMA = British Medical Association; na = not available; (i) noting consolidation with larger practices and services; (ii) for specific cardiovascular and orthopaedic procedures.

Box 7: Purchasing PC services in England: The GMS contract

The GMS contract covers three main areas, each with its own funding stream:

- The **global sum** (known as core funding), contributes 60-75% of a typical practice's income, covering running costs and essential GP preventive, mother-and-child healthcare and minor surgery services. The bulk of the payment is determined by a weighted capitation formula that takes into account patient needs and service costs, based on the registered patient list size, age, sex, and catchment population mortality, morbidity and deprivation. Typically in more remote/rural areas, practices providing dispensing services to patients who cannot access a pharmacy receive fees per item dispensed.
- The **Quality and Outcomes Framework (QOF) component**, introduced in 2004, contributes 15-20% of a practice's income. It was designed as a voluntary P4P incentive to improve overall quality of care for chronic disease and to reduce variation in care between practitioners; it covers almost all GP practices in England. In 2013 weighted indicators were set for ten chronic conditions chosen for their prevalence or contribution to burden of disease. There are now 148 evidence-based indicators of clinical, organisational, patient experience and additional services. Indicators and targets are not regularly reviewed but a review is currently underway. Payments are made to practices according to the percentage of patients meeting each individual indicator/target. Practice partners - usually the most senior physicians, distribute QOF payments to other personnel, although it is reported that these payments have not always been equitably distributed. Practices must achieve a minimum percentage before receiving points and points and payments increase up to the maximum of the threshold. The QOF payment is adjusted to take into account the size of the practice and patient numbers on disease registers. As an important measure to give practices flexibility to respond to patient needs, the QOF allows for 'exception reporting' when an incentivised practice cannot be prescribed or used, such as due to a contraindication or side effect. Other aspects of the QOF are discussed in *Box 16*.
- **Payments for enhanced services** are made for the provision of optional enhanced services, where the additional funding contributes 5-15% of practice income. Many of the services were previously provided at secondary level, such as services for alcohol-related risk reduction, timely assessment of patients who may be at risk of dementia and identification and management of seriously ill patients or those at risk of emergency hospital admission. The funding also covers practices such as patient participation, extended hours access, patient use of electronic communications for booking appointments and obtaining repeat prescriptions and support for remote care patient monitoring.

Sources: Pennington and Whitehead 2014; Doran 2009; Roland 2004; HSCIC 2013; NHS Employers 2014.

Box 8: Bundled payments to support integrated chronic care in the Netherlands

The Netherlands introduced bundled payments by insurers for selected chronic conditions in 2007 to overcome service fragmentation, to limit PC referrals to secondary care (with incentives to keep patients longer in PC), and to incentivise web consultations and more flexible opening hours. New legal entities, 'care groups', were formed consisting of multiple healthcare providers, mainly general practitioners, to be the principal contracting agency for all assigned patients within a chronic care programme. Patients are assigned to a care group based on the condition. Care groups either deliver care directly or subcontract with other providers (general practitioners, medical specialists, nurses and other disciplines, laboratories) to do so. The care group contracts with the health insurance fund and then negotiates the price freely with the individual providers for the subcontracts (RIVM 2012). Care groups were reported to have substantial market power over individual PC practices, as they control the funds, limiting the power of PC providers to negotiate their choice of service to work with. As noted in the case study, some time was needed for the benefits to be felt: "In the introduction various challenges had to be addressed: bundled payments and care provided varied widely by care group, in part due to prices being freely negotiable and inexperience in setting prices for the bundles. Some insurers sought to contain costs by restricting care activities. Over time healthcare providers reported improvements in co-ordination among care providers, adherence to protocols, attendance of multidisciplinary consultations and use of electronic health records." Diabetes patients enrolled in the disease management programmes used almost 25% less hospital care than patients with routine care, with lower levels of hospital care costs. While bundled payments reduced service fragmentation, addressing multimorbidity still requires a population-based approach, currently being explored.

Sources: Kringos and Klazinga 2014; Rijksoverheid 2014a; Struijs et al. 2012a.

A principal contracting entity or ‘care group’ receives a single payment to cover the full range of PC and secondary level services for a fixed period for these conditions, with about 80% GPs covered by 2010 (Van Weel et al. 2012; Schut et al. 2013; *Box 8*).

Some forms of payment act as incentives for specific areas of practice, such as the funding for enhanced services in the UK, and Chile’s reinforcement of PC or *Reforzamiento*, paid as budget transfers to support expanded delivery of the AUGE and *Chile Crece Contigo* (Table 2), negotiated under annual contract agreements between municipalities and the respective health service, in accordance with Ministry of Health guidelines (División de Atención Primaria 2010:44).

There are cautions that such incentive related payments should avoid introducing new administrative burdens and service biases or penalise those working with marginalised populations (Glasziou et al. 2012; Hutchison and Glazier 2013; see *Box 9*). In the UK and Chile, P4P payments were noted to divert attention from non-incentivised areas, with a risk of thresholds acting as a ‘quality ceiling’, preventing further improvements. Indicators need to be carefully selected and regularly reviewed to avoid such effects. Further, professional buy-in and confidence that the measures aim to improve care and not just to reduce costs is argued to reduce ‘gaming’ of the system (Pennington and Whitehead 2014; Frenz et al. 2014).

These purchasing arrangements call for complementary inputs to provide the information technology capabilities and systems to monitor and review service performance and patient experiences with healthcare. In the Netherlands, for example, care groups and individual providers are obliged to keep and share records for local review, feeding also into a National Institute for Public Health and Environment (RIVM) report every four years on the performance of the Dutch healthcare system (Van den Berg et al. 2014). New purchasing arrangements may thus require increased, rather than reduced, resources in early years to support these capacities, noting their wider benefit in the system. In Chile, for example, specific funds are made available to support PC-level pharmaceutical management, electronic information systems, education and text messaging to increase patient adherence (Yáñez 2014:31).

The case studies suggest that moving away from FFS towards (blended) capitation payments and service incentives may not only reduce cost escalation, but also support a more holistic approach to PC. Notably in the Netherlands in 2006, when new payment arrangements were negotiated and introduced under the new insurance law, the national association of general practitioners argued for a capitation system as it allowed for strong relationships with patients. Insurers however preferred to track and compensate for performed work through FFS. The outcome of the combined

system is shown in *Table 5* (Van Dijk 2012). As a natural experiment in Ontario, Canada, new blended capitation payment arrangements complemented by targeted payments were reported to have improved patient enrolment, support for multidisciplinary teams, extended hours access and health promotion and prevention services. Progress on these same outcomes has been slower in Quebec, where FFS still dominates (Moat et al. 2014; *Appendix 5* summarises the PC models in Ontario and Quebec). Capitation payments are reported to have improved patient satisfaction and provider responsiveness, although evidence on quality or coverage outcomes is not (yet) available and note is made that the formula for capitation should not bias against complex cases (Moat et al. 2012). Capitation payment arrangements have synergies with enrolment and patient registration or rostering practices, discussed later, both supporting and being reinforced by these measures. (*Patient enrolment* refers to the listing of individuals in a catchment population with a provider, also termed *registration or rostering*).

There has been resistance to new payment structures in the USA, largely due to concerns over the impact on providers’ income, and the lack of familiarity with successful experiences. Nevertheless, some blended payment models are advancing, with quality, efficiency and health outcomes included in Medicaid Waivers, and patient-centred medical homes (PCMHs) applying risk-adjusted capitation, performance payments and bundled payments for addressing chronic diseases (Berenson and Rich 2010; McNamara 2006; Kaiser Family Foundation 2011a, 2011b).

Ontario province in Canada provides an interesting example of how a *movement from FFS towards blended payment strategies and capitation* has been applied since 2004/5 that may provide useful learning for similar transitions in the USA (Glazier et al. 2012). In Canada professional groups are a powerful lobby and need to be persuaded of the benefits of capitation for it to succeed. Many physicians supported capitation, however, as a more balanced approach to patient care, enabling management or co-ordination of services for more complex cases and multimorbidities (Moat et al. 2014). Importantly, by combining capitation with incentives for after-hours care, patient enrolment, EMR adoption and administration, PC physicians pay improved, narrowing the gap with that of specialists. Not all physicians support capitation, however, and some personnel (such as nurses) did not benefit from the incentives. Having different purchasing arrangements in the different PC models in the province, discussed further in *Section 4.7*, appears thus to have been a necessary option for managing the political concessions in a reform agenda (Moat et al. 2014; Strumpf et al. 2012).

As noted in the UK, Chile and Canada cases, nurses and other PC professionals also need to benefit from capitation to obtain their support (Frenz et al. 2014; Pennington and Whitehead 2014; Moat et al. 2014).

Box 9: A checklist to review financial incentives

Glasziou et al. (2012) reviewed published evidence on P4P schemes and raise six questions to address to decide whether to introduce P4P (related to the likely benefit) and three to inform design of P4P (related to the systems, processes and payments). For whether to introduce incentives, they ask: 1. Does the desired clinical action improve patient outcomes? 2. Will undesirable clinical behaviours persist without the intervention? 3. Are there valid, reliable and practical measures of the desired clinical behaviour? 4. Have the barriers and enablers to improving clinical behaviours been assessed? 5. Will financial incentives work better than other interventions to change behaviours, and why? 6. Will benefits clearly outweigh any unintended harmful effects and at an acceptable cost? If the answers are 'yes' to the above, then to inform the design they propose asking: 7. Are systems and structures needed for the change in place? 8. How much should be paid to whom, and for how long? 9. How will the financial incentives be delivered?

Source: Glasziou et al. 2012.

In the Netherlands, insurers began to reimburse the services of PC nurses after the insurance reforms of 2006, recognising their contribution to chronic care (Van Dijk 2012). Chile has a similar mix of capitation and P4P incentives, negotiated annually for each PC establishment and the regional health service, in line with national standards (Subsecretaría de Redes Asistenciales 2013c). Here, however, if the establishment meets 90% of its targets, the payment is made to *all* primary care workers – administrative and provider staff included – through an annual bonus consisting of a variable percentage of the base salary, divided into three payments (Frenz et al. 2014).

One way of avoiding resistance to a shift away from FFS is to allow for a range of approaches, while giving additional incentives for capitation and blended approaches. Such incentives include payments that enhance career paths, improve relative incomes and improve practice environments, including for information systems. Incentives that benefit all personnel in practices also build wider support, with measures for applying such payments through distribution from the practice partners, and as increments to annual bonuses.

4.4 Ensuring health value for money in medicines and technology

Technological innovation has the potential to improve health benefits and reduce costs. It can also achieve the opposite. In the USA, the over or inappropriate use of medicines and diagnostics is reported to contribute to cost escalation, with \$105 billion excess costs estimated in 2009 from prices above competitive benchmarks (IOM 2010; Nolen 2014). With strong pharmaceutical lobbies, the USA currently prohibits negotiated rates for medicines and has rejected reference pricing in policy, although there are reduced co-payments in some insurance plans for generic substitution. There are also legal duties on manufacturers of medicines and technologies that participate in US federal healthcare programmes to report payments given to physicians and

teaching hospitals (Ruggeri and Nolte 2013; OECD 2008; Rice et al. 2013).

International experience points to a range of measures used to assess and ensure value for money and to widen health benefits from technology innovation, including technology assessment, price negotiations through central procurement, incentives, co-payments and literacy support for both health workers and communities to discourage use of higher cost medicines and technologies over equivalent lower cost options and to control of non-beneficial treatments. *Table 4* shows the varying degrees to which the case study countries apply such measures.

Many countries (Canada, UK, France, Germany, Australia) have agencies that assess the effectiveness and, in some cases, value for money of new technologies, treatments and drugs (Stabile et al. 2013; Lopert and Elshaug 2013). Several US bodies assess technology and research comparative effectiveness, but the Patient Protection and Affordable Care Act provides that the Medicare-funded Patient-Centered Outcomes Research Institute (PCORI) cannot issue coverage guidelines or make treatment recommendations using cost effectiveness research or “develop or employ a dollars-per-quality adjusted life year...as a threshold to establish what type of healthcare is cost effective or recommended” (Nix 2012). *Box 10* overleaf presents the contrasting example of NICE in the UK, and its contribution to health equity and value for money.

In 2002–2012 there was a 62% increase in medicines dispensed in the UK at a time when the average annual cost to the NHS of prescribed medicine *fell* by £9 (\$15) per capita. This was attributed to a rising use of generic (non-brand) medicines and many medicines coming off patent. Generic prescribing in PC rose from 53% to 73% of medicines in the period (Pennington and Whitehead 2014). Prescribing of generic medicines has been well established in the UK since the early 1990s, when an indicative prescribing scheme encouraged it through education to patients and practitioners.

Table 4: Health Technology Assessment arrangements, case study countries and USA

Area	Canada	Chile	Netherlands	UK (England)	USA
HTA methods include	Economic evaluation (**) Public payer and Health system perspective Budget impact	Proposals under review to strengthen HTA procedures	Economic evaluation Societal perspective (*) Budget impact	Effectiveness and value for money assessments Societal perspective*	Cost effectiveness not used by law in formal healthcare recommendations or guidelines
HTA performed by	Independent national, some-times provincial body, purchasers	National HTA Unit and commission	Independent central body	Independent central body (NICE)	PCORI, AHRQ (as funder) academia
Medicine pricing, reimbursement	Formal pharmaco-economic assessment	na	Formal pharmaco-economic assessment	Limits set to return on capital (profits) and value based pricing	No national price regulations.
Pharmaceuticals as % h/hold exp	32%	55% OOP spending	20%	n.a	29%

Sources: Loewenson et al. 2014a; OECD 2014; Paris 2014; Moat et al. 2014; Frenz et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014; Stabile et al. 2013; Cid and Prieto 2012; Thomson et al. 2013; Rice et al. 2013; Nolen 2014
Key: na = not available; (*) considers and monetises all costs and benefits for the society (cost-benefit analysis); (**) considers costs (and savings) for public payers for health system + social services where relevant.

It set ‘indicative prescribing amounts’ for each PC practice for them to audit and review their practices, backed by advisers to provide support and information. After initial resistance, many doctors were reported to be reviewing their prescribing practices (Bligh and Wally 1992). Subsequent NHS campaigns have raised PC staff and patient awareness on unnecessary prescribing and use of certain drugs, such as antibiotics.

HMICs have used a variety of methods to address medicine costs, including generic and reference prescribing, audit of indicative pricing, mandatory generic substitution, financial incentives to pharmacies to dispense generics and public education on rational use of medicines.

Some Canadian provinces use reference pricing (i.e. maximum reimbursements based on standard costs above which patients pay) for medicines (Stabile et al. 2013; NICE 2010), and Canada has adopted bulk pharmaceutical purchasing in its provincial public drug plans (Stabile et al. 2013). At the federal level, the Canadian Patented Medicine Prices Review Board regulates the prices of patented drugs entering the Canadian market, but has no authority to regulate prices or fees charged by wholesalers or pharmacies. The Ontario Drug Benefit programme has implemented a drug formulary, mandatory generic substitution, and a small cost share to contain costs. While the USA has rejected reference pricing, other options exist. In France and Germany, payments for medicines incentivise pharmacists to dispense lower cost drugs (Stabile et al. 2013). France has a ‘generic versus third party’ scheme, where patients

agreeing to generic substitution do not pay anything for their drugs. This led to an increase in the substitution rate by 13% in one year, with costs savings of over \$270 million (Durand-Zaleski 2013).

The Netherlands have kept the growth in expenditures on medicines at 1-2% per year since 2008 through joint targeted policy and action by government and insurers to reduce medication prices (CVZ 2012). The Act on Pharmaceutical Pricing provides that pharmaceuticals on average cannot have a higher price than that in neighbouring countries. Insurers agreed with government to reimburse in the basic benefit package the medicine with the lowest price, in most cases generic medicines. This ‘preference policy’ has resulted in substantial cost-effectiveness gains, reducing the costs per user and per unit of health benefit and saving an estimated 3 billion Euros (\$4 billion) in 2011 (CVZ 2012). In 2012, government further agreed with the National Association for General Practitioners (LHV) for GPs to prescribe medicines with the lowest price wherever feasible, without compromising quality of care (Rijksoverheid 2014b; CVZ 2012).

Beyond prescriber practices, it would be important to identify how countries are addressing rising costs of imaging, pathology and other investigations, as we did not obtain evidence on this from the case studies or desk review. Other measures may indirectly control costs of and widen health benefits from technology that apply at PC level, including support of adherence to guidelines (see *Section 4.8*), recognising practice assistants/nurse-led treatment

Box 10: The UK's 'NICE' ensuring improved health outcomes and value for money

The UK National Institute for Health and Care Excellence (NICE) was established in 1999 to improve standards of care for patients and reduce inequalities in access to innovative treatments. Its remit was expanded to public health in 2005 and to social care in 2013. It was a statutory special health authority within the NHS, independent of government, until 2013, becoming a statutory non-departmental public body, operationally independent of government, but funded and accountable to the national Department of Health. NICE delivers on its mandate to “improve outcomes for people using the NHS and other public health and social care services while ensuring value for money” through its:

- a. Centre for Health Technology Evaluation, which appraises clinical effectiveness and economic factors and makes recommendations on the basis of value for money on use of new diagnostics, medicines, medical devices, surgical procedures and health promotion activities within the NHS in England and Wales.
- b. Centre for Clinical Practice, which uses best available evidence to develop non-binding clinical guidelines on appropriate care of people with specific diseases and conditions within the NHS in England and Wales. The guidelines are used to improve the quality of healthcare, as standards to assess clinical practice, in professional education and training and to support informed decisions by patients and their communication with health professionals.
- c. Centre for Public Health Excellence, which develops guidance on health promotion and ill health prevention for the NHS, local authorities and public, private and voluntary sectors.

NICE's work has been supported by a paradigm of evidence-based appraisal, standard setting and practice, applied in the UK since the 1990s and well regarded internationally. It emphasises rigorous and transparent methods and involving patients and the public at every stage of assessments, independent of industry interests. Its 170 different guidelines are seen as authoritative audit standards. As raised by a medical key informant: “... it has to have credibility, it has to have the support of the professionals and the support of government and the support of managers, and I think one of the great triumphs of NICE has been that it's achieved all those. I guess it's done it by the quality of its work, by its transparency and by being seen not to be in the pocket of any one of those groups.”

The impact of NICE guidelines was reported to have been enhanced when they covered conditions also included in the QOF for GPs. In 2001, government also placed a statutory obligation on health authorities to make all NICE approved technologies/medicines available to all patients. NICE has faced various challenges in applying the guidelines, including a perception of inflexibility in guidelines undermining a doctor's discretion to tailor treatment to the individual patient and a possibility of recommendations driving practice and spending into areas that are of lower priority. NICE approves approximately 90% of all new technologies, with considerable cost to the NHS. Evaluations over fifteen years have, however, reported that NICE guidelines have contributed to transparent decision making on technology, driven by evidence on value for money rather than cost, involving public and patients, supporting the standardisation and improvement of practice in many areas of care and contributing to equity in access to new technologies.

Sources: DoH 1999; NICE 2005; Wathen and Dean 2004; Smith et al. 2008; Stabile et al. 2013. More detailed information provided in Pennington and Whitehead 2014.

programmes and interprofessional care teams (Dinh et al. 2014; see *Section 4.5*); using teleconsultation and telecare programmes to facilitate management at PC level and reduce costly referrals (Chile, Canada and the Netherlands; see *Box 11*); and embedding pharmacists within PC teams to ensure appropriate prescribing and to alert when patients do not fill scripts (Moat et al. 2014).

As noted in *Box 11*, these measures can widen access to or benefit from technologies, while also improving continuity and efficiency of care (Giesen et al. 2011). In the UK and the Netherlands, appointments can be scheduled by phone or internet and medical consultations conducted by phone. In Chile, phone counselling is used to support management of people with chronic diseases. PC clinicians also use IT to obtain support from a range of specialists (the Netherlands

and Chile) (Pennington and Whitehead 2014; Kringos et al. 2013a; Frenz et al. 2014). The role of IT in supporting practice in PC is further discussed in *Section 4.9*.

Cost control and quality assurance of new technologies is thus largely provided through agencies that assess the value for money, new technologies, treatments and drugs. For medicines this is supported by various options or incentives for prescribing generic or lower cost substitute medicines, supported by physician and public education. The cost savings reported are significant and while the USA has policy restraints on embedding HTA in the manner achieved in the UK, it has openings for the more evidence-based approach in other settings: HTA evidence and value for money guidance is now more widely available for public, professional and insurer dialogue; there are

Box 11: Teleconsultation in the Netherlands

Teleconsultation is reimbursable as a 'modernisation and innovation procedure' in the Netherlands to reduce the number of referrals to specialists by using internet resources at PC level. Telecare in eye care and cardiology has, for example, shown to reduce referral rates by 50%, and teledermatology has reduced referrals to dermatologists and increased flexibility of scheduling. The PAZIO project in Utrecht province is developing a national healthcare portal to facilitate online appointments, self-management activities for chronically ill patients; prescription requests by patients; and to allow patients to view their own medical record. Telecare brings efficiencies and enhances possibilities for social participation and accountability of services, discussed in Section 4.10. In 2008, the Municipality of Almere initiated the Zorg.tv [care tv] pilot, which is part of a large-scale telecommunication project. The target population of the pilot is patients of local mental and social healthcare organisations, their carers and family members. Participants communicate with each other and with their healthcare providers via their television.

Sources: Kringos and Klazinga 2014; Van der Heijden and Schepers 2011.

a range of incentive options for promoting generic and lower cost medicines aimed at patients, prescribers and pharmacists; and there is scope for stronger communication and IT measures to raise public awareness (Pennington and Whitehead 2014). Further, while many pilot initiatives are using IT in the USA, they have not been mainstreamed into PC practice or reimbursement structures. *Section 4.9 discusses this further.*

4.5 Producing, organising and supporting a PC-oriented workforce

Workforce shortages and pay, status and workload challenges were all noted as concerns in the USA. The country's workforce distribution is largely unregulated with some financial incentives for service in underserved areas, including loan repayments and higher reimbursement rates (Rice et al. 2013). Medical student exposure to PC is late, with low interest in PC and limited interprofessional training. At the same time, PC practice and team-based care is of growing interest, with extended recognition and licensing for a spectrum of PC professionals, improved pay levels relative to specialists, training, orientation and continuing medical education, and team practice of PC physicians, NPs, PAs, nurses, social workers, and lay health workers in PC models (AHRQ 2011; Kaissi 2012; National Centre for Health Statistics 2010; Rounds et al. 2013; Stange 2012; Nolen 2014).

In all the case study countries, doctors, nurses and administrative staff are universally found in PC (see *Table 5 overleaf*).

Across all settings these core clinical personnel operate with other personnel and interprofessional teams that create, or have the potential to create, a more holistic approach to person-centred care, a more integrated approach to multimorbidity and in some cases to support a PC system more able to reach

underserved areas, as discussed below. These personnel include: nurse practitioners (NPs), pharmacists, dietitians, mental health workers, behavioural health counsellors, dentists, midwives, nutritionists, physiotherapists, social workers, psychologists, occupational and speech therapists, nursing assistants and health promotion workers. (Nurse practitioners are registered nurses with postgraduate training in fields relevant for PC.) The variation in which specific categories are present reflects in part different public health burdens (more maternal health burdens in Chile, more long-term care in other settings), in part the culture and outreach of the health system and in part policy legacies such as insurers paying only physicians and the relative bargaining power of the different professions. As in the USA, shortages and losses of PC personnel and a failure to attract young practitioners have also acted as drivers for innovation

Various factors discourage personnel from PC practice, including long working hours, low recognition, risk of litigation, the complexity and emotional demand of PC, under-resourced practice settings, low pay relative to other specialties and poor reward for patient contact and non-clinical inputs (Laugesen et al. 2012; Loewenson et al. 2014a; Watt 2014). Training and financial measures have been used to address this: Cuba has expanded training to achieve one of the highest family physician-to-patient ratios globally (Dresang et al. 2005; Devi 2014). In Canada, the share of graduates choosing postgraduate training in family medicine rose from 25% in 2003 to 34% in 2011 (Strumpf et al. 2012), with improved pay levels and new PC models in Ontario argued to have made PC more attractive for young graduates (Moat et al. 2014).

Various measures have been used in HMICs to attract, develop, orient and distribute PC professionals. The overall culture and service ethos they are applied within needs to be considered, however, in thinking about their application to other settings:

Table 5: Workforce features in the case study countries and the USA

Area	Canada	Chile	The Netherlands	The UK	USA
PC workforce personnel	Mainly doctors and administrative staff and to a lesser extent nurses, nurse practitioners (NPs), pharmacists, dieticians, mental health workers	Doctors, dentists, nurses, midwife, nutritionists, physiotherapists, social workers, psychologists, admin staff	GPs, PC/ specialised/ practice/home care nurses, midwives, occupational/speech and physiotherapists, dentists	GPs, practice and specialist nurses, nursing assistants, health promotion workers, mental health workers, physiotherapists, dieticians, midwives, admin staff.	PC physicians of different types, nurses, NPs, medical assistants, PAs, social workers, care managers
Physician density/ 10 000 (i)	24	3.5	30	28	25
Nurse density / 10 000 (i)	93	4.1	118	86	111
Dentist density/ 10 000	5.9 (2008)	2.1	5 (2007)	5.1 (2008)	5.7 (2010)
Ratio specialist: GP pay (iii)	1.52: 1 (2008)	na	1.57-1.70:1 (2007)	1.34-0.72:1 (2008)	1.6 (2003)
Ratio of specialists to GPs /1000 people 2010	1.10: 1	na	3.01:1	2.46:1	7.26:1 (2011)
Financial incentives	Varies across models: Targeted incentives for after-hours care, patient enrolment, administration/ IT innovation, nurse salaries	Additional salary bonuses for professions in remote or certain sociocultural areas	P4P and funds for interprofessional collaboration; to employ NPs; Bundled payments for chronic care	P4P through the QOF for enhanced services Funding for enhanced services	Varies across insurers
Non- financial incentives for PC practices, personnel (iv)	Support with IT and new technology Interprofessional teams provide supportive environment Recruitment and retention bonuses	Skills development, specialist training programmes	Training places, specialisation for GPs, community and PC nurses Group practice, task shifting reduces workload, enables part-time work	GP status as expert specialist New GMS contract provides more flexible and part-time working arrangements	Expanded scope of practice for NPs, PAs in some states More flexible hours in group practices

Sources: Barrientos and Larrea 2013 in Frenz et al. 2014; Boyle 2011; Hutchison et al. 2011; Loewenson et al 2014a; Kringos and Klazinga 2014; Moat et al. 2014; OECD 2010, 2013b; Marchildon 2013; Schäfer et al. 2010; WHO EURO 2009 in Schäfer et al. 2010; Pennington and Whitehead 2014; Thomson et al. 2013; Schut et al. 2013; Nolen 2014; Fujisawa and Lafortune 2008; Rice et al. 2013.

Key: (i) 2011 or nearest year, in all countries all personnel in health sector practice in clinical and other roles;

(ii) 2009 for England and Canada; 2007 for the Netherlands or nearest year; 2013 for Chile.

(iii) reflect the range between salaried and self-employed GPs (iv) above leave benefits for all employees.

- Undergraduate and specialist training and continuing education** to strengthen the field of PC and the expert nature of the work in PC, supporting also the acceptability and trust in general practice by patients (Pennington and Whitehead 2014; see *Box 12*). Such training is supported by studies of workforce capacity needs and workforce planning, strong family medicine departments and curricula, increased places in training institutions and loan repayments or scholarships (in Netherlands, Kringos and Klazinga 2014; England, Pennington and Whitehead 2014). While training in the USA and the four case study countries is comparable in duration and structure, the case study countries appear to have more opportunity during training for students to work in the community which strengthens their competencies for social roles and team approaches.
- Policy instruments to **encourage a fairer distribution of PC practices**, including: controlling where doctors can set up new practices (a blunt instrument used in England with positive but unsustained impact); offering incentives to work in remote or disadvantaged areas (England, Chile, with unclear overall impact); and increasing the supply of GPs in the country (all countries seen to mitigate inequalities when entry controls were abolished in England); and requiring insurers to contract a sufficient amount of PC providers in their region to guarantee access to their insured clients in the Netherlands (Goddard et al. 2010; Pennington and Whitehead 2014; Frenz et al. 2014; Kringos and Klazinga 2014).

