Scottish School of Primary Care

Evaluation of New Models of Primary Care in Scotland

Lanarkshire Case Study

JANUARY 2019

This study was led by the University of Glasgow

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Acknowledgements

Disclaimer

The views, information, and opinions expressed in this report are solely those of the authors and do not necessarily represent those of the University of Glasgow or the study funder, the Scottish Government. They are based on the information provided by the identified key informants who participated in this case study and may not necessarily represent potential key informants who were either not identified by the study recruitment strategy or who declined the invitation to participate in the case study.

Key Messages
Lanarkshire Case Study

Key Findings

A strategic approach was adopted by NHS Lanarkshire whereby different funding streams were used, either individually or in combination, to support the development and implementation of eight distinct work streams (WS) contributing to its vision for primary care in the future. Six of these WS comprising 40 separate test of change were relevant to this case study:

- WS 1. General Practitioner (GP) and Community Redesign [6 tests of change]
- WS 3. House of Care (HoC) [7 tests of care]
- WS 4. Leadership Programme [2 tests of change]
- WS 5. Recruitment and Retention [5 tests of change]
- WS 6. Digital Programme [10 tests of change]
- WS 8. Mental Health [10 tests of change]

At the end of Phase 1 of this case study (December 2017), 26 of the tests of change were implemented and 14 not fully implemented. This evaluation focussed on implemented tests of change within 2 WSs, HoC and Digital Health, for more in-depth exploration during Phase 2 of this case study.

- Staff training, clinical and managerial leadership within the practices facilitated implementation of the tests of change.
- Implementation of the tests of change was challenging at times due to competing demands on practitioners' time and poor response from patients at times.
- The early perceived positive impacts of HoC included the introduction of patient self-management and wellbeing, as well as encouraging practices to adopt innovative techniques to use existing resources.
- The early perceived positive impacts of Digital Health included reducing the pressure on frontline staff and practitioners as well as patients (e.g. patients with hearing impairments).
- For both HoC and Digital Health, the impact on reducing health inequalities and implications for deprived populations remain uncertain.
- While key informants (health professionals) described good patient satisfaction with these tests of change, there was limited objective evidence to confirm this.

Key Recommendations

- The impact of primary care transformation on patient care remains unclear and this needs to be investigated in **future evaluations**.
- Future evaluation of primary care transformation needs to have greater scope for **patient participation** and learning from practices who do not engage with these tests of change.
- Long-term funding commitments, good quality staff training and strong clinical and managerial leadership will be required for the future **sustainability** and uptake of primary care transformation.
- It is vital to identify a core set of evidence-based **patient care outcome measures** (in addition to those already identified) that could be used to determine the long-term benefits of the programme.
- **Measurement** of the actual impacts, sustainability and spread of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

Abbreviations

ANP	Advanced Nurse Practitioner
COPD	Chronic Obstructive Pulmonary Disease
GP	General Practitioner
HoC	House of Care
HBPC	Home Based Primary Care
HSCP	Health and Social Care Partnership
MH	Mental Health
MSK	Musculoskeletal
NHS	National Health Service
NL	North Lanarkshire
OOH	Out of Hours
PCFMH	Primary Care Funds for Mental Health
PCTF	Primary Care Transformation Fund
PN	Practice Nurse
QOF	Quality Outcome Framework
SG	Scottish Government
SL	South Lanarkshire
SSPC	Scottish School of Primary Care
US	United States
WS	Work Stream

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EXECUTIVE SUMMARY

BACKGROUND

In July 2016, the Scottish Government (SG) allocated Primary Care Transformation Funds (PCTF) and Primary Care Funds for Mental Health (PCFMH) to health boards in Scotland to test new models of care. Ahead of these awards, the SG commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of primary care tests of change in Scotland. This report concerns one of the seven case studies contributing to the SSPC national evaluation. It focuses on primary care tests of change in NHS Lanarkshire, irrespective of the funding source.

NHS Lanarkshire covers a wide geographical area and is divided into two areas, North (NL) with six localities and South Lanarkshire (SL) with four localities (Appendix G). It provides health care to a population of around 656,490, and works in partnership with Health and Social Care Partnerships (HSCPs) and Integrated Joint Boards (IJB) for Lanarkshire.

AIMS

The broad aims of this case study were to:

1. understand primary care transformation and the context in which the new ways of working were being tested
2. identify the new ways of working that are being tested in primary care
3. identify which models seem to be working well, and why; and which were not working so well, and why
4. identify new models of working for further exploration in Phase 2 deep dives
5. explore the implementation and sustainability of the deep dive models of care from the perspective of those implementing, and working in, these models

METHODS

The study was conducted over a 17-month period (January 2017 to May 2018), and involved a review of international published evidence relating to primary care transformation, a review of national and local documents relating to primary care transformation in Lanarkshire, and interviews with key informants involved in planning, implementing and delivering 'tests of change' contributing to primary care transformation in Lanarkshire.

The literature review conducted with the Ayrshire & Arran case study team focused on identifying: (1) definitions of transformation, (2) areas considered part of primary care transformation (e.g. changes to funding systems, introduction of new staff groups or redeployment, use of information technology, and patient self-management strategies) and (3) barriers and facilitators to transformation.

The review of national and local documentation and key informant interviews were carried out during two distinct but complementary phases of the study based on the SSPC Evaluation Framework, which had been agreed with the SG (Appendix A).

Phase 1 focused on identifying the tests of change in Lanarkshire and their progress in relation to the development and implementation. In relation to each identified test of change, key research questions sought to determine its expected impact and underpinning theory of change.

Phase 2 focused on exploring in more depth (deep dives) an agreed selection of the tests of change, and the key research questions sought to determine their actual impact, key learning, spread and likely sustainability.

Findings from the data collected from all sources were then synthesised.

FINDINGS

The literature review identified **18 relevant peer-reviewed publications**, published between 2009 and 2017. Nine were systematic or narrative reviews of the international literature, five were qualitative evaluations across multiple sites; two were questionnaires; one was a mixed methods study set across multiple sites; and one was an economic evaluation. Much of the literature focused on the United States (US) (ten papers), in particular the Patient-Centred Medical Home (PCMH). Overall, these confirmed that transformation in health care settings is context specific and fragmented in nature.

A total of **83 national and local documents** relevant to primary care transformation in Lanarkshire were reviewed and **35 interviews with key informants** were carried out (14 interviews in Phase 1 and 21 interviews in Phase 2). Out of the total eight work streams (WS), six of were relevant to this case study, and these six WS comprised a total of 40 tests of change. These were[1]:
- WS1 - GP and Community Redesign (six tests of change).
- WS3 – House of Care (HoC) (seven tests of change).
- WS4 – Leadership programme (two tests of change).
- WS5 – Recruitment and retention (five tests of change).
- WS6 Digital Health (ten tests of change).
- WS8 – Mental Health (ten tests of change).

The tests of change for these six work streams are further elaborated in Section 3.2, Table 1. The 'status' of each new model of care was assessed using an implementation staging system. Within this system, new ways of working were described as: 'not got off the ground or stopped'; in the planning stages or not yet fully implemented; or fully implemented.

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[1] Certain components of the tests of change while accurate at the time of data collection (Sept. 2017-Feb.2018) may now have changed and been replaced with other tests of change. This is a reflection of the rapidly evolving nature of the implementation. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

Based on this implementation staging system, the 40 tests of change across the six WSs were assessed as having made some progress towards full implementation: **26 were assessed as 'implemented'; 14 as 'partially implemented'; and 0 as 'stopped or not started'.**

Two WS, consisting 12 tests of change, were proposed by the research team, and accepted by the SG, for more in-depth exploration (deep dives):
(1) HoC (seven 'implemented' tests of change)
(2) Digital Health (five 'implemented' tests of change).

Given the different focus of these WS, the tests of change within each were quite different. Nevertheless, some core components were identified across these different models of care:
(1) staff engagement activities
(2) staff training
(3) clinical support within the practice

Overall, the findings show that the six WSs in Lanarkshire focused on a wide range of distinct complementary initiatives to achieve their vision for primary care in the future. At the time of evaluation, all six demonstrated progress in being implemented across some Lanarkshire GP practices. However, a greater number of practices adopted the Digital Health tests of change, when compared with HoC. This may be due to the Digital Health changes being less complex to implement. Another possible reason for this could be that Digital Health was perceived as relieving workload pressures whereas HoC was perceived as increasing them.

HoC was launched in NHS Lanarkshire in April 2016 with the aim to increase awareness of HoC and to recruit practices into the scheme. Practices showed considerable interest in implementing HoC, however, uptake was slow and only seven practices out of 21 had implemented HoC at the time of data collection (May 2018). Key informants noted that HoC was influential in encouraging practices to adopt innovative techniques to utilise existing resources; empowering patients and improving patient confidence resulting in patients taking ownership of their health (e.g. weight loss among diabetic patients). Some key informants perceived HoC to be a catalyst to introducing interventions aimed at improving patient self-management and wellbeing. However, sustainability and spread relied heavily on its time and cost-saving strategies and ongoing support from practitioners.

Key informants reported that the Digital Health tests of change had helped to reduce pressure on frontline staff and practitioners. For instance, patient self-check-in machines helped to reduce queues and were more efficient for hard of hearing patients. However, it is important to note that no patient data was available to substantiate this, as patient data collection was not part of the evaluation design.

Although the focus of HoC and Digital Health were quite different, evaluation of HoC and Digital Health identified some important facilitators and challenges to their implementation, some of which

resonated with the published literature. Such facilitators included good staff training and managerial support within the practices. Challenges included under-developed IT systems, poor communication, inadequate and brief training, and technical problems with devices.

For both HoC and Digital Health the impact on health inequalities and implications for deprived populations remain uncertain. Importantly, we know little about why patients engage (or don't) with these initiatives. Similarly, our data comes from professionals tasked with implementing or leading on these initiatives or those engaging with the programmes. Thus, our data gives only a partial view of reasons for non-engagement by professionals with the new ways of working.

For both WSs, it was reported that there was some initial reluctance to implement, as their relevance was not immediately clear to GPs and practice staff. However, interviewees reported overcoming this for Digital Health by sustained staff engagement, which not only highlighted the relevance of the programme but also emphasised the importance of implementing change in primary care.

Overall, the findings resonated with the existing literature on primary care transformation in relation to the importance of funding and the need for effective engagement with staff in order to change the principles by which people carry out their work. The barriers and facilitators identified during the implementation journey also resonated with those from other national evaluations of service change.

KEY RECOMMENDATIONS

- The impact of primary care transformation on patient care remains unclear and this needs to be investigated in **future evaluations**
- Future evaluation of primary care transformation needs to have greater scope for **patient participation** and learning from practices who do not engage with these tests of change.
- Long-term funding commitments, good quality staff training and strong clinical and managerial leadership will be required for the future **sustainability** and uptake of primary care transformation.
- It is vital to identify a core set of evidence-based **patient care outcome measures** (in addition to those already identified) that could be used to determine the long-term benefits of the programme.
- **Measurement** of the actual impacts, sustainability and spread of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

1. INTRODUCTION

1.1   Context

Primary care is facing increasing demand and complex challenges. Patient contacts continue to increase. In England, demand for general practice has increased by 12.4% per 10,000 person years between 2007/8 and 2013/14 and consultation length has increased, resulting in a 16% increase in workload for general practitioners (Hobbs et al., 2016). A similar increase has been observed in Scotland. Data from the Information Services Division (ISD) Scotland show that between 2003/04 and 2012/13, consultations with general practitioners (GPs) and practice nurses (PNs) increased from 21.7 million to 24.2 million, an increase of 11.5%. There is no reason to assume that this has slowed down since 2013. The population is ageing and there is an increase in multiple morbidity, particularly in areas of socioeconomic deprivation (Barnett et al., 2012), resulting in greater patient frailty and complexity. This is coupled with a crisis in GP recruitment and retention (Zarkali et al., 2015, Fletcher et al., 2017). As a result, there is a growing recognition among politicians and policy-makers that new models of primary care are required, drawing on new and different professional groups and working across primary health and social care, and that such approaches need to be subject to rigorous evaluation and testing (NHS Scotland, 2013, NHS England, 2014a).

In Scotland, in 2015, the Cabinet Secretary for Health and Sport announced a new Primary Care Transformation Fund (PCTF) of £20.5 million, over three years, aimed at supporting the redesign of primary care services across Scotland, building towards a future where primary care is delivered by multi-disciplinary community teams in localities (Scottish Government, 2016d). A further £10 million was announced for primary care mental health services, via the Primary Care Mental Health Fund (PCMHF), over 2016/17 and 2017/18 to encourage the development of new models of care to ensure that people with mental health challenges are provided with the most appropriate treatment, as quickly as possible, in the most appropriate setting (Scottish Government, 2016d). These funds were intended to complement work already underway within Integration Joint Boards (IJBs) and NHS Boards, supported by a number of primary care funding streams including Pharmacy fund (PfE); GP Recruitment and Retention Fund; and the Out-of-Hours (OOH) Transformation Fund.

In February 2016, the Scottish Government invited proposals from all Health Boards in Scotland for projects to be funded by the PCTF and Primary Care Funds for Mental Health (PCFMH). NHS Lanarkshire, a health board providing health care to a population of around 656,490, applied for and received funding in July 2016 from the PCTF and PCFMH streams. Ahead of this, the Scottish Government commissioned the Scottish School of Primary Care (SSPC) to undertake a national evaluation of projects that were testing new ways of working in primary care across Scotland, irrespective of funding stream. This report details the findings of a case study of primary care transformation of new ways of working in NHS Lanarkshire. Appendix C provides a working definition of primary care transformation that was adopted in this case study. A systematic scoping of the literature which was conducted with the Ayrshire & Arran Case Study Team is included in Appendix

D. This case study is one of seven contributing to the SSPC national evaluation of primary care transformation in Scotland.

1.2   Aims

The broad aims of this case study were to:

1. understand primary care transformation and the context in which the new ways of working were being tested
2. identify the new ways of working that were being tested in primary care
3. identify which models seemed to be working well, and why; and which were not working so well, and why
4. identify new models of working for further exploration in Phase 2 deep dives
5. explore the implementation and sustainability of the deep dive models of care from the perspective of those implementing, and working in, these models

2. METHODS

The Lanarkshire case study was conducted over a 17-month period (January 2017 - May 2018) and concerned the period from the release of funding to Scottish Health Boards to pilot tests of new models of primary care to the end of the study (i.e. from July 2016 to May 2018).

2.1 Case Study Design

Throughout the study, an ongoing scoping review of the literature on primary care transformation was undertaken to identify and understand new models of care under the rubric of 'primary care transformation'.

Additionally, the study used a qualitative mixed methods approach, informed by the SSPC Evaluation Framework agreed with Scottish Government (Appendix A). Within this framework a number of key questions were addressed over two distinct but complementary work phases:

- Phase One (conducted between January 2017 and December 2017) sought to identify and understand the tests of change that were being implemented and their expected impacts. This led to proposing a selection of tests of change for further in-depth exploration (the study's 'deep-dives'). The selection of the deep dives was agreed with the Scottish Government.
- Phase Two (conducted between January 2018 and May 2018) explored the early impacts, key learnings, spread and likely sustainability, and potential impact on inequalities in relation to the selected deep-dives.

Methods used during both phases included documentary analysis and qualitative semi-structured interviews.

2.2 Data Collection

The main sources of data used were (1) national and local documents describing the programme, with particular reference to NHS Lanarkshire; and (2) interviews with key informants in Lanarkshire.

2.2.1 Phase 1

A snowball approach was used to identify potential key informants to provide information relating to new ways of working in Lanarkshire. A number of potential key informants were identified from consultation with senior management and project leads in NHS Lanarkshire. These individuals were asked to identify other potential key informants who could add to the developing picture of primary care transformation; these potential participants were identified and contacted on an on-going basis.

A preliminary interview schedule outline was developed (Appendix B) based on the SSPC Evaluation Framework and the findings of the documentary analysis.

In Phase 1, potential key informants were initially sent an invitation to participate in the study by email, which included a Participant Information Leaflet and Consent Form (Appendices I and J). Once

agreement had been reached and arrangements made for the interview, key informants were sent a copy of the interview schedule outline so that they had this in advance in order to facilitate the opportunity to obtain considered views.

Interviews with key informants were carried out face-to-face unless a telephone interview was more convenient for the participant. Prior to each interview, the key informant signed the study Consent Form. If participants had requested a telephone interview, they were sent the Consent Form by email in advance of the interview and were asked to complete and return it before the interview. If the key informant agreed, the interview was audio recorded, otherwise notes were made by the researcher. Each interview lasted for approximately 60 minutes and recorded interviews were transcribed verbatim by an experienced transcriber and redacted by the research team ensuring participant confidentiality.

2.2.2   Phase 2

An interview schedule for Phase 2 was developed based on the SSPC Evaluation Framework and findings (Appendix L). The questions focused on the changes identified in the delivery of the selected deep dives. Consent was acquired in the same way as for Phase 1.

The questions focused on new models of care that were selected for more 'deep dive' exploration in this phase of the study. The research questions were again based on the SSPC Evaluation Framework and sought to understand the reasons behind the tests of change, the processes involved in their implementation, and perceptions of their likely sustainability and possible future expansion. Where relevant, further pertinent questions were asked which provided more in-depth information useful in providing a deeper understanding of the Phase 2 findings.

Interviewees were asked to provide a list of potential key informants who might be able to provide the information to address the Phase 2 questions. A similar protocol was followed during Phase 2 in supplying the key informants with the study information, determining place and means for the interview, and acquiring informed consent.

When the research team experienced difficulty in contacting potential key informants, alternative strategies were employed. For example, when no responses were received to emails, subsequent emails were alternated with telephone call attempts. Email and telephone attempts were also made to contact GP practices that were known to be involved in a selected Phase 2 deep dive test of change.

2.3   Data Analysis

2.3.1   Phase 1

Documents were read and information extracted and entered into a 'key document list'. This collected information on the vision and plans for transformation of primary care and new ways of working and on anticipated outcomes. A summary report was compiled outlining the main new ways of working/tests of change being implemented in Lanarkshire.

New ways of working were identified from the interview data and documentary analysis, and then summarised in order to describe their key features. Such features included a description of the new way of working and the context in which it was being introduced. The funding source of each new way of working was also identified along with its duration and a description of governance arrangements. Furthermore, details of any local evaluation work were summarised including the type of data being collected and if any measures of success or quality standards had been agreed. This was carried out by the lead researcher (LT) and checked with other members of the research team and with the project Principal Investigators (FM and BJ), who also read the interviews.

For the purpose of attributing views and quotes in reporting the study findings, each key informant is coded as LAN (for participant) and assigned a unique numerical identifier (e.g. LAN_01).

The 'status' of each new model of care was assessed using an implementation staging system. Within this system, new ways of working were described as: 'not got off the ground or stopped'; in the planning stages or not yet fully implemented; or fully implemented. The 'status' of tests was a key consideration in the selection of 'deep dives' explored in Phase 2.

2.3.2   Phase 2

Data were analysed using the same approach as in Phase 1. The research team concentrated on identifying themes arising from the interviews in relation to the SSPC Evaluation Framework, namely the early impacts, key learnings, spread and likely sustainability, and potential impact on inequalities. Only one document (interim internal evaluation) provided by key informants was used in Phase 2 to update the facts and figures. However, since the completion of this report the data on full internal evaluation has been updated[2].

2.4   Ethical Approval

The study (Project No: 200160146) was approved by the University of Glasgow on 21 June 2017 (Appendix K).