Box 12: Training expert generalists in England

In the UK, general practice is treated as a specialised area, requiring the depth of training of secondary care specialties. Expert generalists is the term used to characterise the specialist nature of the profession. GP education and training is well established and regarded. It takes ten years, including five years for an undergraduate medical degree, a two-year foundation programme of general medical training and three years of specialist training in general practice, to gain membership of the Royal College of General Practitioners (RCGP). Newly qualified GPs continue to learn together in groups as part of continuing professional development, with support from senior PC practitioners and the RCGP. Expert generalist training focuses on managing uncertainty: making informed decisions about the severity and prognosis of conditions and managing the continuum of care, from health promotion to palliative care.

From the PC practice and patient side, this depth of training (and the traditional longevity of GP/patient relationships) has led to a generally high level of trust in PC and GPs as first port of call and as the respected gatekeeper to secondary and tertiary care, leading to 90% of healthcare contacts in the NHS being dealt with in PC. The role of PC and GPs as first access and gatekeeper are features that have supported value for money in the UK system, further discussed in *Section 4.6*. As *gatekeeper*, PC co-ordinates referral to other levels and services to facilitate appropriate care. This functions because people believe that GPs have the necessary expertise to help them get the care they need. Expert generalists are able to use clinical judgement and reduce unnecessary medical investigations and diagnostic tests, especially when practiced with professional values and a non-exploitative public service ethos. As raised by a GP key informant: “It’s the individual moral beliefs of the practitioner that make this work or not work. We do this work because we want to provide good quality care”. Combined with other measures to improve GP income relative to other specialties and to support PC practice, this reduces negative professional perceptions and has raised the status of general practice.

Source: Pennington and Whitehead 2014.

With multiple income, social, career and other factors influencing decisions on location, there is need for a wider lens on the issue, as taken for example in the work of the GPs at the Deep End outlined in *Section 4.7*.

3. Investing in **training for a wider spectrum of PC professionals**, including:

- Providing places in PC courses and in service community and practice training for nurses, reported in Netherlands and Ontario (Simpson 2014; Kringos and Klazinga 2014). Municipal PC administrations in Chile are legally required to develop and provide annual professional education programmes for *all* PC personnel encouraging integration of team- and community-oriented approaches (Frenz et al. 2014).
- Developing and/or expanding the scope of practice for a range of **non-physician practitioners** including mental health workers (England), physician assistants (PAs), NPs and pharmacists (Canada) and physiotherapists (Chile), whilst noting the need to better align their roles with those of other personnel to avoid confusion (McDonald et al. 2006; Frenz et al. 2014).
- As shown in *Table 5*, applying a mix of **financial incentives**, including targeted incentives and bonuses for service areas that improve pay for PC personnel, with incentives for performance in areas such as

extended-hours care, PC innovations and uptake of information technology (IT) also impacts positively on wider practice in PC (see *Section 4.3*).

- Providing a range of **non-financial incentives**, including more flexible and part-time working arrangements (the UK and the Netherlands), clinical practice exposure during undergraduate training (Australia, Denmark, Cuba), legal provisions and support for midwifery (Canada and Chile) and education and research incentives (Switzerland, the Netherlands, the UK, Argentina) (Roberts et al. 2011; Roland et al. 2012; Pedersen et al. 2012; Reed 2008; Hutchison et al. 2011; Hutchison and Glazier 2013; Camenzind 2013; Van Weel et al. 2012; Campion and Morrissey 2013; Couttolenc and Dmytrachenko 2013).

The evidence above from other sources confirms that incentives are best applied at *both* individual and practice level, mixing financial with non-financial incentives, improving the status and conditions of PC practice for all personnel, and sustained over time (McDonald et al. 2006; 2008). The example of P4P payments made at practice level in Chile (in *Section 4.3*) was noted to attract a spectrum of personnel to PC practice.

Greater attention is thus being given to multidisciplinary teams in PC, backed by appropriate training, improvements in pay and incentive systems with reported potential for improvements in quality, savings in cost and some gains in extending service outreach in underserved areas (Dinh et

al. 2014; Moat et al. 2014; Roland et al. 2012; Simpson 2014; Van Weel et al. 2012):

- a. In Canada, nurse practitioners (NPs) assist to address GP shortages in underserved and remote communities, with a doubling of licensed NPs between 2004 and 2008, the Nurse Practitioner-Led Clinic (NPLC) model in Ontario substituting NPs for GPs in many aspects of PC and with NPs employed in Community Health Centres (CHCs) and Family Health Teams (FHTs) (Moat et al. 2014; see *Appendix 5*). There is some report of nurses and NPs positively influencing some health and quality of care outcomes in UK, especially for chronic conditions (Roland et al. 2012).
- b. In Chile, ministry guidelines require family health centre (CESFAM) teams to include multiprofessional teams, with a range of clinical and social capabilities, and P4P incentives applied to all PC personnel (MINSAL 2007). Guidance is given on the composition of teams for the various types of clinics to ensure consistency in service features (Frenz et al. 2014).
- c. The Dutch government has invested in more places for community nurses and NPs in PC to substitute GP tasks, such as in chronic care, with local, regional and national measures to support the process changes needed. The Dutch College of General Practitioners (NHG) has developed guidelines on interprofessional practice and ‘national transmural agreements’ (LTAs) to provide for collaboration in a region, funded by insurers and supported by bundled payments, and by a network of consultancy companies across the Netherlands guiding PC professionals towards more integration and/or collaboration to improve quality of care (Kringos and Klazinga 2014 in press).

The case studies point to a spectrum of allied workers involved in PC, shown in *Table 5*. PC cadreship has been extended in areas such as mental health (such as in England and Chile), physiotherapy (such as in Chile and the Netherlands) and more broadly, such as physician assistants in Ontario. The introduction of such allied workers has in part been motivated by substitution and task shifting (as in Ontario), to support quality improvements (in the Netherlands) and in part by a widening paradigm and scope of PC (as discussed in *Section 4.7* in Chile). Their introduction has taken advantage of existing cadres, as Chile did with a surplus of psychologists, or has expanded new education programmes (as in Ontario) (Sibbald et al. 2006; McDonald et al. 2006; Schäfer et al. 2010; Araya et al. 2012; Hutchison and Glazier, 2013; Moat et al. 2014; Frenz et al. 2014; Pennington and Whitehead 2014). While there is some evidence of the impact of the role of allied professionals on enrolment and service responsiveness, there is also a note of tension from other personnel, especially where they

relate to substitution (Vanstone 2014). The role of allied professionals and of community health workers, discussed further in *Section 4.10*, is an area that merits more focused and detailed review in its own right.

These efforts to restructure tasks, support interprofessional teams, redistribute work burdens and bring new skill mixes to PC are not introduced as isolated practices, but are located in the context of wider service models, with complementary training, financing and service measures. For example, blended-capitation or blended-salary arrangements encourage physicians into team approaches and build support for them if rewarded by PC models that address their aspirations of care. NPLCs bring nurses to underserved areas, but in improving comprehensiveness and quality of care also build public support for the workforce shift (Moat et al. 2014; Glazier et al. 2012; Hutchison and Glazier 2013; Pomey et al. 2009).

There is limited evidence on the impact of these workforce models on health or value for money outcomes and it is difficult attribute outcomes to workforce changes alone. They are variably associated, in different settings, with improving access in remote areas, fewer observed emergency department visits, fewer referrals, improved quality and management of chronic care, more holistic and improved coordination of care, and with care that is more community- and population-health oriented and more inclusive of vulnerable groups (McDonald et al. 2006; Moat et al. 2014). At the same time they need to be seen as innovations that require investment to yield such benefits. NPs were found to see fewer patients for longer times, and therefore may not imply reduced costs, even though their absolute costs are lower than that of physicians, and unresolved ‘push factors’ for nurses also need to be addressed, such as gaps in PC nurse compensation compared to other specialist nurses and role ambiguity. While NP-led diabetic treatment in the Netherlands reduced referrals to hospital by 40%, the hospitals were found to simply raise these costs in other treatments (Struijs et al. 2012b; Moat et al. 2014; Curtis and Netten 2007; Roberts et al. 2011; Sibbald et al. 2006).

The evidence above suggests that promising models in HMIC countries thus share common workforce features: They:

- are enabled by financial and non-financial incentives;
- apply a team approach, involving physicians and multidisciplinary teams with nurses or NPs, allied workers and other professional and lay personnel;
- strengthen links between PC workforces and clients, such as through IT for both direct service provision (e.g. telemedicine, text message) and to improve access and continuity of care (such as for telephone and or computer appointment systems);

- use team approaches to strengthen links into underserved communities, support comprehensive service approaches and provide after-hours service;
- include a mix of measures and incentives to encourage positive impacts; and
- are often associated with models that include comprehensive care approaches, such as the population health approaches used in Community Health Centres (CHCs) or the connection to the (enrolled) practice population as part of personal care in the FHTs and NPLCs in Ontario (Kringos and Klazinga 2014; Moat et al. 2014).

Promising workforce approaches thus need to be put in the context of the overall organisation of PC models, further discussed in *Sections 4.6 and 4.7*. As discussed in *Section 4.9*, they often draw support from networks or federations, regional and national multipractice organisations (Smith et al. 2013).

The USA has entry points for these features, such as in 1,100 CHCs and approximately 7,000 PCMHs, many of which are already involved in such innovation. Increasing funding for expansion of CHCs is an important part of the ACA reforms, albeit with difficulties in attracting physicians and with CHCs in the USA viewed more as a safety net providing PC for low-income, uninsured and minority populations, and for discrete short-term issues by insured patients (Rice et al. 2013; Bodenheimer and Pham 2010). The role CHCs play in comprehensive PC approaches is further discussed in *Section 4.7*. Beyond this, PC physicians in the USA generally take on clinic and administrative responsibilities without the expert status raised earlier of PC physicians in the UK; with longer work weeks than other professionals and without the part-time practice options raised earlier in the Netherlands. It suggests that improved PC practice in the USA calls for measures that *both* improve the position and conditions of physicians *and* the recognition and roles of wider professional teams, within the wider comprehensive PC models that support this.

4.6 Organising early, first contact and continuity of care

The US experiences relatively high levels of self-referral and unnecessary hospitalisation and shortfalls in continuity of interaction and follow up between PC practices and individuals, families and communities—particularly for low income, Hispanic, black, older and young people (CDC and NCHS 2010; AHRQ 2012; Schoen and Osborn 2009). The notion of PC services as gatekeepers of referral to specialist care is not well understood or is negatively viewed by the public as limiting choice (McMurchy 2009). There is some compulsory rostering under health

management organisation plans in the USA and voluntary enrolment in PCMHs, but it is not a wide practice. Some insurers lower co-payments for patients to stay ‘within the network’, encouraging use of a regular physician, while health information exchanges are facilitating sharing of patient records across providers (Nolen 2014). There is also debate on how to widen or integrate enrolment within the Accountable Care Organisations and PC practices, including to support a population health-oriented approach, to clearly define the patient population and to facilitate that portion of payment that is capitated (Grumbach 2014).

Promising practices facilitate early first contact and continuity, simplifying it for both patients and providers. Improvements in health outcomes from enrolment are more likely when the entitlement to PC is made clear (as discussed in *Section 4.1 and 4.2*), when there is patient enrolment (including rostering or registration) with PC services, when PC services are available and accessible—geographically and financially—and where there is service access after-hours (Harzheim et al. 2006; Kringos et al. 2013a; Starfield and Shi 2002; Macinko et al. 2003; McMurchy 2009; Polluste et al. 2013; Haggerty et al. 2008; Kringos et al. 2010).

Enrolment

As a lever for first access and continuity, enrolment assumes that people can get an appointment on the same day that they need care, and that they will be seen by someone who knows them and/or has access to their records, preferably in a practice they know. Enrolment with PC practices provides an entry point for organised follow up of the catchment population, such as to promote health literacy and service uptake in vulnerable groups, for screening and health promotion, for provider payments by capitation and needs-based resource allocation. Management of PC and continuity of care (i.e. having the same doctor) has been associated with reduced costs due to fewer days of hospitalisation, fewer days in intensive care and a lower level of emergency hospitalisation in a range of HMICs (Sans-Corrales et al. 2006; De Maeseneer et al. 2003; Hollander et al. 2009). In a policy review of nine countries including England, the Netherlands, Canada (Ontario) and the USA, enrolment was found to enhance continuity of care, the relations between providers and communities, the co-ordination of information, links within the PC team and with other services and to facilitate capitation payments. Enrolment was not found to constrain patient choice when provisions were made for patients to access care when traveling, commuting, or seeking a second opinion (Kalucy et al. 2009).

Enrolment of *all* people living in a catchment area with a PC practice is required in a number of HMICs (UK, Denmark, Ireland, Italy, the Netherlands, Portugal, Spain and Chile

FONASA). In Ontario models (*Appendix 5*) enrolment is encouraged but voluntary in FHGs and incentivised in FMGs through a small payment to practices for each person enrolled, with further payment for patients registered from vulnerable populations (see *Table 6*). Voluntary enrolment may be seen as an entry point to encourage and show the benefit of enrolment. It can be supported by incentives, such inclusion of the number of rostered patients as one of the requirements for a PC practice to become an FMG in Quebec (with fewer numbers required in remote communities) (Moat et al. 2014). At the same time, voluntary enrolment can generate incentives for providers to avoid enrolling complex patients with greater need (Kalucy et al. 2009). Even where required, enrolment may still need to be encouraged and supported by outreach, especially to disadvantaged groups, by linking PC with public health services and by drawing support from social agencies and networks (Loewenson et al. 2014a).

In England, where more than 99% of people are registered with a GP, registration is co-ordinated by the local NHS commissioning board that arranges for the patient's medical records, from all levels of care, to be transferred and kept by their GP practice. All NHS IT systems can identify the practice a patient is registered with through an NHS identification number or personal information (name, address, date of birth) (Pennington and Whitehead 2014). Patients can, ideally, choose a preferred doctor within the GP practice, but in practices with large list sizes, patients may see whichever doctor is available, affecting continuity of care (Kalucy et al. 2009). The Netherlands has similar registration requirements, requiring that people travel no more than 15 minutes to reach the nearest practice, facilitated by its higher population density (*Appendix 3*) and that people are able to see a GP outside their registered practice in exceptional circumstances, such as when traveling, with no penalty to patient or GP (Kringos and Klazinga, 2014).

First access to PC services is also supported by guaranteed opening hours, arrangements for care out of guaranteed opening hours (e.g. telephone lines staffed by nurses or NPs (in the USA, England) and options for making appointments online, face to face or by phone (as for example in Spain) (Borkan et al. 2010). Arrangements for out-of-hours care are shown in *Table 6*, with about three-quarters of patients able to get same day appointments in the UK and the Netherlands and 45% in Canada (Thomson et al. 2013). Access may be higher in Ontario and Quebec where new models have added measures for provision of after-hours care, including a nurse-staffed, after-hours telephone advisory service for those enrolled in FHGs, FHNs, FHOs, walk in options in Quebec FMGs; access to a 24/7 telephone service for vulnerable groups and network clinics that provide extended-hours access to see interdisciplinary teams, with

on-site access to diagnostic services (Moat et al. 2014). Arrangements for after-hours access are further supported by staff rotations (the Netherlands, Denmark), with options of telephone or email consultation; being seen at the centre or through a home visit by the 'roaming' mobile GP unit (Denmark; Pedersen et al. 2012); or through telephone help lines, walk-in clinics and internet-based information (UK; Gauld et al. 2012; McDonald et al. 2008). *Box 13* describes the organisation of such care in the Netherlands, in models that may be useful for smaller practices in the USA.

Similar special services were set up in Chile, called *Servicio de Atención Primaria de Urgencia* (SAPUs), to ensure timely access to care outside regular hours and to reduce transport burdens and bottlenecks in hospital emergency services. They operate independently or as a part of other PC services. While they have expanded access, especially for working people, they are noted to give only brief attention, to not link to family health records and thus have poor continuity of care (MINSAL and Universidad de Chile 2005; Frenz et al. 2014). Information links between after-hours services and PC services is an important issue to ensure continuity, as for example is provided for in England (Roland et al. 2012; Pennington and Whitehead 2014).

Supporting access to PC calls for a range of measures to support uptake in deprived areas and disadvantaged groups. Beyond the payment, training and other measures raised in earlier sections, the measures applied include ensuring that information is provided in languages and culturally relevant forms, providing community-level personnel as translators or intermediaries, employing health workers from local communities and local language groups; outreach by integrated health and social care teams to increase awareness of service entitlements and to encourage uptake of services; knowing and making links with services more commonly used by such groups as entry points and strengthening social accountability for service provision in deprived areas (Loewenson et al. 2014a; WHO EURO 2010; Naylor et al. 2013; Steel and Cylus 2012; García-Armesto et al. 2010).

In Chile, PC personnel receive financial incentives for ensuring AUGE guarantees are fulfilled in disadvantaged groups, including through active outreach (Vega 2011; Frenz et al. 2014). In Scotland, where similar numbers of GPs in deprived areas are expected to address 2.5-3-fold higher health burdens and often more complex problems than in other areas, a range of recognition, resources and integrated PC team approaches, training and specialist attachments and other measures were proposed in 'GPs at the Deep End' to enable them to support provision and access (Watt 2012; see GPs at the Deep End, *Appendix 5*). All country studies have examples of such measures.

Table 6: Features of first contact, continuity and referral in case study countries and USA

Area	Canada	Chile	Netherlands	UK	USA
Enrolment/ registration	Generally no but incentives for FHOs, FHGs, FHNs, FMGs to include voluntary enrolment.	Yes in FONASA services Not in private	Yes with GP	Yes with GP, enrol once	No
Limits on list sizes	FMGs (Quebec) minimum roster of 9,000 patients, 6000 in remote, less dense areas.	Depends on population and health profile	800-2750	Average 1400 1031 – 1860 (*)	na
Conditions	Depends on incentive/practice	Changes only every 12 months	Can change GP without restriction	Can change GP as desired	na
Transferability of measures	Records follow the patient	Records follow the patient	Records follow the patient	Records follow the patient	na
PC service a gatekeeper for referrals	No	Yes for FONASA services; referral to specialist and hospital services	Yes to special-lists, hospitals. Not for physio-/ remedial therapy	Yes	In some insurance plans
Penalties for secondary level visit without referral	Reduced specialist reimbursement if without referral	Only through private system or vouchers; not covered or higher co-payment	Only possible in private service	Direct access only possible in private services, no penalties.	na
Guaranteed opening hours; Out-of-hours access	In some Ontario, Quebec models 24/7 opening and extended hours	Yes open also evening and Saturdays; after hours care through emergency PC services	Yes –24/7 PC provisions for all hours outside normal opening	Yes	Varies by PC practice but often in emergency departments
Links of PC to emergency care services	Yes –nature depends on the model and practice	Yes– through emergency PC and hospital emergency departments	Yes – usually by PC cooperatives	Yes	No, only in government services

Sources: Frenz et al. 2014; Hutchison et al. 2011; Loewenson et al 2014a; Kringos and Klazinga, 2014; Moat et al. 2014; Boyle 2011; Nolen, 2014; Thomson et al. 2013.

Key: na= not applicable/ not available

The issue of access for homeless people can be taken as an example of these additional measures. In England, for example, services for homeless people need to provide for flexibility in the registration processes, additional time for personnel to interact with homeless clients, for staff and ‘expert patients’ to communicate with other services for homeless people and for community-level personnel to provide support to links with clients. By responding to these needs, as explained in more detail in *Appendix 5*, outreach into the community and improved access to PC was observed to reduce emergency care in this group. Given that homeless patients represented only 3% of the population but accounted for 21% of emergency care admittance before the programme, largely for conditions that should be managed effectively in PC, this was seen to result in a cost benefit to both the individuals involved and services that was greater than the funds invested in the programme (Pennington and Whitehead 2014; see *Appendix 5*).

Relational continuity

As noted above, gatekeeping is not a term that has public support in the USA. It reflects a culture of low trust in the system, favouring specialist care, with specialists seen as experts, and PC practitioner concern that ‘failure to refer’ could be mentioned in a lawsuit, or insecurities about their skill levels (Barnett et al. 2012a). Yet the USA has higher levels of cost escalation due to inappropriate use of secondary-level services and higher acute emergency care uptake.

Being registered with a PC provider and PC referral to specialist care not only reduce costs, but also support early uptake of care and improve health outcomes (McMurphy 2009; Starfield et al. 2005). They strengthen continuity for both patients and practitioners, enable horizontal referral across relevant primary-level services, with the annual cost of one PC patient in the UK NHS estimated at less than the cost of one unscheduled hospital visit (Watt 2014).

Box 13: Organisation of after-hours care in the Netherlands

In the Netherlands, GPs are legally obliged to ensure after-hours coverage from 1700 to 0800 on weekdays and from 1700 on Friday to 0800 on Monday. PC co-operatives have since 2000 provided after-hours care funded under the basic care package to allow shared support for a collection of PC services. The co-operatives involve between 40 and 250 PC providers (4 hours duty per week per professional with a compensation of about \$88 per hour) providing care to between 100,000 to 500,000 people within a radius of 30km, locating nearby or at, but independent of, the local hospital emergency departments. Access is through a single, regional telephone number; and the after-hours care/services include home visits or consultations at the centre and or telephone triage supervision. For home visits drivers use identifiable cars fully equipped, including with oxygen, intravenous drip equipment, automated external defibrillator and medication. The co-operatives have ICT support, including electronic patient files and online connection to the primary care car. The co-operatives were found to have reduced physician workloads, increased job satisfaction, improved patient satisfaction, reduced safety incidents, improved efficiency of care and decreased contacts with emergency care and self-referral to emergency departments of hospitals.

Sources: Kringos and Klazinga 2014, 2014 in press; Giesen et al. 2011; Grol et al. 2009.

PC roles in referral continuity are more widely accepted in other HMICs. GPs function as gatekeepers in the UK, the Netherlands and Chile and as a de facto practice in Canada (see Table 7). In Chile, PC services resolve most healthcare demands (with a 90% target for CESFAM) and are responsible for originating referral for specialist and hospital services and for ensuring continuity of care (Subsecretaría de Redes Asistenciales 2013b). CESFAMs should have waiting list management teams to co-ordinate and assess capacities for referrals, to review counter-referrals and evaluate compliance with AUGUE guidelines (MINSAL 2014). In England, GPs have enrolment and gatekeeping roles and are members of the Clinical Commissioning Groups (CCGs) that commission community and secondary care services in a geographical area. The speed of access to specialists in England has improved in recent years, with 80% of patients now seeing a specialist within four weeks compared with 88% in the United States (Roland et al. 2012). In the Netherlands, while GPs refer only 4% of their patients with new health problems to secondary care, 90% of people indicate that they (almost) always received the care they needed at PC level (Kringos and Klazinga 2014), and only 16% of adults said they had to wait for a specialist appointment. In Canada, where the gatekeeping role is weaker - de facto rather than required - waiting times were reported to be *longer*, with 41% having to wait more than two months for specialist care (Thomson et al. 2013).

Some countries do not make PC referral mandatory, but do apply penalties or additional co-payments for bypassing PC services (Germany, France, Denmark) (Gauld et al. 2012; Durand-Zaleski 2013; Health Council of the Netherlands 2004). In Ontario, specialists are reimbursed at a lower rate if patients have not been referred by a GP, so they too prefer PC services to play a referral role (OHIP 2014). Such incentives may have relevance for the USA. Public support for gatekeeping, however, also demands public trust in the quality of PC services, as is encouraged in England with highly qualified expert generalists. It also calls for public

awareness of second choice options and exceptions, such as is provided for emergencies and visits to gynaecologists and paediatricians in Switzerland (Berchtold and Peytremann-Bridevaux 2011).

Information continuity

Access and continuity thus demand good information flow between services and with clients. Electronic medical records (EMRs) support this, particularly when accessed and used by both services and patients (McMurphy 2009; Starfield et al. 2005). Information continuity is a key area that merits deeper, more focused investigation than possible in this research, as it supports many other aspects of continuity. Some of the key features of promising practice on information continuity include that:

- i. *The widest number of PC practices use information systems that are interoperable*, with electronic systems best supporting this. In Australia, 96% of practices are computerised and individuals and healthcare providers can securely access their healthcare information (Nicholson et al. 2012). In the Netherlands and England nearly all practices were reported to use EMRs (Kringos and Klazinga 2014; Pennington and Whitehead 2014).
- ii. *Patients are identifiable across the range of providers they use*. In New Zealand a unique identifier – the National Health Index – is being trialed to support screening, recall and cardiovascular risk assessment (Goodyear-Smith et al. 2012). In Spain, patient EMRs can be activated by the individual health insurance card held by all citizens, which when swiped on the card reader gives providers information on the medical history, medications, important diagnostic test results (Borkan et al. 2010). In England, all NHS systems can identify the practice a patient is registered to through a NHS identification number or personal information (name, address, date of birth) (Pennington and Whitehead 2014).

- iii. *There are measures to link systems across care providers.* In the Netherlands, EMRs in PC practices are being linked directly with community pharmacists and hospitals and with some PC co-operatives for after-hours care (Van Weel et al. 2012) and practices use electronic referral letters. In England the NHS commissioning boards co-ordinate patients' records, from all levels of care to be transferred and kept by their GP practice (Pennington and Whitehead 2014). In Chile a health network computerisation system is extended to EMRs for referral and counter-referral (Frenz et al. 2014).
- iv. *There are measures to link systems across programme areas,* described further in *Section 4.8* on the integration between the QOF software and EMRs to alert to care management areas or in the use of telehealth to support PC practice in Canada (Moat et al. 2014).
- v. *Government supports and is involved in ensuring information continuity,* including to ensure the interoperability of systems in different PC practices and to provide incentives for uptake.
- vi. *Systems are used to make services more accessible and to support people's health literacy* such as in the use of internet consultations in PC in the Netherlands (Rijksoverheid 2014b) and the use of IT to meet obligations to provide public information, including on premiums, benefits, cost-sharing and quality (Schäfer et al. 2010).

The case study evidence on information system features that support first access and relational continuity confirms evidence found in other sources (Kringos et al. 2013a; Starfield et al. 2005; Starfield and Shi 2002; Macinko et al. 2003; McMurphy 2009; Kalucy et al. 2009). Investment on information systems in the USA may make exploration of these measures timely. Universal enrolment and a PC gatekeeping role require competent, effective, well-connected PC services and organised options for choice to build public trust, especially in disadvantaged communities. In voluntary forms of enrolment and referral continuity, patients and providers are encouraged by financial incentives or penalties. These may build on US practices such as the changes by preferred provider organisations (PPOs) for patient self-referral to specialists (Forrest et al. 2001). Beyond the measures for continuity of patient records, web- and IT-based media support—such as the NHS Choices website or the Scottish online health information resource (*NHSinform*) - are key to providing information on health services, insurance provisions, benefits, performance indicators, waiting times, complaints procedures, medical advice and accessible helplines (Steel and Cylus 2012; Boyle 2011).

4.7 Providing comprehensive, co-ordinated person/population focused PC

In terms of service *content*, comprehensive, co-ordinated person-centred approaches in PC linked to population health are important to address the health needs of ageing populations and rising levels of chronic conditions and multimorbidity. The payment measures used in the USA have been observed to not reward co-ordination and comprehensive care of chronic conditions and multimorbidity (Berenson and Rich 2010; Nolen 2014). PCMHs and CHCs provide a more family or community-centred approach, integrating socioeconomic circumstances and involving community health and outreach workers (Nielsen et al. 2014; Arend et al. 2012), with opportunities for addressing inequalities in health (Simpson 2014).

A rise in ageing populations and co-morbidity from chronic conditions in HMCs is driving a review of healthcare and PC systems. *Co-morbidity* refers to the presence of additional diseases in relation to an index disease in an individual and *multimorbidity* to the presence of multiple diseases. A person-focused - rather than disease-focused - approach in PC is argued to be better able to address multimorbidity and its determinants (Starfield 2011; Simpson 2014).

Various features of practice support comprehensive, *person-centred care*, organised around the needs and expectations of individuals, families and communities, including:

- evidence on *population health*, that is the distribution and determinants of health in the population being used to plan and monitor services (in Cuba, New Zealand and Scotland) (Varona et al. 2014; Goodyear-Smith et al. 2012; Barnett et al. 2012b);
- incentives and support for health promotion, prevention and population-level services through innovative payments, new workforce arrangements and guidance on the comprehensive package of services and programmes (in New Zealand and Brazil) (Quin 2009; Couttolenc and Dmytraczenko 2013); and
- multidisciplinary team approaches discussed in *Section 4.5*.

Appendix 4 showing the experience from the patient's lens highlights the distribution of roles and tasks across the workforce teams in the different countries. These measures extend both the range and co-ordination of services, while blended/ bundled payment systems described in *Section 4.3* (in the Netherlands) assist to integrate intervention across different services.

'Comprehensiveness' is addressed several ways: through focusing on specific social groups, on co-morbidities,

through geographical clustering of services or around a multifaceted understanding of health:

- i. ***Measures to focus assessment, planning and resources around social groups with higher risk of multimorbidity*** rather than specific diseases, such as New Zealand's programme for 'Care Plus' patients, giving them more intensive attention, comprehensive assessment, health needs planning and regular follow up with payments made on a capitation basis (Simpson 2014). PCMHs in the USA are also currently exploring such focus on high-need patients (NCQA.org 2014). Similarly Ontario 'Health Links' (of which 47 exist) seek to improve care co-ordination for the 5% of patients with the most complex conditions, who account for two-thirds of healthcare costs, through individualised care co-ordination plans that engage a range of service providers across the care continuum (Moat et al. 2014).
- ii. ***Measures to cluster attention around co-occurring morbidities***, such as Germany's 2002 disease management programmes covering diabetes, breast cancer, asthma, COPD and CHD that focus on patient enrolment, health literacy and continuity of follow-up visits to detect and prevent disease progression, with exemptions from co-payments encouraging enrolment. Over four years the programme was found to lower complications, medicine and hospital costs and mortality and to improve adherence in patients enrolled in the programme compared to routine care (Stock et al. 2010).
- iii. ***Measures to cluster the services*** needed to respond to the range of health problems close to communities. For example, the Netherlands' CHCs and care groups provide a mix of family practice, nursing, home, pharmaceutical, paramedical, psychological, mental health and social care services and diagnostic facilities that are centrally located in neighbourhoods and supported by bundled payments. Care groups network these providers to share care for people with chronic conditions (Kringos and Klazinga 2014). CHCs in the USA may benefit from developing such links using recent funding streams designated for deprived areas. Municipalities identify vulnerable people, linking them to a spectrum of relevant services (Kringos and Klazinga 2014).
- iv. ***Measures to locate the person and PC team at the centre of the network of healthcare and other services.*** The biopsychosocial model in Chile in Box 14 provides an example of a multifaceted approach to do this, in a way that takes on board the person's physical, mental and social dimensions and that provides specific tools to support an integrated model.

In some countries, PC practices not only deliver personal care services, but also related population health services, including disease surveillance, active screening, support of uptake and counselling to address health risks (Dresang et al. 2005; Reed 2008; Campion and Morrissey 2013; Varona et al. 2014). Social groups or settings, such as schools and workplaces, are a point of entry or link for PC-supported population health approaches (in Germany, Ontario, Canada, the Netherlands and the UK) (Simpson 2014). PC services also provide an entry point for wider social protection programmes, such as *Chile Solidario* and *Chile Crece Contigo* as already described in Section 4.1 (see Appendix 5).

Such links exist in the USA, with school settings, workplace wellness programmes and in CHCs and practices affiliated with universities, but with little documented evidence on their effectiveness and with ad hoc funding (Kindig 2014; Barnett 2014; IOM 2012; Strelnick et al. 2008; Nolen 2014). In the Netherlands, as in Chile, meso-level organisations and processes support these initiatives. Municipal public health authorities (*Gemeentelijk Gezondheidsdiensten* (GGDs)) link local PC practices with public health services. They monitor sociodemographic developments and the health impacts of policies to plan and implement interventions to prevent and manage common public health problems, such as childhood obesity (see Appendix 5). Co-ordination is supported by guidelines and care pathways supported by the care groups described earlier (Mackenbach and Stronks 2012). Hence for example, while GPs provide personal mental healthcare, the GGDs provide community mental healthcare services for high risk or vulnerable groups, including people who are homeless or involved in harmful use of drugs (Mackenbach and Stronks 2012), as highlighted in the patient lens example in Appendix 4. These links have positive impacts on both health and social protection outcomes (Galasso 2011).

Comprehensiveness of care is also supported by widening the scope of services that are reimbursed by insurers or funded by capitation, by national guidelines and care pathways, by team approaches and widened scope of practice of PC services and by networks linking PC practices (Schäfer et al. 2010; Gauld et al. 2012). CHCs bring a number of these promising features together and have widening application, described in Box 15.

The evidence in this section thus highlights that comprehensive PC approaches have both health and social benefits. They can be built around a more comprehensive mapping of family health profiles, integrating, or at minimum, linking community, family health and personal care services. The measures described in (i) to (iv) earlier suggest that they could be enabled by focusing on specific social groups or co-morbidities or by clustering services in communities.

Box 14. The biopsychosocial model for comprehensive PC in Chile

Public PHC facilities in Chile (for FONASA beneficiaries) have since the 1990s reoriented from a biomedical approach to a more comprehensive biopsychosocial (BPS) approach. The model is defined as: "... the set of actions that promotes and facilitates timely, efficient and effective care, directed beyond the individual and disease as isolated events to consider peoples' mental and physical health integrally, as social beings, and a model of relation of... the health team with individuals, their families, and communities in a specific territory, that places people at the centre of decision making, recognising that they are part of a diverse and complex sociocultural system... and considering social preferences and social participation in all of its endeavours, including intersectoral work" (Subsecreteria 2013a). The model was given further impetus by the 2005 health system reforms, which included a focus on prevention, diagnosis, management and or treatment of key risk factors for chronic conditions.

The BPS model requires that a PC team have the capacity to maintain and expand the traditional maternal and child health and infectious disease prevention programmes, but also to take on early detection and management of chronic conditions, to be able to resolve 90% of health problems at the PC level, including those relating to emerging psychosocial problems such as family violence and addiction. The approach integrates vertical programmes for control and treatment of specific health problems (cardiovascular health; acute respiratory infections and asthma in children, ARI programme; chronic respiratory diseases in adults; mental health; epilepsy) with horizontal life course preventive and curative care (pre- and postnatal controls and well-child check-ups; morbidity attention by age group for children, adults and older adults, as raised by health worker key informants: "in a... life cycle approach rather than special programmes where each programme does its thing. Now... programmes have integral activities where the rest of the team participates. One sees this with the kinesiologist who used to only be in the ARI unit and now works in the adult and child health programme."

In the BPS model the PC team is at the heart of the healthcare network within the catchment area covered by the PC facility and works collaboratively with families, the community, other sectors, and the rest of the healthcare system. Work teams are reorganised from a vertical disease programme approach to this more holistic approach (see *Appendix 5*). The CESFAM should be certified as able to deliver some level of the model. Tools and instruments have been developed for PC teams to build and maintain a sound knowledge of their patients, families and communities. These include collection of family health records based on a 'genogram' of the family group. This is a display of a person's family relationships and medical history that allows the user to visualise hereditary patterns and psychological factors and that can be used to identify common social patterns. It is developed with the family through a family health survey and home visits; epidemiologic maps developed with families and family health team meetings that study clinical cases, assess family groups and evaluate local work plans and performance.

Sources: Frenz et al. 2014; Montero et al. 2010; Subsecreteria 2013a. The genogram is more fully described in Subsecreteria 2013a at: http://buenaspracticassaps.cl/wp-content/uploads/2013/11/Orientaciones-para-la-implementacion-del-Modelo-de-Atenci%C3%B3n-Integral-de-Salud-Familiar-y-Comunitaria_DIVAP_2013.pdf

Various entry points and examples of comprehensive approaches are raised, with these experiences suggesting that they are reinforced when accompanied by more explicit recognition of co-morbidity in the benefits package and payment systems; by tools, guidance, measures and skills for implementing comprehensive person- and population-focused diagnosis and intervention; and by evidence-based learning and improvement.

4.8 Measures for consistent quality improvement in PC practice

Improving adherence to guidelines and implementing quality improvements in PC practice are noted to lead to better health outcomes from spending (Kringos et al. 2013a; McMurchy 2009; Polluste et al. 2013; Starfield et al. 2005; Stigler et al. 2013; Kates et al. 2012; RWJF 2012b; McDonald et al. 2006). Non-beneficial (and potentially harmful) services are estimated to cost 30-50% of the US

health system costs, or around \$780 billion annually (Fuchs and Milstein 2011; Berwick and Hackbarth 2012), an amount that would provide insurance coverage to everyone in the USA, 520 times more than the ACA set aside for prevention and public health (Nolen 2014). Quality of care is covered by minimum standards in most countries, including in relation to professional education, clinical guidelines, patient rights and access to information (Kringos et al. 2013a). The Netherlands has an Institute for Healthcare Quality (created in 2013) that steers improvements supported by voluntary guidelines developed by professional organisations such as the Dutch College of General Practitioners (NHG) and the Dutch Association for General Practitioners (LHV). It also monitors quality indicators and has a patient complaints system (Kringos and Klazinga 2014).

In Ontario all primary care models receive training and capacity building support from Health Quality Ontario (HQO) to sustain quality improvement and implement quality improvement plans.

Box 15: Community Health Centres as an integrated, comprehensive care model

CHCs have been in place in a range of countries, including the Netherlands and in Ontario, Canada, for more than 40 years. They provide comprehensive personal care services, as do other PC models, but also provide population focused services, linking community approaches with those centred on individuals and families, including in the governance of practices. Dutch CHCs are multidisciplinary practices with family practice, nursing care, home care, pharmaceutical, paramedical, psychological, child, social and mental healthcare and diagnostic facilities. They are directly accessible and located centrally in neighbourhoods. In Ontario, they are funded directly by government, with salaried personnel and no additional targeted financial incentives except for implementation of EMRs. Moat et al. (2014) report: “Key informants often viewed CHCs as the most promising PC model because they were built on a core ‘community development’ approach that ensured comprehensive PC services provided by multidisciplinary teams, focused on health promotion and disease prevention. CHCs were noted to have the ability to reach marginalised and vulnerable populations, particularly when established in dense urban environments.”

In Ontario, CHCs offer culturally adapted programmes for the needs and preferences of their communities, including delivering services in different languages. Key features of CHCs in both settings include their focus on equity in service provision, their reach to socially disadvantaged and hard-to-serve populations, and inclusion of health literacy and community outreach. They involve physicians and a multitude of other non-physician providers paid by salary. They address the prevention, control and care of disease, but also focus on *health and wellness*, encouraging and working with other sectors to decrease the negative impacts of wider determinants of health, such as low income, discrimination and unemployment. The 75 CHCs in Ontario serve 110 communities with most of the centres extending their geographic reach through satellite sites. They are part of a larger network of 300 CHCs across Canada, the Canadian Alliance of Community Health Centre Associations (CACHCA) that represents the CHCs at a federal level. In Ontario the CHC governing board (including members of the community) signs an accountability agreement with a Local Health Integration Network (a meso-level health structure unique to Ontario), which requires that each CHC collects and reports on indicators related to health equity, value and affordability and quality.

Sources: Moat et al. 2014:17; Batenburg and Eyck 2011; Kringos and Klazinga 2014.

The 2010 Excellent Care for All Act promotes the application of quality improvement across some PC models (FHTs, CHCs and Aboriginal Health Access Centres (AHACs) (Aggarwal 2011; Hutchison et al. 2011; Moat et al. 2014). In Chile, care guidelines have been produced for all AUGE guaranteed conditions. To be accredited to deliver the AUGE, PC services must achieve a set of minimum conditions, including having a plan for continuous quality improvement, although only 1% of PC services had met this by 2011 (Concha 2011), with funding shortfalls reported to have undermined implementation. Minimum standards and guidance need to be backed by measures and resources that support implementation.

Countries apply specific interventions for this. Many European countries (Belgium, Denmark, Germany, Ireland, the Netherlands, Austria, UK, Sweden and Switzerland) have quality circles and peer review groups (QCs/PRGs) that group providers from one or more disciplines, regularly meeting on a voluntary basis to review and seek ways of improving quality of care (Health Council of the Netherlands 2004; Rohrbasser et al. 2013). They collect and discuss data on the care provided and consider and use guidelines to produce quality improvement plans. They visit one another’s practices to give each other feedback (Health Council of the Netherlands 2004). These measures have been associated with significant improvements in quality of care and with modest cost-effective reductions in mortality and hospital

admissions in areas such as epilepsy care (McDonald et al. 2008; Gillam et al. 2012; Roland et al. 2012).

There is scope to expand such practice in the USA, with only about 10% of small PC practices reported to be participating in quality improvement collaborations and strategies and adherence to guidelines reported to be patchy (Rittenhouse et al. 2011). A Choosing Wisely campaign, led by the American Board of Internal Medicine Foundation, that aims to reduce use of non-beneficial treatments in biomedical care may be one entry point for such links (Cassel and Guest 2012), although they do not yet give attention to person-centred care or integrate population health as found in the UK’s NICE (Box 10). As in other areas, such measures are reinforced when linked with other system inputs and practices, such as when PC models are paid by capitation rather than through FFS (Canada; Moat et al 2014), or using P4P to link quality frameworks to incentives for support, monitoring and review (England; see Box 16).

Whether linked to capitation and P4P approaches, or reinforced by quality circles, quality improvements require strengthened monitoring. In Canada, at national level the Canadian Institute for Health Information and at provincial level Health Quality Ontario are developing indicators to measure PC performance including on quality (CIHI 2009; Hogg and Dyke 2011). However, as raised in Box 16, this is not without difficulty.

Box 16: Supporting PC quality improvements

The UK Quality and Outcome Framework (QOF), when introduced into the new national general medical contract in 2004, was seen as one of the largest and most radical experiments in pay-for-performance for GPs in the world. It is part of an overall process for supporting quality and health outcomes, but at the time of introduction also set out to improve GP pay. As raised by a policy informant: “In 2002/2003 when they were putting this contract together there was a bit of a crisis in primary care in terms of recruitment and retention... and part of that crisis was obviously related to the fact that GPs’ pay had fallen behind pay for hospital consultants”.

The QOF focuses largely on prevention, early detection and management of chronic conditions. In the first year it incurred higher costs than planned, including through spending on the IT infrastructure for quality and outcomes monitoring, with wider benefit to practices. Most practices now use computerised patient records, so that disease prevalence and quality of care can be monitored at practice level and linked to patient and practice characteristics. Monitoring is done through:

- Self-monitoring, with the QOF IT system automatically identifying areas where performance is falling short of targets and notifying practice staff;
- Monitoring by CCGs, where performance information is sent to a central hub to work out payments but also to share across practices and CCGs, for practices to compare how they are doing relative to others and organise support for improvements; and
- Public reporting for social accountability on practice performance. Data, however, are not routinely collected at the patient level and it is not always possible to separate the effects of the QOF from that of other factors, such as improved chronic disease management.

The QOF is reported to have had a positive impact on quality of care (for diabetes, coronary heart disease, stroke, transient ischemic attacks and blood pressure) and health outcomes for some conditions. For the incentivised activities the quality and health outcomes improved at the fastest rate in the worst performing practices concentrated in the most deprived areas. Gaps in the quality of PC for coronary heart disease, asthma and diabetes quickly narrowed under the scheme. At the same time, as noted in the discussion on the use of P4P in *Section 5.3*, there are some areas where impacts have been less positive: Quality of care has improved more slowly for some ethnic minority groups, some practices appeared to have removed from disease registers those patients less likely to meet a QOF target. A focus on single diseases and measureable outcomes excludes many important facets of PC and underestimates the complexity of many conditions presenting to PC practice.

Sources: Whitehead et al. 2009; 2014; Gillam et al. 2012; Watt 2014; Doran 2009; Steel and Willems 2010; Pennington and Whitehead 2014.

Linking measured targets to P4P can, for example, send signals that efficiency is prioritised over quality and professionalism, or act as a ceiling on continued quality improvement, when improvements over target do not attract financial incentives (Pennington and Whitehead 2014). Indicators and targets can draw attention away from the interaction of and communication between professionals and patients in PC, significant factors influencing care outcomes, especially for more disadvantaged groups. This is particularly the case when quality of care indicators only include disease-focused patient characteristics and not factors related to health literacy (Kringos and Klazinga 2014) or are used in efficiency approaches within significant financial constraints.

Quality monitoring and improvement needs to integrate client and community views, further discussed in *Section 4.10*. In Denmark, for example, the Danish Quality Unit of General Practice runs DANPEP (Danish Patients Evaluate Practice), where patients evaluate their doctors and general

practices through questionnaires. A personalised report with the results of the evaluation is given to the GP, showing the aggregated data for other participating doctors in the region for comparison of individual GP results (Pedersen et al. 2012).

4.9 Supporting and informing innovation in PC

As noted in *Section 4.1*, whilst there have been moments of radical change in the organisation of services, as in the introduction of the NHS in the UK, in many countries there is a more incremental process of reform in health systems, sometimes building consistently on prior reforms, sometimes reversing them. Moat et al. (2014:18) note in Canada: “As one key informant suggested, the reality is that in both the Ontario and the Quebec context the influence of powerful professional groups in the decision-making process related to primary care means that experimenting with many different potential models is a political necessity”.

This draws attention to the question of what blocks or enables the scale up of promising practice, including how learning from innovation within the private sector is shared in the public domain, discussed further in *Section 5*. It also points to the measures that incentivise, reward and give support to those directly involved in implementing PC reforms at the PC practice level, relevant also for the USA. Some of the general measures that support PC practice change have already been discussed, such as the incentives that encourage enrolment and training investments that support new team approaches. Additional measures may be needed for uptake of practice or innovation in specific groups and practices, such as in less well-resourced practices. This section highlights a mix of methods that may have relevance to the USA, including financial incentives, training programmes, operational support and professional networking for PC practitioners, interaction across PC practices and with specialists, and monitoring and sharing information on the impact of innovation.

Whilst noting the questions to be asked before their introduction, financial levers and incentives, directed at individuals or practices, have been used to support practice innovation on quality (*Section 4.8*), generic prescribing (*Section 4.4*), interprofessional collaboration for managing chronic conditions or reinforcing PC as an entry point in the referral chain (*Section 4.6*). In the Netherlands, an 'Integrated primary care and innovation' policy in 2007 used financial incentives to stimulate collaboration between PC professionals to overcome solo practice isolation and to widen multidisciplinary practice. Health insurers were tasked with funding the additional costs of this collaboration (Kringos and Klazinga 2014).

While financial levers may trigger practice shifts and dampen resistance, non-financial incentives may also be important to sustain practice. For example, practitioners in Ontario were encouraged into new models by financial incentives, but also by improvements in practice environments highlighted in *Sections 4.3* and *4.5*, by use of new technologies, reduced administrative loads and by exposure to these models in undergraduate and postgraduate training. Group-based models were seen to offer potential for learning from and interacting with other healthcare professionals. Chile offers residency programmes to stimulate and accelerate training in family medicine in conjunction with universities, together with online training such as from *U Virtual*, with modules on the health family model (MINSAL nd).

Various measures are being used to connect solo practices to wider support networks. Small GP practices are linked to the NHS in England through CCGs and through geographically based NHS boards in Scotland, that monitor practices and implement quality improvement and financial incentive schemes (Boyle 2011; Steel and Cylus 2012; Timmins 2013). In the Netherlands Regional Support Structures (Regionale

Ondersteunings-structuren ROS) financed by health insurers, municipalities and provinces facilitate and support PC personnel to develop teamwork, implement quality-of-care policies and improve continuity of care (Schäfer et al. 2010). National Primary Care Agreements (LESAs) establish collaboration between PC professionals in a region and National Transmural Agreements (LTAs) between GPs and medical specialists (Kringos and Klazinga 2014 in press). In some regions GPs team up with a different specialism each year in face-to-face consultations, strengthening PC roles and reducing referrals to secondary care (Carrousel GC 2012; Vlek et al. 2003). These measures call for new resources, such as Canada's PHC Transition Fund (Moat et al. 2014); and/or new institutional arrangements or functions for meso structures, as noted above.

Many PC innovations are thus initiated (sometimes on an ad hoc basis) by health professionals in practice. For example, GPs in the Dutch College of General Practitioners (NHG) used the knowledge gained from practice and research to develop the first NHG guideline on diabetes care, to improve quality of care and professional recognition. Health insurers now use the standards in setting price and quality measures. Since then other NHG clinical guidelines have followed in various areas of practice in PC and the development process of guidelines has itself been standardised in a guideline. Other PC professions in rehabilitative care, physiotherapy, dietary, pharmacy and nursing later developed similar guidelines (Kringos and Klazinga 2014). The financial and regulatory framework to support such innovation may take years to move experimental success into sustainable reform, less where there is a supportive environment (see *Box 17*). In the Netherlands, various research programmes and funds support PC innovations and document the factors affecting uptake of innovations (Valentijn 2012). In the USA similar funds for innovation can be used to document evidence and lessons learned to support the scale up of promising practice.

Innovation at PC level is thus supported by financial and non-financial incentives, meso-level mechanisms and direct exchanges across practices, to support and share innovation and its uptake in solo or remote practices. Evidence is key to inform, motivate, evaluate and be accountable for reforms and to generate support, including from the public and funders. In the Netherlands, for example, a government sponsored public health monitoring network and a PC Registry includes patient and practice data from GPs and a range of allied PC health workers and pharmacies that is reported back to the professionals involved to monitor health, healthcare and physician and patient behaviour (NIVEL 2014). Embedding monitoring, documentation and reporting appears to be an essential support for innovation. It is also often a gap in current practice. Some approaches, such as P4P payment systems, use specific indicators and targets, with limitations noted earlier.

Box 17: Linking practice innovation and new knowledge in PC in Chile

Local innovation in municipal PC practices in Chile is used for learning and exchange. For example, the Ministry of Health and the Chilean Municipal Association has an annual Good Practices Competition and plans a national congress of PC to position it centrally in research and policy debate. As raised by a key informant from academia: “For many years we looked at what we were doing wrong and how to fix it. Why not look at what we do well and try to transfer that, because it is important to look at a half-full glass and try to fill it a little more.... Municipalities can do a better job... by managing local information to make decisions about services that respond better to problems in my area and that are not present in others”.

The Public Systems Centre of Universidad de Chile works collaboratively with Family Health Centres or municipalities to establish *innovation circles* that disseminate knowledge and facilitate adaptation of good practice by forming teams around challenges for PC systems. The teams use a specially designed open access technology platform to share and discuss innovation through blog spots, virtual forums, links of interest, tweets, notices and a library of educational tools. *Innovatones* or Innovation Marathons held since late 2013 bring together several Innovation Circles to exchange experience and learning. In 2012, Chile became part of the project Building a Community of Practice in PHC in the Region of the Americas, creating a node for a Community of Practice in Primary Care. This network involves different institutions, including the World/ Panamerican Health Organisation Office in Chile, universities, Chilean Society of Family Medicine, Ministry of Health, several PC centres, and the University Consortium for Health and Family Medicine. It builds and shares experiences and knowledge on PHC, using a free access virtual platform and face-to-face activities.

Sources: Frenz et al. 2014:35; Comunidad de Prácticas en APS nd; Organización Panamericana de la Salud 2013; Vergara 2012; Centro de Sistemas Públicos 2013.

As noted in *Section 2* there is inadequate consistent measurement and evaluation of new approaches and models to use for review and accountability and to build system-wide knowledge. This is raised again in the recommendations for follow up in *Section 5*.

4.10 Involving empowered patients and communities in PC services

People are viewed in different ways in the discussions on PC: as citizens (with rights) shaping decisions that affect their lives, as purchasers of insurance and consumers of services, and as patients or clients in care (Simpson 2014). A concept of ‘people-centred care’ identifies people as members of communities seeking to promote health, rather than their only engaging with the health system as individual patients with ill health (WHO 2008). Informed participation, supported by transparency of evidence and appropriate processes not only serves democratic purposes, but is also a means to fair policy making and to elevating public interests in health systems (Schäfer et al. 2010). The experience in HMICs suggests that people are increasingly expected to play these different roles, but that these roles are less systematically documented, ‘measured’ and reported in the literature than those in other sections and less reported in assessments of PC (Loewenson and Gilson 2012; Christiaens et al. 2013; Stock et al. 2010; Macinko et al. 2010; 2011; Cornwall and Shankland 2008; Simpson 2014).

The role of people, as patients, family members and community members, in contrast, is evident in the country case study examples of how people with a chronic condition experience their PC system. *Appendix 4* provides the features

of the patients (all relatively vulnerable economically) and features of these hypothetical examples. They highlight that the trigger for detection of ill health and entry to PC is often a *community-level related service* (pharmacy, community health outreach, public health outreach) or *family member* and the importance of these social roles and of community health outreach for early detection of health problems, for uptake of services and for facilitating continuity and adherence to prevention and care, especially for more disadvantaged people and for chronic conditions. Community roles, interactions and services outside the health sector support progression through the system, including:

- Family members encouraging and accompanying the person on various visits;
- Trust and communication between people and their PC practitioners;
- PC linkages with community-level personnel to assist patients to navigate the system and address social determinants and multiple dimensions of care; and
- House calls by GPs, community health teams to understand the person’s context and challenges and encourage continuation of care.

They are supported by other factors in the PC system discussed in earlier sections, including PC and referral services being free at point of care, enrolment and accessible arrangements for specialist care referred to by and linked with PC services with options for direct access in the event of acute episodes or emergencies (see *Appendix 4*). In contrast, the patient lens examples point to the barriers to effective PC raised by social isolation, fear, confusion

and stress from prolonged interaction with the perceived complexity of health systems and social determinants such as homelessness or mental instability. Similar factors have been identified in the USA (Armstrong et al. 2006; LaVeist et al. 2009); where people are reported to face a range of barriers, including social isolation (Nicholson 2012); stress associated with prolonged interaction with the healthcare system, especially for those with cancer and chronic disease (Whitehead and Hearn 2014); and instability of housing weakening communication and continuity of care (Reid et al. 2008). The few examples from the patient lens would be useful to replicate more widely, and suggest that *a key step to designing and adapting new practice is to walk in the community's shoes, with a diversity of community members, to better understand the system from their lens.*

There are some examples of practices in HMIC that address these social roles. While there is note of public distrust and low health literacy in the USA, there are also many local initiatives that support social participation, such as the REACH programme and 11th Street Family Health Service described in Nolen (2014).

Communities are often given a role in identifying needs and holding PC services accountable for addressing those needs. In England, GPs can obtain additional funding to set up patient participation schemes (PPGs) to obtain the views of patients and carers, as feedback from the practice population. The process is used to identify and develop an action plan on patient and carer priorities and to report to the PPG and publicly on the actions taken that affect the practice population and the progress on addressing identified priorities (NHS Confederation 2014). In Chile, health diagnoses (epidemiologic mapping) are a duty of municipalities and include a participatory process to identify and interpret community health problems and to foster joint action by organised communities, and to feed into annual communal health plans (Frenz et al. 2014). In the Netherlands, patient/client organisations, such as the diabetes association, have given input to guidelines (Kringos and Klazinga 2014), whilst noting that disease-specific groups can lobby resources and services for specific diseases and away from wider community needs.

Healthwatches in England link mechanisms at local level with national processes. In each local authority they are represented on Local Health and Well-being boards responsible for producing needs assessments and strategies that are used by the commissioning group and the local authority to inform commissioning plans (Pennington and Whitehead 2014). The mechanisms are supported by non-state institutions to strengthen community voice and to help patients understand and use new and reformed PC services. One such organisation in England trains and supports local people to be Health Champions, as outlined in *Box 18*.

These processes demand health literacy, understood as the capabilities and social power people have to obtain, analyse and use information to act on health problems, including to negotiate or co-determine services or resources to support well-being (Loewenson et al. 2014b; Laverack 2013). A cultural shift in healthcare from viewing people as recipients of instruction or advice to partners in care is still emerging. Health education (different to health literacy) has thus often focused on patient education to improve adherence (Stock et al. 2010; Zullig et al. 2014). In contrast, health literacy calls for materials and facilitators able to support approaches that are participatory and that build cycles of reflection and action (Loewenson et al. 2014b).

Such interventions in PC have been associated with decreased admissions to hospital emergency departments, reduced progression of chronic conditions and with improved coverage of interventions, particularly in underserved communities (Elkan et al. 2001; Sahlen et al. 2006; Cloonan et al. 2013; Carter et al. 2011). The practice is, however, not widespread, with low levels reported in surveys in Chile, the Netherlands, Canada and the USA, especially in poorer or marginal groups (Kringos and Klazinga 2014; Moat et al. 2014; Frenz et al. 2014).

It also demands a shift in service culture, both in the attitudes and competencies of professionals and the processes within PC systems (Dept. Health Victoria 2014; Williamson and Watt 2014). Brach et al. (2012) suggest that for a health (PC) service (rather than people) to be 'health literate' they need to promote leadership; ensure easy access, including to information, include service users in designing, implementing and evaluating services; design easy to use materials; target high-risk groups, communicate clearly what plans cover; use health literacy approaches and prepare the health workforce for these roles (Brach et al. 2012). The Netherlands Health Council recommended that medical education pay more attention to communication competencies for better communication during care (Gezondheidsraad 2011). Patient-centred consultations and a good interpersonal relationship between patient and doctor have been found to reduce specialist referrals and diagnostic tests, reducing costs (Sans-Corrales et al. 2006).