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[2]For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

3. PHASE 1 FINDINGS

This chapter is based on the findings of a review of **83 documents and 14 interviews with key informants**. A list of reviewed documents are included in Appendix F.

The interviews were conducted by one of the researchers; 12 during face-to-face meetings and 2 by telephone. When further information or clarification was required, interviewees were followed up by telephone and/or email. The interviewees represented programme managers, work stream leads, and other individuals involved in leading the PCTF programme or specific work streams

3.1 Primary Care Transformation in Lanarkshire

Out of the total of eight work streams, six programmes or work streams (WS) relating to primary care transformation in NHS Lanarkshire were evaluated. WS2 Urgent Care and WS7 Pharmacists in Practices were subject to a separate independent evaluation and were not included in the present case study[3] :

- **WS1 GP and Community Redesign** - to improve patient access and new ways of collaborating as locality teams / clusters (improved 24/7 access to services in a community setting, increased numbers of patients managing their own condition, etc.).
  - **WS3 House of Care (HoC)** - to change and improve how care planning is undertaken with patients, carers and families, and to explore new inputs from the third sector.
  - **WS4 Leadership Programme** - is particularly aimed at GP clinical leads and middle or senior managers in statutory, third or independent social care organisations, to build leadership capability and team-based working in the organisation.
  - **WS5 Recruitment and Retention Programme** - The original bid from NHS Lanarkshire did not specifically mention recruitment and retention as a component or sub-project, although re-vitalising the workforce was mentioned as an expected outcome of the entire programme. This WS intended to identify and support vulnerable practices, and to support GPs to return to work.
  - **WS6 Digital Health** - this programme aimed to use and develop e-health solutions and encourage patients to access practices and services via digital routes and support efficient working in general practice.
  - **WS8 Mental Health** – this aimed to develop a multi-disciplinary approach for patients which will involve the right mix of expertise and services to ensure the most appropriate treatment in the most appropriate setting, when patients need it. This included: creating two lead primary Mental Health Care GPs (one in NL and one in SL); developing a supportive infrastructure; building capacity and capability in the wider primary care and locality workforce; providing in-reach support to GP practices; enhancing the role of technology;

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[3] Certain components of the tests of change while accurate at the time of data collection (Sept. 2017-Feb.2018) may now have changed and been replaced with other tests of change. This is a reflection of the rapidly evolving nature of the implementation. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

improving co-ordination and interface issues; and increasing access to psychological therapies.

3.1.1 Short, medium and long-term impacts

Key informants cited a few examples of the inputs, outputs and outcomes within the action plan of each of the six evaluated work streams over the short, medium and long term. As stated within the PID, it is evident that short, medium and long-term outcomes and impacts were built into the action plans, and demonstrate how this will achieve nine national outcomes for health and social care integration. For instance, one key informant explained that short-term targets included the process of establishing the new programmes, while medium term outcomes included patient engagement with services. The focus was then on providing the service on a sustainable and consistent long-term basis with patient satisfaction:

> "I suppose for each of them the short term and it will be different for each project, the short term outcomes are getting established and getting things moving forward and getting new evaluations set up and all that good stuff. The kind of medium term outcomes are getting people engaged with those services. And providing that service and the longer term outcomes are to make a difference and by that I mean in terms of use of GP services, in terms of patient quality and experience of the services and looking at I suppose the financial aspects, is this resource good value for money."
>
> (LAN_11)

Likewise, another key informant described the progress of various programmes such as Advanced Physiotherapy Practitioner (APP), Mental Health, and Pharmacy as meeting their short-term targets. This was made possible as each of these programmes had evaluation and action plans with specific timescales built-in. However, they caution that they have not seen the evaluation:

> "… so, the Advanced Practitioner … Physiotherapy test is achieving its short-term goals, therefore, we expect it to be on track. In Mental Health and Pharmacy the posts that are in place are also meeting their short-term, so we would expect to, you know, to see that. But, I've not seen the evaluation, but I just know that from knowing a bit about the projects. So … so, we have … our evaluation approach is based on short, medium and long-term outcomes, rather than, although the action plans do have timescales included in them, but that's usually timescales for the action to be completed to the point of … well, not completed, but to be … either started, in progress, delayed or completed."
>
> (LAN_14)

3.2 Work Streams Tests of Change

Table 1[4] provides details of the six of the eight WS in NHS Lanarkshire. WS2 and WS8 have been excluded from our evaluation as these were being covered elsewhere.

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[4] Certain components of the tests of change while accurate at the time of data collection (Sept. 2017-Feb.2018) may now have changed due to the rapidly evolving nature of the implementation. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

Table 1: Lanarkshire Work Streams of Tests of Change (data collected until Feb. 2018)[5]

	Work Stream				
1	**Work stream 1: GP and community redesign**	**Implementation status**	**Achieved change**	**Duration**	**Context for change**
1.1	Appoint Advanced Nurse Practitioner (ANP)	Implemented	Eight ANPs recruited and training is in progress	Since May 2017	Lack of NHS Lanarkshire-employed ANP in primary care
1.2	Practitioner support to two general practices and one locality	Implemented	One senior ANP recruited and tasked with writing a job description, writing a competency framework, recruiting and training.	Since May 2017	To scope out and support GPs in the transformational programme
1.3	Support for MSK through physiotherapy	Implemented	One physiotherapy practitioner working across three different GP practices	Since May 2017	To enhance the relationship and engagement with the public and to understand their needs better
1.4	Support for mental health issues through OT in general practice	Partially implemented	OT services being made accessible in one GP practice	Unclear	To enhance the relationship and engagement with the public and to understand their needs better
1.5	Pharmacy support for general practice	Implemented	Recruitment with permanent contracts and training ongoing	2016	A whole system approach as part of the programme in Lanarkshire
1.6	Training for general practice receptionists for signposting	Implemented	Administrative staff recruited from how many GP practices and training in progress	Since May 2017	Essential for the set up and smooth running of the new models.

[5] Certain components of the tests of change while accurate at the time of data collection (Sept. 2017-Feb.2018) may now have changed and been replaced with other tests of change. This is a reflection of the rapidly evolving nature of the implementation. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

3	Work stream 3: House of Care	Implementation status	Achieved change	Duration	Context for change
HoC was offered as a single complex intervention encompassing all seven tests of change. 21 GP practices had initial engagement in HoC; seven practices were considered to have fully implemented HoC, including all seven tests of change.					
3.1	Self-management training courses	Implemented	Course developed to train staff to support people better and support self-management	Since April 2016	To reduce admission to hospital and reduce length of stay
3.2	Peer support (with families & carers)	Implemented	Provide facilitation in practice, to practice teams as and when required (e.g. remotely or visiting practices, project mapping etc.)		To prepare health care professionals in the system to try to implement the models
3.3	HoC training	Implemented	The HoC team was appointed (Year of Care trained the three trainers who supported individuals to facilitate implementation). The training offered was for three sessions over one and a half days		To support practices
3.4	Implement HoC (with healthcare professionals)	Implemented	Healthcare professionals (practice nurses) using HoC principles in managing patients with long-term conditions.		Looking for something post quality outcome framework, something that would better suit people with long term conditions
3.5	Amend IT systems for HoC	Implemented	Developed an IT package to support the practice and implementation and provided the training to practice teams		Created a new template (from existing template) for multiple co-morbidity, which didn't exist before. A slightly different software was used to pull together information into a care plan

3.6	Signpost local support	Implemented	Increased involvement with third sector partners and voluntary sector partners. The number of partners involved were unavailable as this was subject to the needs of the patients.		Increasing satisfaction and making sure people feel better supported
3.7	Appointment of clinical champions and project management	Implemented	Appointed the HoC manager and a HoC co-ordinator		The need for more champions during the roll out of the new system
4	**Work stream 4: Leadership Programme**	**Implementation Status**	**Achieved Change**	**Duration**	**Context for Change**
4.1	Sessions for Cluster Quality Leads (CQLs)	Implemented	Develop quality improvement projects	Dec. 2016	CQLs report on what is working and what isn't
4.2	Linking Knowledge Networks	Implemented	Clinical lead in place to develop achievement framework and gather data	Since 2016	Expertise and the knowledge sits at the Board and improvement comes through working with the other social care partnerships
5	**Work stream 5: Recruitment and retention**	**Implementation Status**	**Achieved change**	**Duration**	**Context for change**
5.1	Assess practice closures and manage this risk, as well as supported placements for doctors in difficulty	Partially implemented	One practice was seen to be at high risk and potentially unsustainable, and 19 practices were perceived to be at medium risk. The wider MDT was seen as having a crucial and central role in reducing risk of practice closures		Traditional model of primary care beginning to fail

5.2	Exit interviews with all Lanarkshire GPs	Partially implemented	Exit interview to be conducted by another clinician for GPs leaving NHS Lanarkshire.[6]	Funding request in 2016, but due to delays in receiving funding projects did not start till 2017	It was recognised that only a peer could understand the stress that GPs undergo
5.3	Improving Practice Sustainability Tool	Implemented	The sustainability tool has been finalised and fully developed. Improving IT systems to allow secondary care clinical to refer patients		Improving access and availability of primary care
5.4	Marketing strategy for vacancies	Implemented	Local advertising campaigns with an aim at reducing costs. Collation using various tools and advert now placed in BMJ		Traditional methods of advertising within the practice wasn't cost effective or successful
5.5	Recruitment and retention coaching support	Implemented	Faculty of Medical Leadership Management (FMLM) now introduced in Lanarkshire		Pilot was deemed successful in England as it has reduced number of GPs leaving
6	**Work stream 6: Digital Health**	**Implementation Status**	**Achieved Change**	**Duration**	**Context for Change**
6.1	Booking appointments online	Partially implemented	At the time of data collection, patients were unable to book appointments online. However, progress was underway in modifying this error.		National target to have 90% of practices on online services by the end of the year
6.2	Ordering repeat prescriptions online (online services)	Implemented	Online services can also book repeat prescriptions electronically		National target to have 90% of practices on online services by the end of the year

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[6] At the time of data collection, no exit interview had been conducted. However, by July 2018 four exit interviews have been completed.

6.3	Training and support for staff	Implemented	Offering individual training days to practices to increase training attendance through appointment of a GP IT facilitator		Overcoming challenges relating to changing mind-set in the use of equipment and software's
6.4	Pilot Outcome manager software	Partially implemented	Enhancing service tool that replaces existing system (Spire) and opens up multiple pathways (e.g. polypharmacy)		Better ways for reporting as existing system is limited to the practice alone
6.5	Telephone triage	Implemented	With one practice, for certain types of calls a call menu is set up in the practice	Early 2017	In hours support for practices working with NHS 24, reduce barriers to access etc.
6.6	Self-service surgery pods	Partially implemented*	Allows for measurements of height; weight; BMI; blood pressure. Also provides protocol questionnaire function (e.g. new patient registrations)		*Machines in place but not pursuing following feedback from practice manager, no protocol review by supplier since 2014.
6.7	Self-service check-in-kiosks	Implemented	Deployment of an established product and widening the provision for everyone		Take time and pressure away from reception desk
6.8	Electronic patient call notice boards	Implemented	Capability to integrate at a board level to publish messages across the practice, and can be customised		A need to provide adequate training due to poor initial deployment of the product
6.9	Vision Anywhere service	Partially implemented	Deployed approx. 30 devices in September 2017, purchased further 80 devices		Clear link between providing a better service to patients, as well as providing offline functionality it provides a contingency should the network fail. Increasing desire for practices

					or GPs for the means to access their clinical system remotely.
6.10	Video conferencing equipment	Implemented	Rolled out Cisco Jabber product across 27 practices, mainly the practice quality leads (PQLs)		Following the advice of certain individuals who were involved in managing GPs who were PQLs
8	**Work stream 8: Mental Health**	**Implementation Status**	**Achieved Change**	**Duration**	**Context for Change**
8.1	Train community pharmacy assistants as MH Champions	Partially implemented	Target to train all 120 pharmacies, of which 11 have been trained. Training pharmacy staff on being dementia friendly and MH first aid		Strengthening public health focus through transformation
8.2	Weight monitoring for clozapine prescribing	Partially implemented	One pharmacy was trained in Wishaw for weight monitoring. clozapine dispensing from community pharmacies and well as training staff on weight monitoring.		As clozapine can cause people to put on weight
8.3	Signposting for access to social prescribing	Implemented	Eleven pharmacies were involved. Pharmacy staff were being trained for signposting. Link workers through Third Sector also signposted patients about social prescribing.	2016 but delayed due to waiting time	As long-term conditions with MH problems can also have an effect on physical outcomes
8.4	OT clinics in surgeries for assessment/early intervention; self-management support/goal attainment; referral to MH services.	Partially implemented	Two OTs who were immediately accessible to two GP practices.		Now run (6-8 weeks) in the evenings for those in full time (FT) work and with childcare for better accessibility
8.5	IT development for service delivery	Partially implemented	Developing a post-diagnostic support package and one worker		Self-help tool available 24/7 empowers patients to take control

8.6	Employ OTs for people at risk of falls	Partially implemented	Recruitment was planned at the time of data collection, as a result the numbers recruited were unavailable.		For those who need clinicians input
8.7	Individual placement and support for people with MH problems	Implemented	Recruited four link workers in SL		It was recognised that there was a need for Link Workers in SL with MH training
8.8	Training for responding to distress	Partially implemented	Thirty people had undertaken the Distress Brief Intervention Programme	June 2017	Awaiting evaluation before complete roll out
8.9	MH presence in OOH services	Implemented	Two psychiatric nurses in the OOH Hub who take calls and do triaging.	Unclear	Reducing the flow into the emergency department
8.10	Increased access to psychological therapies	Partially implemented	Increased effort to increase GP leads for MH in NL and SL.		Making links with the GPs and informing about what does and does not work

Each WS is briefly described with its intended outcomes. An implementation staging system was used to describe the stage of implementation of the WS. Within this system the WSs were classified 'not got off the ground or had been stopped'; 'in the planning stages or not yet fully implemented' or 'implemented'.

This table also gives a very brief overview of the change that had occurred, the duration, and the context for change at the end of Phase 1 of this case study (December 2017). This demonstrated that 26 tests of change were classified 'implemented', 14 'partially implemented'. There were no 'stopped' implementations.

3.2.1 Work streams tests of change evaluated as 'implemented'

WS1 (GP and Community Redesign) had implemented five of its six tests of change. A few of the tests of change were identified as new ways of working, for instance ANPs such as stoma nurses were identified as crucial in being able to deploy changes in their ways of working. Some of these changes included access to specialised services without a GP referral and where contact and communication was direct between with district nurses and patients and/or the family:

> "… *Cause the system has not got to grips with the fact that there's a whole bunch of specialists … and it works both ways, you know, a specialist stoma nurse sitting in acute, actually how do they communicate? Well they should be dealing directly with the district nurses or the patients or the family. They don't need to come via a GP to then get funnelled out again. They need to get, we need to recognise that's a specialised service and that's a specialised service and they can work together.*"

> (LAN_12)

This key informant further stated that the progress is attributable to recognition and acceptance within practices for the need for transformation:

> "… *the facilitation is the recognition that this collapse is happening in their own practice and next door and the one next door. And the, so the level of crisis, he said advisedly, the level of crisis has facilitated people thinking differently because the tendency, going back to your transformation question, the tendency is we can just do this little bit a bit better or a bit slicker or a bit faster, or get somebody else to do this little bit, and you do this incremental change and be able to sort it and the recognition now that we cannot sort it by incremental change".*

> (LAN_12)

Another key informant emphasised the importance of trust and confidence among advanced practitioners and medics in furthering the success of the programmes. However, the most crucial support has been having the Chief Nursing Officer to enable transformation as this emphasised that the need for transformation was not just a local requirement but also part of the national guidance:

"…Trust and confidence from one discipline to another, not just medics to nursing but radiology, do you know there's another AHPs, we need to have the trust and the confidence and the understanding… I think that the Chief Nursing Officer and the transforming roles Scottish Government work is something that we can, is a facilitator. It's something we've been able to tag onto, it's something that we can say nationally, this is the guidance that's been agreed. So I think that's been a big plus, so I think we need to add that back and use it locally and we need the leaders to do that, nationally and locally as well. And we need to get the message out to the public, it's a public engagement message here that I don't know that we have done as well as we could from a Scottish government perspective, but locally we're needing to do it, it's just that healthcare has been required to be, it will be required to be delivered differently …"

(LAN_06)

WS3 (HoC) had implemented all seven of its tests of change, and started in April 2016. Some of the transformations included: development of an IT package to support implementation of HoC in practices. Training was also provided to practice teams including practice managers, GPs, nurses and attached staff. As there was interest from speciality services, training was also provided to pharmacists in practice, and to specialist diabetes, respiratory and health promotion staff, and health promotion. 'Keep Well' is a team in Lanarkshire which works closely with hard-to-reach individuals. These individuals were considered to be at a higher risk of conditions such as cardiovascular disease, stroke and diabetes due to their lifestyle, ethnicity, behaviour or disability. Keep Well was also involved in the training because it was recognised that potentially it is a whole system approach to supporting someone with chronic disease or long term conditions and not just purely about primary care (LAN_05). Links were also developed with voluntary sector and third party organisations (LAN_05). Furthermore, knowledge around community assets was developed so that individuals could effectively be signposted to other services in the community that might better support them (LAN_05). HoC built on previous work:

"No they were built on previous work so that's where our work became, arose from the Year of Care Partnership. The Year of Care Partnership have been working to implement care and support planning across the UK really for ten years. So they have an established process in place. To provide us with training and facilitation skills but also the nuts and bolts around how to do it. We had to develop our own IT support though, so that was something that we had to do from scratch really with the help of our IT facilitators. So that was, because the system in Lanarkshire was fairly unique … we pulled in the expertise of others, we didn't start from scratch … We used the IT clinical system that we have in place in primary care and developed the functionality that was available to us. We created a new template for multiple co-morbidity, which we didn't have before and we used a slightly different software that allowed us to pull together information into a care plan, a word document effectively."

(LAN_05)

At the end of Phase 1 of this case study, 21 GP practice teams had started their training for the HoC model, but only seven practices were considered to have achieved implementation of HoC.

WS4 (Leadership Programme) had implemented both of its test of change. This evolved from a national programme called Leadership for Integration which was aimed at supporting leadership development for health and social care integration in Scotland. Collaborative Leadership in Practice (CLiP) is a strand of the national programme in Lanarkshire, which supports integration in primary care through facilitation and coaching[7]. Regular cluster meetings have been taking place (every three months), attended by all cluster quality leads (CQLs) across NHS Lanarkshire since April 2017. The purpose of these meetings are to provide peer review, support and appraisal for quality improvement activities in each cluster across Lanarkshire.

WS5 (Recruitment & Retention) had implemented three of its five tests of change. The need for these tests of change were identified because GPs had limited access to support and coaching facilities.

At the end of Phase 1 of this case study, the Faculty of Medical Leadership Management (FMLM) pilot, which was run in England for GPs who were thinking of leaving the profession, was being run in Lanarkshire. The coach was a GP, because the peer-to-peer recognition of the stress that GPs undergo was considered very important. The criteria for application was that the GP was at a higher risk of leaving the profession. It is a 3-4 month programme, and the first cohort was intended to be complete by end of 2017/early 2018. Local advertising campaigns were traditionally managed within the practice. This was quite expensive, so using various tools, vacancies across Lanarkshire have been collated and advertised in the British Medical Journal. WS5 are also working with a local advertising agency to try to promote Lanarkshire. They are also implementing changes on improving IT systems to allow secondary care clinicians to refer patients for bloods etc., rather than send it through the general practice. As noted by key informant LAN_04, these are:

> *"entirely new ways of working", inspired by "the pilot down south."*
>
> (LAN_04)

WS6 (Digital Health) had been implemented. Six of its ten tests of change. These built on previous work. For instance, one key informant reported:

> *"Well, they are new for us to buy, Vision online service has been around for about two years … If we look at things like Vision anywhere that's a relatively new product and the newer the product the greater the risk … the noticeboard systems are established products, the check-in system is an established product, tablets were, well HP … they are straight off, it's a tablet, it works, it's windows based, the video conferencing stuff is Jabber, it's well established … so I think we need to evaluate the outcomes and then decide what works best. My expectation is that it'll, you know, if you're testing the one role in all these different areas, I'm having to be very open minded about the fact that they may will not work in one of those, but I will, I think one thing that we'll be very interested in as another health board will be, well assessing it in any of it. So if you're successful and we manage to have a better sustainable workforce and out of hours and reduce the amount of GPs we need there, that would be, that's a measurement of success and that would be celebrated in probably … And the same for community*

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[7] NHS Lanarkshire Leadership Programme: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/lead-prog.aspx

hospitals, bear in mind we've had to close or shut to admissions, our community hospital because we didn't have GPs to look after patients. If we developed a different model, still multi-disciplinary, you'd just not without doctors, it would be doctor light as opposed to doctorless and be able to run these community hospitals, that would be a measurement, I think, of success that the public are very interested in. Question is, how many do you need of the community hospitals? But if you think about us want to retract the GPs from what they're doing that would be, these are the kind of … These are things that we're looking at and have, we're going to have report back on".

<div align="right">(LAN_01)</div>

WS8 (Mental Health) had implemented three of its ten tests of change. Key informants cited positive experiences for the success of the link workers project. However, with lack of patient data to support this, it is difficult to substantiate such assertions:

"…With the link workers we have got some fantastic anecdotal data and what we have asked them to go back and look at is some of the I suppose the quantitative rather than the qualitative so we've got lots of really good positive stories but what I want to know is does that mean wee Jeanie hasn't been at the GP four times in a week because we've done something and she's got a better quality of life and feels more healthy and doesn't feel the need to do that …"

<div align="right">(LAN_11)</div>

3.2.2   Work stream tests of change evaluated as 'partially implemented or still in planning'

These were:

WS1 GP and Community Redesign
-    occupational therapists in practice

WS 5 Recruitment and Retention
-    assess practice closures
-    GP exit interviews

WS 6 Digital Health
-    online appoint booking
-    surgery pods
-    outcome manager software pilot
-    'Vision Anywhere' service (tablet device for mobile working)

WS 8 Mental Health
-    Train community pharmacy assistants as Mental Health Champions
-    Weight monitoring for clozapine prescribing OT clinics in surgeries for assessment/early intervention; self-management support/goal attainment; referral to MH services.
-    IT development for service delivery
-    Employ OTs for people at risk of falls
-    Training for responding to distress
-    Increased access to psychological therapies

Key informants reported that full implementation of WSs had not yet been achieved. Reasons included that even after financial plans were in place implementation, proved difficult because the funding was not actually available for use and recruiting staff had taken longer than anticipated:

"I would say time more than anything, so the announcement of when the money is coming out and then the actual bit of papers in the hands of the financial director that says right there's the money, there's then the ability to free GPs up to get involved in agreeing what the various projects would best look like. We want to make sure they are involved at the outset and then there's the process of you know going to advert and going through an appointments process to get people on the ground so you know you might well be six months from the money being given to you to somebody getting on the ground or longer on occasion."

<div align="right">(LAN_03)</div>

Likewise, another key informant referred to similar delays due to "a significant lag" in the funding being available after approval. As such, funding was not actually available and accessible for use. This meant that the programme could not be reviewed in a timely manner and measure outcomes:

"...because of the way that the programme started there was a significant lag between the funding being approved and all the different groups getting up and running and seeing tangible outcomes so most of the stuff in my workstream are ongoing at the minute and it's probably going to be sometime in 2018/2019 before we can have any real effective review of how things are planning."

<div align="right">(LAN_04)</div>

Some of these delays were attributed to the release of funds from the finance department, which was influenced by funding coming from a national level:

"...the whole funding thing from national. You know in terms of getting that out on time, understanding what you're going to get, you know and sometimes it just feels like our finance department do their job and they do it really well. And to say that 'Oh we don't have the funding through just yet,' so it has created a bit of a barrier for us in terms of the delay in the funding."

<div align="right">(LAN_07)</div>

A key informant reported that certain aspects of the transformation were overambitious with their plans for implementation:

"I think we were very ambitious to start, maybe overly ambitious in terms of the spread that we thought we would get in terms of implementation. I think as time went on, there are lots and lots of other barriers to doing something differently at the moment in primary care and the major one really was recruitment retention, a lack of clarity around the GMS contract and people were just kind of sitting back to see 'Okay so what we are going to have to do' as opposed to what we think might be a good thing to do. So there was a lot of acknowledgement that it's a good thing to do but whether it fits into the bigger picture in terms of policy and contractual obligations is an unanswered question at the moment so I think potentially whilst we recognise and we know from the work that the Year of Care Partnership have done it has the potential to have a lot of impact, the environment maybe is not conducive to making a big change like that at the moment."

<div align="right">(LAN_05)</div>

3.2.3   Sustainability

Consideration was given to the sustainability of the primary care transformation tests of change, the outcomes of which (shifting the balance of care, multi-disciplinary working, new roles, ensuring patients access the right service first time) were also expected to contribute towards their sustainability, informed through the analysis of key documents (Cunningham, 2016). Furthermore, the achievement framework for each of the six work streams demonstrated sustainability built in from the very inception:

> *"Sustaining the improvement resource will be part of the overall planning consideration for a Lanarkshire-wide Improvement Support Team as an addition to the current Quality Improvement resource. GP backfill allocation will only be for the limited period of the programme and the Clinical Director role will be filled by existing staff transferring from current role. It is anticipated that the natural turnover of clinical input will allow for satisfactory exit."*

<div align="right">(Cunningham, 2016)</div>

It was reported that there had been emphasis on ensuring that the transformations demonstrated a reduction in demand and working differently with a focus on sustainability:

> *"… yes, we anticipate that there will be ongoing funding but regardless of that there will be some of these areas where we will be having discussion with the practices to say 'Look we've been able to demonstrate that by doing this we have reduced your demand by X and therefore going forward we are going to need to agree between us how that is funded if you want that to continue'. And we would probably look to do that as part of the discussions with the quality cluster leads where we would be asking clusters of practices to think through how they might work differently and in so doing provide some of the sustainability that might well be required"*

<div align="right">(LAN_03)</div>

However, there were concerns about the sustainability of running various aspects within the Digital Health work stream and the entire transformation programme in 2018 in the long term. This was considered possible only by blending existing in-house support as well as shifting some of the demand to suppliers:

> *"…So in terms of sustainability going into next year I believe, I know that we will still need somebody to support various aspects of what we are doing including anything we subsequently agree to do this year … So we are always, there is a requirement which I'm not entirely sure how we will meet going forward other than to blend with our existing in-house support and gradually lower the dependence on what's a fixed term resource which is what's currently doing most of the leg work at the moment. So it's partly shifting it to suppliers so you don't have to do anything but, and also partly shifting it to business as usual you know within the organisation."*

<div align="right">(LAN_01)</div>

There was recognition of the need for a robust contingency plan for sustaining the programme, which has funding limited to two years. Associated support costs were agreed at the start of the programme, and practices agreed to absorb these at the end of the funding period in 2018:

"… And also, for the really big things there's a huge sustainability cost attached. There is no money after two years as far as we understand. So, this is a finite period of time where funding's being provided for two years, so we needed a really robust contingency plan as for, 'How do we support these after the fact?', because there won't be any further monies. So, that cost has to be accounted for somewhere … the support costs … it was one of the requirements that the practice must absorb, and agree to absorb, the support costs after 2018 when the funding completes. So, everyone who's getting one has agreed that they will absorb that cost …"

(LAN_02)

Sustainability was built-in to Lanarkshire's transformation programme and, with the assistance of the IST and a sustainability NHS Lanarkshire tool; Lanarkshire was able to identify areas or risk. Work was also being carried out on training staff on how to write a sustainability plan:

"So the Improvement Support Team have been able to go into areas of risk, if you like without mentioning localities or names. We have a, kind of, risk register if you like through the GMS sustainability tool. We've created a bit of a risk register and I'm using that as a planning tool to say this is where the Improvement Support Team resource will be directed … So our goal is to sustain general practice … All the projects have been asked to put, to build in sustainability … So all of the facts or some conditions around that, in relation to will this sustain general practice … All of the projects will be asked probably about eight months to go what does sustainability look like, so we're doing a bit of a sustainability workshop … Because not everybody knows how to write a sustainability plan but I have asked all of the improvement staff to have that, I mean, from day one."

(LAN_07)

WS5 Recruitment and Retention was cited as an illustration of sustaining primary care:

"I think it's, it's a recurring conversation across all of the work streams, nobody is in this game to, to say you know this is a project let's see how we get on with the project. This is about you know how can we embed these principles when the funding is no longer available … yeah I think sustainability runs through all of the work streams that I can, I mean recruitment and retention work stream is all about sustainability there isn't really anything else to it, how do we sustain primary care."

(LAN_08)

3.3   Phase 1 Summary

The broad aims of our Phase 1 evaluation of primary care transformation in Lanarkshire were to:
- understand primary care transformation and the context in which the new ways of working were being tested
- identify the new ways of working that were being tested in primary care
- identify which models seemed to be working well, and why; and which were not working so well, and why
- identify new models of working for further exploration in Phase 2 deep dives.

Fourteen semi-structured qualitative interviews were conducted with key informants who were formative in the implementation of primary care redesign in Lanarkshire. Alongside these interviews, documentary analysis was used in order to contextualise and inform our interview schedule and allow researchers to gain an in-depth understanding of the proposed programmes.

The Phase 1 interim evaluation has allowed us to understand the discrete service redesign projects occurring in each of the six work streams. Of the eight work streams in Lanarkshire, six work streams were evaluated with a total of 40 programmes being identified. The progress of these programmes were assessed using an implementation staging system (summarised in Section 3.2). In total 26 programmes were found to have been implemented, and 14 programmes were assessed as not fully implemented.

Of the six work streams, two work streams were selected for deep dives for the Phase 2 case study. These two work streams showed new ways of working and have not been evaluated in detail in other Health Boards:
- WS3 House of Care programme, which provides the framework for both the community service-based teams to use as they redesign their service. Greater focus is on keeping those with long-term conditions engaged and informed. This work stream has seven programmes, all of which were implemented.
- WS6 Digital Health intends to use and develop e-Health solutions and encourage patients to access practices and services via digital routes and support efficient working in general practice. This work stream has ten programmes, of which six had been implemented and four programmes not fully implemented.

The governance, stages of implementation and progress of these two work streams have been discussed in much detail in Appendix H.

Phase 2 of our evaluation will attempt to characterise these two main work streams by examining them at the local level in which they have been implemented in Lanarkshire. In-depth work in these two work streams would help us understand barriers and facilitators to deployment, uptake, embedding and sustainability as part of routine practice. Here, we plan to interview GPs, practice managers, reception staff and other support workers to produce a more detailed evaluation of primary care transformation in Lanarkshire.

3.4   Rationale for Phase 2 Deep Dives
The implemented test of change in two WSs, HoC and Digital Health were chosen for deep dives for Phase 2 of this case study.

3.4.1   House of Care
HoC aimed to "change and improve" the way in which care planning occurs, with involvement from patients, carers and families and the voluntary sector. It further aimed to encourage and support the involvement of patients in managing their long-term conditions and making decisions about their care needs in collaboration with their health care providers. It had implemented seven tests of change:

(1) self-management training courses (staff and patients)

(2) peer support (families and carers)

(3) HoC training

(4) implementation of HoC (with healthcare professionals)

(5) amend IT systems for HoC

(6) signpost local support

(7) appointment of clinical champions and project management

Each of the seven tests of change were part of a comprehensive HoC programme and were implemented across practices as a single complex intervention. Hence, all of the seven tests of change were selected for in-depth exploration.

HoC began in Lanarkshire in April 2016; following the review of the Lewis Ritchie report (The Scottish Government, 2015) and it was funded partly by the Alliance Partnership. HoC has undertaken significant work and made progress with re-designing the existing IT systems and training administrative staff, GPs, practice managers and IT staff. It was looking at ways to enable and facilitate means to better suit people with long-term conditions. HoC operates differently in different geographical areas. More in-depth exploration of this offered the potential for further learning in the areas of greater patient participation in decision-making and implementation of a complex intervention.

3.4.2   Digital Health

Digital Health aimed to use and develop e-health solutions and encourage patients to access practices and services via digital routes and support efficient working in general practice. It had implemented (coded as 'implemented') six tests of change, three tests of change were coded as 'not fully implemented', no test of change were coded as 'stopped' (see Table 1).

For Phase 2: deep dive evaluation, five tests of change were selected, as they were fully implemented and these tests of change included some novel strands not implemented in many health boards. These five tests of changes were:

(1) Self-check-in machines for appointments

(2) Patient call notice boards

(3) Staff training and support

(4) Video conferencing

(5) Repeat prescriptions online

Given the extensive variety of transformations in the Digital Health WS, the proposed tests of change for more in-depth evaluation were categorised into:

(1)   Waiting Room & Appointment Initiatives (these included services such as self-check-in's, and digital signage (patient call notice boards, digital sign posting, staff training and support)

(2)   Video Conferencing

(3)   Repeat Prescriptions online

4. PHASE 2 FINDINGS

This chapter is based on the findings of **further review of documentary evidence and 21 interviews with key informants.**

Interviews were conducted by one of the research team; 18 in a face-to-face meetings and 3 by telephone. When further information or clarification was required, interviewees were followed up by telephone and/or email. The interviewees represented those involved in the implementation of the new ways of working including practice staff at various levels of appointment, for instance managers involved in leading the PCTF programme.

These deep dives have provided a better understanding of the barriers and facilitators to planning, development, implementation, and sustainability of new ways of working.

4.1 House of Care (HoC)

HoC was offered as a single complex intervention encompassing all seven tests of change. Twenty-one GP practices had initial engagement in HoC; seven practices were considered to have fully implemented HoC, including all seven tests of change (Figure 1).

Figure 1: Number of GP Practices Expressing Interest and Sustaining Interest in HOC
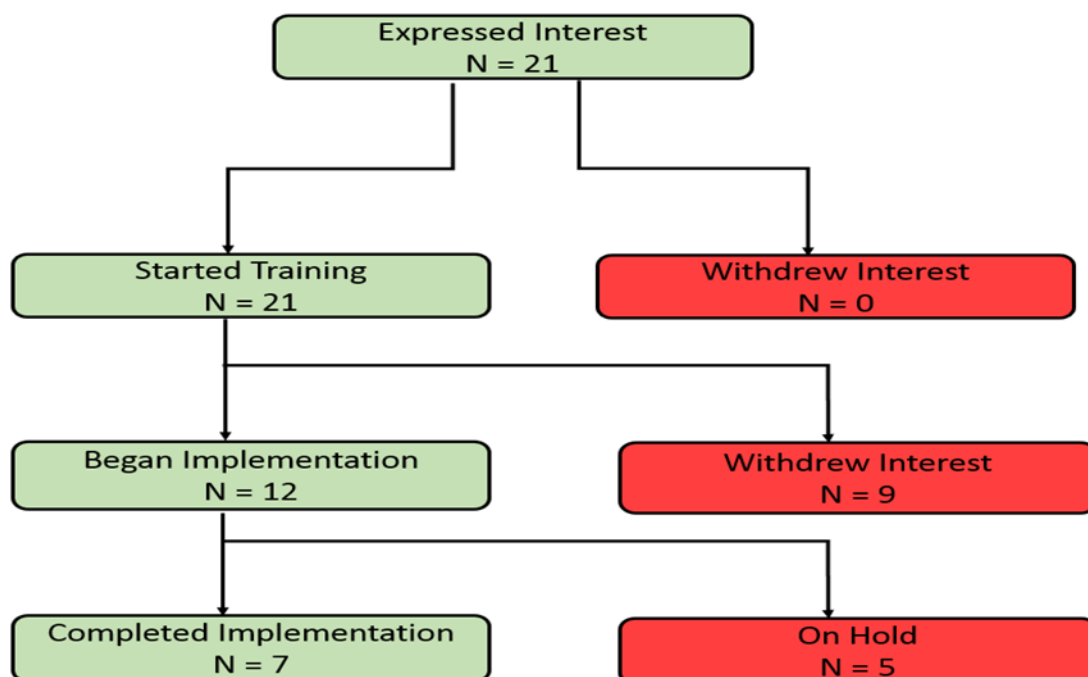
4.1.1   Implementation of HoC

A series of pilots in England aimed at improving diabetes care resulted in the development of HoC. This was then replicated in Scotland with the Year of Care partnership to build capacity in early adopters. HoC has extended to include individuals with all long-term conditions. HoC in Lanarkshire was designed as a collaborative care and planning exchange between people and their health care

professionals, where care is organized around what matters to the individuals, and with the help of their carers is developed with the support of their local community. HoC uses the Care and Support Planning (CASP) consultation tool/framework as an evidence-based approach in meeting the needs of individuals living with long-term conditions in Scotland. Through capturing and sharing stories, it is aimed at including the voices and lived experiences of people.

Key informants described a HoC launch event in Lanarkshire in 2016 to increase awareness of HoC and to recruit practices. Practices showed considerable interest in implementing HoC. However, this interest was reported to be short-lived as implementation of HoC was a voluntary process, with limited financial incentives to participate, subsequently resulting in 14 potential early adopters deciding against implementing HoC.

Hence, while there was initially a lot of interest in HoC, this did not ultimately translate into wider implementation of the programme:

> *"… I think year 1 we had somewhere in the region of 21 practices went on training, that only transpired into about six practices going live. So that was disappointing for us and it, but it was a lesson learned and that the uptake wasn't, I think we went in and maybe naively so … but we went in assuming that we would recruit 20 practices per year and this was the way it was going to be … no sorry seven are live, seven are live and (counting) I'll just check that (counting) five are on hold due to, so they're still keen to do this but they've had issues within the practice that have resulted in their delay in implementing."*

> (LAN2_03)

Therefore, while HoC was adopted by 21 practices at the outset, it was considered to be fully implemented in only seven practices at the time of data collection (May 2018).