Various initiatives are being implemented to address this. In the Netherlands, an Alliance for Health Literacy was set up in 2010 to improve health literacy, with more than 60 organisations with expertise in health literacy as members. Community-level intermediaries, including community health workers can facilitate information flow and dialogue between communities and health services, as outlined for health champions in *Box 18* (Smith et al. 2012; Treloar et al. 2013; Sentell et al. 2014; Zanchetta et al. 2014).

Box 18: Local people as Health Champions

A UK non-state organisation trains local people to be Health Champions, to work with others in their communities to improve health. Health champions:

- work with PC personnel on health actions in the community;
- visit schools, community centres and bring local community members to health meetings;
- link local networks, knowledge and experience with the practice knowledge and resources;
- use culturally relevant methods to gather local people to work with general practice staff; and
- explain to other patients how to make best use of the facilities and services provided.

Health champions are reported to have improved input to local commissioning decisions, to have set up social and support groups for young mothers or people with chronic conditions, to have improved individual and community literacy on prevention initiatives such as immunisations and to have supported the use of the appointment guides and other practice tools, especially for those for whom English is a second language. Their work is reported to have led to service and quality improvements.

Source: Pennington and Whitehead 2014; Fisher 2013; KI: Health Champion Group.

Information technologies and an increasingly web-connected population raise new opportunities for improving information flows between communities and services (as outlined in online appointment and communication tools in PC access in *Section 4.6* and telemedicine approaches supporting quality of care in *Section 4.4*). Online patient portals can facilitate awareness of care options and processes although they are still in early stages of development (Moat et al. 2014), with some evidence in a US study of improved health outcomes for people with chronic conditions (Carter et al. 2011).

It is less easy to see how effectively people are being brought into planning and shaping their services. At local level, communities are involved to varying degrees in committees, boards, consultative councils, practice boards and patient participation schemes. At national and provincial or state level, participation rights and community health involvement in planning are established by constitution or law in some countries (Scotland, Brazil, Italy, Chile and England (Simpson 2014), with mechanisms for this including citizen's councils, assemblies, forums, conferences and boards (Brazil, Thailand, Quebec, Canada, and the UK) (Cornwall and Shankland 2008; Frenz et al. 2014; Kringos and Klazinga, 2014; Moat et al. 2014). In the Netherlands government consults a National Patient and Consumer Federation involving patient organisations on health policy development. Well-organised patient associations have influence on the behaviour of health insurers (Kringos and Klazinga 2014). In the UK, parliamentary committees and independent auditing bodies regularly scrutinise the operations of parts of the NHS, and the NICE Citizens Council is exploring processes and tools to incorporate public views into its judgements (NICE 2013; Pennington and Whitehead 2014).

There are many *structures* for participation across countries, but more limited information on their processes and

whether they facilitate meaningful levels of participation. Moat et al. (2014: 19) outline for example that in Ontario: *One key informant suggested that the community-governed FHT is the most promising model with respect to patient engagement in organisational and policy decision making, given that their smaller size and openness to patient involvement within their governance structures provide a channel for real input and solutions that integrate the will of the people in the communities serviced by the FHT (as opposed to the larger and more complicated boards found in the CHC model).*

The case studies suggest that more meaningful involvement also depends on how far community representatives communicate with communities and involve vulnerable groups, and the impact this has on decisions and the evidence used (Kringos and Klazinga, 2014; Frenz et al. 2014).

Beyond structures for participation, therefore, a number of processes, actors, competencies and resources are needed to support social roles and literacy in health, such as sharing of appropriate information and materials, including online, widening health literacy and communication competencies and supporting CHWs and health champions. There is evidence that such inputs improve uptake of services, especially in more marginalised communities or younger people (Pennington and Whitehead 2014; Loewenson and Gilson 2012); reduce costly specialist referrals (Sans-Corrales et al. 2006); reduce the progression of chronic conditions, improve coverage of interventions, particularly in underserved communities (Elkan et al. 2001; Sahlen et al. 2006; Cloonan et al. 2013; Carter et al. 2011); and improve health outcomes (Carter et al. 2011). This area would appear to need further documentation, exchange and evaluation, including through community-based and participatory action research methods that themselves strengthen community roles and power in the health system (Loewenson et al 2014b).

5. Recommendations and areas for follow up

5.1 Value for money outcomes from promising practices

The various policies, measures and PC models described in Section 4 are all noted to be associated with improvement in one or more dimensions of value for money. A shortfall in evaluation of PC at system level has been observed. Moat et al. (2014: 20) note for example that while ...many are hungry for evidence about positive

outcomes, the fact that EMRs have only recently been introduced into PC.... means that we are only now moving towards having the capacity to evaluate PC in domains such as access, quality, efficiency and patient outcomes and that the first step was to turn the ship around. While noting this limitation, Table 7 captures available evidence on the different value for money outcomes associated with measures presented in Section 4, as documented in the case studies and desk reviews.

Table 7: PC features and documented evidence on areas of value for money

Green shading shows areas where improvements noted

	(i)	Health outcomes	Healthcare outcomes	User/provider satisfaction	Quality improvement	Cost	Financial protection
Mandatory insurance	4.2		Improved access				If progressive payments
Fund pooling	4.2		Improved coverage		Funds QI incentives; Improved CC	Reduced costs if admin simplified	Risk adjustment and cross subsidy
Essential health benefit	4.2	If evidence based to define content	Expanded coverage	Transparency of service entitlements	Improved when linked with quality guidance		Coverage in underserved groups
Free services	4.2 4.6		Low avoidable hospitalisation	Patient satisfaction	Facilitates prevention	Less unnecessary testing	Reduced OOP
Capitation payment	4.3	Healthier patients	More comprehensive care		Improved care co-ordination	Less efficient (in Canada)	
Fee for service	4.3					More efficient (Canada)	
Pay-for-performance Finance incentives	4.3 4.8	Mixed, positive for targeted areas, may divert attention from others	Mixed, positive for targeted areas, may divert attention from others		Improved quality for targeted services	May improve efficiency, transparency IT may bring wider benefit	Mixed effects
Bundled payments	4.3 4.7		25% less hospital care; chronic care focus; less for multimorbidity	Limited by lack of patient involvement in design	Improved quality, reduced fragmentation; adherence to protocols	Reduced costs to providers With hospital care declines	Reduced costs to users from co-ordinated services
Preferential pricing	4.4					Lower medicine costs	Reduced OOP

Table 7: PC features and documented evidence on areas of value for money continued

	(i)	Health outcomes	Healthcare outcomes	User/ provider satisfaction	Quality improvement	Cost	Financial protection
Health technology assess-ment	4.4			Greater patient involvement in HTA decisions	Standardising care	Assessing on value for money rather than cost	Mixed equity outcomes in access to new technologies;
Multidisciplinary teams; NPs	4.5 4.7		Improved contact; access; coverage	Improved user satisfaction	Improved quality for chronic care	Lower pay costs; longer term unclear	Improved access in remote areas
Group practices; PC co-operatives	4.5 4.6	Reduced safety incidents	Improved patient contact; CC; reduced hospital admission	Improved user and job satisfaction Reduced GP workloads		Improved efficiency of care; less emergency care use	Decreased self-referral to emergency departments of hospitals
Enrolment	4.6 4.7		Improves access, may not improve timing (Canada)		Supports continuity	Supports care planning	May support reach to some marginal groups
Gate-keeping	4.6 4.4	Improved health outcomes	Early uptake of care	Mixed	Strengthens CC	Avoids high referral costs	Reduces costs Waiting times
Population focused; CHCs	4.7 4.5	Health benefit for lower income groups	Improved coverage; CC with SDH services	Physicians dislike capitation payment	Improved quality consultation times; continuity		Covers lower income groups
Person-centred care	4.7 4.10	Lower levels of complications and mortality	Improved adherence to treatment			Lower medicine and hospital costs	
Quality frameworks care guidelines linked to incentives	4.8 4.3	Positive impact on specific health outcomes targeted	Supports IT; healthcare QI for target conditions; may lead to cherry picking, gaming	Provides incentives for physicians Wider support if shared with all practice staff	QI; gaps narrowed across practices; poor gains for other areas. Targets act as a ceiling	Reduced inappropriate referral	Worst performing practices improved at the fastest rate
Tele-medicine, IT use	4.9 4.10		Reduced use of secondary care; improved access	Improved communication with clients	Improved case management; referral continuity		Supports services in remote areas
Health champions	4.10		Improved access	Involvement of patient views	Improved QI, CC		Access for disadvantaged
Health literacy	4.10		Reduced progression of chronic conditions	Improved early uptake; reduced emergency service use	Improved communication between users and providers		Improved coverage in underserved communities

Source: Authors Notes: QI= quality improvements; CC= co-ordination of care; SDH= social determinants of health; person-centred care includes programmes for co-morbidity (i) Area (section) of promising practice.

The table indicates which of the ten areas in *Section 4* the measures refer to. As it draws from evidence already outlined in *Section 4* the information is very briefly noted in the table. Green shading in a cell implies positive outcomes and no shading mixed outcomes. Four or more positive dimensions of outcome (green shaded cells) indicate a wider range of areas of improvement in value for money,

recognising that this is a broad decision tool that does not take into account the strength of association in the source evidence.

Applying the decision tool, the measures below were associated with a wider spread of areas of improvement in value for money:

Area	Measures
Widening universal financing and coverage	a. Pooling of funds (for risk-adjustment and system wide incentives)
Purchasing arrangements	b. Definition of an essential benefit/ guaranteed entitlement
PC-oriented workforce	c. Services offered free (prepaid) at point of care
First contact, continuity	d. Capitation and bundled payments
Comprehensive, co-ordinated care	e. Multidisciplinary, interprofessional teams and group or co-operative practices
Supporting, informing innovation	f. Gatekeeping, referral continuity
Involving empowered patients and communities	g. Population focused models (such as CHCs)
	h. Approaches applying information continuity, IT
	i. Health literacy
	j. Health champions

These areas are also linked. There are clusters of mutually reinforcing measures, such as between capitation, enrolment and gatekeeping or between practice-based payments, multiprofessional teams and comprehensive personal and population care. The definition of a guaranteed benefit package opens options for quality improvements, social accountability, for strengthening guidance for and practice of comprehensive care, for ensuring delivery on the benefit but also ensuring that such services are accessed at PC level. FFS payments can generate weaknesses in implementing comprehensive approaches, unless linked to mechanisms to apply them to support explicitly comprehensive care and multiprofessional teams, such as in the bundled approach in the Netherlands. In making such links there do appear to be some ‘system orphans’, weakly linked to other measures in PC systems. Most important in this respect are the weak links between institutions and payment systems for PC and those for public health. While such links are important for the comprehensiveness of care and may be desired in theory, they become difficult to apply in practice unless new resources or institutional frameworks are developed to enable them.

5.2 Recommendations from promising practice in PC

The evidence in the paper suggests potential practices and approaches that can be considered for adaptation in the USA, recommended for review and dialogue. They collectively reflect many of the (aspirational) attributes of PC presented in *Box 1*. They point to the need to profile the role of PC in health equity – in closing inequalities in health, ensuring access to healthcare relative to health need, ensuring fair benefit and avoiding impoverishing costs of care. They suggest the dynamic nature of PC, with changes in society and in the knowledge, technology and information resources in health systems raising demands for diverse competencies and personnel for PC.

The experience from HMICs generally and the four country case studies specifically suggest a wealth of

promising practice that has relevance to the challenges and opportunities for improving PC in the USA. While the conceptual framework started with the macro level of contexts and moved to service and community level as a way of framing the investigation, we deliberately start at the community level to build recommendations around empowering people and capacities for comprehensive person focused PC. The recommendations are thus to:

1: Refocus on communities and population health:

Improved PC practice is centred on patients and communities, links individuals to population health and provides for meaningful social roles. This has been fostered by health literacy programmes and networks, by Health Champions (the UK, *Box 18*), expert patients and community health workers, by social media and online health information and by active education outreach on insurance and service entitlements (Chile, *Box 6*). Services themselves need to be health literate, training providers in cultural and communication competencies (as in the Netherlands). A population health approach calls for co-ordination with other (municipal) social services (as in Chile and the Netherlands), using participatory epidemiologic mapping and family genograms to identify and plan for the needs of particular social groups and families, and to foster joint action on community health problems (Chile, *Box 14*), with Healthwatches that bring community voice to planning and link local community representatives to national process (as in the UK).

2: Reach, equitably include and bring all into PC:

In the US multi-insurer system, widening coverage calls for active measures to widen prepaid coverage, especially in underserved groups with high health need. This includes public information on the guaranteed benefit, measures for review, quality guidance and accountability on its consistent delivery and quality improvement (Chile, *Box 6*). Enrolment is a key measure for first access, with flexibilities to choose a PC practice and provision for portability (as in England

and the Netherlands, *Box 5*). Voluntary enrolment can be encouraged by incentives for enrolment (as in Quebec), with safeguards against excluding complex cases and links with other agencies to reach out to homeless people. After-hours care is facilitated by guaranteed opening hours and shared PC practice arrangements, such as PC co-operatives, located near or within hospitals (as in Chile and the Netherlands, *Box 13*), with information links to PC (in the UK) and options for internet and telephone consultation.

3: Think and act more comprehensively in improving health:

The weak interface between population health and personal PC services undermines both. A more comprehensive paradigm calls for use of population health evidence to plan and monitor services (as in Chile, *Box 14* and the UK) and for comprehensive models that combine the medical and psychosocial dimensions of care across the life course (Chile, *Box 14*), delivered by a mix of health and allied professionals in PC teams, co-ordinating PC with public health and other services. Community health centres that are population based and service models organised around social groups and community entry points facilitate comprehensive care, supported by bundled payments and co-ordinated planning (the Netherlands, *Box 8*). Co-ordination of care calls for a stronger PC role in referral, supported by incentives (or penalties for bypassing PC) and improved PC expert generalist competencies to build public trust in this role (the UK, *Box 12*).

4: Organise and enable the key capacities to deliver:

A multidisciplinary PC team demands recognition and training of expert generalist GPs (the UK, *Box 12*) and of nurse, other professional and community worker roles (as in selected PC models in Ontario, Canada), with extra measures for disadvantaged areas (as in Scotland). Moving from FFS towards capitation and blended payment improves value for money. It was achieved in Ontario by providing a range of PC models

that improved incomes and incentivised capitation. Incentives can also support quality, access, equity and innovation (as in the UK, *Box 16*, the Netherlands) but need exceptions to allow for specific needs and regular review to avoid thresholds becoming ceilings. Value for money is enhanced by evidence-based assessment with public involvement (the UK, *Box 10*), by guidelines, tools, quality circles and peer review and by duties for annual continued professional education programmes for all PC personnel (as in Chile).

5: Support 'learning practice' and 'thinking politics':

PC is a site of innovation with high demands on information, communication and learning. This has been strengthened through electronic records that are interoperable across services, phone and IT outreach with clients, telecare for specialist input and automated data capture for reporting and reviewing performance. Meso-level forums and networks support exchange, collaboration and evidence informed policy, strengthened by measures such as Chile's innovation circles on key areas of practice (*Box 17*) or the Netherlands' support organisations, and by new funds for collaboration and models, from governments (Canada) and insurers (the Netherlands).

The more specific measures (with countries applying them) and possible US entry points for these recommended practices are presented below. (Where several countries have a feature then they are not all listed). The first listed practices are those we suggest may be more readily implemented, given existing entry points, current innovative practice or other enabling conditions. Specific entry points for US uptake are suggested.

Starting in the community:

Sections 4.5 and *4.10* identify a number of promising practices in support of social roles in PC and the competencies in PC to understand and address social conditions, such as the tools for participatory mapping and PC links to social services in Chile.

Promising measures in HMICs	US entry points
Strengthen social roles in PC <ul style="list-style-type: none"> Health literacy programmes and networks Health champions, mentors, CHWs Social media and online patient portals for health information Active education outreach on insurance and service entitlements/ benefits (Chile) Training providers in cultural and communication competencies (the Netherlands) Locally co-ordinated (municipal) integration of medical and social care, supported by funding (the Netherlands) Expert patient, family and community roles Tools such as participatory epidemiologic mapping and family medical records to identify community health problems and to foster joint action (Chile) Healthwatches linking local to national process (the UK) 	<ul style="list-style-type: none"> Health literacy initiatives being rolled out CHWs and patient 'navigators' HealthBegins training PC providers in social roles Community Benefits programmes, hospital district funds, county funding and other funds for social roles US National PC Extension Service

These measures are rooted in social contexts, and merit further discussion for how they would be framed and applied in the USA, especially for more disadvantaged people.

Reaching, equitably including and bringing *all* into PC:

Section 4.1 presents a range of promising measures and practices that actively expand insurance *coverage* in underserved groups and public information about benefit entitlements, with measures to monitor delivery, such as

Netherlands' active outreach on insurance in disadvantaged communities and Chile's active public education on the AUGE. For these measures to translate into PC coverage, Sections 4.6, and 4.8 present measures for enrolment such as the UK's and Scotland's measures for enrolment, access and co-ordination of referral in remote areas and for disadvantaged groups like homeless people, and for and after-hours access, such as PC co-operatives in Netherlands. These are summarised below:

Promising measures in HMICs	US entry points
<p>Increasing insurance coverage</p> <ul style="list-style-type: none"> • Non-profit insurance models (the Netherlands) • Active follow up of insurance, with outreach to disadvantaged groups, in local languages, culture and settings (the Netherlands) • Income related prepayments, free PC at point of care • Area-based enrolment with provision for portability (the UK, the Netherlands) <p>Enrolment-registration/rostering and 24/7 access</p> <ul style="list-style-type: none"> • Voluntary enrolment encouraged by incentives for enrolled people (FMGs Quebec), with safeguards against excluding complex cases • Guaranteed opening hours and shared PC practice arrangements for after-hours care, such as PC co-operatives located near or within hospitals, high-quality internet and telephone consultation services • Encouraging/requiring enrolment with flexibilities, to choose a PC practice within a defined range of home (the Netherlands, the UK) • Service contacts for homeless people • Monitoring and evaluation of uptake, of avoidable referrals to secondary and emergency care and satisfaction in PC provider 	<ul style="list-style-type: none"> • Expand US Consumer Operated and Oriented Plan (CO-OP) • Debate on enrolment in ACOs and PC practices
<p>Active implementation of a guaranteed benefit</p> <ul style="list-style-type: none"> • Public education on the benefit (Chile) • Allocation of budgets and incentives to ensure the workforce, purchasing, technology, personnel and other inputs to deliver the benefit • Guidance on services for key areas of the benefit (the Netherlands, Chile) • Simpler and more transparent guidance to support regular evidence-based review (Chile) 	<ul style="list-style-type: none"> • EHB introduced in USA, varying between states, levels and plans • Organisations/individuals support patients (navigators) on enrolment and new benefits • American Academy of Family Physicians voluntary guidance

Thinking and acting more comprehensively in improving health:

Measures for promoting a more comprehensive paradigm, supported by a range of workforce, guidance, payment and service measures, to strengthen the comprehensiveness of

care and its co-ordination with population and community services are discussed in Sections 4.2, 4.6, and 4.7, such as Chile's BPS model, and the Netherlands' use of bundled payments, care groups and PC links to municipal services. These are summarised overleaf:

Promising measures in HMICs	US entry points
<p>Strengthened comprehensiveness of care, community health links</p> <ul style="list-style-type: none"> Using population health evidence, epidemiological maps to plan and monitor services (Chile, the UK) Comprehensive models e.g. biopsychosocial model (Chile) Including an appropriate mix of NPs, PAs, pharmacists, mental health workers, counsellors, nutritionists, therapists, social workers, health promotion workers and others in PC teams Incentives and bundled payments to support comprehensive approaches (the Netherlands) Clustering services in an area - CHCs, family practice, nursing, home, pharmaceutical, paramedical, mental health, social care services and diagnostic facilities – with bundled payments and co-ordinated planning (the Netherlands) Care models focused on (i) social groups not diseases; (ii) on co-ordinated prevention and care plans across the life-course supported by co-payment exemptions (Chile, Canada) <p>Strengthening co-ordination, referral continuity across services and providers</p> <ul style="list-style-type: none"> Penalties, co-payments for bypassing PC referral Lower rate of specialist reimbursement if not a PC referral (Ontario) Making PC referral a requirement Public trust in the competency of expert generalists and awareness of options for second choice or exceptions (the UK, the Netherlands) 	<ul style="list-style-type: none"> 1,100 US CHCs with scope to use funding for improving care in deprived areas to strengthen their model Community Centred Health Homes (CCHHs) and some PMCH models clustering services ACO platform opportunities for including population planning, population focused models and area clustered services Various funding initiatives, such as Community Benefits programmes; ACA's National PC Extension Service US Patient-centered Outcomes Research Institute and the Agency for Healthcare Research and Quality roles in development of models and practice guidelines
<p>Collaboration, links across practices, personnel and with population health services</p> <ul style="list-style-type: none"> Using population health evidence for planning (Chile, the UK) Innovation circles across practices in key areas of practice or approaches (Chile) Group models supporting learning Capture of comprehensive baseline data for future evaluation Financial incentives; bundled payments and care groups promoting collaboration (the Netherlands) Integrated P4P systems to guide clinical activity 	<ul style="list-style-type: none"> Consolidation of PC practices Continuing education requirements Emerging learning circles

Organising and enabling the key capacities to deliver: Examples of promising practice for strengthening the status, skills and multidisciplinary nature of the PC team are discussed in *Section 4.5*. These include building an expert

generalist PC physician in UK and practice models that support nurse, other professional and community worker roles in Canada.

Promising measures in HMICs	US entry points
Strengthening the status and skills of an expert generalist PC physician <ul style="list-style-type: none"> Strengthen recognition and training of the expert skills needed for PC practice Build competencies to manage uncertainty: to make informed decisions about the severity and prognosis of conditions and the continuum of care Build competencies to function effectively as a team manager, supporting optimal work of others Attach trainees and specialists in PC practices in deprived areas (Scotland) Train, register, pay GPs as expert generalists (the UK) Improve flexibility of working conditions, hours (the UK, the Netherlands) Strengthen patient trust in PC provider competencies (UK) 	<ul style="list-style-type: none"> Curricula, teaching methods; community-based clinical training; continuing education to align with competency needs (IECEP 2011) Consolidation of practices into larger group practices enabling work flexibility University partnerships on PC education and practice, such as Harvard Medical School Center for PC partnership with local academic medical centres
New team approaches, recognition and organisation of interprofessional and community worker roles <ul style="list-style-type: none"> Involving NPs, physician assistants (PAs), pharmacists, dieticians, mental health workers; behavioural health social workers in PC teams Recognition of NP and PA status, including in registration, pay and incentive systems and roles alignment with GPs Comprehensive care models that use team approaches (CHCs; NPLCs and FHTs Ontario) Guidelines on interprofessional practice (the Netherlands) Financial pay incentives applied at both individual and practice level Duties on local government to provide annual, continued professional education programmes for <i>all</i> PC personnel (Chile) 	<ul style="list-style-type: none"> Training and guidelines for interprofessional practice Teams in CHCs, PCMHs Consensus Model for Advanced Practice Registered Nurse Regulation promoting professional mobility across states ACA-proposed National Healthcare Workforce Commission could assist in harmonisation of licensing of NPs and PAs. 31 LEAP sites on interprofessional practice

The capacity to deliver comprehensive PC that reaches vulnerable groups is also supported with active quality improvement processes and evidence informed, value for money based guidance, such as in the QOF and NICE

practices in England, and measures to support a shift from FFS to blended and capitation payment systems, as was implemented in the Ontario models are discussed in *Sections 4.3 and 4.4*

Promising measures in HMICs	US entry points
More active purchasing and a shift from FFS <ul style="list-style-type: none"> Providing a range of PC practice models, with incentives for models with higher levels of capitation FFS incentives for quality, equity, for extended and guaranteed opening hours and formal out-of-hours care Capitation based on rosters that list patients by age, catchment area and income, with additional payments for involving NPs and for working with practices in deprived areas Bundled payments facilitating co-ordination of services for chronic care and for population health (the Netherlands) P4P on quality and outcomes improvements, with exceptions to allow for specific needs Incentives for providing services at PC level usually provided at secondary level, for specific areas of care, for uptake of IT Practice incentives (Chile) vs individual incentives (Canada) Regular monitoring and review to avoid thresholds becoming quality ceilings 	<ul style="list-style-type: none"> Recommendations of the National Commission on Physician Payment Reform (2013) proposing payment reforms including capitation, bundled care and incentive-aligned FFS PCMHs application of risk-adjusted capitation, performance payments and bundled payments for addressing chronic conditions Payments for performance/ quality/ efficiency and process-based and health outcomes-based performance in 1,115 Medicaid Waivers programmes

Promising measures in HMICs	US entry points
Active quality improvement and value-based HTA <ul style="list-style-type: none"> Formal evidenced-based HTA with public involvement (the UK) Voluntary guidelines, tools, strategies to support care Dedicated department for new guidelines Link guidelines to electronic prescribing (the Netherlands) Quality circles and peer review groups (QCs/PRGs) facilitate exchange across disciplines Patient literacy and a complaints system Incentive frameworks/payments that reward quality improvements in referral interactions Legal duty to make approved technologies available (the UK) 	<ul style="list-style-type: none"> Choosing Wisely campaign National Commission on Physician Payment Reform Health information system integration of quality monitoring and reporting, including for local planning and national reporting PCMH initiatives focusing on high needs patients

Supporting ‘learning practice’ and ‘thinking politics’:

Measures for strengthening of information and IT capacities and for use and review of evidence are discussed in *Section*

4.1 and 4.7, and the support for innovation in *Section 4.1* and 4.9, and in the learning on managing change, discussed in the next section.

Promising measures in HMICs	US entry points
Integration of information flow and IT <ul style="list-style-type: none"> Electronic medical records Phone counselling, scheduling appointments Support for non-IT literate clients Telecare for specialist input Automated data capture for review of practice 	<ul style="list-style-type: none"> Investment in EMRs, with penalties for non-compliance Institutionalise funding of telemedicine, telecare initiatives
Strengthening of meso-level support, networks <ul style="list-style-type: none"> Forums, networks, IT for collaboration across disciplines Support organisations (the Netherlands) New funds for collaboration (Canada) Professional associations 	<ul style="list-style-type: none"> US initiatives, such as LEAP State Innovation Model grants and 1,115 Waiver experiences Professional association learning groups

Some areas that are associated with improved health outcomes and value for money that are well accepted in HMIC settings are strongly resisted in the USA. One is the PC role in referral continuity, or gatekeeping. Many in the USA view this negatively given negative experiences in health management organisations. However, the cost escalation from inappropriate use of secondary level and acute emergency care services in the USA (and benefits of gatekeeping in addressing this) suggest that there needs to be discussion on how to move towards a stronger role for PC in *referral continuity*. High costs of non-beneficial services in the USA also calls for discussion of options to provide more evidence-based guidance and incentivise good practice, as in examples from the use of evidence-based health technology assessment (HTA) in England in ensuring fair benefit and value for money in the introduction of new technologies.

5.3 Enabling conditions, facilitators and brokers

Beyond the discussion on the specific measures, it may be asked why many hundreds of demonstration projects across the USA have not gone to system level, and what factors have blocked their scaling up, to inform the thinking on adapting examples from other settings.

The case studies highlighted enabling conditions and barriers to introducing innovation in PC and the measures used to address them. While recognising the context specificity of these approaches, the enablers and barriers are outlined in *Appendix 6*, together with the mechanisms used to facilitate innovation, as an input to dialogue on how to support and sustain the uptake of identified practices.

The summary at *Appendix 6* points to:

- political and policy determinants in providing leadership and support for new practice at both central and local levels, especially when backed by funds and incentives for innovation;
- the role of evidence on problems and ideas, models and thinking in stimulating demonstration, especially when shared with key actors at policy and implementation level and with the public; and
- the role of evidence from evaluating practice to sustain change, especially when backed by training, competencies and responsibilities for delivering reforms.

Payment systems and financing incentives can, as described in *Section 4.3*, make PC a more attractive option and build support for PC approaches amongst key professional groups, especially if they improve their relative status and income. However, financial incentives can affect institutional cultures and professional ethos, so need to be carefully designed. The change processes show further the importance of winning public, professional and funder support, such as by making PC practice more attractive and by engaging colleges and professional associations, particularly those that may amplify support. Change processes often challenge long histories of physician-driven care, bureaucracies and entrenched procedures blocking innovation, and professional and social views and interests may act as key barriers, more so when there is uncertainty of the timing and level of returns.