4.1.2 Facilitators to implementing HoC

Some key informants believed that the collaborative and leadership skills of key members of the team, e.g. practice managers, were important features of aligning the HoC programme with the local community (LAN2_14&15). Successful adoption of HoC was considered to have been facilitated by well-supported clinical leadership that enabled individuals and communities to co-create the necessary conditions for care planning and system-wide change. Changes in the funding and contractual landscape of primary care were also considered to be important factors in the adoption of HoC and the support of key staff. For example, by providing the impetus to try alternative funding models following the end of the Quality and Outcomes Framework (QOF) and anticipating the direction of the new GP contract. As noted by a key informant below:

> *"… the practice manager, mainly, she's quite good and quite forward at doing things for the practice, because it's a teaching practice, as well, she's quite good at getting kind of folk in. And, she had been looking, kind of looking for new ways of moving forward since QOF ended. We were looking for what's going to … new GP contracts going to behold, and this seemed to be the next thing, process … We went straight into it, really …"*

> (LAN2_14)

The key informant also noted that the practice was already executing aspects of HoC in advance of the implementation of HoC. This only simplified the implementation further, for instance, diabetic patients were already characterised as HoC patients:

> *"… We actually found that a few of the things at House of Care were asking of us, we were actually already doing … especially for the diabetic patients. All of our diabetic patients are considered as House of Care patients. So, they would come and get all their tasks done: bloods etc., and then would come back a week to a fortnight later, and get a full review with all the results there because, obviously, if you're going through diabetes with someone, it's best to have the most recent results in doing that. But, that was stuff that was already ongoing so, it was quite easy just to implement that into House of Care."*
>
> (LAN2_14)

Implementation was further enabled by the development of an infrastructure through the Year of Care training that was intended to develop capacity for local clinical leadership (see section 4.1.1). Developed guidance for HoC from England meant that this could readily be accommodated to fit local circumstances. This allowed for HoC training to be provided to practices to deliver appropriate care and support planning:

> *"… it was making sure that we've got the infrastructure in place to deliver care and support planning training in accordance with the Year of Care Training Programme and, and there was quite a lot of infrastructure to be done there and there was differences for obviously things had to be amended for Lanarkshire specifically"*.
>
> (LAN2_03)

Another facilitator to the implementation of HoC included inter-professional collaboration. It was important for all members of practice staff to be involved in discussions relating to HoC and the decision-making process. The provision of training for practice staff was also key. In one practice, this process was facilitated by joint working between the GP and practice nurse:

> *"The whole thing started because of the head GP … GP came and discussed with me the, what the process was, we went to some education meetings about it, came back to the practice and had a discussion with the rest of the team about it and then decided that we were going to do it … We came back and trained up the reception staff."*
>
> (LAN2_12)

One key informant who facilitated HoC explained that certain aspects such as practice manager training were adjusted following their experience in the initial implementation. As a consequence of this, practice managers were given a 1.5-day training session. This was deemed crucial to help practice managers overcome concerns about financial costs and allowed for a greater understanding of the implementation of HoC from the perspectives of clinicians. It was suggested that practice managers gave greater emphasis to the financial costs associated with HoC, which was perceived as a barrier to implementation:

> *"…we did have practice managers training but we felt that didn't, right at the start we ran it and that came from Year of Care they had developed this half day practice managers training. And we did run it for cohort one, and I think two as well but we just didn't feel it was appropriate. So after that when we got to the end of year one we decided that all future practices … had to send their practice manager onto the full 1.5-day training. They were part of the team, they had to be part of the team, because they weren't quite getting the perspective from the clinician's point of view … some of them did get it obviously, but some of the practice managers I suppose their focus was rightly so on the redesign that was involved which was huge and the finances concerns over things like postage and all that kind of thing, whereas what we found was when we've got the practice manager at the 1.5-day training with the GP, with the practice nurses and they actually experienced the whole thing and see it from everybody's perspective then they really get that actually yeah"*
>
> (LAN2_03)

In an attempt to reduce uncertainty and increase support and acceptance from GPs their HoC training for GPs was conducted by a GP. Yet a key informant stated that the inclusion of a GP awareness session did little to encourage some practices to adopt HoC. Specialist training was also provided to administrative staff through a half-day training course with the HoC trainer, and practice managers or practitioner:

> *"So we, we've had a GP going out and doing an awareness session with the other GPs in the practice but they still decided that they didn't want to do it you know so it just kind of depends you know not everybody is going to see it you know so we've had a little bit of that. We've had some reluctance from admin staff which is why I developed the admin training because I think if you don't provide the training to the admin staff, even just that little one hour makes such a difference because they feel they've been excluded if you don't do it."*
>
> (LAN2_03)

Some practitioners emphasised that the adaptable nature of HoC to accommodate the requirements of the practice facilitated implementation. For instance, one practice appointed a clinical support worker as part of HoC, they perceived this as being extremely beneficial for the division and prioritisation of work between practice staff. This allowed the clinical nurse more time with other patients including HoC patients:

> *"One of the best ways to … we've done with it is, the clinical support worker sees the patients for their tasks: their height; their weight; their blood pressure; and all their bloods, and some lifestyle. It means then that … by the time they come back to get seen again, it's all there but, it hasn't taken a nurse appointment away from someone, say, who needed asthma, or even COPD, or needed something else seen, because this is part of why we've trained up clinical support, doing this … saves a lot of time"*
>
> (LAN2_14)

4.1.3 Barriers to implementation

The financial implications of HoC were cited as a barrier to practices implementing this test of change. In particular, while a small amount of funding was made available to cover administrative

costs, no further funding was associated with supporting implementation. The lack of a financial incentive was seen as reducing the likelihood of practices participating in HoC and a challenge for those implementing it:

> *"… but there was no incentives for the practice to do this. There's a small allocation we give them for their admin costs for their redesign and for their evaluation admin costs but it doesn't, you know it's not an incentive it's a you're going to have to spend a lot of money on postage stamps over the next, as you implement this to write letters to people to tell them about it and to send out the patient questionnaires you know so it covers that it doesn't cover anything else, so there was no incentive to the GP practices to do this, there was no direction, or directive to the GP practices this year so it wasn't a LES (Local Enhanced Service) or anything."*

> (LAN2_03)

As mentioned previously, several of the practices which had decided to implement HoC later withdrew their interest - a number of reasons were cited for practices making this decision. For instance, one key informant described a practice's intention to reverse its decision to implement HoC as it was not achieving any benefits. Indeed, it was considered very labour-intensive and the associated workload was perceived to be far in excess of QOF:

> *"…we're going to look at doing it differently yet again 'cause we're still finding it's just not working. There's a huge amount of work involved in it. Compared to the QOF, this is a lot more work"*

> (LAN2_18)

Key informants disclosed other potential reasons for practices withdrawing. One of the main reasons postulated was that practices would be required to undergo extensive redesigning of their internal systems. In addition, the uncertainty associated with the introduction of the new GP funding contract and difficulties associated with recruitment and retention of practice staff were among the other reported problems, which further discouraged practices from implementing HoC:

> *"… So I think what happened was a lot of them came on the training, what they said to me was this was a really good thing but it does take a huge redesign of the internal system that they're maybe not ready for, that they have recruitment and retention issues within the practice that would stop them going live, or that because of the don't know what's happening with the new contract especially in 2016 they weren't quite ready to commit. … So I think to me in retrospect, so at the end of year 1 I got to be fair quite concerned so I contacted my colleagues around Scotland that are doing House of Care and their experience was the exact same as mine so what really it said to me was this is a slow burn this is never going to be a in a huge big gung ho, maybe in three years' time once the new contract is embedded and all the infrastructure is in place maybe then we will get the remaining practices …"*

> (LAN2_03)

Key informants also reported that without the necessary acceptance and support of other GPs, practice nurses or administrative staff, implementation in certain practices failed:

> *"… that can be a stumbling block to implementation because we've had some practices that have come on the training, been really keen on the concept but then not been able*

to sell it back at the practice to the rest of their partners or colleagues. So we have had issues with that, obviously we, we have tried to support these individuals by doing awareness sessions and it's best if it's the GPs you know trying to like maybe you've got one GP who's really keen and that GP wants to encourage their other partners to sign up to this and take it forward."

<div align="right">(LAN2_03)</div>

Successful implementation of HoC was only perceived as being possible with a whole-team approach and this had implications for the scale of the implementation across Lanarkshire. Key informants explained that while the aim initially was to have a large number of practices implementing HoC, this was revised to incorporate only a smaller number of practices who were willing to implement a whole system-wide change with team support:

"Care and support planning is a team approach, you can't, one GP couldn't do it, one practice nurse couldn't do it, it is a team approach so that's why we've now decided the team needs to go on the training so and that's, so that's what we do now from year one. I think the, the lessons we learned in year one they were hard but they were essential and year 2 has gone a lot better albeit a lot slower but a lot better, a lot better, well you think we've had, well I had 21 practices in year one, seven are live, five are on hold which meant that I lost nine, just not going. In year 2 I haven't lost any, albeit I've only recruited seven but all seven are going live so that kind of says a lot to me, you know we're recruiting the people that are going to actually do it and are committed to it, plus I think there's a change in the tide as well in terms of readiness to take on an approach like this so there's, there's the two factors I think contributing towards better outcomes that we're having."

<div align="right">(LAN2_03)</div>

A further barrier to the implementation of HoC related to the IT/software used in practices, which instead of minimising workload and improving accuracy of data, could have the opposite effect. Some practitioners believed that improvements were required for this and also to simplify the forms which are posted to patients, for instance those used for diabetic patients require revision:

"I don't know if there's any immediate plans (for evaluation) … I think maybe more in IT. I think the forms that it sent out, there are certain other ones that I've seen that are part of it but, it … it doesn't automatically fill out so, it would mean the girls at reception would have to fill it out by hand, and there's more risk of kind of errors there. But, I think some of the information's going to be a bit too much on the diabetic forms and, it could go to a simpler form"

<div align="right">(LAN2_15)</div>

Some key informants believed that asking patients to attend reviews on their date of birth was ineffective, as often patients did not want to or did not attend these meetings. This resulted in several wasted appointments. There were also reported difficulties in motivating patients to make changes in their life:

"… we find that if the patients come out for their first initial visit, we're not really … they're not … they don't want to come back for their second visit. They don't feel that

they've got anything that they're particularly wanting to change in their life or …
there's nothing that they can change in their life. You know?"

<div align="right">(LAN2_18)</div>

4.1.4   Impacts and outcomes

NHS Lanarkshire undertook an in-house evaluation of HoC in February 2018[8]; this evaluation was based on a focus group with patients, an online survey with health professionals, and a patient feedback questionnaire from n=55 patients and cares from a single practice (Figure 2). For this practice evaluated by NHS Lanarkshire, positive short-term outcomes were reported for both practitioners and patients. For practitioners, this related to increased confidence in letting patients take a 'lead', drawing out the patients' goals, and making action plans. For patients, the reported positive short-term outcomes included better understanding of their health conditions, increased motivation to attend activities, and improved mental wellbeing. The HoC in-house evaluation is ongoing and further updates will be available shortly (see footnote 8 below).

Figure 2: Evidence of HOC Contributions

Achievement/outcome	Evaluation measure	Data source	Evidence of contribution to date
Increased knowledge of long term conditions	Patient feedback	Qualitative data	After a care and support planning (CASP) consultation, 50 patients in one practice said that they now understood their health problems very well, only four said they did not
Increased ability to self-manage			A focus group held with the first lifestyle course cohort demonstrated that participants had changed their outlook on life and their health. Some noted that their confidence had been boosted by attending the course, in some cases motivating them to be involved in other activities
Good engagement with care planning	No. healthcare professionals (HCPs) who feel more confident about C&SP after they have used HoC	On-line survey	Although a small sample (n=5), HCPs' confidence after the first HoC training session or after having used the HoC approach increases e.g. in allowing the patient to take the lead and drawing out the patients' goals & action plan
More rewarding consultations	Healthcare professional feedback about rewarding consultations	On-line survey	The five HCPs who had moved beyond their first HoC training session found their consultations quite or very rewarding, but this is too small a sample to draw conclusions from
	Patient and carer feedback	Patient questionnaire	From a total of 56 patients in one practice, 55 said they felt listened to during their CASP consultation and 54 had sufficient opportunity to say what they wanted to say
Improved biomedical measures	Warwick & Edinburgh Mental Wellbeing Scale (WEMWBS) scores before and after lifestyle course attendance	Lifestyle course feedback sheets	Although a small sample, the mean WEMWBS scores for first two cohorts (n=12) increased from 40.6 to 51.8 (mean for Scottish population aged 16+ in 2016 was 49.8)

<div align="right">Source: (Alexander, 2018)</div>

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[8]Accurate at the time of reporting in Feb. 2018. However, NHS Lanarkshire now have an updated final report with updated figures. For updates please visit:
http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander:
Helen.Alexander@lanarkshire.scot.nhs.uk

In relation to the seven practices that implemented HoC, it was reported that feedback from patients and staff had been largely positive (LAN2_03, 04, 14, 15, 12). Some practices reported that HoC had led to them focusing not only on the 'use of existing resources,' but also on the 'better use' of existing resources. For example, one practice devised measures to reduce medication costs and improve care of patients with long-term conditions. In addition, it used the support of a NHS Lanarkshire healthy living consultant to support patients, and set up informal community assets such as walking groups in the local area:

> "To try and, as direct impact of House of Care so we are trying to use the facilities that we've got and reduce down the medication costs and improve our patients health conditions. … NHS Lanarkshire, had employed a healthy living consultant and we have been talking about other groups that we can try and set up to support our patients. And improve their, their healthy, improve their lifestyle to keep them healthy"
>
> (LAN2_12)

Practitioners cited positive impacts and outcomes from HoC, such as diabetic patients losing weight, patients with chronic obstructive pulmonary disease (COPD) giving up smoking, as well as some patients discontinuing use of diabetes medication, which was a result of these patients taking ownership of their health:

> "… with the patients we are seeing some great results. We are seeing diabetics who are losing weight. We are seeing COPD patients who have given up smoking. The patients are able to increase and set their own goals so they feel more involved in their own bodies, in their own blood results and indeed their own medications. We've managed to reduce down and stop I think we are now at the five patients medications for diabetes. Because we have put the ball back in their court. So they are, they are more involved, they are more motivated and they get to choose when they come back to see me for, well we get to have a discussion about when they are going to come back to see me … so the patients absolutely love it"
>
> (LAN2_12)

One key informant described how initial resistance from staff in engaging with HoC was overcome as awareness grew among staff that the emphasis of HoC was on patient care and wellbeing. This key informant believed that the adoption of it had resulted in the practice patient population, largely elderly, becoming more empowered and informed. Encouraged by this positive experience, the practice had extended the HoC approach to patients with dementia, which was perceived successful by staff, patients and their carers:

> "I have patients who are well informed, who have had the chance to think about their results and think about what they want to do with those results. So the feedback, has been 99.9% positive which is great considering that I have an elderly population. You know so even, even some of the elderly people are liking it, we've also opened it up to some of the dementia patients as well so we are involved their carers or next of kin. And that's really, really good as well because they feel more involved and you know in what they can do because it's not about all about medication, it's not and I think that's where we need to be going with this. So from a staff point of view, a couple of the staff members were quite hesitant about House of Care. And we've just, as a practice we've

moved on forward and everybody is liking it, we all know what we are doing now. Because the patients at the end of it get to see the right people that they need to see"

Patient empowerment and improving patient confidence was seen as one of the significant impacts by one of our key informants, and in turn seen as a driver for both patient and staff motivation.

"I think it's good … I think if, regardless of what the condition that a person has, if they can come and say to you, even if it is someone with hypertension or even asthma, for that matter, you can bring them in and you can say, 'Look, this is what we're going to give you. How do you feel about that?' So, that they then begin to have a wee bit of ownership over that and say, 'Well, if I do this, this and this, it means I can use less of that', and, it gives them that wee bit of, you know, control and confidence in their own abilities, and it's that whole education thing for me … And, I think that … that makes, you know, a big difference because, patients are used to being spoon fed. And I'm thinking, it's given them that wee bit of responsibility for their own actions. And, I think that's … that's been a really positive thing that's come out of House of Care, getting them involved in their own care. Something as simple as saying, 'Look - can you take a wee 20-minute walk every second day, because that will help your heart, and that will help your blood pressure? It'll help your diabetes'. It's almost as if a wee light bulb moment, 'Okay then - I can do that!'"

(LAN2_15)

Long-term plans relating to HoC included building on work to increase patient participation, fostering closer working relationships with social care, and broadening connections with community resources:

"The long term for ones would be to bring down from our side of things. To involve patients more clearly in their care hopefully. To explore more areas and more, more other sectors within the community so to involve more social care, to involve you know whatever we need to pull in so that the patient gets what they need, for example, we have now developed a local walking club"

(LAN2_12)

One key informant cited signposting through "the carers' list" (an informal list of volunteers) as being an unexpected impact which exceeded their expectations. However, it was also recognised that while patients appreciated HoC, implementation had been challenging among staff. Modifying staff understanding from QOF to HoC was formidable:

"The positive, the consequence is definitely the carers' list. That's been massive. None of us seen that coming. Positive? Patients absolutely love it. Staff, I think, find it a bit of a challenge. We can find it a bit of a challenge trying to get them to understand that this is their … their stuff, and they have to deal with it. There's a temptation still to hand … still to spoon feed the patient. But, no … no, I wouldn't say. No, I wouldn't say so. If anything, it's more positive than negative and I think, personally, it does reduce the frequency of appointments."

(LAN2_04)

4.1.5 Sustainability and expansion

Some key informants felt that HoC was sustainable in the future, and that it had been accepted as the "way forward" in several practices. One key informant expressed the view that if HoC was an obligatory feature of the GMS contract, more practices would be interested in adopting it. Furthermore, this interest would be strengthened once GMS infrastructure was in place:

> *"I think it absolutely needs to be part of the GP implementation, GMS contract implementation for the future, absolutely needs to be part of that and I think it needs to be part of that over the next few years but also beyond that. Because I think you can get over the next few years practices that will be taking this on board, after all the infrastructure that the GMS contract talks about is in place I think you'll get the remainder of them coming in, so sustainability is really important. We've already seen the need for practices that are live as they get new members of staff in, they need training, they need top up training"*

> (LAN2_03)

One of our key informants saw HoC as a catalyst for introducing other interventions aimed at improving patient self-management and wellbeing. An increased understanding of, and engagement with, self-management may lead to more satisfactory HoC appointments and potentially better outcomes:

> *"One of the things I haven't mentioned so far is, because it's not technically, Year of Care or care and support planning, but to support this through the House of Care programme in Lanarkshire, we have commissioned and are introducing a lifestyle management course with the theory of it will help people to engage more with their health and wellbeing to self-manage more and so if it can be either an outcome of the consultation that says 'You're really not engaged with your health or your self-care just now' or 'You're really struggling and your wellbeing is, your mood, is so low because of your long term condition you're really struggling you need some support and help to see the light'."*

> (LAN2_03)

Several key informants (LAN2_12, 14 and 15) suggested that the sustainability of HoC relied heavily on its continued effectiveness In particular, it was important that HoC resulted in both time and cost savings through an overall reduction in appointments. Having ongoing support from practitioners (nurses and GPs) was also required:

> *"… But I still do feel that as long as you've got the doctors and the nurses on board, then that's what you need to sustain it."*

> (LAN2_12)

However, one key informant suggested that in comparison to current ways of working, HoC was:

> *"… more sustainable than what we are doing, than what we used to do, which is what everybody else is still doing. I think it saves time, it saves money, it cuts down on return appointments…"*

> (LAN2_12)

While several key informants noted that practitioner support was a key aspect for the sustainability of HoC, in practices where HoC had not been found to have the same impact, there was less positivity towards it's sustainability among staff. One key informant expressed the opinion that HoC was more demanding of their time but resulted in poor responses from patients despite attempts to modify their approach. For instance, they noted that patients often did not return after their initial appointment and were resistant and reluctant to make life changes. This resulted in 'wasted appointments' and staff efforts - the effect on staff was described as 'quite soul-destroying':

> *"A lot more work. And we find that if the patients come out for their first initial visit, we're not really … they're not … they don't want to come back for their second visit. They don't feel that they've got anything that they're particularly wanting to change in their life or … there's nothing that they can change in their life. You know? So we're finding … that challenging at the moment. And quite a lot of wasted appointments as well. Because we're sending the letter out then they'll phone up and they make the appointment, then they don't come in for it an' then we phone them an' they went 'Nah, I don't really want to come. I mean, I've seen my nurse, I've got my bloods, I've got my results. I know what's what.' So that aspect, I find it quite … it's quite soul-destroying, actually. I actually thought we'd get better response when it was the old way to what we're getting from this way. You know? Again, we're going to maybe try and look at doing it differently, yet again. So this is about the second time we've tried to change it."*

> (LAN2_18)

4.1.6   Deprivation and equity of access to care

Respondents were largely unsure how HoC affected deprived populations or impacted on equity of access to care. For some, the immediate benefits of HoC were difficult to ascertain (LAN2_3, 12, 14, 15, 17, 18 and 19). Expected gradual benefits included enhanced patient self-management, and use of local community links and resources, which would include individuals from deprived backgrounds. However, as one key informant observed the introduction of the cultural change, which HoC represented, was often initially met with a lack of universal engagement, which was not thought to be limited to deprived populations:

> *"… I think that the potential is there for all patients and I think that it, it's not going to happen quickly but it encourages people to be more engaged with their own healthcare, to self-manage to use what's in their community, to reconnect with the community so and obviously areas that are deprived obviously there's a, a lack of engagement … The focus behind care and support planning is that you are systematically year by year encouraging people to become more engaged in their own healthcare and to use the supports within their own community to reconnect them to their own community so I think it's a nice gentle model that moves that along. So it's going to instantly work for some people but it's going to encourage this change of, and it will be a change of patient. The challenges that you face or your expectations or indeed your attitude towards the healthcare, your own health and the healthcare system it's going to change cultures but it will be a slow change. So it's not going to*

happen overnight but it will encourage that change to happen and for people to become more involved in their own health, whether they live in a, an area of deprivation or they live in an affluent area it will start to make these changes it will, so yeah that's what I would say"

Likewise, it was argued that there are various ways to engage patients from deprived backgrounds, for instance, greater staff awareness of local support to signpost patients who require it, as well as stronger links with the third sector to support patients:

"I think that even if they are from deprived backgrounds there is always ways that we can help patients along their journey. I think that the staff have became more aware of the support mechanisms that are available. And I would like to say that we've now got a closer, we've certainly got a tighter referral length into places like for social work etc. So that kind of thing"

Practitioners noted that in HoC patient reviews were set for their date of birth, which allows for indirect observation of who attended for future follow-up processes. This in turn was seen by some as beneficial in being able to monitor whether those from deprived areas required additional support or were missing appointments. However, this review has not yet been conducted:

"I think if, obviously, they were kind of doing the month of birth then, we're seeing who is attending and who's not. Whereas, before it was just kind of what letters were due that month and there was no really any kind of follow-up. So, they'll be like kind of follow-up a lot, and better … making sure folk are kind of attending. I think maybe in the future I'll look at the diabetic register and we're going to have a look now to see who is maybe not turning up for reviews, or whose sugars have been too high for a long period of time. And, if that relates to whether or not they've been invited, or attended for their invite"

Also noted was how patient empowerment could enable patients to make active lifestyle changes, which may have a "*ripple effect*" on other aspects of their life. Sign-posting as well as having link workers from Lanarkshire Care was seen as being advantageous in supporting patients, especially those with caring responsibilities:

"I think because, as well it's going back to the giving patients that responsibility and that ownership. Just because you come from a deprived area doesn't mean that to say that you can't live as well as you can with what you've got, and giving patients that wee bit of push saying, 'Yeah. If I change this, this'll improve my life and therefore, if my life's improved it'll have a ripple effect on the members of the family', specially, having the link worker to social care, and also we've got girls that come in from Lanarkshire Care together. Some of the patients maybe have … are on various registers with different COPD but they also care for an elderly or a sick relative too, to let them know that there's support there to help them, rather than let them just carry on and don't realise what's out there whether it be benefits or equipment, you know, or some

social help that they can get. You know, they're used to getting up and doing everything on their own and, eventually their health begins to fail, and that's … that's something that we're trying to avoid. So, it's looking at the bigger picture, I think"

(LAN2_14)

4.2   Digital Health

There were ten tests of change in the Digital Health WS. Of these five were selected for in-depth evaluation (deep dive) as they were fully implemented and novel strands which were not implemented elsewhere.

For the purposes of the interviews with key informants, the five implemented tests of change that were further explored in this phase were categorised into three main area of focus:

(1)   Waiting room and appointment initiatives (these included services such as self-check-in's, digital signage and staff training and support).

(2)   Video conferencing.

(3)   Repeat prescriptions online.

4.2.1   Implementation of Digital Health

Eight practices were reported to have had implemented some of the Digital Health tests of change (Table 2). Six out of the eight practices agreed to participate in the subsequent evaluation of Digital Health tests of change. The two practices that did not participate, had adopted the video conferencing test of change. In relation to the tests of change, five practices had implemented waiting room initiatives, four repeat prescriptions, and one videoconferencing.

Table 2: Digital Health in Six Practices In Lanarkshire

PRACTICE STUDY ID NUMBER	WS focus				
	Waiting room			Repeat prescriptions online	Video conferencing
	Self-check-in kiosk	Digital signage	Training		
Practice 1	✓	✓	✓	✓	✗
Practice 2	✓	✓	✓	✗	✗
Practice 3	✓	✓	✓	✓	✗
Practice 4	✗	✓	✓	✓	✗
Practice 5	✓	✓	✓	✓	✗
Practice 6	✗	✗	✗	✗	✓
✓ = practices with new tests of change ✗ = practices without new tests of change					

Key informants described the launch of the Digital Health WS in Lanarkshire in early 2017. All six practices reported that they were made aware of the digital transformation through email communication from NHS Lanarkshire. As noted by a key informant below:

> "…*there was an email that was sent out, I think by the Health Board. Saying that this service was going to, you know, going to be installed if you want. So I thought, 'that's a great idea'. So I just replied saying yeah, we were up for that.*"

> (LAN2_07)

Discussion with key informants from the six participating practices revealed that the implementation of Digital Health was primarily through practice managers:

> "…(The practice manager has been) *responsible for putting the bids into the health board for the digital equipment that* [the practice] *decided would benefit us in general practice and then when it comes helping with the implementation of it.*"

> (LAN2_05)

One key informant stated that the implementation of the new tests of change was further facilitated through project improvement training that they undertook. This practice experienced some initial resistance to change with the implementation of new transformations, which resulted in some members of staff resigning. However, the training helped in resolving some of this resistance through learning how to facilitate the change more effectively:

> *"… there was a huge change thing that we had to go through the practice which to be honest it wasn't pleasant at all. But we had to, we had to go, the business had to change, we had, we had a couple of members of staff just were so unwilling to change they left the practice and went and did other things. I did a, I did a course myself in project improvement in Edinburgh … and they took me, it was a year's kind of more or less training programme. And that really set me up, whilst I was doing that training I was taking this practice through the change at the same time so that was, that was really worth, that was really you know it actually taught me how to implement, you know how to make the change happen and measure it at the same time. So I knew we were going in the right direction and that's what it was all about."*
>
> <div align="right">(LAN2_02)</div>

4.2.2 Facilitators to implementation

Key informants reported leadership was an indispensable facilitator in the implementation of the tests of change. Administrative staff appreciated the continued support from the clinicians and management while they were getting accustomed to the new changes. For instance, one key informant noted that their practice manager was very knowledgeable of transformations and always informed staff of any changes that were introduced into the practice. The practice manager also ensured that everyone was trained on how to use new technology in the practice:

> *"We've got a very good practice manager … who is up to date with everything. You know, if there's something new comes out, she'll try it. And she's very, very good, and it's her that informs all the staff what's happening and different things like that … if you're starting and you don't know how to use something, she makes sure that you know how to use it and things like that. So aye, she's very good. She informs everybody … yeah, we all got training for that, so that we would know …"*
>
> <div align="right">(LAN2_14)</div>

Enthusiasm was a further enabler for the implementation of digital transformation in all six practices. Facilitation was endorsed by ensuring that feedback was obtained on the effectiveness of the new tests of change. For instance, one key informant regarded their appointment in the practice as being fundamental in the implementation of the tests of change:

> *"…my role in the practice to kind of introduce the, they need kind of digital technology and everything into the practice, to kind of make sure the implementation of it is, it's implemented properly, it runs smoothly and we've also got a system in place to ensure we've got good feedback on it to see that it's, that the systems are actually working that we're implemented with it so, and feedback any problems …"*
>
> <div align="right">(LAN2_02)</div>

NHS Lanarkshire provided training for staff at managerial and administrative levels. Key informants in both posts reported favourable responses towards training. For instance, five practices noted that they received invitations for further training through email prompts for "business continuity" training, as well as signposting training. The training concerned the use of new technology and was tailored to meet differences in the needs of clinicians, administrative staff, and practice managers:

> *"… NHS Lanarkshire has provided really it's basic training on the, on the systems. And there's further training available, I got an email yesterday from them saying look we've also looked at introducing for business continuity purposes, So no, they've been good with training and kind of, they're giving all the staff specific signposting training as well so that was all implemented about six months ago where the staff were taken all off site to Hamilton and trained at a, a really good seminar in Hamilton so, specifically on signposting so, so that was good so."*
>
> (LAN2_02)

This key informant noted that administrative staff seemed "more comfortable" after having received training for using the new digital transformations at the practice. It was also believed that these were helpful in the smooth running of the practice, as well as having helped ease some of the pressure from the practitioners:

> *"Oh yeah, yeah they're more comfortable you definitely now, it's not, it's not a problem now and they know they have the back, they know they've got the full support of the doctors behind them, and that's got a lot to do with it as well you know they're not just doing this for the sake of a tick box exercise they're doing that to make their job, their own job easier. The practice you know, the practice runs a bit smoother as well as the pressure is away, some of the pressure is off the doctors and they need to you know we're all starting to realise that's the way this, this practice has to go you know we just, it just won't be able to sustain the future the way we were running."*
>
> (LAN2_02)

This informant further noted that another important aspect was changing staff perceptions by making them aware that the changes in general practice were intended at improving patient care in the long run:

> *"… trying to kind of change the, the girls' way of thinking, that, that was a big, big where they just didn't think 'Oh here we are another project' we're going to, and then it will be done in a year. Yeah so it was really trying to teach them the bigger picture about how general practice was going to change over the next couple of years, where they have got it now you know, they know now that the way they are going and they're getting calls and things like that so no it was big, a big change but we got, we got there in the end about it as well."*
>
> (LAN2_02)

4.2.3   Barriers to implementation

One key informant reported technical difficulties such as inability to personalise devices to the needs of the practice. This observation was reported to NHS Lanarkshire for resolution:

> *"One of the, one of the, supplier who implemented one of the screens the, the, the, it's very difficult to go in and make changes to it even though with the other screen I've got which the practice has always had is really simple to go in and change things and*

you've full control over and things like that. So that was one of the things I just that I fed back that it's so difficult to get in and change, upload new things to it and that was the most recent one that was tendered by NHS Lanarkshire was the supplier one so it's, they really need to kind of make it a lot more user friendly for surgeries to get in and change stuff in there."

<div align="right">(LAN2_02)</div>

Two other practices had experienced communication barriers during the implementation of the digital services which led to delays and equipment not being used. For instance, problems were encountered in arranging access to practice premises for the installation of equipment by external contractors. That approval from NHS Estates Management was required for this work to be carried out was not known to some practices and they experienced "negativity" in arranging it – the installation process was then delayed and led to inconvenience for staff and patients:

"Bad service. Not from IT's point of view, 'cause NHS IT Facilitator she was brilliant, she was very good, very helpful and supportive for me. Because we had a lot of negativity from the estates manager, and from the administrator who takes, her role is letting people into the health centre. Who's not employed by us. Because, unbeknownst to me, if anybody comes into the building to do any work, we have to contact her (administrator) … so when that, when the first guys came in to actually put the points in for the monitor to go up on the wall, we were hit wi' a brick wall because she (administrator) hadn't been informed … So we had to send the guys away who'd came from England."

<div align="right">(LAN2_07)</div>

Another key informant reported that while they found some of the new devices to be very helpful, they were unreliable as they stopped working. They experienced problems in engaging with the suppliers to resolve the problems:

"… So that was all up and running, great, fantastic. The apps were put up on the monitor and patients were reading them and they were making appointments for, so it was great. It was really informative for the patients, which is what it's there for. The GPs liked it because they could call patients, which was saving them time to get up from their seat. And then it stopped working. It just stopped working. I had phoned the supplier and they tried to repair the problem over the phone, which is very frustrating for me 'cause it takes a lot o' time, 'cause they're constantly keeping you on hold. You could be one the phone for about an hour with them … No, they're connected, so nothing's working. I don't even have the apps now, because there's, there's just nothing on the monitor now. It's just a blank screen … So the whole process has been very, very frustrating."

<div align="right">(LAN2_07)</div>

Two practices argued that while some of the transformations had been beneficial, they found some of the training inadequate and brief, as certain aspects were often forgotten unless they were doing it on a routine basis. As indicated by one participant:

"…Well you've got a quick overview and then self-help … it's pretty learn as you go … the kind of patient education part of it there was a webinar that you could do but unless you're doing it every day you forget."

<div align="right">(LAN2_05)</div>

4.2.4 Impacts and outcomes

In-house evaluation by NHS Lanarkshire in February 2018 illustrated the outcomes relating to Digital Health tests of change (Figure 3).

Figure 3: Lanarkshire's In-House Evidence of Digital Health Contribution

Achievement/outcome	Evaluation measure	Data source	Evidence of contribution to date
Provide online access to book appointments	No. of people booking online appointments	GP IT system report	23 of the 30 practices supported via GP Digital funding are now enabled for on-line appointment booking and/or prescription ordering (96 of Lanarkshire's 104 practices)
Provide online access to order repeat prescriptions	No. of people ordering prescriptions on-line	GP IT system report	By Dec '17, 14,004 people in 75 practices had booked an on-line appointment, 76,844 had ordered a prescription on-line
Provide Vision Anywhere (mobile working)	No. of clinicians using Vision Anywhere (VA)	IT Facilitator dataset	40 practices across all 10 Localities have received at least one VA tablet
	Clinician feedback on Vision Anywhere (VA)	On-line survey	14 of the 29 survey respondents had used their VA tablet and eight had found this easy. The feedback requested in this survey will inform future developments
Provide video conferencing	No. of clinicians using video conferencing	IT Facilitator dataset	22 practices have had videoconferencing software installed and Cluster Quality Lead GPs have used it for meetings
	Clinician feedback on videoconferencing (VC)	On-line survey	Although the sample size was small, VC was found to be easy to use and it avoided travelling to meetings/appointments
Provide electronic patient call /notice boards	No. of practices using electronic patient call/notice boards	IT Facilitator dataset	24 practices across all 10 Localities have received electronic patient call/notice boards
	Clinician feedback on electronic patient call/notice boards (PCN)	On-line survey	12 of the 14 survey respondents said that the PCN had been useful to their practice. The detailed feedback requested in this survey will inform future developments
Provide self-service check-in machines	No. of patients using self-service check-in machines	IT Facilitator dataset	27 practices across 9 Localities have received self-service checking machines
	Clinician feedback on self-service check-in (SC) machines	On-line survey	20 of the 21 survey respondents said that the SC machine was useful to their practice. Patients did not always complete the check-in process or ignored the printed instructions and some machines did not work as planned. The detailed feedback requested in this survey will inform future developments
Outcomes achievement is dependent on the technology being delivered and functioning as planned			

<div align="right">*Source: (Alexander, 2018)*</div>

Feedback on new technology was being used to redesign provisions. Outcome measurement was yet to be explored[9]. NHS Lanarkshire has evidenced (from the figure 3) positive feedback about the use of electronic patient call/notice boards, as well as self-service check-in machines.

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[9]Accurate at the time of reporting in Feb. 2018. However, NHS Lanarkshire now have an updated final report with updated figures. For updates please visit:
http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander:
Helen.Alexander@lanarkshire.scot.nhs.uk

Repeat Prescriptions Online

Key informants cited the advantages of the use of online repeat prescriptions, which have helped in reducing the pressure on frontline staff. Furthermore, they redesigned their practice website to accommodate online repeat prescriptions, which was believed to have reduced some of the pressure on GPs:

> *"The other kind of services which we got maybe about a couple of years ago was online services which were absolutely vital that's, we've seen a big difference with online appointments and online prescriptions, that was a, a great help as well. Where we were able to kind of link it up with the practice website and things like that so patients weren't having to physically speak to someone to order their prescription and book their appointment so that's been a big, big help as well to try and reduce the burden on the staff at the frontline … Previously the GP saw them for absolutely everything, where now all these systems are helping with the signposting."*
>
> (LAN2_02)

Waiting room initiatives

One key informant noted that the reception staff "*love*" the self-check-in machines, with particular emphasis on reducing queues, and thereby freeing up more time for other duties, such as answering phones:

> *"The girls love it, the self-check-in especially they really like because the way the reception is set up we could have a queue of people just waiting to tell us they have arrived for their appointment so they don't really need to come and see the girls now they just check themselves in and sit down and the girls can get on with answering the phone or …"*
>
> (LAN2_05)

The electronic patient call/notice was reported to have been extremely helpful for a practice with hard of hearing patients:

> *"Patient call system there's been lots of compliments about, the patients are very happy with that, the majority of them are because it tells them where they're going but they can also hear it so it's actually quite good we've got a few deaf patients so in the past the girls used to listen and then go out and tap them but now we don't need to do that … We actually got a written letter from a patient about how pleased he was about the patient call system"*
>
> (LAN2_05)

However, this practice also reported that some of their patients struggled to use these technological changes. For instance, one key informant stated that patients refused to use the self-check-in machines because they had to use hand sanitiser before touching the screen. Another two patients refused, as they had confidentiality concerns that patients behind them could see their personal information:

> *"From the girls point of view it's really good if the patients follow the instructions but a lot of the times the patients don't see it all the way through so they think they've checked themselves in and it's not until they've sat in the waiting room for 40 minutes … but we've put the instructions on a luminous pink piece of card but they still*

don't follow it … and we've also had a few patients that refuse to use it … We had to buy alcohol hand gel, patients refused to use it for that reason and another patient, another two patients because people [other patients] can see their details on it."