Managing change processes thus calls for many skills - to negotiate support and inputs, to provide evidence, communicate, facilitate reflection, analysis and learning from action, to manage conflict and to encourage improvement and review. As shown in *Box 17* in Chile, this can involve many professional, practitioner, academic, local or central government and civil society actors in multiple processes, often over a sustained period. Some examples of this are shown in *Appendix 6*.

The importance of making the public case for reform is currently being demonstrated in England, where information and advocacy campaigns are underway, including the *Keep our NHS Public* and the People's Health Inquiry for London NHS, disseminating evidence and raising debate and electoral pressures on health service reforms that are perceived as imposed, without public support (Simpson 2014; Walsh 2012).

5.4 Areas for follow-up work

This paper provides various examples of where local innovation has helped to sustain or develop PC models. Local innovation has played this role where wider conditions are less favourable (Chile), changed the perception of PC among physicians (Canada) and insurers have been engaged to support new models (the Netherlands).

A priority for follow-up work is thus to continue to innovate, whether locally or at wider scale! We suggest, further, that more emphasis be given to *monitoring and evaluating practice*, to further develop conceptual frameworks, indicators and systems to evaluate PC approaches and practice, including their social dimensions and health outcomes, and to document and disseminate findings and build knowledge on these systems.

Further, as Moat et al. (2004) indicate, there is need to better disseminate existing evidence and experience. More supports are required to facilitate easier access to existing research on PC. For example, the provision of a validated PC 'hedge' within PubMed's 'topic specific queries' together with use of the existing hedge within Health Systems Evidence could help to optimise searches for investigators looking for literature published about PC, as it now does for investigators interested in cancer and AIDS research.

Notwithstanding the gaps, a substantial body of evidence has been gathered in the work to date and RWJF and others could share and widen discussion on the findings from this work. In particular it would be useful to engage with, support exchange on and disseminate evidence on practice, particularly at local level where much innovation seems to be taking place, and to build or support communities of practice (innovation circles) in key areas of promising practice in PC that have the potential to improve value for money in the US health system.

6. References

1. Agency for Healthcare Research and Quality (AHRQ) (2011) 'The number of nurse practitioners and physician assistants practicing PC in the United States: PC workforce facts and stats No. 2', Agency for Healthcare Research and Quality: Rockville, MD.
2. Aggarwal M (2011) 'Quality in primary care: Final report of the Quality Working Group to the Primary Healthcare Planning Group', Primary Healthcare Planning Group: Toronto, Canada.
3. AHRQ (2012) *2012 National healthcare quality report*. Agency for Healthcare Research and Quality: Rockville, MD. Available at http://www.ahrq.gov/research/findings/nhqrdr/nhqr12/nhqr12_prov.pdf.
4. Alexander J (2008). 'Payment by episode: Momentum building for bundling?' *Health Finance Manage* 62 (7): 40–1. PMID 18683410.
5. Allin S and Rudoler D (2013) 'The Canadian healthcare system, 2013' in Thomson S, Osborn R, Squires D, Jun M (eds) *International profiles of healthcare systems, 2013*: Australia, Canada, Denmark, England, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States. The Commonwealth Fund: Washington, DC. Available at: http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf (accessed 15 December 2013).
6. Araya R, Alvarado R, Sepulveda R, Rojas G (2012) 'Lessons from scaling up a depression treatment program in primary care in Chile', *Rev panam salud publica* 32(3):234–40.
7. Arend J, Tsang-Quinn J, Levine C, Thomas D (2012) 'The patient-centered medical home: History, components, and review of the evidence', *Mt. Sinai journal of medicine* 79(4):433–450.
8. Armstrong K, Rose A, Peters N, Long JA, McMurphy S et al. (2006) 'Distrust of the healthcare system and self-reported health in the United States', *J gen intern med* 21(4): 292–297.
9. Baker G, Aggarwal M and Barnsley J (2013) 'Ontario node leadership case study: The role of leadership in the development of family health teams and nurse practitioner led clinics in Ontario, Canada', University of Toronto: Toronto.
10. Barnett K (2014) 'Healthcare investments in population health improvement: Opportunities, challenges and priorities', presentation to IOM Population Health Roundtable Workshop on Resources, Washington, DC, February 14, 2014. Available at: <http://www.iom.edu/~media/Files/Activity%20Files/PublicHealth/PopulationHealthImprovementRT/14-FEB-06/Barnett%20Kevin.pdf> (accessed February 26, 2014).
11. Barnett ML, Song Z and Landon BE (2012a) 'Trends in physician referrals in the United States, 1999–2009', *Arch intern med* 172(2):163–170.
12. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B (2012b) 'Epidemiology of multimorbidity and implications for healthcare, research, and medical education: A cross-sectional study', *Lancet* 380:37–43. ISSN 0140-6736 (doi:10.1016/S0140-6736(12)60240-2).
13. Barrientos M and Larrea M (2013) 'Informe evaluación implementación modelo de salud familiar', Servicio de Salud Metropolitano Norte (SSMN): Santiago.
14. Battenburg R and Eyck A (2011) 'The growth and decline of health community centres in the Netherlands: A macro-historical analysis', *Journal of management and marketing in health-care* 4:242–246.
15. Berchtold P and Peytremann-Bridevaux I (2011) 'Integrated care organisations in Switzerland', *International journal of integrated care* 11:1–9.
16. Berenson RA and Rich EC (2010) 'US approaches to physician payment: The deconstruction of primary care', *Journal of general internal medicine* 25(6):613–18.
17. Berwick D and Hackbarth AD (2012) 'Eliminating waste in US healthcare', *JAMA* 307(14):1513–16.
18. Bitrán R, Escobar L and Gassibe P (2010) 'After Chile's health reform: Increase in coverage and access, decline in hospitalization and death rates' *Health affairs (Project Hope)* 29(12):2161–70.
19. Bligh J and Walley T (1992) 'The UK indicative prescribing scheme', *PharmacoEconomics* 2(2):137–52. Available at: <http://tinyurl.com/omlbohj>.
20. Bodenheimer T and Pham HH (2010) 'PC: Current problems and proposed solutions', *Health affairs* 29:799–805.
21. Borkan J, Eaton CB, Novillo-Ortiz D, Corte PR, Jadad AR (2010) 'Renewing primary care: Lessons learned from the Spanish healthcare system', *Health affairs* 29(8):1432–41.
22. Boyle S (2011) 'United Kingdom (England): Health system review', *Health systems in transition* 13(1):1–486.
23. Brach C, Keller D, Hernandez LM, Baur C, Parker R, Dreyer B, Schyve P, Lemerise AJ, Schillinger D (2012) *Attributes of a health literate organization*. Institute of Medicine: Washington, DC. Available at: http://www.iom.edu/~media/Files/Perspectives-Files/2012/Discussion-Papers/BPH_Ten_HLit_Attributes.pdf (accessed 9 August 2014).
24. Camenzind P (2013) 'The Swiss healthcare system, 2013' in Thomson S, Osborn R, Squires D, Jun M (eds) *International profiles of healthcare systems, 2013*: Australia, Canada, Denmark, England, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States. The Commonwealth Fund: Washington, DC. Available at: http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf (accessed 15 December 2013).
25. Campion EW and Morrissey S (2013) 'A different model—medical care in Cuba', *New England journal of medicine* 368(4):297–9.
26. Canadian Institute for Health Information (CIHI) (2009) *Healthcare in Canada: A decade in review*. CIHI: Ottawa, Canada.

27. Carrousel GC (2012) As cited in Kringos DS and Klazinga NS (2014) 'Learning from promising primary care practice models for the USA: A case study from The Netherlands', Academic Medical Centre, University of Amsterdam: Amsterdam, Training and Research Support Centre, July 2014
28. Carter EL, Nunlee-Bland G and Callender C (2011) 'A patient-centric, provider-assisted diabetes telehealth self-management intervention for urban minorities', *Perspectives in health information management* 8(Winter):1b.
29. Cassel CK and Guest JA (2012) 'Choosing wisely: Helping physicians and patients make smart decisions about their care', *JAMA* 307(17):1801-02.
30. Centers for Disease Control and Prevention and National Center for Health Statistics (2010) *National health interview survey*. Centers for Disease Control and Prevention: Atlanta.
31. Centro de Sistemas Públicos (2013) 'Colaboración pública – salud', *Centro de sistemas públicos*. Available at: <http://saludaps.colaboracionpublica.org/> (accessed May 19, 2014).
32. Christiaens W, Kohn L, Léonard C, Denis A, Daue F et al. (2013) 'Models for citizen and patient involvement in health-care policy. Part I: Exploration of their feasibility and acceptability, KCE Report 195C, Belgian Healthcare Knowledge Centre: Belgium.
33. Cid C and Prieto L (2012) 'El gasto de bolsillo en salud : El caso de Chile, 1997 y 2007' *Rev panam salud pública* 31(4):310–16.
34. Cloonan P, Wood J and Riley JB (2013) 'Reducing 30-day readmissions: Health literacy strategies,' *Journal of nursing administration* 43(7-8):382-87.
35. Comunidad de Prácticas en APS (nd) 'Comunidad de prácticas en APS'. Available at: <http://buenaspracticaps.cl/> (accessed May 21, 2014).
36. Concha J (2011) 'Garantía de calidad en salud : El caso de las prestaciones "AUGE" Quality assurance in healthcare : The case of the system of explicit health guarantees', *Cuad méd soc* 51(3):123–28.
37. Cornwall A and Shankland A (2008) 'Engaging citizens: Lessons from building Brazil's national health system' *Social science and medicine* 66(10):2173-84.
38. Couttolenc B and Dmytraczenko T (2013) 'Brazil's primary care strategy. UNICO Studies Series 2 The World Bank: Washington, DC.
39. Cunill-Grau N, Fernández M and Thezá Manríquez M (2013) 'La cuestión de la colaboración intersectorial y de la integralidad de las políticas sociales: Lecciones derivadas del caso del sistema de protección a la infancia en Chile', *Polis* 12(36), pp.289–314.
40. Curtis L and Netten A (2007) 'The costs of training a nurse practitioner in primary care: The importance of allowing for the cost of education and training when making decisions about changing the professional-mix,' *Journal of nursing management* 15(4): 449–57. (doi:10.1111/j.1365-2834.2007.00668.x).
41. CVZ, GIP/College voor Zorgverzekeringen (2012) 'GIPeilingen 2011, Ontwikkelingen genees- en hulpmiddelengebruik', CVZ: Diemen.
42. Davis K, Stremikis K, Squires D Schoen C (2014) *Mirror, mirror on the wall - How the performance of the U.S. healthcare system compares internationally*. The Commonwealth Fund: New York. Available at: <http://tinyurl.com/pacv7o5>.
43. De Maeseeneer J M, De Prins L, Gosset C, Heyerick J (2003). 'Provider continuity in family medicine: Does it make a difference for total healthcare costs?' *Annals of family medicine* 1(3):144–48.
44. Department of Health (DoH) (1999) 'Faster access to modern treatment', Department of Health: London.
45. Department of Health Victoria (2014) *Incorporating self-management support into primary care. A fact sheet for Primary Care Partnerships*. Department of Health Victoria: Victoria. Available at: <http://www.health.vic.gov.au/pch/downloads/factsheet09.pdf> (accessed 25 February 2014).
46. Departamento de Salud Pública Pontificia Universidad Católica de Chile (2013) 'Chile Crece Contigo. Levantamiento y análisis de información sobre desarrollo infantil y sus principales determinantes sociales', Ministerio de Desarrollo Social: Santiago. Available at: http://www.crececontigo.gob.cl/wp-content/uploads/2014/05/112013-INFORME-FINAL_Evaluación-PADB.pdf (accessed July 2, 2014).
47. DePasse JW (2013) 'A model for "reverse innovation" in healthcare', *Globalization and health* 9(40).
48. Devi S (2014) 'Cuba's economic reforms prompt debate about health' *Lancet* 383:294–5.
49. Dinh T, Stonebridge C and Theriault L (2014) 'Recommendations for action: Getting the most out of health-care teams', Conference Board of Canada: Ottawa.
50. División de Atención Primaria (2010) 'Orientaciones técnico administrativas programa de resolutiveidad para atención primaria'. Santiago. Available at: http://ssmaule.redsalud.gob.cl/index2.php?option=com_docman&task=doc_view&gid=1562&Itemid=97.
51. División de Municipalidades (2008) 'Glosario términos salud municipal', Unidad de Información Municipal, Departamento de Finanzas Municipales, División de Municipalidades:1–6. Subsecretaría de Desarrollo Regional y –Administrativo, Gobierno de Chile: Santiago. Available at: http://www.sinim.gov.cl/archivos/centro_descargas/Glosario_Terminos_Salud_Municipal.pdf.
52. Doran T (2009) 'Case Study on an experiment in altering the system dynamic – The Quality and Outcomes Framework (QOF) initiative' in Whitehead M, Doran T, Exworthy M, Richards S, Matheson D (2009) *Final report of Task Group 7: Delivery systems and mechanisms for reducing inequalities in both social determinants and health outcomes*. Available at <http://tinyurl.com/oxjrूम>.
53. Dresang LT, Brebrick L, Murray D, Shallue A, Sullivan-Vedder L(2005) 'Family medicine in Cuba: community-oriented primary care and complementary and alternative medicine', *J Am board fam pract* 18(4):297–303.
54. Durand-Zaleski I (2013) 'The French healthcare system, 2013' in Thomson S, Osborn R, Squires D, Jun M (eds) *International profiles of healthcare Systems, 2013 Australia, Canada, Denmark, England, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States*. The Commonwealth Fund: Washington, DC. Available at: http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf (accessed 15 December 2013).
55. Elkan R, Kendrick D, Dewey M, Hewitt M, Robinson J et al. (2001) 'Effectiveness of home-based support for older people: Systematic review and meta-analysis', *BMJ* 323(7315):719-25.
56. European Observatory on Health Systems and Policies (EOHSP) (2013) 'Health systems in transition (HiT) profile of United States of America. Available at: <http://www.hspm.org/countries/unitedstatesofamerica18112013/livinghit.aspx?Section=7.2%20Financial%20protection%20and%20equity%20in%20financingandType=Section> (accessed December 26 2013).
57. Fischer M (2013) 'Improving consultations from the inside out', *Health service journal* 29 January. Available at: http://www.hsj.co.uk/home/innovation-and-efficiency/improving-consultations-from-the-inside-out/5053438.article#U7_C9RaaSUo (accessed 11 July 2014).

58. Forrest CB, Weiner JP, Fowles J, Vogeli C, Frick KD et al. (2001) 'Self-referral in Point-of-Serice Health Plans,' *JAMA* 285;17:2223-31.
59. Frenz P (2007) 'Innovative practices for intersectoral action on health: A case study of four programs for social equity: Chile Barrio, Chile Solidario, Chile Emprende, Chile Crece Contigo', Country case studies on intersectoral action for health, WHO Commission on Social Determinants of Health: Geneva. Available at: http://www.who.int/social_determinants/resources/isa_4progs_social_equity_chile.pdf.
60. Frenz P, Alfaro T, Orsini M, Alaniz R, Aguilera H et al. (2014) 'Learning from promising primary care practice models for the USA: Country case study Chile', Training and Research Support Centre: Harare and Escuela de Salud Pública, Facultad de Medicina Universidad de Chile: Santiago.
61. Fuchs VR and Milstein A (2011) 'The \$640 billion question — why does cost-effective care diffuse so slowly?' *New England journal of medicine* 364:1985-87.
62. Fujisawa R, Lafortune G (2008) 'The remuneration of general practitioners and specialists in 14 OECD countries: What are the factors influencing variation across countries?' OCED Working Papers 41. OECD Publications: Paris.
63. Galasso E (2011) 'Alleviating extreme poverty in Chile: The short-term effects of Chile Solidario', *Estudios de Economía* 38(101-29).
64. García-Armesto S, Abadía-Taira M, Durán A, Hernández-Quevedo C, Bernal-Delgado E (2010) 'Spain: Health system review', *Health systems in transition* 12(4):1-295.
65. Gardner K, Yen, L, Banfield M, Gillespie J, McRae I et al. (2013). 'From co-ordinated care trials to medicare locals: What difference does changing the policy driver from efficiency to quality make for co-ordinating care?' *International journal for quality in healthcare/ ISQua* 25(1):50-57 (doi:10.1093/intqhc/mzs069).
66. Gauld R, Blank R, Burgers J, Cohen AB, Dobrow M et al. (2012) 'The world health report 2008 - Primary Healthcare: How wide is the gap between its agenda and implementation in 12 high-income health systems?' *Healthcare policy* 7(3):38-58.
67. Gezondheidsraad (2011) 'Laaggeletterdheid te lijf. Signalering ethiek en gezondheid, 2011/1', Centrum voor ethiek en gezondheid: Den Haag.
68. Giesen P, Smits M, Huibers L. et al. (2011) 'Quality of after-hours primary care in the Netherlands: A narrative review', *Annals of internal medicine* 155:108-14.
69. Gillam SJ, Siriwardena AN and Steel N (2012) 'Pay-for-performance in the United Kingdom: Impact of the quality and outcomes framework: A systematic review. *Ann fam med* 10(5):461-8.
70. Glasziou PP, Buchan H, Del Mar C, Doust J, Harris M et al. (2012) 'When financial incentives do more good than harm: A checklist,' *BMJ* 345 e5047. (doi: 10.1136/bmj.e5407)
71. Glazier RH, Zagorski BM and Rayner J (2012) Comparison of primary care models in Ontario by demographics, case mix and emergency department use', Institute for Clinical Evaluative Sciences: Toronto.
72. Glenngård AH (2013). 'Productivity and patient satisfaction in primary care--conflicting or compatible goals?' *Health policy* 111(2):157-65. (doi:10.1016/j.healthpol.2013.04.012)
73. Goddard M, Gravelle H, Hole A, Marini G (2010) Where did all the GPs go?: Increasing supply and geographical equity in England and Scotland', *J health serv res policy* 1(15):28-35.
74. Goodyear-Smith F, Gauld R, Cumming J, O'Keefe B, Pert H, McCormack P (2012) 'International learning on increasing the value and effectiveness of primary care (I LIVE PC) New Zealand', *Journal of the American board of family medicine* 25(Suppl 1):S39-S44.
75. GPs at the Deep End (2013) 'What can NHS Scotland do to prevent and reduce health inequalities? Proposals from general practitioners at the Deep End', General Practitioners at the Deep End: Glasgow (available at: <http://tinyurl.com/ng6lyqd>).
76. Grol R, Engels Y, Mookink H, Van den Hombergh P, Van den Bosch W et al. (2009) 'De werkbelasting van de huisarts neemt af', *Huisarts en wetenschap* 46:482-87.
77. Grumbach K (2014) Personal comment, USA.
78. Haggerty JL, R Pineault, M Beaulieu, Y Brunelle, J Gauthier et al. (2008) 'Practice features associated with patient-reported accessibility, continuity, and co-ordination of primary health-care', *Ann fam med* 6:116-123 (Doi: 10.1370/afm.802).
79. Hale J, Phillips CJ and Jewell T (2012) 'Making the economic case for prevention--a view from Wales', *BMC public health* 12:460 (doi:10.1186/1471-2458-12-460).
80. Harzheim E, Duncan BB, Stein AT, Cunha CRH, Goncalves, MR et al. (2006) 'Quality and effectiveness of different approaches to primary care delivery in Brazil', *BMC health serv res* 6:156.
81. Health and Social Care Information Centre (HSCIC) (2013) 'Quality and outcomes framework achievement, prevalence and exceptions data, 2012/13', - Technical Annex, HSCIC: UK.
82. Healthcare.gov (2014) 'What does marketplace health insurance cover?' <https://www.healthcare.gov/what-does-marketplace-health-insurance-cover/>.
83. Health Council of the Netherlands (2004) 'European primary care report No.: 2004/20E', Health Council of the Netherlands: The Hague.
84. Hogg W and Dyke E (2011) 'Improving measurement of primary care system performance,' *Can. fam physician* 57(7):758-3. Available at: PM:21753091.
85. Hollander MJ, Kadlec H, Hamdi R, Tessaro A (2009) 'Increasing value for money in the Canadian healthcare system: New findings on the contribution of primary care services,' *Healthcare quarterly* (Toronto) 12(4):32-44.
86. Hutchison B, Abelson J and Lavis JN (2001) 'Primary care in Canada: So much innovation, so little change,' *Health Affairs* 20(3):1-16.
87. Hutchison B, Levesque J-F, Strumpf E, Coyle N (2011) 'Primary healthcare in Canada: Systems in motion', *Milbank Quarterly* 89(2):256-88.
88. Hutchison B and Glazier R (2013) 'Ontario's primary care reforms have transformed the local care landscape, but a plan is needed for ongoing improvement', *Health Affairs* 32(4):695-703.
89. Institute of Medicine (IOM) (2010) 'The healthcare imperative: Lowering costs and improving outcomes-Workshop series summary', National Academies Press: Washington, DC.
90. Institute of Medicine (IOM) (2012) *For the public's health: Investing in a healthier future*, The National Academies Press: Washington, DC. Available at http://www.apha.org/NR/rdonlyres/A0BACE43-C3A9-416B-B21A-73499CC19A4E/0/IOM2012_investing_in_a_healthier_future.pdf.
91. Interprofessional Education Collaborative Expert Panel (IEPEC) (2011) *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Interprofessional Education Collaborative: Washington, D.C. Available at <http://www.aacn.nche.edu/education-resources/ipcreport.pdf> (accessed 27 October 2014).
92. Kaiser Family Foundation (2011a) 'Five key questions and answers about Section 1115 Medicaid Demonstration Waivers', *Kaiser Commission on Key Facts*. Kaiser Family Foundation: Washington, DC.

93. Kaiser Family Foundation (2011b) 'California and Texas: Section 1115 Medicaid Demonstration Waivers compared', *Kaiser Commission on Key Facts*. Kaiser Family Foundation: Washington, DC.
94. Kaiser Family Foundation (2014) 'Individual Insurance market competition'. Available at: <http://kff.org/other/state-indicator/individual-insurance-market-competition/> (accessed 20 February 2014).
95. Kaissi A (2012) 'PC physician shortage, healthcare reform, and convenient care: Challenge meets opportunity?' *Southern medical association* 105(11):576-80.
96. Kalucy L, Katterl R, Jackson-Bowers E and Hordacre L (2009) 'Models of patient enrolment', *Policy issues review*. Primary Healthcare Research and Information Service (PHC RIS): South Australia. Available at http://www.phcris.org.au/phplib/filedownload.php?file=/elible/lib/downloaded_files/publications/pdfs/phcris_pub_8363.pdf (accessed 26 June 2014).
97. Karter AJ, Stevens MR, Herman WH, Ettner S, Marrero DG et al. (2003). 'Out-of-pocket costs and diabetes preventive services: the Translating Research Into Action for Diabetes (TRIAD) study', *Diabetes care* 26(8):2294-99.
98. Kates N, Hutchison B, O'Brien P, Fraser B, Wheeler S et al (2012) 'Framework for advancing improvement in primary care', *Healthcare papers* 12:8-21.
99. Kindig D (2014) 'Paying for population health improvement,' Presentation to IOM Population Health Roundtable Workshop on Resources, February 14, 2014. Available at: <http://www.iom.edu/~media/Files/Activity%20Files/PublicHealth/PopulationHealthImprovementRT/14-FEB-06/Kindig%20David.pdf> (accessed February 26, 2014).
100. Kitreerawutiwong N, Kuruchittham V, Somrongthong R, Pongsupap Y (2010) 'Seven attributes of primary care in Thailand' *Asia-Pacific journal of public health / Asia-Pacific academic consortium for public health* 22(3):289-98.
101. Knapp M, Iemmi V and Romeo R (2013) 'Dementia care costs and outcomes: A systematic review', *International journal of geriatric psychiatry* 28(6):551-61. (doi:10.1002/gps.3864).
102. Koechlin F, Lorenzoni L and Schreyer P (2010) 'Comparing price levels of hospital services across countries: Results of pilot study', OECD Health Working Papers, No. 53, OECD Paris Available at: <http://dx.doi.org/10.1787/5km91p4f3rzw-en> at <http://www.oecd-ilibrary.org/docserver/download/5km91p4f3rzw.pdf?expires=1389884927&id=id&accname=guest&checksum=3EDB22DFB5D8B88A5044729B24A711DA> (accessed January 16, 2014).
103. Kringos DS, Boerma WG, Hutchinson A, Van der Zee J, Groenewegen P (2010) 'The breadth of primary care: A systematic literature review of its core dimensions', *BMC health services research* 10:65. (doi:10.1186/1472-6963-10-65).
104. Kringos DS, Boerma GW, Bourgueil Y, Cartier T, Dedeu T, Hasvold T et al. (2013a) 'The strength of primary care in Europe: an international comparative study', *British journal of general practice* 63(616): e742-e750(9).
105. Kringos DS, Boerma GW, Van der Zee J, Groenewegen P (2013b) 'Europe's strong primary care systems are linked to better population health, but also to higher health spending' *Health affairs* 32(4):686-94.
106. Kringos DS, Boerma GW, Zee J, Van der J, Groenewegen P (2013c) 'Political, cultural and economic foundations of primary care in Europe', *Social science and medicine* 99(0):9-17.
107. Kringos DS and Klazinga NS (2014) 'Learning from promising primary care practice models for the USA: A case study from The Netherlands', Academic Medical Centre, University of Amsterdam: Amsterdam, Training and Research Support Centre, July 2014
108. Kringos DS and Klazinga NS (2014, in press) 'The composition of primary care teams. Canada, England, France, Germany, The Netherlands, United States', AMC: Amsterdam.
109. Kringos DS, Van den Broeke J, Plochg T, Stronks K (2014, in press) 'Healthcare utilization patterns in deprived neighbourhoods where primary care professionals use an integral approach'
110. Kruk ME, Porignon D, Rockers PC, Lerberghe WV (2010) 'The contribution of primary care to health and health systems in low- and middle-income countries: A critical review of major primary care initiatives' *Social science and medicine* 70(6):904-11.
111. Kutzin J (2013) 'Health financing for universal coverage and health system performance: Concepts and implications for policy' *Bulletin of the World Health Organization* 91:602-11.
112. Laugesen MJ, Wada R and Chen EM (2012) 'Setting doctors' Medicare fees: CMS almost always accepts the relative value update panel's advice on work values', *Health affairs* 31(5):965-72.
113. LaVeist TA, Isaac L and Williams KP (2009) 'Mistrust of healthcare organizations is associated with underutilization of health services,' *Health services research* 44(6):2093-2105.
114. Laverack G (2013) *Health Activism: Foundations and Strategies*, Sage Publication: London.
115. Lenz R (2007) 'Proceso político de la reforma auge de salud en Chile: Algunas lecciones para América Latina. Una mirada desde la economía política', *Serie estudios socio económicos N° 38*. Corporación de Estudios para Latinoamérica: Santiago.
116. Lester H and Roland M (2009) 'Performance measurement in primary care' in Smith PC, Mossialos E, Papanicolas E, Leatherman S (eds) *Performance measurement for health system improvement*. Cambridge University Press: New York.
117. Loewenson R (2014) 'Analysis of databases on country performance on health expenditures and outcomes', Training and Research Support Centre: Harare.
118. Loewenson R and Gilson L (2012) 'Chapter 10: The health system and wider social determinants of health' in: Smith R, Hanson K. *Health systems in low- and middle-income countries: An economic and policy perspective*. Oxford University Press: Oxford 219-42.
119. Loewenson R and Whitehead M (2012) 'Robust and equity oriented health systems', WHO European Office for Investment for Health and Development: Venice.
120. Loewenson R and Simpson S (2014) 'Framework for analysis of primary care contexts, systems and models and their adaptation', Training and Research Support Centre: Harare.
121. Loewenson R, Simpson S and Nolen A (2014a) 'Synthesis and analysis of evidence on promising primary care practice: Learning from high- and middle-income countries to address challenges and opportunities in the USA', Training and Research Support Centre: Harare.
122. Loewenson R, Laurell AC, Hogstedt C, D'Ambruoso L, Shroff Z (2014b) 'Participatory action research in health systems: A methods reader', TARSC, AHPSR, WHO, IDRC Canada, EQUINET: Harare.
123. Lopert R and Elshaug AG (2013) 'Australia's "Fourth Hurdle" drug review comparing costs and benefits holds lessons for the United States', *Health affairs* 32(4):778-87.
124. Macinko J, Starfield B and Shi L (2003) 'The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970-1998', *Health services research* 38:831-65.
125. Macinko J, Dourado I, Aquino R, Bonolo P de F, Lima-Costa MF et al. (2010) 'Major expansion of primary care in Brazil linked to decline in unnecessary hospitalization', *Health affairs* 29(12):2149-60.
126. Macinko J, de Oliveira VB, Turci MA, Guanais FC, Bonolo PF et al. (2011) 'The influence of primary care and hospital supply on ambulatory care-sensitive hospitalizations among adults in Brazil, 1999-2007', *American journal of public health* 101(10):1963-70.