<div align="right">(LAN2_05)</div>

Video conferencing

While contact details for three practices who implemented video conferencing were provided, only one practice with video conferencing participated in this evaluation. As a result, the experiences reflected here cannot be considered as being representative. In this practice, video conferencing had primarily been used for cluster meetings. One key informant reported that this was considered efficient in reducing travelling time, but also noted that other practices with whom communication by this method could have been possible were not keen on using this, limiting the use of the technology:

"… almost exclusively for … so far, exclusively for … cluster meetings … And … because one of the practices is rather far flung, the rest of the cluster, the idea was that, by having teleconferencing facilities for the cluster meetings that would make it more efficient: there'd be less travelling time … And, really it was a test to see whether it worked, whether it saved time, and whether the software worked without too many crashes and things like that. And, it did … works very well. No problem with that. It has to be said that some of the other practices aren't too keen on using it, and prefer to come for meetings, which means that we've only used it for meetings on three occasions. But, some like it. I'm more fond of it than some of the other practices"

<div align="right">(LAN2_13)</div>

While video conferencing had been considered advantageous, this key informant was doubtful of its effectiveness for use in nursing homes or diagnosing patients. Furthermore, while it had potential for use in career planning and development through education, it was not being used for this:

"It has some advantages. I prefer it to the telephone conferencing, and it doesn't take up a phone line but, in essence, a lot of the time it's just an extension of the telephone thing. And that's, because, some people are advocating it for links with nursing homes and things like that, and I'm sceptical about that, personally, because I don't see what much more it gives for something like that. I think for, I mean, for things like the cluster leads, I think it's nice to be able to … to talk to people. I think for … CPD and education it's helpful. It would be helpful, you know, for dialling into that, and some other committees and things that I've sat on that people have dialled into, and I can see where it's beneficial for that, because you can judge the mood of the room and things like that, as well. But, I think the idea of being able to see and diagnose patients over teleconferencing, I'm not convinced"

<div align="right">(LAN2_13)</div>

4.2.5   Sustainability and expansion

All six practices that participated in this evaluation reported some measures to sustain the digital services. One practice stated that it had recently introduced an SMS texting service, which was intended to reduce the number of patients missing appointments. They also intended to use this for

sending SMS text reminders for appointments, and anticipated that this would reduce postage costs, which in turn could then be invested in sustaining these Digital Health work tests of change:

> *"…we've also just recently the SMS texting. We're hoping to use that for recall, recalls and like instead of sending a letter out to the patient to make their annual review I'd send them a text to say it's now due. And possibly for appointment reminders but we've not started using that part yet. We've not started using it at all, no we've just got that recent in the last round of bids… We're hoping actually that the SMS texting, that's going to reduce our costs and enable us to keep the other two* [self-check-in machines and notice boards] *because the amount we will save on postage will pay the maintenance for the other. And we're hoping that the texting will reduce the number of DNA appointments that we've got as well but that all depends on whether the patients keep their telephone numbers up to date as well"*

> (LAN2_05)

Key informants generally agreed that the availability of funding going forward was key to the future sustainability of the service. In making this assertion, they believed that waiting room initiatives had the potential for growing further and to improve missed appointments. However, the maintenance costs of these services were considered extremely high, and, if unmanageable, practices would stop the use of these services:

> *"… Online services will get bigger and bigger but again practices really need to, to force patients, no but you know to push patients to register on it. So all the projects that are, that we're working with just now are they're going fine you know they really are, they're kind of … they're easy to maintain and run, it's just, as long as they're cost effective for the practice as well that's going to be the issue if the costs are absolutely huge to maintain them every year then they won't be, they'll, practices will stop using them and then they'll just, they'll, historically in the NHS that happened a lot with appliances and things like that where, where new technology came in it became so expensive to run it practices just stopped using them …"*

> (LAN2_02)

One informant believed that sustainability of the Digital Health tests of change was not a problem, but they had "low impact" in terms of transformational change:

> *"Och, no, they're fine, yeah. I mean … None of this technology is all that sort of out there, you know? So yes, it's sustainable, yeah … just sort of limited impact. But every little helps"*

> (LAN2_09)

4.2.6   Deprivation and equity of access to care

Similar to HoC, Digital Health key informants were unsure how Digital Health test of change affected deprived populations or impacted on equity of access to care. However, the mechanisation of simpler tasks was perceived to allow staff to focus on "*more complex tasks*":

> *"I'm hoping that it will make the staff's job easier because it will free them up from doing the simple tasks that these machines now do to take time to do the more complex tasks that they've got. I don't know what I'm, I don't know about the patients what impact"*

However, one key informant believed that online services would be beneficial for patients from deprived backgrounds, particularly the use of smart phones in making online appointments and using two-way texting which would reduce financial strains:

> *"For in deprived, I don't know we're, what it would, could do for, certainly for, for patient, for online services would be good for deprived patient you know because we have a lot of deprived patients that still live, mostly they all have an online phones or something like that, they have access to and the, the, most of patients in deprived areas that, that, they have a new park so that would have a lot, it would let them actually go on and book their appointments and things like that without physically having to phone and things like that. We use a lot of text messaging now in the practice which is a lot of SMS stuff which is working really well you know so and we've also got two-way texting now so patients can text us back you know so if we text them to, to, if they want to, we remind them about an appointment they can text back to cancel it and the system will take it out without us even knowing about it so and that works great, that works really well so"*

4.3 Summary of Key Barriers & Facilitators

4.3.1 HoC

The key facilitators for HoC included well-supported clinical and practice manager leadership; while pre-existing guidance from the Year of Care training allowed for the adaptability of HoC to the requirements of the practice and inter-professional collaboration. Key informants perceived HoC to be a catalyst in introducing patient self-management and wellbeing, as well as being influential in encouraging practices to adopt innovative techniques to utilise existing resources.

Reported barriers included: limited financial incentives, for instance, only a small amount of funding was provided to cover administrative costs; implementation of HoC was considered to be labour-intensive, and the associated workload was perceived to be far in excess of QOF; practices were required to undergo extensive redesigning of their internal systems, such that IT/software changes were seen as increasing workload; lack of support and acceptance from GPs, practice nurses and administrative staff were seen as a barrier to successful implementation; finally, practices noted wasted appointments as patients refused to attend annual review meetings.

With a lack of data on patient use and patient perspectives, the impact of HoC was difficult to ascertain. Importantly, at the time of reporting, there was little evidence yet available to help policymakers understand the potential impact of HoC on equity of access to care and whether HoC initiatives are being used equally with those from deprived backgrounds or other vulnerable groups as compared to more able individuals and those from more affluent circumstances.

4.3.2   Digital Health

Interviews with key informants suggested that the practice managers were the primary facilitators in the implementation of Digital Health. Key informants indicated that while there was some initial resistance to change with the implementation of new transformations, this was gradually resolved by increasing awareness that the changes were intended at improving patient care. Leadership, enthusiasm and continued support from management were noted by administrative staff as being crucial facilitators. While video conferencing was noted as being effective in reducing commuting, its other aspects (enhancing staff training and development and patient consultations), remained largely unexplored. Key informants further noted that the digital transformations had helped with reducing the pressure on frontline staff, practitioners as well as patients, for instance those with hearing impairments. However, with the lack of data from patients, it is difficult to substantiate this. However, poor communication, inadequate and brief training, technical errors with devices and the inability to customise the digital devices to the needs of the practice were cited as some of the problems experienced to date, which resonates with the wider literature on barriers to implementation of digital health (Mair, 2012). While patient satisfaction was reported by practice staff, there was insufficient data from patients to support this assertion and examples of patients experiencing frustration with some new systems were noted.

For both HoC and Digital Health the effects on equity of access to care and implications for deprived populations remain uncertain. Importantly, we know little about why patients engage or don't with these initiatives. Similarly, our data comes from professionals tasked with implementing or leading on these initiatives or those engaging with the programmes. Thus, our data gives only a partial view of reasons for non-engagement by professionals with the new ways of working. Table 3 outlines key barriers and facilitators identified from the "deep dive evaluation" of the implementation of the two work-streams:

Table 3: HOC and Digital Health, At Practice Level

	Tests of Change	
	House of Care	**Digital Health**
Facilitators	- **Staff training** - **Clinical staff leadership** - **Clinical support within practice** - Perceived relevant by practitioners - Inter-professional collaboration within the practice - Appointment of non-clinical support worker - Perceived clinical benefits for patients with long-term conditions - Job satisfaction for clinical staff	- **Staff training** - **Practice manager leadership** - **Clinical support within practice** - Sustained engagement with staff - Reduced workload - Funding opportunities
Barriers	- Lack of incentives - Increased workload - Need to redesign internal systems - Uncertainty about future (e.g. new GP contract) - Practice recruitment and retention difficulties - Lack of clinical support within the practice - Underdeveloped IT systems - Lack of patient engagement	- Unreliable devices/systems - Non-user friendly devices/systems - Poor communication between practices and internal maintenance services - Failure of suppliers to remedy system faults - Inadequate staff training - Patient struggling with new technologies

5. DISCUSSION

This chapter brings together the findings from the literature review, and Phase 1 and Phase 2 of this case study in order to describe primary care transformation in Lanarkshire, to understand implementation processes and what learning can be gleaned to enable further development and expansion of such services in primary care across Scotland.

The broad aims of this case study were to:
- increase understanding of what is known about primary care transformation
- understand the context in which the new ways of working are being tested
- identify the new ways of working that are being tested in primary care
- identify which models seem to be working well, and why; and which are not working so well, and why
- identify new models of working for further exploration in Phase 2 deep dives.
- explore the implementation and sustainability of the deep dive models of care from the perspective of those implementing, and working in, these models.

The literature review was based on **18 publications,** eight of which had been undertaken in the United States (US). This literature suggested that given the context-specific and fragmented nature of primary care transformation, it is not clear whether transformations in one jurisdiction are transferrable to another. In view of this, it is not clear whether transformations in one setting are transferrable to another. There is a possibility of publication bias, as studies identified in this review were more likely to report successful transformations within organisations. Key mechanisms of implementing new models of care were extending practice team skill mix; introduction of new staff or retraining existing staff; promotion of multidisciplinary teams; and making greater use of non-physician roles such as nurse practitioners, physician assistants, and medical assistants. Enhancing patient access and supporting transformational change by promoting the use of information technology were also crucial and, in the US context, tackling provider costs through changes to physician remuneration. However, such initiatives need both resources and adequate time both for implementation to take place and for mechanisms to be developed to ensure sustainability.

Reported challenges to implementing transformation change related to insecurity of sustained funding, pressures on staff time, and buy-in or support from staff for the change.

A set of common facilitators and barriers to the successful implementation of primary care transformation were identified and listed in Table 3. Common identified facilitators were staff training, and clinical support within practices. Identified barriers were different between HoC and Digital Health. Some barriers for HoC were increased workload, lack of clinical support within the practice and lack of patient engagement. While barriers within Digital Health included unreliable devices, failure of suppliers to remedy system faults, inadequate staff training and patients struggling to use new technologies.

Phase 1 work involved **reviewing 83 documents** relevant to primary care transformation in Lanarkshire and **14 semi-structured qualitative interviews with key informants** concerned with the implementation of primary care tests of change in Lanarkshire. Combined, these allowed a more in-depth understanding of <u>40 tests of change within six discrete WSs</u> that were undertaken in Lanarkshire. At the end of Phase 1, 26 were assessed as implemented, and 14 not fully implemented. Based on this work, the research team and the Scottish Government agreed to focus on two work streams, HoC and Digital Health, for more in-depth exploration during Phase 2 of this case study.

Phase 2 of involved a **further documentary analysis** and **21 qualitative semi-structured qualitative interviews** with key informants who played key roles in the implementation of HoC and Digital Health.

Uptake of HoC in NHS Lanarkshire has been slow. Qualitative evidence from interviewees suggest that successful implementation has occurred in practices where there was a mutual acceptance between the practice manager and practitioners of the likely benefits of the approach. Furthermore, facilitation was enabled through the initiative and leadership of clinical staff. The effects on workload and resources were highlighted as issues that need to be addressed to ensure sustainability and mechanisms to incentivise participation discussed. However, with a lack of data[10] on patient use, the impact of HoC is difficult to ascertain. We would suggest that in the longer term it will be important to identify a core set of measurable outcomes that could be used to determine the benefits, if any, of the programme. Future evaluation should ensure patient perspectives are sought and this should include both those who engage and those who decline to engage with the HoC programme. Whether the HoC programme works well, in its present form, for vulnerable individuals and those in deprived areas is also worthy of exploration as such work could determine whether further tailoring of the programme is required to widen accessibility.

Evidence from interviewees suggests that the implementation of Digital Health was primarily through practice managers. Key informants indicated that while there was some initial resistance to change with the implementation of new transformations, this was gradually resolved when staff were made aware of the perceived benefits to patient care in the long run. However, poor communication with suppliers, technical errors with devices, ease of use issues and the inability to customise the digital devices to the needs of the practice were cited as some of the problems. These types of issues have previously been described in the wider digital health implementation literature (Mair, 2012, Cresswell K, 2013). While patient satisfaction was reported by practice staff, we had limited access to data from patients to support this assertion. Again, it will be important to seek the perspectives of patients who successfully use new digital health services but also those of patients who do not use or engage with the new services. Previous work in the digital health sphere (Lennon

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[10]NHS Lanarkshire's in-house evaluation is collecting patient data for evaluation. The report will be available shortly. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk"

et al., 2017) has highlighted the need for upskilling and support to ensure uptake and use by all sectors of the community.

5.1 Strengths

- This evaluation has adopted multiple methods for evaluation with in-depth analysis of documents including national and local NHS Lanarkshire policy documents, qualitative interviews with key informants at two levels: health board programme managers and practice level staff; and in-depth evaluation of primary care transformation literature.
- The evaluation process had good engagement with key informants in Phase 1 with the majority of key informants taking part in the interview process.

5.2 Limitations

- It is too early to evaluate impacts and sustainability given the short timeframe of this evaluation.
- We did not have the resources and permission to engage with patients, and hence we lack data on patient experience and perceived impacts of these new ways of working.
- We do not have any data on equity of access to the new services.
- There was no engagement with practices who did not participate and hence there is a risk of bias and a possibility that other barriers to implementation of primary care transformation exist, which could not be identified by this evaluation.

5.3 Key Learning

Overall, our findings resonate with the existing literature on primary care transformation in relation to the importance of funding and the need for effective engagement with staff in order to change the principles by which people carry out their work. It is clear from the literature and our findings that efforts at primary care transformation require long-term investment and sustained commitment if they are to succeed. Facilitation of HoC was enabled through the initiative and leadership of clinical staff. Our work in relation to the Digital Health deep dive resonates with the wider literature on implementation and barriers and facilitators to deploying digital health at scale (Mair, 2012) (Lennon et al., 2017). Furthermore, both HoC and Digital Health experienced difficulties in patient engagement (e.g. patients unwilling to attend review meetings, struggling with new technology etc.). Therefore, it is important that going forward the key lessons learned from previous research in this sphere are addressed as the deployment of Digital Health continues.

It will also be important to explore whether the new initiatives benefit vulnerable groups and the most deprived as well as those from more affluent and able backgrounds in order to ensure that primary care transformations do not inadvertently serve to widen inequalities. This also means that evaluation of these new initiatives should include collection of patient experience data (from those who engage and fail to engage). It will be essential to collect objective evidence regarding the effects

of these initiatives on pre-defined key outcome measures. We would suggest there is a need to evaluate and document primary care transformation journeys in Scotland and across the UK, in order to enhance our understanding of the role of context, process, outcomes, lessons learned, and sustainability, and to guide and provide lessons for other transformation activities nationwide.

Key Recommendations

- The impact of primary care transformation on patient care remains unclear and this needs to be investigated in future evaluations
- Future evaluation of primary care transformation needs to have greater scope for patient participation and learning from practices who do not engage with these tests of change.
- Long-term funding commitments, good quality staff training and strong clinical and managerial leadership will be required for the future sustainability and uptake of primary care transformation.
- It is vital to identify a core set of evidence-based patient care outcome measures (in addition to those already identified) that could be used to determine the long-term benefits of the programme.
- Measurement of the actual impacts, sustainability and spread of tests of change will require further evaluation of primary care transformation journeys over the next five to ten years.

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List of Appendices

A. SSPC Evaluation Framework (v.1.0, 25072016)

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Appendix A: Scottish School of Primary Care National Evaluation Framework for New Models of Care Summary

The Primary Care Transformation Fund (PCTF) has £20 million designated to new models of care in primary care, which is part of a £60 million fund covering additional aspects of care such as mental health, community pharmacy, and out-of-hours care. The Scottish School of primary Care (SSPC) has been awarded £1.25 million to help evaluate these new models of primary care. Four Health Boards across Scotland have already received funding over the last 1-3 years for specific projects on new models of care, and these have recently also received an additional year of funding (as from April 2016); a larger number of new projects that will be funded to start later this year on the basis of new bids put in by all the Health Boards in Scotland. In addition, Inverclyde has received funding to pilot new ways of working and the new GP Contract, including GP practice clusters, and this work is in progress.

Evaluation Framework

The evaluation framework proposed by SSPC consists of two phases; firstly the identification of the new models of primary care being funded by the Scottish Government (SG) across Scotland, what their components are, how they are expected to work (theory of change) and what the expected short, medium and long-term impacts or outcomes are. The second phase consists of identifying the impacts, learning, spread and sustainability.

Phase 1: Intervention Theory and Expectations of Impact

Phase 2: Impacts, Learning, Spread and Sustainability

The evaluation will be carried out at two levels, national and local. The **national** evaluation will include the Scottish Governments own theories of change and expectations of impact, and those of the funded projects at Health Board level. Evidence of Impact, learning, spread and sustainability will be mainly gathered through a limited number of selected **local** in-depth case studies ('deep dives') carried out by SSPC member Universities in different Health Board regions, together with rapid literature reviews of the best evidence for key aspects of the interventions. This will be complemented with the available evidence from the other sites not selected for detailed case study.

In this way, an integrated and detailed sharing of learning will be produced which will be of **national as well as local relevance.**

How it will work

SSPC works on a hub and spokes model. The small core SSPC team have already been scoping the remit of the renewed and new bids, drawing of evaluability assessment methodology. We will suggest to the SG sites for the 'deep dive' case studies, based on our assessment of evaluability. These will be distributed across Scotland, and we will ask our SSPC members in different regions to bid for the evaluation of these local sites. The senior researchers in each academic unit will then lead the evaluation of their site with their own chosen team. However, the core team will ensure close co-ordination with the SSPC hub and also between evaluation sites, so that learning is shared and all members will contribute to the integration of findings to inform the national picture. SSPC core staff will additionally continually collect information and learning from the non-case study sites during the course of the evaluation, to complement the case study findings. Thus a fully integrated final national report will be produced, as well as the detailed reports from the chosen local sites.
In addition, SSPC will contribute to the evidence-base for the components of the interventions by carrying out a series of literature reviews.
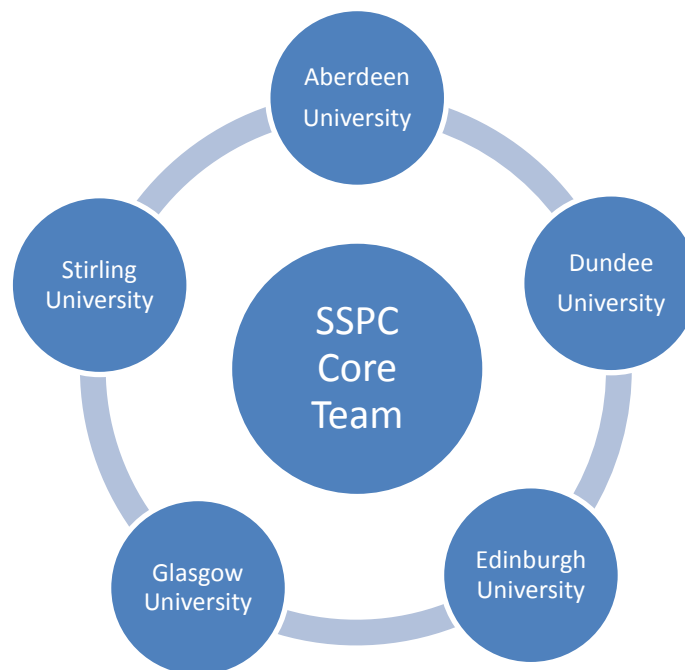
SSPC will also work collaboratively with other key organisations on available national performance data on patient satisfaction and 'big data' (such as unplanned hospital admissions), working in partnership with other key organisation such as central analytical services, NHS Health Scotland, and so on.

University of Glasgow | College of Medical, Veterinary & Life Sciences

Evaluation of New Models of Care: NHS Lanarkshire

Thank you for agreeing to meet with one of our researchers to discuss your views and experiences of primary care transformation implementation in NHS Lanarkshire.

This study is being conducted in two phases.

In Phase 1, we are interested in exploring what activities are taking place in Lanarkshire and how these fit with the on-going health system in Lanarkshire.

In Phase 2, we will focus more on actual projects, examining their aims and objectives, milestones and achievements.

Phase 1: Intervention Theory and Expectations of Impact

1. Can you describe your role in Lanarkshire:
- generally – (Health Board/ HSCP/ IJB)
- in relation to primary care transformation in Lanarkshire?

2. How has this change in delivery been funded?

3. Do you know about the Primary Care Transformation Fund? Was this considered as a source of funding for this project/these project(s)?

4. a) who were the main drivers in developing the bid and projects?
  b) how wide was the general support for the bid/projects?

5. Are you aware of the aims of Primary Care Transformation nationally?

6. Do you work closely with any national stakeholders? (e.g. SG etc.)

7. Are you aware of the aims of Primary Care Transformation services locally?

8. What projects have been developed and why did you choose to fund these?

a) why were these models/tests chosen?

b) do these projects build on previous work or are they entirely new ways of working?

c) what involvement did primary care practitioners (e.g. GPs) have in the choice and development of the models/tests?

e) What governance arrangements/structures are in place? Is this the same for all projects?

9. **What is your relationship with the local projects?**

a) do you have an overarching role across projects?

b) do you have a specific role in individual projects?

10. Who have you had to engage with in order to develop and deliver these projects?

a) who were the drivers?

b) who else is involved, what are their roles and how were these determined, have their roles evolved/changed over time?

c) who is not really involved who you think should be?

d) was there any patient/public involvement in the choice or design of the new models of care?

e) What governance arrangements/structures are in place? Is this the same for all projects?

11. What progress has been made so far?

a) has the rate of progress been similar across the different projects?

b) Have you tried/considered testing other models that have either not 'got off the ground' or which didn't work so well?

12. What are the expected overall outcomes/impacts of the projects as a whole in Lanarkshire? In what timescales:

a) short term (within the next year)?

b) medium term (within the next two to three years)?

c) long term (beyond three years)?

13. How will these outcomes/impacts be measured? Do they require existing or new data? How will the data be collected and by whom?

a) Will support be required to collect data to inform the measurement of impact?

b) Have quality standards/measures of success for this been agreed? What are these, how were they identified and by whom?

14. Are there plans for local evaluation and, if yes, by whom?

- can you describe the plans for the local evaluation?

15. Are there plans for identifying 'success' of projects?

16. Are there plans for identifying the 'sustainability' of projects?

a) have there been any facilitators or barriers in the development and/or implementation of the projects?

b) do you foresee any barriers or facilitators in sustaining the projects?

17. What are the resource implications of these projects? Now and in terms of sustainability?

18. Who are the key stakeholders in terms of future sustainability and spread?

19. Are Lanarkshire planning on trying out other 'new ways of working' in future?

20. Is there anything else about this evaluation you would like to add?

Appendix C: Primary Care Transformation: a working definition

The development of new models of care has been termed 'primary care transformation', implying radical changes in the organisation of health care delivery aiming to achieve goals and outcomes fundamentally different from 'usual' primary care (Homer and Baron, 2010). Definitions of primary care transformation vary; Best et al. suggested that most focused on single organisations or services (Best et al., 2012b). In their realist review of large system re-organisation, they defined large-system organisation as:

> *"interventions aimed at coordinated, system-wide change affecting multiple organizations and care providers, with the goal of significant improvements in the efficiency of health care delivery, the quality of patient care, and population-level patient outcomes."*

While this meets some of the needs of evaluating primary care transformation in the case study sites, including multiple organisations and the aim of improving health care delivery, the NHS Health Board-focused case studies are – in essence – multiple projects located in a single geographical site. Thus, the definition developed by the SSPC was used. This defined primary care transformation as:

> *"Any project, which may be a new initiative or one that builds on previous/existing work, that is testing a new way of delivering, or facilitating the delivery of, primary care services or improving the integration/interface between primary care and other services (such as other health sectors, social care and third sector)."*

These definitions, and the rationale for accepting them, are further explored in Appendix D.

Appendix D: Systematic Scoping Literature Review

As the models of care identified in this case study were potentially broad in scope and remit, it was necessary to take a broad view of the research literature. As a result, a systematic scoping review (Levac et al., 2010, Colquhoun et al., 2014) was undertaken. Scoping reviews are conducted when the research question of interest is broad, as is often the case when developing work to inform policy, where research using a range of study designs will be informative and are particularly useful in identifying gaps in the research literature (Arksey and O'Malley, 2005, Colquhoun et al., 2014, Peters et al., 2015). However, while the aim and scope may be broader, scoping reviews are undertaken with the same degree of rigor as more traditional systematic reviews. There are five key steps: (1) identification of the research question(s); (2) identification of relevant studies; (3) study selection; (4) data extraction and charting; and (5) collating, summarising and reporting data (Arksey and O'Malley, 2005, Levac et al., 2010).

To identify pertinent literature, searches of bibliographic databases were supplemented by searches of selected websites concerned with health care delivery in recognition of their importance to the field of health care delivery and evaluation (Box 1).

Searches

Two databases were searched: OVID and EBSCOHost; both were searched from 1996 to 19th February 2018. Search terms included 'primary care', 'models of care, and 'transformation'. Initial searching found that this identified a large body of literature, including many studies of single approaches, often with a low degree of relevance to the research questions. To restrict the amount of literature identified, two approaches were employed:

1. Papers identified by keyword searching were then limited to reviews.
2. Searches were carried out focused only on titles.

A full description of the searches is provided in Appendix M. This searching was supplemented by the personal reference collections of the research team, with several other pertinent references identified.

BOX 1: SOURCES USED FOR SEARCHING

Source	Rationale
OVID, selecting Medline and EMBASE	Together, Medline and Embase cover the main medical and health care literature.
EBSCOHost, selecting CINAHL, Health Source (Nursing/Academic Edition), PsycINFO, SocINDEX	These databases were selected to ensure broader coverage of the nursing, psychological and social science literatures.
The King's Fund	An independent charity working to improve health and care in England. While much of its work is focused on London, it has increasingly led on evaluation and critical interrogation of health system changes and health policy across the NHS in England.
The Health Foundation	An independent charity focused on the evaluation of

	health and health care in the UK. Focuses on evaluation to health systems and health policy.

Screening of identified papers

A total of 428 papers were identified, and downloaded to Endnote for final duplicate checking. Following removal of 24 duplicates, 404 papers were imported into DistillerSR software for screening. Screening was conducted by two team members (SD and COD). Inclusion and exclusion criteria are described in Box 2.

Screening resulted in 18 papers being included for full data extraction. The major reason for exclusion was that the study was not about primary care transformation (n = 308), was not based in primary care (n = 25), did not contain empirical data (n = 22) or was not a review or research synthesis (n = 8). Full details are given in Figure 4.

BOX 2: INCLUSION AND EXCLUSION CRITERIA FOR PAPERS DESCRIBING PRIMARY CARE TRANSFORMATION INITIATIVES

Inclusion criteria
Focus on primary care transformation e.g. new models of care; new ways of working; integration/interface between services.
Located in primary care
Exclusion criteria
Not a review or synthesis of data collected across multiple primary care sites
Editorial/ commentary/opinion piece with no empirical data
Report, thesis or policy paper – not a peer reviewed paper
Conference abstract or protocol
Not English language
Focused narrowly on one disease/condition or population group
Full paper unavailable