127. Mackenbach JP and Stronks K (eds) (2012) *Volksgezondheid en gezondheidszorg*. Reed Business: Amsterdam.
128. Marchildon GP (2013) 'Health systems in transition: Canada health system review 2013', WHO (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies). Available at: http://www.euro.who.int/__data/assets/pdf_file/0011/181955/e96759.pdf.
129. McDonald J, Cumming J, Harris M, Powell Davies G, Burns P (2006) 'Systematic review of comprehensive primary healthcare models', Australian Primary Healthcare Research Institute, Australian National University and Research Centre for Primary Healthcare and Equity, University of New South Wales: Canberra.
130. McDonald J, Harris MF, Cumming J, Powell Davies G, Burns P (2008) 'The implementation and impact of different funding initiatives on access to multidisciplinary primary healthcare and policy implications', *Medical journal of Australia* 188(8 Suppl):S69–72.
131. McIntyre D (2012) 'Health service financing for universal coverage in east and southern Africa', EQUINET Discussion Paper 95. Health Economics Unit (UCT): Cape Town and EQUINET: Harare.
132. McMurphy D (2009) 'What are the critical attributes and benefits of a high-quality primary healthcare system?' Submitted to the Canadian Working Group on Primary Healthcare Improvement. Canadian Institutes of Health Research: Ontario.
133. McNamara P (2006) 'Foreword: Payment matters? The next chapter', *Medical care research and review* 63:5S–10S.
134. Mercer R, Hertzman C, Molina H, Vaghri Z (2013) 'Promoting equity from the start through early child development (ECD-HiAP)' in Leppo K, Ollila E, Pena S, Wismar M, Cook S (eds) *Health in all policies. Seizing opportunities, implementing policies*. Ministry of Social Affairs and Health: Helsinki:105–24.
135. Ministerio de Desarrollo Social (2014) 'Catálogo de prestaciones 2014', Programa de Apoyo al Desarrollo Biopsicosocial (PADBP) y Programa de Apoyo al Recién Nacido(a) (PARN): Santiago.
136. Ministerio de Planificación (2009) Ley 20.379 Crea el sistema intersectorial de protección social e institucionaliza el subsistema de protección integral a la infancia, Crece Contigo Chile. Biblioteca del Congreso Nacional: Valparaíso. Available at: <http://www.leychile.cl/Navegar?idNorma=1006044> (accessed May 16, 2014).
137. MINSAL (2004) 'Ley 19966 establece un régimen de garantías en salud', Biblioteca del Congreso Nacional de Chile: Valparaíso. Available at: <http://www.leychile.cl/N?i=229834andf=2004-09-03andp=>.
138. MINSAL (2007) 'Modifica el decreto con fuerza de ley N°1, de 2005, del Ministerio de Salud, la ley N°19.490, se delegan facultades para fijar y modificar las plantas de personal que indica y otros beneficios para el personal de los servicios de salud', Biblioteca del Congreso Nacional: Valparaíso.
139. MINSAL (2014) 'Guías clínicas AUGÉ', Ministerio de Salud: Santiago. Available at: web.minsal.cl/AUGE_guias_clinicas (accessed May 14, 2014).
140. MINSAL (nd) 'Programa de aprendizaje autogestionado', Ministerio de Salud: Santiago. Available at: <http://minsal.uvirtual.cl/siminsal/index.php> (accessed 23 July 2014).
141. MINSAL and Universidad de Chile (2005) 'Informe final estudio de evaluación en profundidad del Programa de Reforzamiento de la atención primaria de salud', Ministerio de Hacienda: Santiago.
142. Moat K, Lavis J and Hutchison B (2014) 'Learning from promising primary care practice models for the USA: A Canadian case study' fTraining and Research Support Centre: Harare and McMaster Health Forum: Hamilton, Canada.
143. Molina H (2014) 'Situación actual y desafíos de la atención primaria' in C de PP UC (ed.) *Fortalecimiento de la atención primaria de salud: Propuestas para mejorar el sistema sanitario chileno*. Santiago. Available at: http://politicaspUBLICAS.uc.cl/cpp/static/uploads/adjuntos_seminarios/adjuntos_seminario.archivo_adjunto.a19ab1aad11e5fa6.50726573656e74616369c3b36e2d-4d696e69737472612048656c6961204d6f6c696e612e706466.pdf (accessed May 10, 2014).
144. Molla S, Yordy KD, Lohr KN, Vanselow NA (1996) *Primary care: America's health in a new era*. Committee on the Future of Primary Care, Institute of Medicine: Washington, DC.
145. Montero J, Téllez A and Herrera C (2010) 'Reforma sanitaria chilena y la atención primaria de salud. Algunos aspectos críticos', *Temas de la agenda pública*, Centro de políticas públicas UC (38):1–12.
146. National Centre for Health Statistics (2010) 'Health, United States, 2009: with special feature on medical technology'. Available at: <http://www.ncbi.nlm.nih.gov/books/NBK44745/> (accessed 19 April 2013).
147. National Public Health Service for Wales (NPHSW) (2006) *Impact of medical technological advances*. NPHSW: UK.
148. Naylor C, Imison C, Addicott R, Buck D, Goodwin N et al. (2013) *Transforming our healthcare system. Ten priorities for commissioners*. The Kings Fund: London.
149. NCQA.org (2014) 'New NCQA patient-centered medical home standards raise the bar'. Available at: <http://www.ncqa.org/Newsroom/NewsArchive/2014NewsArchive/NewsReleaseMarch242014.aspx> (accessed 16 July 2014).
150. NHS Confederation (2014) 'General medical services', NHS: London. Available at: www.nhsconfed.org/gms.
151. NHS Employers (2014) Enhanced services 2013/14. NHS Employers: London. Available at: <http://tinyurl.com/msnypye>.
152. NICE (2005) 'A guide to NICE', National Institute for health and clinical excellence: London. Available at: www.nice.org.uk/nicemedia/pdf/NewguidetoNICEApril2005.pdf.
153. NICE (2010) Alcohol use disorders. Diagnosis, assessment and management of harmful drinking and alcohol dependence. Full guidelines final draft. England: NHS National Institute for Health and Clinical Excellence: UK.
154. NICE (2013) 'Citizen's council', NICE: UK. Available at: <https://www.nice.org.uk/Get-Involved/Citizens-Council>
155. Nicholson NR (2012) 'A review of social isolation: An important but underassessed condition in older adults', *Journal of primary prevention* 33(2-3):137–52.
156. Nicholson C, Jackson CL, Marley JE, Wells R (2012) 'The Australian experiment: how primary healthcare organizations supported the evolution of a primary healthcare system' *Journal of the American board of family medicine* Suppl 1:S18–26.
157. NIVEL (2009) 'Registratie van huisartsen', NIVEL: Utrecht.
158. NIVEL (2014) 'NIVEL Zorgregistraties eerste lijn', NIVEL: Netherlands. Available at: <http://www.nivel.nl/NZR/zorgregistraties-eerstelijin> (accessed May 20, 2014).
159. Nix K (2012) Comparative effectiveness research under Obamacare: A slippery slope to healthcare rationing. *Healthcare* 2679, April 12. Available at: http://www.heritage.org/research/reports/2012/04/comparative-effectiveness-research-under-obamacare-a-slippery-slope-to-health-care-rationing#_ftn17 (accessed August 25 2014).
160. Nolen A (2014) 'Primary care in the United States of America Health System: Literature review of strengths, weaknesses and opportunities for improved health outcomes', UTMB, TARSC: Harare.
161. Okma KG (2009) 'Recent changes in Dutch health insurance: Individual mandate or social insurance? New York University: New York.

162. Onie R, Farmer P and Behforouz H (2012) 'Realigning health with care', *Stanford social innovation review* (13).
163. Ontario Health Insurance Plan (OHIP) (2014) 'Schedule of benefits for physician services', OHIP: Ontario.
164. OECD (2010) 'OECD Health data' (doi: 10.1787/data-00350-en; accessed 14 February 2011) in Kaiser Family Foundation (KFF) (2011) *Snapshots: Healthcare spending in the United States and selected OECD countries*, Kaiser Family Foundation: USA. Available at: <http://kff.org/health-costs/issue-brief/snapshots-health-care-spending-in-the-united-states-selected-oecd-countries/> (accessed December 26 2013).
165. OECD (2013a) 'OECD online database: Health at a Glance 2013'. Available at: http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT accessed 14 December 2013
166. OECD (2013b) 'Health at a Glance 2013: OECD Indicators', OECD Paris. Available at: http://dx.doi.org/10.1787/health_glance-2013-en.
167. OECD in ZH800 Wikipedia (2013) 'StatExtracts, health, health expenditure and financing, main indicators, Health expenditure since 2000' (online statistics). OECD's iLibrary. Available at: http://en.wikipedia.org/wiki/File:Health_Expenditure_per_capita_OECD_2013.png (retrieved on 2013-11-27 in Wikipedia commons).
168. OECD (2014) 'OECD health system characteristics survey and secretariat's estimates', OECD. Available at: <http://www.oecd.org/els/health-systems/characteristics.htm> (accessed online June 30, 2014).
169. Organización Panamericana de la Salud (2013) '1era innovatón en atención primaria de salud'. Available at: http://www.paho.org/chi/index.php?option=com_content&view=article&id=546:1era-innovaton-en-atencion-primaria-de-saludan-dItemid=300 (accessed: May 19, 2014).
170. Paris V (2014) 'Health benefit plans in OECD countries', OECD. Latin American and Caribbean webinar May 15, 2014
171. Pedersen KM, Andersen JS and Søndergaard J (2012) 'General practice and primary healthcare in Denmark', *Journal of the American board of family medicine* 25(Suppl 1):S34–S38.
172. Pennington A and Whitehead M (2014) 'Learning from promising primary care practice models for the USA: Country case study UK: with a focus on England', Training and Research Support Centre: Harare and University of Liverpool: Liverpool.
173. Polluste K, Kasiulevicius V, Veide S, Kringos DS, Boerma W et al. (2013) 'Primary care in Baltic countries: Comparison of progress and present systems', *Health policy* 109(2):122–30. (doi:10.1016/j.healthpol.2012.08.015)
174. Pomey M, Martin E and Forest P (2009) 'Quebec's family medicine groups: Innovation and compromise in the reform of front-line care,' *Canadian political science review* 3:31–46.
175. Quin P (2009) *New Zealand health system reforms*. NZ Parliamentary Library: Wellington.
176. Radley DC, McCarthy D, Lippa JA, Hayes SL, Schoen C (2014) 'Aiming higher: Results from a scorecard on state health system performance', The Commonwealth Fund, Washington DC Available at: <http://www.commonwealthfund.org/Publications/Fund-Reports/2014/Apr/2014-State-Scorecard.aspx>.
177. Reed G (2008) 'Cuba's primary healthcare revolution: 30 years on' *Bulletin of the World Health Organization* 86(5):327–29.
178. Reid KW, Vittinghoff E and Kushel MB (2008). 'Association between the level of housing instability, economic standing and healthcare access: a meta-regression,' *Journal of health-care for the poor and underserved* 19(4):1212–28.
179. Rice T, Rosenau P, Unruh LY, Barnes AJ, Saltman RB et al. (2013) 'United States of America: Health system review', *Health systems in transition* 15(3):1–431.
180. Rijksoverheid (2014a) *Medezeggenschap cliënten in de zorg*. Available at: <http://www.rijksoverheid.nl/onderwerpen/patientenrecht-en-clientenrecht/medezeggenschap-clienten-in-de-zorg> (accessed 16 May 2014).
181. Rijksoverheid (2014b) *Grotere rol voor eerstelijnszorg*. Available at: <http://www.rijksoverheid.nl/onderwerpen/eerstelijnszorg/grotere-rol-voor-eerstelijnszorg> (accessed 5 May 2014).
182. Rijksoverheid (2014c). *Eigen risico zorgverzekering*. Available at: <http://www.rijksoverheid.nl/onderwerpen/zorgverzekering/eigen-risico-zorgverzekering> (accessed 20 May 2014).
183. Rittenhouse DR, Casalino LP, Shortell SM, McClellan SR, Gillies RR, Alexander JA, Drum ML (2011) 'Small and medium-size physician practices use few patient-centered medical home processes,' *Health affairs* 30(8):1575–84.
184. RIVM (2012) Infographic Healthcare expenditure June 2012. Zorgbalans. RIVM: Bilthoven.
185. RWJF (2014) 'The LEAP Project,' <http://www.rwjf.org/en/about-rwjf/newsroom/features-and-articles/the-leap-project.html> (accessed February 3, 2014).
186. Robert Wood Johnson Foundation (RWJF) (2012a) 'Advancing primary care: Opportunities to support care delivery redesign in practices serving Medicaid and racially and ethnically diverse patients', RWJF: Princeton.
187. RWJF (2012b) 'Improving the science of continuous quality improvement program and evaluation', RWJF: Princeton. Available at: <http://www.rwjf.org/en/research-publications.html> (accessed December 8 2013).
188. Roberts RG, Hunt VR, Kulie TI, Schmidt W, Schirmer JM, Villaneuva T, Wilson CR (2011) 'Family medicine training - the international experience', *Medical journal of Australia* 194(11):S84–S87.
189. Rohrbasser A, Mickan S and Harris J (2013) 'Exploring why quality circles work in primary healthcare: A realist review protocol,' *Systematic reviews* 2(1):1–110.
190. Roland M (2004) 'Linking physicians' pay to the quality of care - A major experiment in the United Kingdom', *N Engl J Med* 351:1448–54.
191. Roland M, Guthrie B and Thomé DC (2012) 'Primary medical care in the United Kingdom', *Journal of the American board of family medicine* 25(Suppl 1):S6–S11.
192. Rounds LR, Zych JJ and Mallary LL (2013) 'The consensus model for regulation of APRNs: Implications for nurse practitioners,' *Journal of the American academy of nurse practitioners* 25(4):180–5.
193. Ruggeri K and Nolte E (2013) 'Pharmaceutical pricing: The use of external reference pricing', Rand Corporation: Santa Monica. Available at: http://www.rand.org/pubs/research_reports/RR240.
194. Sahlen K, Dahlgren L, Hellner B, Stenlund H, Lindholm L (2006) 'Preventive home visits postpone mortality—a controlled trial with time-limited results,' *BMC public health* 6:220.
195. Sans-Corrales M, Pujol-Ribera E, Gené-Badia J, Pasarin-Rua MI, Iglesias-Pérez B et al. (2006) 'Family medicine attributes related to satisfaction, health and costs,' *Family practice* 23(3):308–316. (doi:10.1093/fampra/cmi112)
196. Schäfer W, Kroneman M, Boerma W, van den Berg M, Westert G et al. (2010) 'The Netherlands: health system review' *Health systems in transition* 12(1):v–xxvii:1–228.
197. Schoen C and Osborn R (2009) '2009 International health policy survey of primary care physicians in eleven countries', Commonwealth Fund: Washington, DC. Available at: <http://www.commonwealthfund.org/publications/in-the-literature/2009/nov/a-survey-of-primary-care-physicians> (accessed 24 August 2014).
198. Schut E, Sorbe S and Hoj J (2013) 'Healthcare reform and long term care in the Netherlands', OECD Economics Department Working Paper #1010. OECD: France. Available at <http://www.oecd.org/eco/reform/2013-2.pdf> (accessed 10 August 2014).

199. Sentell T, Zhang W, Davis J, Baker KK, Braum KL (2014) 'The influence of community and individual health literacy on self-reported health status,' *Journal of general internal medicine* 29(2):298-304.
200. Sibbald B, Laurant MG and Reeves D (2006) 'Advanced nurse roles in UK primary care,' *Med J Aust* 3 185(1):10-12.
201. Simpson S (2014) 'Desk review of key features of promising primary care practices in middle- and high-income countries,' Training and Research Support Centre: Harare.
202. Smith C, Smith J, Gribbin K, Challen K, Hubbard R (2008) 'The impact of the 2004 NICE guidance and 2003 General Medical Services contract on COPD in primary care in the UK', *Q.J. Med* 101:145-53.
203. Smith J, Holder H, Edwards N, Maybin J, Parker H et al. (2013) *Securing the future of general practice. New models of primary care. Summary report*. The King's Fund: London. Available at: http://www.nuffieldtrust.org.uk/sites/files/nuffield/130718_full_amended_report_securing_the_future_of_general_practice.pdf, (accessed 27 February 2014).
204. Smith PC, Brice JH and Lee J (2012) 'The relationship between functional health literacy and adherence to emergency discharge instructions among Spanish-speaking patients,' *Journal of the national medical association* 104(11-12):521-27.
205. Stabile M, Thomson S, Allin S, Boyle S, Reinhard B et al. (2013) 'Healthcare cost containment strategies used in four other high-income countries hold lessons for the United States,' *Health affairs* 32(4):643-52.
206. Stange KC (2012) 'How does provider supply and regulation influence healthcare markets? Evidence from nurse practitioners and physician assistants,' *Journal of health economics*, 33:1-27.
207. Starfield B (2011) 'Point: The changing nature of disease: Implications for health services,' *Medical care* 49(11):971-72.
208. Starfield B and Shi L (2002) 'Policy relevant determinants of health: An international perspective', *Health policy* 60: 201-18.
209. Starfield B, Shi L and Macinko J (2005) 'Contribution of primary care to health systems and health' *Milbank quarterly* 83:457-502.
210. Steel D and Cylus J (2012) 'United Kingdom (Scotland): Health system review', *Health systems in transition* 14(9):1-150.
211. Steel N and Willems S (2010) 'Research learning from the UK quality and outcomes framework: A review of existing research,' *Quality in primary care* 18(2):117-25.
212. Stigler FL, Starfield B, Sprenger M, Salzer HJF et al. (2013) 'Assessing primary care in Austria: Room for improvement', *Family practice* 30(2):185-89 (doi:10.1093/fampra/cms067).
213. Stock S, Drabik A, Büscher G, Graf C, Ullrich W et al. (2010) 'German diabetes management programs improve quality of care and curb costs', *Health affairs* 29(12):2197-205.
214. Stol Y and Nelis A (2010) 'De maatschappelijke relevantie van biotechnologische trends 2010', Centre for Society and Genomics: Nijmegen.
215. Strelnick AH, Swiderski D, Fornari A, Gorski V, Korin E et al. (2008) 'The residency program in social medicine of Montefiore Medical Center: 37 years of mission-driven, interdisciplinary training in primary care, population health, and social medicine,' *Acad med* 83(4):378-89.
216. Struijs JN, Mohnen SM, Molema SM, de Jong-van Til JT et al. (2012a) 'Effect van integrale bekostiging op curatieve zorkosten. Een analyse voor diabeteszorg en vasculair risicomanagement op basis van registratiebestanden Vektis, 2007-2010', Rijksinstituut voor Volksgezondheid en Milieu: Bilthoven.
217. Struijs JN, Mohnen SM, Molema CCM, Jong van Til JT de, Baan CA (2012b) 'Effect van integrale bekostiging', RIVM: Bilthoven.
218. Strumpf E, Levesque J-F, Coyle N, Hutchison B, Barnes M, Wedel RJ (2012) 'Innovative and diverse strategies toward primary healthcare reform: Lessons learned from the Canadian experience' *Journal of the American board of family medicine* 25(Suppl 1):S27-S33.
219. Subsecretaría de Redes Asistenciales (2013a) 'Orientaciones para la implementación del modelo de atención integral de Salud Familiar y comunitaria dirigido a equipos de salud', Ministerio de Salud, Subsecretaría de Redes Asistenciales, División de Atención Primaria: Santiago.
220. Subsecretaría de Redes Asistenciales (2013b). 'Orientaciones para la planificación y programación en red año 2014', Ministerio de Salud, Subsecretaría de Redes Asistenciales, División de Atención Primaria: Santiago.
221. Subsecretaría de Redes Asistenciales (2013c) 'Orientaciones para la planificación y programación en red año 2014'. Ministerio de Salud, Subsecretaría de Redes Asistenciales, División de Atención Primaria: Santiago
222. Thomson S, Osborn R, Squires D, Jun M (eds) (2013) *International profiles of healthcare systems, 2013*: Australia, Canada, Denmark, England, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States', The Commonwealth Fund: Washington, DC. Available from: http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf (accessed 15 December 2013).
223. Timmins N (2013) 'The four UK health systems. Learning from each other', The Kings Fund: London. Available from: http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_summary/four-uk-health-systems-jun13.pdf (accessed 29 January 2014).
224. Treloar C, Gray R, Brenner L, Jackson C, Saunders V, Johnson P et al. (2013) 'Health literacy in relation to cancer: Addressing the silence about and absence of cancer discussion among Aboriginal people, communities and health services', *Health and social care in the community* 21(6): 655-64.
225. US Department of Health and Human Services Rural Assistance Center (US DHHS RAC) (2014) 'Consumer Operated and Oriented Plan (CO-OP) Program', US Department of Health and Human Services: Washington, DC. Available at: <http://www.raonline.org/funding/2667> (accessed 18 February 2014).
226. Valentijn PP, Bruijnzeels MA, de Leeuw RJ, Schrijvers AJP (2012) 'Integrated primary care, the collaboration imperative!' Paper presented at the 12th International Conference on Integrated Care. Republic of San Marino. Available at: <http://www.ijic.org/index.php/ijic/article/view/URN%3ANBN%3ANL%3AUI%3A10-1-113763/1847>.
227. Van den Berg M et al. (2014 in press) 'Zorgbalans 2014. De prestaties van de Nederlandse gezondheidszorg', RIVM: Bilthoven.
228. Van den Berg MJ, Kringos DS, Marks LK, Klazinga NS (2014) 'The Dutch healthcare performance report: Seven years of healthcare performance assessment in the Netherlands', *Health research policy and systems* 12:1 (doi:10.1186/1478-4505-12-1).
229. Van den Broeke J, Plochg T, Schreurs H, Quak S, Egberts M et al. (2014) 'Wat is de werkwijze van zorg- en welzijnsorganisaties in utrecht en Amsterdam om de hoge zorgconsumptie in achterstandswijken te verlagen?' TSG 92:44-51.
230. Van der Heijden and Schepers I (2011) 'Teledermatologie en andere succesvolle teleconsultatiediensten in de dagelijkse huisartsenpraktijk,' *Bijblijven* 27:715.
231. Van Dijk CE (2012) 'Changing the GP payment system: Do financial incentives matter?' NIVEL: Utrecht.
232. Van Dijk CE, Verheij RA, Van den Hoogen H, De Bakker DH (2009) 'Bekostiging van de huisartsenzorg. Eindrapportage', NIVEL: Utrecht.

233. Van Laere I (2002) 'Zorg voor zieke zwervers', *Medisch contact* 28 april: 55.
234. Van Weel C, Schers H, Timmermans A (2012) 'Healthcare in The Netherlands', *Journal of the American board of family medicine* 25(Suppl 1):S12–S17.
235. Vanstone M (2014) 'Introducing Physician Assistants to Ontario' in Canada: Health System Review at European Observatory on Health Systems and Policies. Available at: <http://www.hspm.org/countries/canada22042013/livinghit.aspx?Section=4.2%20Human%20resourcesandType=Section#8IntroducingPhysicianAssistantstoOntario> (accessed 10 July 2014).
236. Varona P, Bonet M, García R, Chang M, Ramon S (2014) 'National provincial coordinating group: Implementation of chronic disease risk factor surveillance in 12 Cuban municipalities', *MEDICC review* 16(1):43–47.
237. Vega J (2011) 'Steps towards the health equity agenda in Chile' in *World conference on social determinants of health*: Rio de Janeiro.
238. Vergara C (2012) 'Desafíos para la creación de una Comunidad de Buenas Prácticas en APS y sus sistemas. Experiencia en Chile', Presentación. Noveno Congreso Regional de Información en Ciencias de la Salud – CRICS9: Washington, DC. Available at: <http://programa.crics9.org/es/Speaker/cristian-vergara/>.
239. Vlek H, van Leeuwen Y and Crebolder H (2003) 'Het gezamenlijk consult: een effectieve methode om de ervaringskennis van de huisarts te vergroten', *Huisarts en Wetenschap* 46:164–66.
240. Vogelaar E (2005) 'Voorstel van Ella Vogelaar, onafhankelijke voorzitter van het overleg tussen LHV, VWs en ZN, aan genoemde partijen voor een beleidsagenda en bekostigingssysteem huisartsenzorg voor 2006 en 2007'. <http://devrije-huisarts.org/stukkenpdf/VoorstelEllaVogelaar300605.pdf> (Accessed 20 July 2014).
241. Walsh K (2012) 'How not to do health reform; now there is an opportunity to refocus on what matters', *BMJ* 345:e6109.
242. Wathen B and Dean T (2004) 'An evaluation of the impact of NICE guidance on GP prescribing', *BJGP* 54:103–07.
243. Watt G (2014) 'A landmark study of collective action by general practices', *BJGP* (May) (Doi: 10.3399/bjgp14X679561).
244. Watt GO, behalf of the DESG (2012) 'General practitioners at the deep end. The experience and views of general practitioners working in the most severely deprived areas of Scotland', Report No.: Occasional Paper 89. The Royal College of General Practitioners: Scotland.
245. Westert GP, Van den Berg M J, Zwakhals SLN, Heijink R, De Jong JD, Verkleij H (2010) 'Zorgbalans 2010' (Dutch Healthcare Performance Report 2010) RIVM: Bilthoven. Accessible at: <http://www.gezondheidszorgbalans.nl/algemeen/menu/english/>.
246. Westert G and Wammes J (2013) 'The Dutch healthcare system, 2013' in Thomson S, Osborn R, Squires D, Jun M (eds) *International profiles of healthcare systems, 2013, Australia, Canada, Denmark, England, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States*. The Commonwealth Fund: Washington, DC. Available at: http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf (accessed 15 December 2011).
247. White J and Marmor M (2009) 'Primary care and health reform concepts. Confusions and clarifications' in Marmor M et al. (eds) *Comparative studies and the politics of modern medical care*, Yale University Press: New Haven.
248. Whitehead M, Doran T, Exworthy M, Richards S, Matheson D (2009) 'Final report of Task Group 7: Delivery systems and mechanisms for reducing inequalities in both social determinants and health outcomes'. *Marmot review of health inequalities in England post-2010*. Available at: <http://tinyurl.com/oxjrूम>.
249. Whitehead NE and Hearn L (2014) 'Psychosocial interventions addressing the needs of black women diagnosed with breast cancer: A review of the current landscape', *Jo psycho-oncology* 17 July. (doi: 10.1002/pon.3620)
250. Wiegers T, Hopman P, Kringos D, de Bakker D (2011) 'Overzichtstudies: De eerste lijn'. Nivel: Utrecht.
251. Willcox S, Lewis G and Burgers J (2011) 'Strengthening primary care: Recent reforms and achievements in Australia, England, and the Netherlands', The Commonwealth Fund, Nov. Report No.: 1564.
252. Williamson A and Watt G (2014) 'Mental health issues in the deep end', Deep End Report 22. Online. Available at: http://www.gla.ac.uk/media/media_327432_en.pdf (accessed 11 July 2014).
253. World Health Organisation (WHO) (2013a) 'Global health observatory data repository. Mortality: All NCDs, deaths per 100,000 - Data by country'. Available at: <http://apps.who.int/gho/data/node.main.A863?lang=en> (accessed May 9, 2014).
254. WHO (2013b) 'Primary healthcare, including health system strengthening', Report by the Secretariat to the Sixty-Second WHA A62/8. WHO: Geneva.
255. WHO (2013c) 'World health statistics 2013'. World Health Organization: Geneva. Available at: http://www.who.int/gho/publications/world_health_statistics/2013/en/.
256. WHO (2008) 'The world health report 2008 : Primary healthcare now more than ever', WHO: Geneva.
257. WHO Regional Office for Europe (2010) 'Putting our own house in order: Examples of health-system action on socially determined health inequalities', WHO Regional Office for Europe: Copenhagen.
258. WHO Regional Office for Europe (2012) 'WHO Regional Office for Europe', Meeting on strengthening primary care contribution to the prevention and control of non-communicable diseases. WHO Regional Office for Europe: Copenhagen.
259. World Bank (2013) 'Country and lending groups', World Bank: Washington, DC. Available at: http://data.worldbank.org/about/country-classifications/country-and-lending-groups#High_income (accessed December 14 2013).
260. World Bank (2014) 'Country data', World Bank: Washington, DC. (Available at: <http://data.worldbank.org/indicator> (accessed June 24, 2014).
261. Yáñez P (2014) 'Mejoramiento de la Atención Primaria de Salud', División de Atención Primaria. Ministerio de Salud: Santiago.
262. Zanchetta MS, Meireles-Pinto R, Galhego-Garcia W, de Cunha Z, Cordeiro HA et al. (2014) 'Brazilian community health agents and qualitative primary healthcare information', *Primary healthcare research and development* [Epub ahead of print] Apr 25:1–11.
263. Zorg en Zekerheid (2004) 'Regeling initiatiefruimte ziekenfondsverzekering', Zorg en Zekerheid: Leiden.
264. Zullig L, McCant F, Melnyk SD, Danus S, Bosworth HB (2014) 'A health literacy pilot intervention to improve medication adherence using Meducation technology', *Patient education and counseling* 95(2):288–91.

Acronyms

ACA	Affordable Care Act
ACHM	Chilean Municipal Association, <i>Asociación Chilena de Municipios</i>
APS	Public Primary Care, <i>Atención Primaria de Salud</i>
AUGE	Universal Access with Explicit Guarantees, <i>Acceso Universal con Garantías Explícitas</i>
CCG	Clinical Commissioning Group (England)
CECOF	Community Health Centre, <i>Centro Comunitario de Salud</i>
CESFAM	Family Health Centre, <i>Centro de Salud Familiar</i>
CGR	General Rural Health Centre, <i>Consultorio General Rural</i>
CGU	General Urban Health Centre, <i>Consultorio General Urbano</i>
CHC	Community Health Centre
CHW	Community Health Worker
CONFUSAM	Municipal primary care workers union (<i>Confederación de Funcionarios de Salud Municipal</i>)
DHHS	Department of Health and Human Services (US)
EAP	Primary Healthcare Law, <i>Estatuto de Atención Primaria</i>
FFS	Fee For Service
FHG	Family Health Group (Ontario)
FHN	Family Health Network (Ontario)
FHO	Family Health Organisation (Ontario)
FHT	Family Health Team (Ontario)
FMG	Family Medical Group (Quebec)
FONASA	National Health Fund, <i>Fondo Nacional de Salud</i>
GES	Explicit Health Guarantees, <i>Garantías Explícitas en Salud</i> (legal name for AUGÉ)
GGD	Dutch municipal public health authorities (<i>Gemeentelijk Gezondheidsdiensten</i>)
GP	General Practitioner
HMIC	High- and Middle-Income Countries
IOM	Institute of Medicine (US)
ISAPRE	Private for-profit insurers, <i>Instituciones de Salud Previsional</i>
MINSAL	Ministry of Health, <i>Ministerio de Salud</i>
MOH	Ministry of Health
MSF	Family Health Model (Integral Model of Family and Community Health), <i>Modelo de Salud Familiar o Integral Atención Familiar y Comunitario</i>
NCD	Non-Communicable Diseases
NHS	National Health Service (UK)
NICE	National Institute for public health and Clinical Excellence
NP	Nurse Practitioner
NPLC	Nurse Practitioner-Led Clinic
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket payments
PA	Physician Assistant
PC	Primary Care
PCMH	Patient-Centred Medical Home (US)
PCT	Primary Care Trust
PHC	Primary Healthcare
PUC	Catholic University, <i>Pontificia Universidad Católica de Chile</i>
QOF	Quality and Outcome Framework (UK)
SAPU	Emergency Primary Care Service, <i>Servicio de Atención Primaria de Urgencia</i>
SAR	Specialized PC Emergency Service, <i>Servicio de Alta Resolución</i>
SHI	Statutory Health Insurance
SNS	Chilean National Health Service, <i>Servicio Nacional de Salud</i>
SNSS	National Health Services System, <i>Sistema Nacional de Servicios de Salud</i>
WDI	World Development Indicators
WHO	World Health Organisation

Appendices

Appendix 1: Constructs in the conceptual framework

Table A1: Most commonly raised constructs and elements in the framework

Abbreviated to indicate key areas. Full table available in Loewenson and Simpson 2014

CONSTRUCTS (In the domains)	CONTENT <i>Elements shown are those that have highest frequency of inclusion in the literature. For full set of elements see Loewenson and Simpson 2014</i>
DOMAIN 1: CONTEXT/ SYSTEM/STRUCTURAL	
Structural: Demographic, sociopolitical and economic context	
National socio-political context	The sociodemographic profile, political and social culture, social values and the central/ devolved organisation of government and state.
National economic context	The level of aggregate income and of social and geographical inequality in incomes and wealth. The level of market orientation of the economy, including in the social sectors.
National health system context	The disease pattern and burden, including multimorbidity, inequalities in health, social determinants of health; coverage of healthcare and gaps in universal coverage.
Structural: Health system context	
Policy and PC orientation	Health system organisation, segmentation, universality. Level of support for and clarity of vision in the role and organisation of PC in improved health system performance.
Laws	Legal duty to ensure health services; the extent, devolution and harmonisation in federal regulation of services and strength of regulatory capacities and enforcement
Governance of the health system	Distribution of policy, management authority between central and subnational (state/local) levels. Public/ patient empowerment, accountability and information at macro-level and measures for accountability and transparency on system performance.
Organisation of the health system	Levels, resourcing, roles and distribution of public, for profit/not for profit providers. National/state system; single/multipayer/national health service or social insurance service; type, ownership and size of primary care provider, relationship with referral and outreach services and with clients. Patient enrolment; (see also Domain 2).
Financing the health system	Principles for, funding model, level and sources of financing and distribution to public and private providers. Level/prioritisation of expenditure on PC. Latitude for price increases and risk exclusion. Method of paying the PC workforce:
Workforce development and regulation	Density, distribution; training and mix; remuneration - capitation, salary, fee for service, pay-for-performance, blended payments Professional status, autonomy and recognition of PC personnel; Strategies and resources for training
DOMAIN 2: PC SERVICE DELIVERY/ MODEL OF CARE/ MODE OF PRACTICE/ PROCESS	
Service inputs	
Workforce density, type and capacities	Professional ethos, type, density, distribution, competencies, task allocation and orientation of PC workforce, including the mix of professionals. PC practice size, networking.
Workforce collaboration in and across PC	Team-based approaches, composition and role of multidisciplinary teams (combining physician, nurses, NP, PA, dentist, pharmacist, CHWs); role of skills set and scope of practice in allocation of tasks, workload sharing. System supports for team approaches
Workforce incentives	Financial and non financial incentives supporting recognition, incomes, skills, performance, quality outcomes of PC workforce.
Medicine, technology	Assessment and regulation of and incentives for ensuring value for money, controls on costs and equity in benefit from medicines, technology and prescribing practices
Service content	
Needs-based first contact	Extent to which primary care can be accessed and used as first contact; level of extended hours access and inappropriate use of hospitals
Prevention focus	Focus on, incentives and guidelines for health promotion, well-being and prevention services at individual and population level and collaboration with other services.
Public health; Intersectoral	Measures for ascertainment of social determinants of health and links/referral to non-health sector services. Level of co-operation between PV and public health
Personal care services	Guidelines, responsibilities, services for whole person/patient-focused care vs disease-focused care addressing the spectrum of health needs and co-morbidity
Service organisation/ process attributes	
Longitudinal continuity	Patient ability to get care when needed from an organised team of providers in an accessible, familiar environment; extent of uninterrupted care over time.

Table A1: Most commonly raised constructs and elements in the framework continued

CONSTRUCTS (In the domains)	CONTENT <i>Elements shown are those that have highest frequency of inclusion in the literature. For full set of elements see Loewenson and Simpson 2014</i>
Relational continuity	Client choice in and registration / enrolment with PC practice, Organisational arrangements for referral and follow up; PC gatekeeping/ entry point role in referral.
Informational continuity	Continuity across contacts and PC providers of comprehensive organised patient medical, social information. System-to-system interoperability and public reporting
Co-ordination of services	<i>Collaboration of care, care pathways and partnership with other health and community services resulting in coherent prevention and treatment plans.</i>
Support for Innovation	New ways of care provision, communication with patients. Measures for support and audit of new practice (see also Domain 5).
Service features	
Availability	Distribution of services, programmes, workforce, supplies relative to population needs; extended hours provision
Comprehensiveness	Extent to which a full range of services is either directly provided by PC or arranged elsewhere. Range of services offered to meet needs; whole person orientation.
Access	Ease with which services are obtained when needed in relation to waiting times; without geographical and financial barriers. Charges and affordability
Quality	Provider procedures, funder payment arrangements aligned to quality goals and quality improvement measures, support tools, IT and practice guidelines
Effectiveness, appropriateness, safety	<i>Safe error-free care.</i> Relevance to the health and clinical needs, given the current best evidence and measures to avoid, prevent, and ameliorate adverse outcomes or injuries that stem from the processes of healthcare itself.
Costs and efficiency, value for money	Extent to which use of available resources is optimised to yield maximum benefits in health, healthy care and performance outcomes, Level of waste, inappropriate treatment, overtreatment and fraudulent spending.
Trust	Relations across PC actors and credibility of intended outcomes of measures
DOMAIN 3: PUBLIC/SOCIAL ROLES	
PC – social interface	
Community orientation	Community orientation at individual and population level, using community evidence to plan and evaluate services; integrating community outreach.
People– centredness	Extent to which PC services build long-term good relationships with clients, involve clients in service design, delivery and evaluation of services; use of lifetime EMRs
Family- centredness	Patient-family-community interface - Provider awareness of clients' family history and care preferences; engagement with family in care plans
Features of society in PC systems	
Social empowerment	Client empowerment, literacy to act on their own health, obtain additional information and make input on decisions on care and service preferences
Social choice trust; accountability	Public information from and on services; Patient choice of and trust in PC practice selected from appropriate alternatives; Client perceptions of timeliness and relevance of services
DOMAIN 4:OUTCOMES	
Health service outcomes	
Acceptability	Patient and provider satisfaction; experience of care
Coverage	Coverage/utilisation rates and trends
Health status outcomes	
Health status,	Self-perceived health, well-being; various morbidity and post care outcomes
Health equity outcomes	
Equity,financial protection	Geographical and social inequalities in resources, personnel relative to need; Levels, distribution of catastrophic spending, medical bankruptcy
DOMAIN 5:MANAGING AND SUSTAINING CHANGE	
Organisational/ leadership roles, competencies	Organisational values, level of clear and shared goals, transformational leadership and competencies with clarity on elements for and benefits of change, and of collaborative practice-based networks for exchange, voice and scale up.
Transformational skills and processes.	Opportunities for small-scale testing, for reflection and learning. Spread strategy, provider networks to facilitate communication of successful practice between providers.
Information and monitoring	PC information systems ; IT capacities and use; System for PC performance measurement and review; including with public input.
Supportive systems	Level and duration of social, political support. Multiplicity and coherence of channels supporting change; Structures and systems that incentivise (or block) innovation

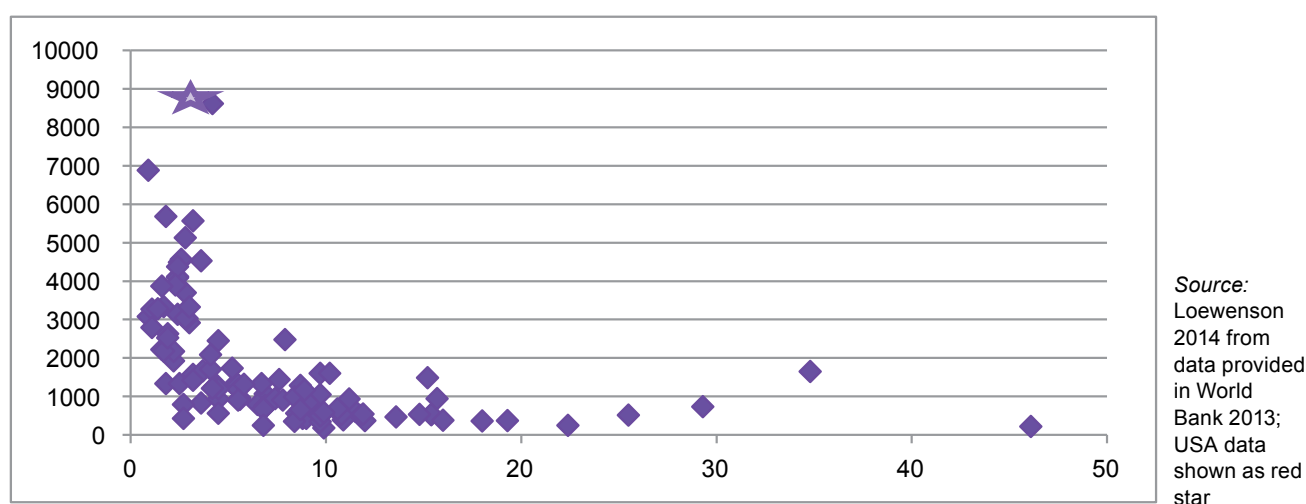
Source: For full set of 44 citations see Loewenson and Simpson 2014.

Appendix 2: Methods for the work and evidence for case study selection

Methods for the desk review and analysis of databases: The document reviews for the conceptual framework, US literature review and review of PC in HMICs included papers post-2000 identified from non-systematic searches of published and grey literature in PubMed, ISI Web of Science, Google scholar, EAGLE; OpenSIGLE; OECD, WHO; Health Systems Evidence (HSE); and specific institutional publication databases using key word searches, abstract review and snowballing from the reference lists of identified papers. The analysis of health spending and health outcomes used post-2000 indicators for all high and *upper* middle income countries (HUMICs) from the WHO (WHO 2013a,c); World Bank (World Bank 2013); OECD (OECD 2010, 2013a,b) and the European databases

(EOHSP 2013; Koechlin et al. 2010). While this paper generally refers to middle-income countries the databases distinguish upper middle-income and this category was used to keep to manageable numbers. Excluding indicators and countries for which data were not available and small island states, 108 HUMICs and 58 indicators were included. i.e. i. financial protection (OOP as percent THE) ii. child mortality (neonatal mortality rate) iii. adult mortality/ survival- i.e. Male and female survival to age 65 iv. healthcare coverage – i.e. immunisation coverage as an indicator of coverage and TB treatment success rate as an indicator of continuity of care and acceptability, and v. health service inputs- ie nurse and midwife density as key for PC systems (Loewenson 2014).

Figure A1: Health expenditure/capita PPPUS\$ (y axis); neonatal mortality (x axis) HUMICs 2011



Indicators suggested that were consistently available across HUMICs for the years in focus were of: i. financial protection – i.e. OOP as a percent of total health expenditure; and ii. child mortality/ survival- Analysis of data from World Development Indicators (WDI) for 65 indicators from 130 HMICs for 2000 and 2010-2012 indicated that the USA spends more on both public and private health expenditure per capita than all OECD countries. US health expenditure is much higher than its GDP position would suggest, for all areas of spending, particularly for administrative and ambulatory care costs and is increasing faster than other countries (World Bank 2013; WHO 2013c). For total expenditures on health per capita and as a percent of GDP, therefore, any HMIC satisfies the criterion of having a lower level of health spending (Loewenson 2014). The analysis of databases found that all but four HMICs achieved better survival outcomes at much lower per capita expenditures than the USA; and nearly half had better survival outcomes than the USA across the seven indicators assessed; with outcomes in the USA worsening compared to other HMICs between 2000 and 2012 (See more detailed evidence in Loewenson 2014). The analysis pointed to seventeen

countries with similar population size and structure where improved outcomes were found in four or more of seven indicators of health expenditure and health/ healthcare outcomes (Loewenson 2014). Chile was added for having a multi-insurer model, but with slightly higher life expectancy and significantly lower expenditure per capita than the USA, and with reforms underway to strengthen PC. Selected data for these countries are shown in *Table A1*.

The data on these 17 countries were triangulated with evidence from the desk review of practice in PC in HMICs, categorised within the key areas of relevance to the USA. The countries showing both a higher frequency of promising practice in the desk review and a higher frequency of improved health outcomes in the database analysis were Australia, Canada, Chile, Cuba, Denmark, Netherlands, New Zealand, Thailand and United Kingdom. These were identified as potential case study countries (See *Table A2* and Loewenson et al. 2014a for more detailed evidence on this analysis). Within the resources available to the project, and after review of the findings with RWJF, four were selected for deeper case study work: UK (focusing

on England), Netherlands, Chile and Canada (particularly focusing on Ontario and Quebec). They reflect a diversity of region, context, measures and service models relevant to the key areas of challenge and opportunity identified in

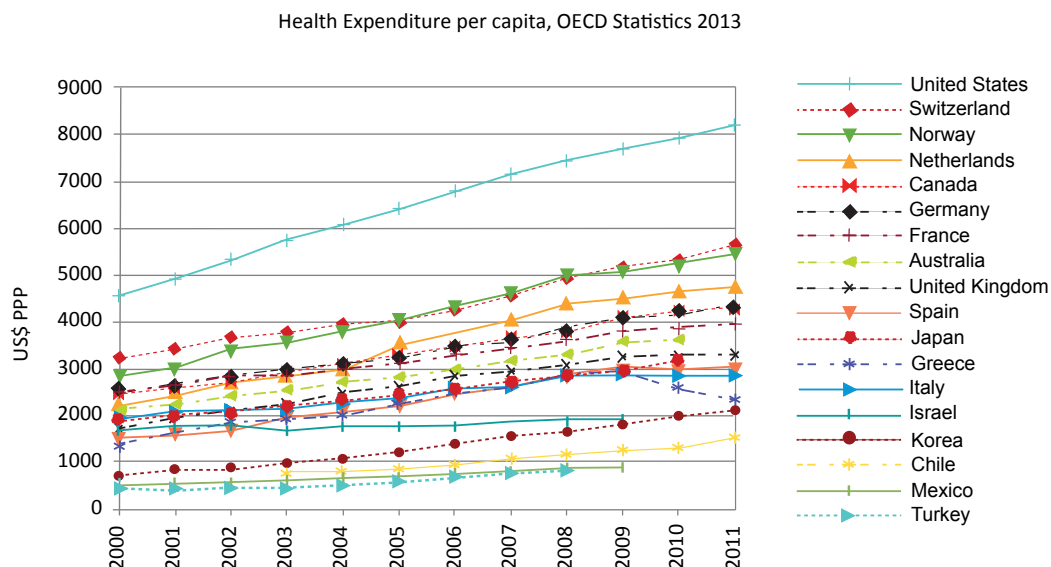
the USA. They have had much lower increases in per capita health expenditure (US\$ PPP) than in the USA (*Figure A2*) although in part due to economic crisis post 2008 (Kringos and Klazinga 2014).

Table A1: Health expenditure, service and outcome data (2011) for selected HMICs

Country	GDP / capita (constant 2005 US\$)	Population 65 yrs + (% of total)	Health expenditure / capita, PPP US\$	OOP expenditure as % THE	Neonatal mortality rate/1000 live births	Doctor consultations per capita 2009/10	Asthma hospital admission 2010	Nurses and midwives / 1,000 people	Physicians / 1,000 people
United States	42 447	13.33	8608	11.29	4.2	4.1	70.4	9.82	2.42
Australia	36 585	13.69	3692	19.83	2.9	6.6	39.1	9.59	3.85
Belgium *	36 941	17.35	4119	19.13	2.4	7.4	-	22.21	3.78
Canada	35 794	14.47	4520	14.38	3.6	7.4	9.7	Na	2.07
Chile	9 019	9.44	1292	37.16	5.3	3.3	14.4	0.14	1.03
Cuba	Na	12.73	430	5.32	2.9	-	-	9.05	6.72
Denmark *	46 699	17.06	4564	13.17	2.7	4.6	-	16.09	3.42
Finland *	38 926	17.67	3332	19.16	1.7	4.3	53.3	23.96	2.91
France	34 405	17.09	4086	7.46	2.4	6.7	28.2	0.31	3.45
Germany	37 271	20.99	4371	12.41	2.4	9.9	-	11.38	3.69
Iceland	52 854	12.33	3264	18.23	1.2	6.1	-	15.88	3.73
Ireland	45 867	11.51	3894	14.54	2.4	3.8	26.7	15.67	3.17
Italy	29 156	20.53	3130	19.93	2.4	-	10.1	0.29	3.49
Korea, Rep.	21 226	11.44	2181	32.89	1.7	12.9	99.1	5.29	2.02
Netherlands *	41 366	15.91	5123	5.08	2.9	6.6	20.3	Na	2.86
New Zealand	27 139	13.30	3033	10.50	2.9	5.2	20.9	10.87	2.74
Slovenia *	19 127	16.86	2519	12.95	2	6.4	36.4	8.61	2.54
Sweden	44 079	18.54	3870	16.92	1.6	3.0	15.0	11.86	3.77
UK *	38 032	16.85	3322	9.18	3.1	5.0	42.8	10.13	2.74

Source: World Bank 2013.

Figure A2: Total Health Expenditure per Capita, US and Selected Countries, 2000-2011



Source: OECD 2013c in ZH8000 Wikipedia http://en.wikipedia.org/wiki/File:Health_Expenditure_per_capita_OECD_2013.png
Reproduced under creative common license © ZH8000 / Wikimedia Commons / CC-BY-SA-3.0

Table A2: Summary table triangulating evidence from data analysis and desk review

Country	Frequency of health indicators improved vs us from data analysis	Frequency of promising practices from desk review	Overall outcome	Comment
Australia	4	9	13	Possible case study country
Belgium	4	-	4	Exclude
Brazil	-	9	9	Exclude
Canada	4	9	13	Possible case study country
Chile	2	12	14	Possible case study country
Cuba	6	8	14	Possible case study country
Denmark	4	9	13	Possible case study country
Finland	4	-	4	Exclude
France	4	3	7	Exclude
Germany	5	7	12	Exclude
Iceland	5	-	5	Exclude
Ireland	4	-	4	Exclude
Italy	3	1	4	Exclude
Rep Korea	5	-	5	Exclude
Netherlands	4	11	14	Possible case study country
New Zealand	5	10	15	Possible case study country
Slovenia	4	-	4	Exclude
Singapore	3	1	4	Exclude
Spain	3	10	13	Possible case study country
Switzerland	4	2	6	Exclude
Sweden	5	-	5	Exclude
Thailand	3	10	13	Possible case study country
UK	5	12	17	Possible case study country

Source: Simpson 2014; Loewenson 2014; Loewenson et al. 2014a.

Methods for the country case studies: The case studies were based on document review of published and grey literature including government/policy documents, statements and reviews; relevant operational documents from health authorities and systems; and reports and evaluations of specific reforms, innovations or practices. Further semi-structured key informant interviews were implemented with a mix of policy, management level and front line providers and staff and representatives of

organisations representing patients/communities. The studies did not involve direct interviews with members of the public. Ethics approvals were obtained from university research and ethics committees and/or from key informants through informed consent forms. Key informants were not paid for their participation in the study and participation was voluntary. No identifying characteristics of interviewees were reported

Table A3: Documents and key informants (KIs) sampled

Country	# papers selected	# KIs	Comment on key informants
Chile	267	18	KIs from central policy, municipal PC management, front line providers (physician and other), community representatives, and academics with first-hand knowledge /experience in public or private PC practice. Six interviewees from outside the Santiago Metropolitan area, three in the BioBio region in the South (Concepción and Talcahuano) and three in the Norte, La Serena.
UK: England	112	10	KIs from policy, management, professional organisations and from representatives of civil society organisations
The Netherlands	168	10	KIs from policy, management and professional level / PC providers and representatives of civil society organisations
Canada	81	13	A stakeholder-mapping tool was used to identify a mix of potential KIs at policymaking, management and frontline-provider levels, representatives of civil-society organisations. 22 KIs purposively sampled and 13 accepted based on their ability to: provide input on PC models in particular on innovative approaches in Ontario and Quebec

Source: Frenz et al. 2014; Kringos and Klazinga 2014; Moat et al. 2014; Pennington and Whitehead 2014

Appendix 3: Sociopolitical contexts in the case study countries and the USA

Table A4: Sociopolitical contexts in the case study countries and the USA

Area	Canada	Chile	Netherlands	UK (England)	USA
<i>Population (mn) 2012</i>	34,8	17.5	16,8	63,6 (52,2i)	313,9
<i>Population density 2012</i>	4	24	498	265	35
<i>Life expectancy at birth 2012</i>	81	80	81	82	79
<i>GDP per capita 2012 ii</i>	52 409	15 245	45 961	38 649	51 755
<i>Tax revenue as % GDP 2012 iii</i>	11.9	18.9	21.1	26.7	10.2
<i>Key sociopolitical factors shaping health and social policies and systems</i>	Broad public support for state role in core health services; openness for two-tier care and for profit delivery for newer, expanding services	Conflicting solidarity, equity values: Social welfare with market, reforms under different political regimes. Social demand for rights and solidarity	Post WW2 rise in education, use of technology. Shift from welfare to participatory state. economic crisis; increased multiculturalism; Individualism; Network based structuring of healthcare markets.	Strong public values, cross party political support for an NHS backed by law and principles defining an integrated system over 60 years	Liberal values, preference for individual freedoms self-reliant, market approaches, varying across groups and states
<i>Drivers of health system and PC reform</i>	Several initiatives on and widening interest in scaling up PC models	Rapid growth with high in-equity, rising NCDs fuelling demand for social rights; Local authorities, health professionals sustaining PC development	Social concerns on rising costs, inequality. Rising social literacy, participation; Views of self-responsibility for personal care; govt duty in prevention, social support. Personalised prevention.	Principles (universalism, equity; equality of access; participation; financial protection); professional ethics. New drivers of quality, market choice	High cost relative to care, health outcomes; high inequalities in access and coverage; large uninsured population; IT and technology developments
<i>Key areas of current policy concern in PC</i>	Building status of PC as professional choice; strengthening access and continuity; addressing multimorbidity through integrated, interprofessional PC	Integrated approaches for chronic care; preventive-curative care balance; Harmonising financing and care systems; GP shortages; resistance; equity	Cooperation across disciplines; Improving PC coordinating role; Integrating PC services and public health, welfare, and secondary care. Innovation in PC Patients role in treatment plans	Incentivising quality and health outcomes: Improving access, quality and effectiveness of care; Sustaining NHS principles in market reforms;	High costs compared to health outcomes PC Workforce recruitment, training and teams. Improved use of IT. Improved quality, safety, comprehensiveness of PC services, and links with public health

Notes: (i) 2010 (ii) current US\$ (iii) all revenue to central government excluding fines, penalties, and most social security contributions
Source: World Bank 2014; Loewenson 2014; Nolen 2014; Moat et al. 2014; Frenz et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014.

Appendix 4: Experience of the system from the patient lens

The country case studies included an example from the lens of a person with a chronic condition and/or multimorbidity to examine how the system delivers and the person experiences the PC system. The detailed cases are provided in the country case study reports. Three of the four cases were men, two

older people (60 years and above), two (possibly three) single and all relatively vulnerable economically either as retired or unemployed. Two had a range of morbidities, and two specific single chronic morbidities. *Table A5* below summarises the four patient lens examples.

Table A5: Features of the patient lens examples

Feature	Canada	Chile (FONASA)*	Netherlands	UK
<i>The patient and their context</i>	Mr Hamilton, 68 yr old retired divorcee, socially isolated (lives alone; dogs for company; not often seeing his children). Linked to an FHT	Juanita, 60 yr old in urban Santiago. FONASA. An indigent beneficiary, Juanita and family registered with a CESFAM.	Ben, 30 yr old, home-less, born local. Lives, sleeps on street in Amsterdam, sometimes on friend's couch. No job, without cash and in debt. No family noted.	Bob, 58 yrs old, married, labourer, lives in area high deprivation; overweight since mid 30s, poor diet, high alcohol consumption.
<i>The condition(s) involved</i>	Multiple: Type 2 diabetes; heart disease, asthma and osteoarthritis; recent bouts of depression	Hypertension	Multiple: Intellectual disability, psychosocial problems; alcohol addiction and diabetes	Type 2 diabetes.
<i>First detected how, by whom, where</i>	Local pharmacy alerted his GP on prescriptions not filled for few months	Community screening initiative at local vegetable market found BP 150/100	Assessed by a municipal public health support team in a social relief Central Access Point.	Wife noted fatigue, thirst. Encouraged him to see his GP who has known him since his 30s
<i>First health service response</i>	GP in a FHT made a house call	Referred to CESFAM to confirm reading by paramedic/nurse. If hypertension confirmed (180/110) (see below). If not BP profile tested.	Assessed by a team of professionals using SSM-D** for public mental health services	GP at PC practice – discussed symptoms, medical history, followed (next day) by fasting plasma glucose test.
<i>Ongoing contact with PC -for what - seen by whom (and what team) -with what mental, physical, social assessment</i>	GP house call identified the range of health challenges and care needs. GP organised follow up visits by FHT nurse practitioner, pharmacist, occupational therapist, mental health and social worker	If not confirmed, two further visits to determine BP profile. If she defaults, the sector team (nurse/paramedic) calls or visits her at home. If HT confirmed appointment made with doctor to inform about AUGÉ treatment, lifestyle interventions and begin therapy, if needed, begins w/ in 24 hours. May be referred to specialist. Registered in CVD prog for 6 monthly follow up incl tests.	Based on SSM-D results team develop an integrated care plan to address social mental, physical problems. Provided shelter for 6 weeks at Entry House, and assessed by health professionals.	Blood tests confirm diagnosis. Put on practice diabetes register. Integrated care across primary and tertiary care from GP, practice-based diabetes nurse, hospital-based diabetes consultant and nurse, diabetes specialist dietician and podiatrist, local optician, pharmacists. Routine monitoring (including screening for complications) and management through GP and practice based diabetes specialist nurse led clinics.
<i>How many visits for diagnosis, treatment plan</i>	At least 1-2 with GP, one with each professional in the FHT (eg NP)	Between 1-3 visits	2 visits – first to public health services team, then within Entry House the assessment.	3-4 appointments for medical history, tests, results and care plan
<i>What family involvement?</i>	None reported	CESFAM with family to support lifestyle, treatment practices.	None reported	Wife encouraged first access, accompanied him to first hospital visit, supported lifestyle changes.

Table A5: Features of the patient lens examples continued

Feature	Canada	Chile (FONASA)*	Netherlands	UK
<i>What community, service, network links made by PC</i>	Link to a Social worker	CVD prog. with multidisciplinary team - doctor, nurse, nutritionist, paramedic; kinesiologist, psychologist and social worker if available.	Following 6 weeks of assessments, meeting of 3 members of Ben's team with reps of local mental healthcare organisations on behalf of PH service.	Through GP and hospital specialist team e.g. for hip problems, referral to retinopathy
<i>Frequency, form of follow up?</i>	OT, mental health and social worker	See above	See above	3 mth initially with hospital consultant as needed thereafter after. Regular contact with GP/nursing staff.
<i>How are complications, acute episodes addressed</i>	At his house. No complications/acute	For any acute episode, emergency J sees CVD team or any doctor	Not specified	Referred to hospital team by GP for acute episode.
<i>What barriers noted for patient?</i>	Social isolation	May have to wait to see specialist.	Requirements of the system; info sharing b/n providers based on privacy regulations.	U/standing self-testing results, complexity of diabetes and guidance provided
<i>What cost barriers experienced?</i>	All medically necessary costs covered as in Ontario FHT. May otherwise face costs for non PC providers and if not older or a child, for pharmaceuticals.	All care and medicines free at point of use for FONASA A beneficiary.	PC and public health services free at point of use as exempt due to low income. May be copayments for services not covered in basic benefits package	None. All care (including medicines) free at point of use.
<i>What enablers noted for patient?</i>	Being part of FHT	Local screening, Comprehensive programme, team approach	One entry point opens access to whole system; team approach	Regular monitoring and support through the practice. All care from professionals with specialist diabetes training.
<i>What helped the patient to navigate the system?</i>	In future, local 'Teams Advancing Patient Experience: Strengthening Quality' (TAPESTRY) will help patients navigate the health system.	CESFAM team?	After the support team, a case manager.	GP and diabetes specialist nurse and hospital based team
<i>What patient feelings reported? Why</i>	Not reported.	Not reported	Ambivalent about transitional phase and whose interests it serves.	Struggled with complexity of diabetes; appreciated the help received.

* If Juanita belonged to an ISAPRE (private insurer) the pathway would differ (Frenz et al. 2014: 36).

** SSM-D = Dutch self-Sufficiency Matrix

Source: Moat et al. 2014; Frenz et al. 2014; Kringos and Klazinga 2014; Pennington and Whitehead 2014.

Summary of key enablers: The trigger for detection of ill health and entry to PC is generally a *community level related service* (pharmacy, community health outreach; public health outreach) or a *family member*. Further enablers are:

- family members encouraging and accompanying the person on various visits;
- trust and communication between people and their PC practitioners;
- PC linkages with available community and specialist services and community level personnel to assist patients to navigate the system and address multiple dimensions of care, health promotion and inputs on relevant social determinants;
- house calls by GPs, community health teams to understand the persons context and challenges and encourage continuation of care;
- enrolment with PC practices to facilitate follow up;
- no cost barriers (charges or fees, claims for reimbursements or deductibles) for PC and for referral services, tests and prescribed medicines;
- assessment and guidance tools and diagnostic resources to support follow up; and
- accessible arrangements for specialist care referred to by and linked with PC services with options for direct access for acute episodes, follow up or emergencies.

Notably four of the eight measures raise direct community roles, interactions and services outside the health sector. They are important for access in more disadvantaged groups.

Barriers: Barriers raised in the examples for the people in entering, using and achieving effective care in the PC system included:

- Social isolation, with many living alone, or in marginalised socioeconomic conditions, raising the necessity of links between PC and other community level services, as in Chile's approach, where each can act as entry points for the other (*Section 5.6*).
- The potential fear, confusion, stress that people can face in the prolonged interaction needed for chronic care, which with the complexity of care can lead to loss of follow up, again pointing to the role of social enablers.
- The importance of service charges, uncertainty on charges and leakages on exemptions adding to these social impediments, especially for lower income groups.
- The potential for outreach and monitoring to be misunderstood by clients as invasive, calling for measures that build trust, such as continuity of personnel and CHWs.
- The need to address social determinants that undermine continuity of care, such as homelessness or sources of physical, social, economic and mental instability.

Appendix 5: PC Models and Practice examples

These are a sample of practices provided in more detail in the individual country case study reports

5.1 Systems for payment of PC personnel in Netherlands

The usual method of remuneration for Dutch GPs comprises:

- a capitation payment for each listed patient, determined by the age of patients and location (whether in a deprived neighbourhood) with an additional 1-euro (1.36 USD) per patient annually when GPs submit their reimbursement requests electronically;
- a fee for service of 9 euro (12.24 USD) for each regular consultation with a GP or practice nurse (including a regular 10 minute patient visit to the practice, a home visit, or a repeat prescription) and a higher fee for a patient not listed in his/her practice of 24,80 euro (33,74 USD) and the patient does not pay (Van Dijk et al. 2009); and

- a specific fee for 'modernisation and Innovation procedures' that potentially substitute secondary care, such as minor surgery, or that improve the quality of care (such as cognitive tests). Health insurers and general practitioners are free to choose the procedures and fee levels to be applied (Zorg en Zekerheid 2004; Vogelaar 2005). This has been taken up by all GPs as a way of increasing their income and performance.

Payment levels are negotiated within limits set by government, but PC practices collaborate in networks strengthening their negotiation position with health insurers. GPs can receive substantial additional payments if they work with a practice nurse and/or collaborate with other practices with patients from deprived areas. Almost all PC practices currently employ a practice nurse and task delegation to nurses is now common, particularly for chronic care. This has improved efficiency, quality of chronic care, and decreased GP workloads (Wiegiers et al. 2011).

Bundled payments were introduced for specific chronic conditions such as diabetes. A single fee is paid by health insurers to a contracting entity - the 'care group' - covering all PC needs of patients with these conditions, with improvements in:

- *The co-ordination of care:* Healthcare providers have reported that the care delivery has improved because care groups are now fully responsible for all arrangements, with clearly defined activities, division of responsibilities and transparency of prices. This resulted in improved coordination among care providers, improved protocol adherence (also by subcontracted providers as a result of further training), attendance of multidisciplinary consultations, and use of electronic health records.
- *Transparency and quality monitoring:* Due to record-keeping obligations in the contracts between care groups and individual providers, there is increased transparency of care. This makes it easier to monitor quality of care, and to set up quality improvement projects. However, the information technology capabilities still need to be further improved for this to function optimally (Kringos and Klazinga 2014).

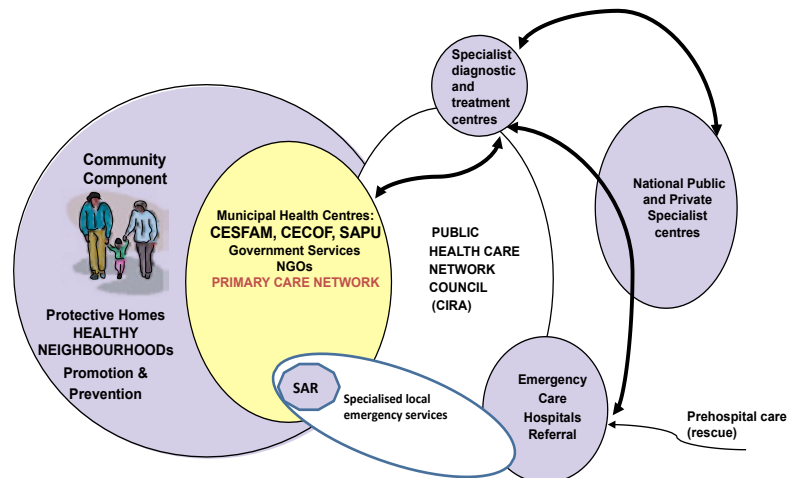
The payments are still focused on specific diseases, and not on multimorbidity. This led to funding of a limited number of pilots on 'population management' where multidisciplinary networks receive fixed budgets to care for their patient populations, calculated on their expected health needs (See Kringos and Klazinga 2014 for further detail).

5.2 Integrated PC models in Chile

Chile's **biopsychosocial (BPS) primary care health model** outlined at *Box 13* aims at comprehensive PC with the PC team as the core of the healthcare network, capable of addressing 90% of health problems in its territory, working collaboratively with families, the community, in coordination with the rest of the healthcare system and with other sectors, to ensure integral, continuous care. Approximately 64% of FONASA beneficiaries have access to a Family Health Centre (CESFAM) that is certified as able to deliver some level of the BPS model. CESFAMs must coordinate with other centres in the PC and wider healthcare network to improve continuity of care and to follow-up on referrals (División de Municipalidades 2008). They link with secondary and tertiary centres forming an integrated family and community health network, facilitated by a network integration council, CIRA (*Consejo de Integración de la Red Asistencial*) (see Figure A3). The CIRA fosters dialogue, cooperation and learning, often including representatives of the community and workers organisations and the directors of PC and hospital facilities. Each CESFAM should have a waiting list management team, to coordinate referrals to other providers, review Ministry of Health guidelines for diseases covered by guarantees and detect gaps in knowledge and team capacities (MINSAL 2014). These teams work with staff and other network institutions to resolve problems guided by protocols (Subsecretaría de Redes Asistenciales 2013c).

The PC facilities also work intersectorally. **Chile Crece Contigo (CCC)** is an intersectoral early childhood social protection system designed to reach all children in the population using a universal and targeted approach to health and social services. All ministries (health, education, finance, culture, justice, labour, housing and women) are coordinated by the Ministry of Planning and Cooperation. Health service directors are territorial managers for the Local Intervention Network for CCC in their territory/region, and PC centres are the entry point for CCC starting with prenatal care and is in place until the child reaches 4 years of age (Vega 2011; Mercer et al. 2013). At the first pre-natal visit, PC workers check the information on the mother's entitlements to social subsidies to give her access to the benefits immediately. An on-line monitoring system enables sharing of data by all in the local network, enabling monitoring of the child from before birth until 4 years. For children of families who use FONASA, Chile Crece Contigo provides comprehensive "biopsychosocial" accompaniment

Figure A3: Integrated Public Family and Community Health Network



Gobierno de Chile / Ministerio de Salud

before birth, with differential integrated, intersectoral interventions to meet the needs of vulnerable families (Ministerio de Planificación 2009). An external evaluation of short-term impacts on child development at 4 years of age, showed significant increases in social personal skills, adaptation abilities, and motor development in the treated children, but no differences in communication skills, and that there is room for improving intersectoral collaboration (Departamento de Salud Pública Pontificia Universidad Católica de Chile 2013a; Cunill-Grau et al. 2013).

Chile Solidario, (2002) is an integrated social protection programme tackling social inclusion of the 5% poorest or indigent families, who are supported through frequent home visits and priority access to integrated social and health services at the local level, and conditional cash transfers. Special programmes also exist for older people who live alone and the homeless (Ministerio de Desarrollo Social 2014). Studies showed positive impacts in public health system enrolment and preventive health visits for children under 6 and women (Galasso 2011) (see Frenz et al. 2014 and Simpson 2014 for further detail).

5.3 Innovative PC models in Ontario and Quebec

The PC models introduced in Ontario and Quebec outlined in *Table A6* were enabled by a positive fiscal climate; government support, authority for PC in a single payer model; government investment in new remuneration mechanisms and additional incentives for activities like after-hours care, patient enrolment, EMR adoption and administration that also increased PC physician income. Based on learning from past policies the models provided a range of options to allow for diversity of perspective in the influential physician lobby (See Moat et al. 2014 for further detail).

Table A6: PC Models in Ontario and Quebec

PC Model Year started	Number and reach	Staff composition	Remuneration and funding	Patient enrolment	Governance features
Community Health Centres (CHCs) , Ontario (1979)	75 in 2013, serving over 500 000 people	About 400 physicians in interprofessional teams; 300 nurse practitioners, 1700 other clinical, health promotion and community development professionals, >800 management and administrative personnel No minimum group size	Staff (including all health professionals) paid through salary, with no targeted financial incentives. Organisational funding directly from the Ministry of Health and Long-Term Care	No formal patient enrollment	Governed by community boards and accountability agreements with Local Health Integration Networks
Family Health Groups (FHGs) , Ontario (2002-03)	238 as of 2011	3,003 physicians working in this model as of 2011 Very limited interprofessional care Minimum physician group size of 3	Physicians paid by FFS, blended with targeted financial incentives for after-hours care and targeted palliative, mental health and other care	Not required but formal patient enrolment is encouraged	Physician-led governance and agreements signed with the Ministry of Health and Long-Term Care
Family Health Networks (FHNs) , Ontario (2001-02)	36 as of 2011	246 physicians working in this model as of 2011 Very limited interprofessional care Minimum physician group size of 3	Physicians paid through blended-capitation; Access bonus for all services provided in the network. Additional funds to pay administrative staff, and monthly payments for each enrolled patient	Formal patient enrolment required	Physician-led governance and agreements signed with the Ministry of Health and Long-Term Care
Family Health Organisations (FHOs) , Ontario (2007)*	362 as of 2011	3,631 physicians working in this model Very limited interprofessional care Minimum physician group size of 3	Physicians paid through blended-capitation (higher than for FHNs for enrolled patients); Access bonus for all services provided within the group; Additional funds to pay administrative staff	Formal patient enrolment required	Physician-led governance and agreements signed with the Ministry of Health and Long-Term Care
Family Health Teams (FHTs) , Ontario (2005)	200 as of 2012, serving nearly 2.5 million	More than 2,400 physicians working in this model along with 1,700 other multidisciplinary health professionals Minimum physician group size of 3	Physicians paid through a combination of capitation, salary fee-for-service and pay-for-performance bonuses; Additional funds provided to pay for interprofessional staff and administration	Formal patient enrolment required	Several different approaches to governance including physician-led, community boards or a mix of the two
Nurse Practitioner-Led Clinics (NPLCs) , Ontario (2005, 2006-07)	26 as of 2012, serving a population of over 27,000	Numbers not available Nurse- to-physician ratio greater than FHTs Per clinic: Up to four full-time nurse practitioners, four interprofessional staff, an administrative lead, three clerical staff	Transfer payments direct from the Ministry to cover salaries and operational costs of each clinic	Patients enrolled with the clinic (not with specific providers)	Nurse-practitioners lead governance and organisation of care, proposals required to justify establishment, and agreements signed with the Ministry
Family Medicine Groups (FMGs) , Quebec (2002)	223 as of 2011 serving over 3 million people	3,177 physicians working in this model in Quebec Limited interprofessional team, although nurses provide support. Minimum physician group size of 8	Physicians paid through FFS. Subsidies provided to cover administrative costs and nurse salaries, with targeted payments to incentivize 24/7 comprehensive care	Formal patient enrolment required	Agreements signed with Ministry defining services. Arrangements with other organisations that have shared responsibility for PC

Source: Moat et al. 2014. NB: The USA has over 1100 CHCs similar to the Canadian model; FHGs represent a PC model that is familiar in the USA; FHTs may provide useful learning on interdisciplinary teamwork, community engagement, governance, and patient engagement, while FHNs, FHOs and FHTs provide learning on mixed payment systems. NPLCs may give insight for the USA on extending PC to underserved areas.

5.4 PC in the deprived areas of Scotland – GPs at the deep-end

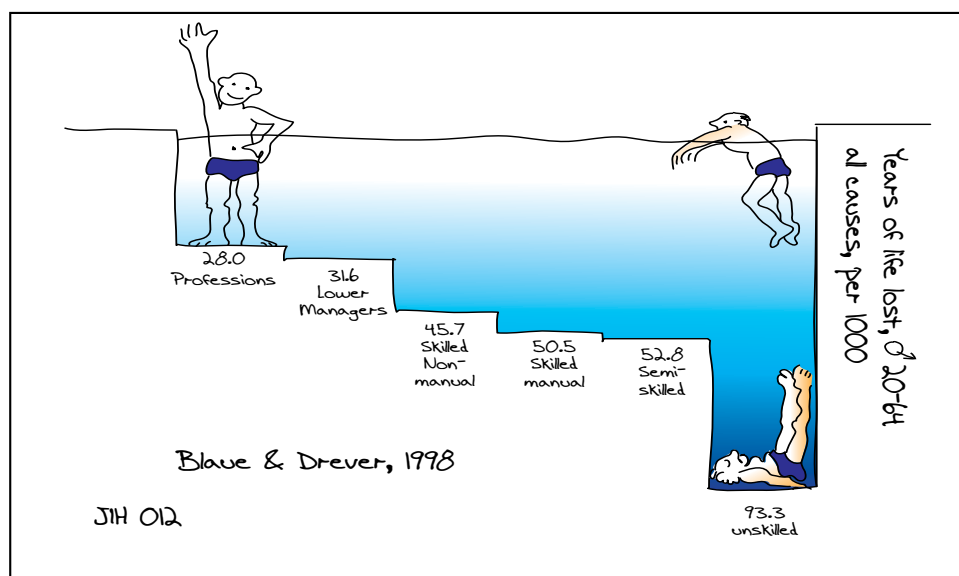
GPs at the Deep End comprise about 360 GPs working in general practices serving the 100 most deprived populations in Scotland. The initiative is based on a premise that the people who best know how to improve PC services in disadvantaged areas are the people living and working in these areas. Towards this the experience and views of the GPs and their patients were captured and summarised during a series of meetings, supported by the Royal College of General Practitioners (Scotland), the Scottish Government Health Department, and General Practice and Primary Care at the University of Glasgow. *Figure A4* presents the issue visually: While the prevalence of health problems rises 2.5-3-fold across the socioeconomic spectrum, the distribution of GPs is almost flat. In severely deprived areas this results in a major mismatch of need and resources, with insufficient time to get to the bottom of often complex problems and GPs at the Deep End struggling to tread water. Deep End practices have identified multiple supply and demand issues within the most deprived practices, including: a higher demand on services; shorter time available; higher levels of physical, psychological morbidity; multimorbidity and complex problems and greater GP stress. Their collective experiences showed that such practices need *more time and capacity* to address unmet need and access, to use *serial encounters* over long periods; to make better connections with other professions and services *as hubs of local health systems*; and *better connections between practices across the front line*. The front line needs to be better *informed and supported by NHS organisations, and leadership* to be developed and supported at practice and area levels.

GPs raised options to improve service delivery and access by disadvantaged groups including:

- Standard application of 15 rather than 10 minute appointments in Deep End practices.
- Recognising the impact of deprivation on demands in contract and financial arrangements.
- Applying an integrated PC team approach to mental health and addiction problems, with a mental healthcare worker, health visitors, social workers attached to every practice and community nursing linked more effectively to practices.
- Capping health visitor case-loads at a reasonable level, with additional health visitors appointed to share excessive case-loads.
- Using a Vulnerable Families Register in the Quality and Outcomes Framework.
- Providing a national enhanced service for vulnerable children, with local flexibility in allocating services according to need.
- Ensuring GP trainees work in practices serving deprived areas, and hospital specialists spend 6 months in general practice, with more GP fellowships to support professional development for practices in deprived areas.

The programme has developed stronger links between general practices, with their knowledge and contact with patients, and community resources for health and well-being. In the Link Workers Project, seven Deep End practices have a full-time community links practitioner based in the practice. A substantial evaluation project is running in parallel and plans are underway to introduce a similar initiative in England. (See GPs at the Deep End 2013; Watt 2012, 2014 for further detail)

Figure A4 GPs at the Deep End



5.5 PC services to homeless people

A practice, based in a deprived inner-city area of northern England, provides dedicated services to homeless people. The GPs that established the general practice in the 1990s recognised that homeless patients were not being looked after in PC. When they did receive care it would be via local Accident and Emergency departments (AandEs). The GPs provided the service, over time developing it into a practice wide ethos and securing funding to develop the services further (KI: Practice Manager). The funding, coming from Enhanced Service funding (£90,000 (US\$150 000) a year) is used almost entirely to employ two advanced nurses. The practice works with homeless people, one of three main population groups it serves. It runs a homeless access clinic one afternoon every week, closing its regular clinic at that time, and providing a *one-stop-shop* homeless people. The clinic is staffed by two GPs, two nurses, a substance misuse counsellor 'drug worker' and a healthcare support worker. They also employ nurses who specialise in hepatitis C and in alcohol abuse. Homeless people are encouraged and supported to attend by hostel and practice outreach staff and receive advice, support, screening and treatment for a wide range of health issues (KI: Practice Manager). The two practice based nurses also do outreach work in homeless hostels, visit homeless patients when they are in hospital and give talks to patients and hostel staff. They work together with hostel staff to identify and encourage clinic contact with people who have previously used services. The GPs and nurses also go out to patients who are reluctant to engage with health services to provide services directly, and to encourage future engagement. Using money from the enhanced service funding, the practice contracted a local homeless charity to provide a waiting room mentor who has personal experience of being homeless and who supports the interaction in various ways, including to manage conflict or advise on services *he engages with these patients on a level that we're never be able to engage because we've not got that lived experience and he'll direct them. So he has one-to-ones with them in terms of... supporting them, offering interventions, offering advice, linking them in with different services.* (KI: Practice Manager) (Pennington and Whitehead 2014).

The patients' circumstances mean that the practice has to provide a flexible patient registration process, given that clients have no fixed abode, liaising with other homeless services that they connect with for their contacts and dedicating substantial resources to case management (KI: Practice Manager). Staff receive specialist training for this, including on customer care and social communication. An assessment in 2012 found that before the clinic the 800 homeless people (compared to 28 000 non-homeless people) accounted for 21% of emergency care admittance largely for conditions that could be managed effectively in PC,

raising costs to the NHS and to themselves. The full costs and benefits are yet to be assessed, but as an indication of the financial protection provided, the support by an alcohol nurse reduced the costs to the NHS for one patient by £34 000 (US\$58 000) by preventing the need for hospital emergency care (KI: Practice Manager).

Rigid/inflexible performance targets designed for the general population cannot be applied to this group. There is, however, sufficient discretion in the current performance target and funding systems. All GP practices in the city pay money into a central pot (*the GP spec*) that tops up core funding to ensure that every practice gets the same level of funding per patient. They have to meet 10 key performance indicators (such as AandE, in-hours and ACS attendance, flu vaccinations, out-patient referrals) to access the full funding. The practice provides evidence annually to *the GP spec's validation committee* to demonstrate their efforts and why they may be missing certain targets. This has helped to protect their income; (KI: Practice Manager). National performance and QOF payment systems also provide some room for discretion based on the needs of particular patients, and the practice finds innovative ways of meeting targets and reducing the need for 'exception' reporting (KI: Practice Manager). (See Pennington and Whitehead 2014 for further detail).

Appendix 6: Enabling conditions and barriers to PC innovation

Sociopolitical contexts provide a critical environment for introducing, adopting or adapting any measures and for managing and sustaining change. Decisions on what to introduce when and how are as much strategic as technical, including to create confidence and trust, to manage resistance and to build enabling environments for longer term, sometimes more structural change. The case studies outline the unique contexts and measures in each country. Across the four countries, the following mechanisms and measures appeared to enable or block PC innovation:

Enabling conditions, competencies, facilitators and brokers

1. Enabling *political and policy determinants* included: support across political parties for PC measures and funding; public and political concern on social inequality; consensus that strengthening PC is a priority, backed by principles, a clear, publicly articulated vision and sustained public leadership. This was more likely when elected officials interact with PC personnel, and when changes were motivated or backed by professional and social consensus; especially amongst those expected to deliver on them, through pathways that were credible; that built ownership; with initial measures, such as training, enrolment/

rostering or improved information systems, facilitating subsequent practice.

2. Innovative ideas, *models and thinking* were often taken forward by co-operation between stakeholders (state, funders, practices) to test, demonstrate and evaluate models; advanced by champions and by communities of practice and funders that support and sustain change. Reverse innovation, where ideas flow from lower to higher income communities and countries has informed change on social roles and practices, on equity and on prevention and population health interventions (DePasse 2013; Onie et al. 2012).
3. *Evidence* on the problems, benefits and outcomes of proposed changes supported the case for and direction of change, to build political, professional and public support for evidence based paradigms. This was supported by accessible mechanisms for information sharing, exchange and dialogue with key actors at policy and implementation level.
4. These facilitators were backed by *institutional factors*, including: public funds leveraging innovations (such as with financial incentives or investment resources); central and local government leadership, competencies and responsibilities for delivering reforms; mechanisms to scale up and institutionalise good practice; and collaborations between universities and authorities to support and evaluate practice.
5. *Interest groups* played a powerful role in either enabling or blocking reforms, pointing to the need to win public, professional and funder support, such as by making PC practice more attractive, engaging colleges and professional associations, particularly those that may amplify support. High status of and support from GPs in PC was a strong enabler.
6. *Transactional skills* are needed amongst those facilitating change to negotiate inputs, manage conflict, communicate and encourage improvement and to facilitate learning.

Barriers and challenges

- i. *Ideas-related barriers* included: public preferences for hospital, specialist and physician provided care as ‘better care’ than that provided by PC or other health professionals; public or professional rejection of solidarity measures and professional resistance to moving away from FFS towards payment or service approaches perceived to limit professional autonomy.
- ii. *Interest group-related barriers* included: powerful medical (especially physician) associations that opposed reforms seen to infringe upon traditional scope-of-practice and autonomy; GP resistance to sharing clinical authority with nurses; insurer resistance to investing in innovation due to financial risks and uncertainty over when returns can be expected.

- iii. *Institutional barriers* included: a long history of physician driven care and physician autonomy in FFS practice, creating powerful lobbies against change; bureaucracies and entrenched procedures blocking innovation; falling budgets and redirection of resources to acute care reducing resources for prevention; and over-emphasis on institutional and financial targets leaving little room for quality and social aspects of care, weakening public trust and support.
- iv. *Evidence gaps* were found, including on ‘what works’ and how to translate innovation into long term practice; coupled with pressure and inadequate timing given to show benefits.

Mechanisms and processes

The norms, conditions and processes that generate change or sustain practice often arise outside (and beyond the control of) the health sector and actors within the health sector may need to build processes that take advantage of windows of opportunity. As shown in *Box 17* in Chile, where government, municipal leaders and a range of PC experts sustained the process, this can involve multiple actors in multiple processes, often over a sustained period, and demands a shared forum for the diversity of actors to develop, make and discuss proposals on new models, or discuss learning from applying innovation. In Chile the process was driven by a paradigm of ‘thinking politics’, with reforms informed by theory, evidence and practice (Frenz et al. 2014). In Ontario’s PC reforms, the election of a majority government with a leader dedicated to PC reform (through the introduction of FHTs and NPLCs) facilitated the reform, backed by an enabling fiscal environment, provincial government authority, physician champions and investment from the PHC Transition Fund and tapping into learning from past policies (Moat et al. 2014). In England public pressure has played a role, including in alliance with wider professional groups and academics, with information and advocacy campaigns such as the *Keep our NHS Public* and exercises such as the People’s Health Inquiry for London NHS disseminating evidence and raising debate as input to electoral pressures (Simpson 2014). In the growing opposition to recent market reforms being introduced in the face of widespread public and professional opposition, England also provides learning on the importance of making the public case for reform (Walsh 2012).

Payment systems and financing incentives can, as described in *Section 5.3*, make PC a more attractive option and build support for PC approaches amongst key professional groups, especially if they improve their relative status and income. As raised in *Section 5*, new models offering improved pay generate support for reforms among physicians (Ontario) and profiled PC care as a site of innovation and more interesting work for young professionals (Ontario, Netherlands).