Figure 4: PRISMA DIAGRAM OF THE RESULTS OF SEARCHING AND SCREENING

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                    ┌──────────────────────────────────┐
                    │  Full text articles excluded      │
                    │  n = 78                            │
                    │  Not about primary care (n = 25)   │
                    │  Not a review or research synthesis│
      ─────────────►│  (n = 8)                           │
                    │  Editorial/commentary/             │
                    │  opinion piece (n = 22)            │
    ┌────────────┐  │  Conference abstract or protocol   │
    │ Papers     │  │  (n = 1)                           │
    │ included   │  │  Not in English (n = 1)            │
    │ n = 18     │  │  Focused on one disease/condition  │
    └────────────┘  │  or population group (n = 14)      │
                    │  Full paper unavailable (n = 7)    │
                    └──────────────────────────────────┘
```
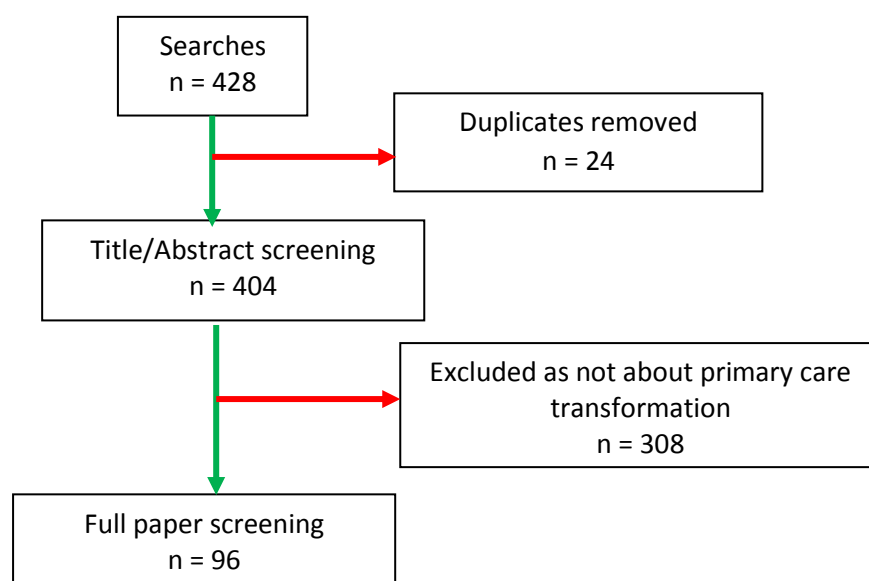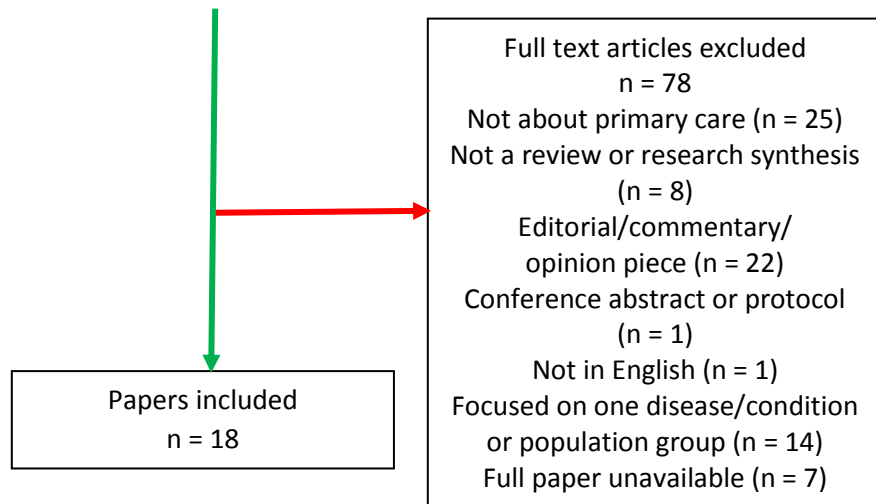
N = number

Quality appraisal

Quality assessment was carried out in DistillerSR using recognised critical appraisal checklists developed from the Critical Appraisal Skills Programme and the Scottish Course for Evidence-based Practice, depending on the study design being appraised. Studies were graded as 'Good' if no criteria were scored as poor; 'Fair' for one poor score; and 'Poor' if the study received two or more poor scores. All included papers were scored by two reviewers, with any discrepancies resolved by discussion.

Data extraction

Level 3 data extraction was conducted in Distiller by SD and COD. This focused on the characteristics, aims and key findings of each included paper and a quality assessment using recognised appraisal checklists.

A data extraction proforma was then developed iteratively by KW, KS and COD. The included papers were then reviewed using this proforma, which focused on:
1. definitions of transformation
2. drivers for the new way of working
3. areas considered part of primary care transformation (e.g. changes to funding systems; introduction of new staff groups or redeployment; use of information technology; patient self-management strategies)
4. key findings
5. barriers and facilitators to transformation.

This work was supplemented by the identified, relevant reports from The King's Fund and The Health Foundation. Findings were then synthesized narratively across the identified themes by KW, KS, SD and COD, and reviewed by the entire research team.

Appendix E: Policy and Literature Review

As a response to the multiple challenges faced by primary care, the concept of 'transformation' of primary care and wider health services is currently a popular one, with international interest. Examples that could be badged as 'transformative' include the Patient-Centred Medical Home and Accountable Care Organizations in the US (Stewart et al., 2010, Hoff et al., 2012, Jackson et al., 2013); Patient-Centred Medical Homes (PCMH) in Australia (Janamian et al., 2014b); system-level changes in primary care delivery in Canada (Hutchison et al., 2011); and Multispecialty Community Providers, and Primary and Acute Care System vanguards in England (The King's Fund, 2016b, The King's Fund, 2018a).

However, it is unclear if there are shared understandings about what transformation is and what areas of health care delivery are targeted. In addition, the barriers and facilitators to transformational change are not well documented. Therefore, the policy and literature review underpinning the evaluation work aimed to:
1. identify the range of definitions provided for the term 'transformational change'
2. identify drivers for primary care transformation
3. identify what areas of primary care were considered part of primary care transformation (e.g. changes to funding systems; introduction of new staff groups or redeployment; use of information technology; patient self-management strategies)
4. understand the barriers and facilitators to transformational change in primary care.

The Policy Context and Recent Evaluations

Primary care transformation has been at the heart of several recent UK policy documents. In England, the Five Year Forward View (NHS England, 2014a) and Transforming Primary Care (NHS England, 2014b) both laid out a vision of care with primary care at the centre, but working closely with other NHS and non-NHS partners. Drivers for both of these documents included demographic changes in the population, an increase in patients with complex health and social care needs and a wish to provide 'personalised, proactive care to keep people healthy, independent and out of hospital' (NHS England, 2014b).

In Scotland, the 2015 announcement of an £20.5 million Primary Care Transformation Fund to support the redesign of primary care services in Scotland was in line with the 2020 Vision for health care in Scotland, which mapped out a route map for primary care (NHS Scotland, 2013).

As illustrated in Table 4, these policies all outlined new models of care, often with general practice services at the centre of these new ways of working. However, while there was high-level rhetoric describing the services that would integrate, there was less consideration as to how these models would operate.

Table 4: RECENT UK POLICY PROMOTING TRANSFORMATIONAL CHANGE AND NEW WAYS OF WORKING

Policy	Key Aims	Key Proposals
(NHS England, 2014b)	To provide personalised, proactive care to keep people health, independent and out of hospital. Will initially target people with the 'most complex needs'	**Patient level.** Proactive Care Programme led by GPs to provide tailored support to patients with complex needs; access to a care coordinator. Named GP for all people aged over 75. Improved coordination and communication between GP practices, A&E, community nursing services, ambulance services, care homes, mental health teams and social care teams. Improvements in information and technology e.g. to enable patients to book appointments online and to order repeat prescriptions online. **Staff level.** Free up GP time by removing bureaucratic task-based payment activities. Support to improve skill to provide care for older people and those with complex needs. Improved joint working across and between professional groups. **System level.** Removal of organisational barriers. More funding provided for Clinical Commissioning Groups and a dedicated fund to support integration of health and care services. Demonstration projects (Integrated Care Pioneers) to develop new ways of delivering coordinated care. Improving access to GP services, with a new 'challenge fund'. Improve sharing of patient records across services. Up to 10,000 primary and community health and care professionals by 2020. Improve recruitment, retention and return to practice in primary care

		community care.
(NHS England, 2014a)	To improve prevention and public health. To ensure patients have greater control over their own care. To break down barriers in how care is provided e.g. between GPs and hospitals; between physical and mental health; between health and social care.	**System level.** Multispecialty Community Providers: groups of GPs combining with other professional groups including nurses, community health services, hospital specialists, mental health and social care to create integrated out-of-hospital care. Primary and acute Care systems: integration of hospital and primary care providers, similar to accountable care organisations in other countries. Redesign of urgent and emergency care services to integrate A&E, GP out-of-hours, urgent care services, NHS 111 and ambulance services. Increased support for frail older people living in care homes.
(NHS Scotland, 2013)	To continue to provide high quality health and care services for the people of Scotland.	**System level.** Increase the role of primary care, including implementation of a new GP contract and new models of 'place-based' care, including for remote areas. Integrate health and social care services. To improve delivery of unscheduled and emergency care. To improve support and care for people with multiple and chronic illnesses. To reduce health inequalities by targeting resources to the most deprived areas.
(Scottish Government, 2016b)	To provide high quality health care to the people of Scotland, built on collaboration not competition.	**System level.** Promote planning and delivery of primary care services around individuals and their communities. Plan hospital networks at a national, regional, or local level based on a population paradigm. Provide high value, proportionate, effective and sustainable healthcare. Promote transformational change supported by investment in e-health and technological advances.

Some exemplar projects were described, for example using video consultations to link nursing and residential homes to allow nursing and medical staff to carry out teleconsultations; but there was no clear guidance offered to primary care organisations in terms of how they should implement and operationalise transformational change, nor what would be expected of them by the Department of Health (in England) or the Scottish Government.

One reason for this may be a reluctance to dictate to organisations about where their focus should be. The Five Year Forward view acknowledged that the diversity of populations served and settings meant that, while a 'one-size-fits-all' approach was not a solution, neither was a 'thousand flowers blooming' approach (NHS England, 2014a). More recently, an update to this policy has continued to describe exemplars of practice across England but with no systematic assessment of what is working well or, conversely, not working in particular settings or population groups (NHS England, 2017). Arguably, this would be useful for those tasked with implementing transformational change.

The Health Foundation and the King's Fund have recently started to report on evaluations of new models of care in England (STARLING, 2017, THE KING'S FUND, 2016a, THE KING'S FUND, 2018b). The new models of care evaluated in these reports cover a range of approaches, including the integration of primary care and hospital services and the integration of health and social care. Target populations have generally been elderly patients and patients with complex health and social care needs (again, often focused on elderly patients). Key messages are summarised in Box 3. Briefly, these reports focus on particular populations and complex local systems; in primary care they focus on workforce development and promote an awareness of the relational issues that go with increasing collaboration. They emphasise the need to develop governance and distribute decision-making, testing assumptions about what activities lead to what outcomes while paying close attention to budgetary issues.

BOX 3: KEY LEARNING FROM RECENT EVALUATIONS OF NEW MODELS OF CARE

Focus on a particular population.
Involve primary care.
Develop shared understanding of the challenges.
Test assumptions about how activities will lead to outcomes.
Distribute decision-making roles.
Invest in workforce development.
Develop formal governance arrangements.
Consider how the new model of care 'fits' into complex local systems.
Pay close attention to budgetary and commissioning issues (N.B. This is less problematic in the Scottish NHS, which does not have Clinical Commissioning Groups).
Acknowledge the importance of building collaborative relationships between organisations, and their leaders and give this activity time to take shape.
Focus on the relational, as well as technical, aspects of new models of care.

(Adapted from(THE KING'S FUND, 2016a, THE KING'S FUND, 2018b, STARLING, 2017)).

However, to better explore definitions of transformation, areas of focus and barriers and facilitators we also reviewed the current literature, as described in the Methods.

Peer Reviewed Literature

A scoping review of the literature focused on systematic reviews and synthesis of multiple evaluations, with 18 studies included in the final review. Of these, nine were systematic or narrative reviews of the literature; five were qualitative evaluations across multiple sites; two were questionnaires; one was a mixed methods study set across multiple sites; and one was an economic evaluation. All papers were published between 2009 and 2017. Six papers were international in focus (these were all reviews). Ten were evaluations of new models of care in the US; two were based in Canada. A summary of the included papers is contained in Appendix N.

Definitions of transformation

The use of the term 'transformation' in the primary health care literature is relatively new and remains a nascent research area. There is not yet an agreed definition for 'primary care transformation' as a concept. This is largely a result of the influence of context, the variety and specific nature of 'transformational changes', and even agreeing upon what constitutes 'transformation'. There is also a lack of understanding about the experiences of implementing transformation at the practice and patient level (Bitton et al., 2012b).

A common element in the differing definitions, regardless of setting, is that primary care transformation involves change that is 'profound' (Quinn et al., 2013a), 'significant' (Janamian et al., 2014a), 'dramatic' (Gold et al., 2017) or 'epic' (Nutting et al., 2009a). Transformational change is further defined as being 'intended' and 'coordinated' across the setting, and as 'systematic' in nature (Lee et al., 2013, Best et al., 2012b) rather than 'a series of incremental changes' (Janamian et al., 2014a). This suggests that for change to be considered transformational, it should involve planning prior to implementation and clear management throughout the change process and across the stakeholders involved.

Transformation can be described as an activity which involves significant deviation from what one would normally expect [in a given period] in a primary care setting and not just 'add-ons' to existing practice (Friedman et al., 2014b). It is, therefore, regarded as a radical change from practices that have become routine or are historic (Lee et al., 2013, Janamian et al., 2014a). Nutting et al. describe 'replacing old patterns and processes with new ones' in the context of primary care practices in the US transforming into PCMH (Nutting et al., 2009a). Practices and processes targeted by transformational change can include the roles and responsibilities of staff (Friedman et al., 2014b, Quinn et al., 2013a, Carter et al., 2016), relationships, culture, mind-set (Gold et al., 2017); increasing patient-centeredness (Janamian et al., 2014a, Akinci and Patel, 2014, Ralston et al., 2009); and in the context of insurance-base health care systems – payment models (Carter et al., 2016). The concepts of multi-dimensionality and radical change were therefore prominent in the literature. In a review that examined transformation across a range of sectors, including health care, Lee et al. used the following definition:

> *"Transformational change is defined as intentional and multidimensional change that departs radically from an organization's past precedents, aims at large-scale readjustments, and is complex and systemic." (Lee et al., 2013)*

This suggests that any change, however radical in its current setting, will not be considered as 'transformational' if it is restricted to only one part of an organization e.g. located within a single

general practice or addressing only one professional group e.g. pharmacists. Changes should also be expected to affect multiple outcomes, such as creating a new path for organisational development, improving efficiency of care delivery, quality of care, population-level outcomes and healthcare costs (Best et al., 2012b, Gold et al., 2017, Carter et al., 2016, Akinci and Patel, 2014). These multiple outcomes are reflected in the six quality aims of health care redesign developed by the Institute of Medicine of 'safety, effectiveness, equity, timeliness, efficiency, and patient-centeredness' which they suggest should be targeted collectively (Ralston et al., 2009).

Drawing on this, it is suggested that a working definition of primary care transformation should refer to the scale, nature and outcomes of change - an example from the literature is:

> *"interventions aimed at coordinated, system-wide change affecting multiple organizations and care providers, with the goal of significant improvements in the efficiency of health care delivery, the quality of patient care, and population-level patient outcomes." (Best et al., 2012b)*

This meets many of the characteristics of the SSPC evaluation of primary care transformation, including the involvement of multiple organisations and the aim of improving health care delivery. However, the present case study, which concerns a single NHS Health Board, is – in essence – multiple projects located in a single geographical site. It was also unclear to what extent changes were truly 'transformational', as opposed to more incremental change across services. Consequently, the definition developed by the SSPC (reference) was used. This defines primary care transformation as:

> *"Any project, which may be a new initiative or one that builds on previous/existing work, that is testing a new way of delivering, or facilitating the delivery of, primary care services or improving the integration/interface between primary care and other services (such as other health sectors, social care and third sector)."*

Drivers of primary care transformation

The widespread movement towards transforming primary care has been motivated by both local context and shared national and global challenges. Such drivers show that the way in which primary care systems are currently organised, does not adequately serve the needs of patients.

Changes in the population – described as 'increasingly medically heterogeneous' (Friedman et al., 2014b) - have been a key driver of primary care transformation. The ageing population has placed growing strain on primary care services (Friedman et al., 2014b, Smith-Carrier et al., 2015, Desmeules et al., 2012, Carter et al., 2016). In Canada, whilst adults over 65 represent 14.9% of the population, they account for almost half of health care expenditure – and this section of the population is expected to double in the next 20 years (Smith-Carrier et al., 2015). An older population utilises primary care more frequently and presents with more complex conditions and multi-morbidity, requiring treatment for longer periods.

The growth in complex and chronic illness is not limited to the elderly population - multi-morbidity has become more common across populations as a whole (Barnett et al., 2012). In the context of this scoping review, Kane et al. (2017) described the growth in non-communicable diseases (e.g. cardiovascular disease, diabetes, respiratory illness and cancer) in sub-Saharan Africa related to

urbanization, an increasing elderly population and lifestyle changes. By 2030, it is estimated that non-communicable 'deaths will be greater than communicable maternal, perinatal and nutritional diseases deaths combined' (Kane et al., 2017). Chronic illness was also described as common among veteran communities (Karlin and Karel, 2013) and, due to inequalities in health, to be more common among ethnic minorities, people from deprived areas, and in some contexts, the uninsured (Quinn et al., 2013a).

The management of complex and chronic ill health requires more resources and input from a variety of medical professionals and the current structures and organisation of primary care systems are failing to meet these changing demands (Gold et al., 2017). As many of the studies included in this review focused on North America, the following critiques particularly apply to this context. The US primary care system was criticised as poorly designed and organised (Akinci and Patel, 2014, Ralston et al., 2009, Boult et al., 2009), in particular, the fragmented nature of services was cited as contributing to patients suffering and losing faith in the system (Akinci and Patel, 2014). Overall quality of care was also reported to be poor (Ralston et al., 2009, Maeng et al., 2012), with the focus on acute care meaning the system was not sufficiently prepared to care for chronic illnesses (Boult et al., 2009, Lee et al., 2013). Best et al. (2012b) critiqued primary care in Saskatchewan, Canada for the variation and limited scope of care, inefficiencies related to the duplication of care at local and regional levels, long waiting times and lack of person-centeredness.

While population demographics, health needs and expectations have changed significantly over time, the roles and responsibilities of primary care teams and medical staff have remained relatively stagnant. Friedman et al. (2014b) describe the 'physician-centric model' of primary care as 'inadequate':

> *"It is clear that the provision of primary care can no longer be thought of as a single-discipline task. The increasingly complex undertaking of managing chronic conditions becomes untenable if it falls on the clinician alone…" (Friedman et al., 2014b)*

Other workforce issues such as staff shortages have also led to services lacking capacity to provide primary care (Desmeules et al., 2012). This has made the need to transform the make-up of primary care teams and individual roles more apparent. Furthermore, the impact of rising health care costs and the implications of the long-term financial sustainability of providing primary care services has also been a factor in driving transformation efforts (Lee et al., 2013, Desmeules et al., 2012, Maeng et al., 2012).

In response to such challenges, governments have introduced legislation or provided incentives to encourage primary care transformations and new ways of working (Janamian et al., 2014a, Lee et al., 2013). In Canada, provincial governments have funded projects to guide policy initiatives (Best et al., 2012b). In addition, between 2000 and 2006 a Canadian Primary Health Care Transformation Fund of $800 million was introduced with the aim of meeting the needs of an aging population and the 'growing burden of chronic disease' (Carter et al., 2016) – drawing similarities with the Scottish Government's Primary Care Transformation Fund. Furthermore organisations such as the Institute of Medicine - with its six quality aims - (Akinci and Patel, 2014, Ralston et al., 2009) and the Commonwealth Fund have advocated for reforms to primary care services 'to strengthen primary

care, care coordination, management of high-cost patients with complex conditions' (Boult et al., 2009).

In the US, while debates and controversy have surround the introduction of legislation at a national level (e.g. Patient Protection and Affordable Care Act (Akinci and Patel, 2014)), some reform has occurred via the spread of the PCMH model (Akinci and Patel, 2014). A variety of factors have driven the growth in implementation of the PCMH model. There was a desire to move away from 'traditional episodic physician encounters' (Bitton et al., 2012b); an increasing body of evidence to support the model (Janamian et al., 2014a, Maeng et al., 2013); a recognition process administered by the National Committee for Quality Assurance (Maeng et al., 2013, Nutting et al., 2009a); and collaborations within and between states (Maeng et al., 2013). Bitton et al. (2012b) qualitative evaluation described how hundreds of practices have experimented with the implementation of the PCMH model and that improving primary care is 'one of our nation's highest priorities for building a more humane and cost-effective health system'. Furthermore, the introduction and requirements of the Accountable Care Act 2010 was seen as a driver of change in the practices and business models of private health insurance companies, described as a 'Manhattan Project' sized effort' (Lee et al., 2013).

However, it is worth acknowledging that while some argue there is a consensus that primary care transformation is required, others question the likelihood of successfully achieving transformational change even with the influence of drivers such as those described above:

> *"Many…point to the growing popularity of transformational change as evidence that we are in a critical, "game changing" moment in the U.S health care history and that disruptive forces…are converging to push health care organizations to fundamentally rethink how they operate and organize…From this viewpoint, transformational change is not just possible, but necessary and beneficial. In contrast, others caution that transformational change is rare and difficult in health care…As a result, transformational change takes a long time to be implemented and may have unintended and harmful consequences." (Lee et al., 2013)*

Models of care

The models of care identified by the scoping review are described in Table 2. Several papers focused on evaluations of the PCMH set in the US (Nutting et al., 2009a, Bitton et al., 2012b, Quinn et al., 2013a), including systematic reviews exploring this model of care (Akinci and Patel, 2014, Janamian et al., 2014a). The PCMH is viewed as a transformative model of care, with the high level policy aim of delivering effective, high quality care while reducing costs (Akinci and Patel, 2014). For patients, the aim is to provide comprehensive, continuous, patient-centred, team-based care delivered within patients' communities (Quinn et al., 2013a), there are different mechanisms being implement to achieve this. These are discussed more fully in Section 3.3.

Other models of care were variations and extensions of the PCMH, and included the Advancing Care Together model, a demonstration model operating across 11 family practices in Colorado, US (Gold et al., 2017); the Access Initiative in Seattle US, which focused on improving patient-centred access to primary care (Ralston et al., 2009); and the Proven Health Navigator model in the US (Maeng et al., 2013, Maeng et al., 2012).

The systematic reviews tended to include a wider range of models of care. For example, Friedman et al. (2014b) included models that targeted care of particular conditions, for example depression (Friedman et al., 2014b), or high risk groups, such as the elderly or minority groups (Boult et al., 2009, Friedman et al., 2014b). The realist review by Best et al. considered 'large-system transformation', but did not explicitly describe the models identified in their review (Best et al., 2012b).

Mechanisms Identified as Part of Primary Care Transformation

Although several different models of care were identified in the scoping review, the areas targeted and the mechanisms employed were often broadly similar (Table 5). With many focused on the PCMH approach, or variants of that, there was a clear focus on delivering patient-centred care that was of high quality, readily accessible but, if possible, at reduced cost to the health system. However, there was often little central direction in the process of implementing such change, resulting in local variation as to how practices implemented transformational change (Nutting et al., 2009a, Bitton et al., 2012b, Carter et al., 2016, Gold et al., 2017). This variation was attributed to both local contextual factors and previous history, such as local service factors or previous relationships with other service providers (Nutting et al., 2009a).

Despite these differences, there were common mechanisms in place to promote the implementation of new models of care. These were:
- extending practice team skill mix, by introducing new staff or by retraining existing staff.
- promoting multidisciplinary teams by introducing new roles, for example nurse practitioners, physician assistants, medical assistants.
- recognising the need to engage all staff in transformational change, while acknowledging that family physicians have a key role to play.
- enhancing patient access e.g. by increased use of telephone triage, telephone consultations and IT to facilitate appointment making and prescribing.
- supporting transformational change by promoting the use of information technology, including Electronic Health/Medical Records, patient portals, enhancing health care professional communication.
- tackling provider costs through changes to physician remuneration. Example included moves away from fee-for-service systems, payments adjusted to account for patient population, and use of incentivised schemes such as Pay-for-Performance linked to quality improvements.

These are discussed in more detail in turn.

ID	Citation	Model of care	Mechanisms identified
14	Lee et al. (2013) Medical Care Research & Review.	Compared health & non-health care sectors; no explicit description of included models.	Reported on high-level approaches and strategies. Examples included: Ensuring **executive leadership** is in place. Ensuring organisations have the **capacity for transformation**. Considering if **wider socio-political and economic conditions** are favourable to support transformation.
18	Best et al. Milbank Quarterly, 2012.	'Large-system transformation' including regional level health care reform, surgical initiatives, "lean" culture, patient-centred care, and primary health care renewal.	**Engage individuals** at all levels in leading the change efforts; leadership must be both designated and distributed across the participating organisation(s). Establish **feedback loops** and **information sharing**. **Pay attention to local history and context**, in particular previous initiatives and their outcomes. **Engage all staff across professional and administrative groups**; however, it must be acknowledged that engaging physicians is of particular importance. **Involve patients and families**; this can help deliver improvements in care processes, gains in health literacy, and more effective priority setting as well as more appropriate and cost-effective use of health services and better health outcomes.
47	Gold et al. Journal of the American Board of Family Medicine, 2017.	Advancing Care Together, Colorado, US. A demonstration and evaluation project involving 11 family practices pursuing their own ideas about how to integrate care under local conditions, using available resources over a 3-year period.	Integrated care as a necessary **paradigm shift to patient-centred, whole-person health care** (eliminate division between physical and mental health; treat integration as a conceptual and operational framework for entire organisation rather than separate initiative. Define **relationships and protocols up-front**, understanding they will evolve. **Build inclusive, empowered teams** to provide the foundation for integration. Develop a change management strategy of **continuous evaluation and course.** Use **targeted data collection** pertinent to integrated care to

			drive improvement and **impart accountability.**
78	Friedman et al. Medical Care, 2014.	Compared variety of primary care workforce innovations implemented in US. Services identified either focused on specific diseases or clinical clusters (e.g. mental health, chronic disease), targeted particular populations or patient groups (e.g. elderly, minority groups), or addressed a range of services and patients.	Characteristics of Workforce Innovation 3. **Add staff to existing practice** 4. **Retain or redesign** existing practice 5. **Develop role outside traditional practice** These approaches identified three potential mechanisms of action that need to be considered during transformation to a new model of care: There is **no change to staff's underlying assumptions about their role and job**. Approaches identified include adding new health care professionals to existing practices e.g. care managers; retraining of existing staff to take on new functions; or development of new resources for care to be delivered outside the practice. There **is fundamental redesign of existing primary care practice, with changes in underlying assumptions about staff role** and job. Approaches included retaining staff but with changes to job roles and responsibilities; transforming entire practice and ways of working, e.g. the PCMH, including bringing in new staff and roles.
82	Janamian et al. Medical Journal of Australia, 2014.	Review of the PCMH approach.	Approaches utilised in the implementation of the PCMH included: Increased focus on **patient-centeredness** in the design and delivery of services. **Payment reform** for physicians and practices. Increased role for **external facilitators and experts** to support **staff training** and service redesign. Increased/Improved used of **IT and ehealth**, e.g. electronic health records. Significant investments in terms of finances, training, equipment, staff time.
97	Akinci & Patel. Hospital Topics, 2014.	Review of the PCMH approach.	PCMH model is delivered with the **patient at the centre** of the transformation and by reinvigorating primary care.

			Enhanced coordination of services, better provider access, self-management, and a team-based approach to care represent some of the key principles of the PCMH model. Patients that can most benefit are those that require long-term management of their conditions such as chronic disease and behavioural health patient populations.
103	Quinn et al. Ethnicity & Disease, 2013	Early PCMH transformation in Safety Net Health Centres (SNHCs) located in the US. These organisations provide care to underserved population and to those who are underinsured or lack insurance.	Paper focused more on staff experience of the overall programme, rather than describing the approaches put in place to deliver the new models of care.
117	Bitton et al. Milbank Quarterly, 2012.	Exploration of five family practices participating in PCMH transformation efforts linked to payment reform, located North-eastern States of the US.	Variation across the practices in the approaches implemented to facilitate new models of care. Approaches included: Creation of **multidisciplinary teams** to address specific clinical areas, in particular chronic disease management. **Expanded skill mix** by retraining existing staff or hiring new staff. **Expanded role for nurses**, including taking on home visits, patient triage, chronic disease management. **Expanded and extended roles of non-medical staff**, e.g. practice nurses, nurse practitioners, physician assistants, medical assistants. **Improved patient follow-up** after hospital discharge. **Improved practice communication** e.g. by regular practice meetings. **Promotion of generic prescribing** (often by stopping pharmaceutical-sponsored practice meetings). Changing appointment systems to **increase access**, included telephone consultations and use of IT to allow web-based access.
149	Ralston et al. Medical Care Research and Review, 2009.	Evaluation of the Access Initiative, implemented by Group Health on North-western US to improve patient-centred access to care.	Implemented five major changes to health care delivery systems: Offered a **patient Web site** providing patient access to patient-

			physician secure e-mail, portions of their electronic medical records (EMRs), and to health promotion information. Offered **advanced access** to primary physicians – this could be through a website or by telephone. Redesigned primary care services to enhance the efficiency of care through **physician payment reform**. **Also adjusted staffing and skill-mix** to increase number of physicians, registered nurses and licensed practical nurses/physician assistants in each medical centre. **Removed primary care gatekeeping function** by offering Group Health members direct access to hospital-based specialities. Members could make their own appointments to 16 different specialities without primary care doctor referral. Aligned primary physician compensation through **new incentives** for patient satisfaction, productivity, and secure messaging with patients.
150	Nutting et al. Annals of Family Medicine, 2009.	Early evaluation of the PCMH approach across a number of US sites.	Transformation to a PCMH required a **continuous, unrelenting process of change**, with old patterns and processes of practice replaced by new ones. Approaches included: new **appointment and access** arrangements; new **coordination** arrangements with other parts of the health care system; **increased use of evidence** at the point of care; **quality improvement activities**; development of **team-based care**; changes in practice management; new strategies for **patient engagement**; multiple new uses of **information systems and technology,** e.g. electronic medical records (EMR), e-prescribing, patient portals. There were multiple pathways toward the PCMH and evidence of **local variation**, which was highly dependent on initial conditions at the local practice, health care system, and community level.

197, 199	Maeng et al. Population Health Management, 2013. Maeng et al. American Journal of Managed Care, 2012.	Evaluation of the ProvenHealth Navigator (PHN) initiative, an advanced version PCMH model developed by Geisinger Health System, North-eastern US.	PHN model of care consisted of five core components: 1. **Patient-centred primary care** (provider-led, team delivered care; patient and family engagement; enhanced access and scope of services; IT optimized preventive and chronic care); 2. **Population management** (population segmentation and risk stratification; case management for complex, comorbid conditions; disease management; preventive care); 3. Development of a wider **medical neighbourhood** (links to high value-speciality services; complete care systems e.g. nursing homes, EDs, hospitals, home health, pharmacies etc.); 4. Promotion and monitoring of **quality outcomes** (Patient satisfaction; chronic disease metrics; preventive care metrics); 5. Alterations to **physician reimbursement model** through the implementation of a value-based reimbursement model (fee for service; pay-for-performance payments for quality outcomes; quality-based gainsharing).
244	Smith-Carrier et al. Home Health Care Services Quarterly, 2015.	Home-based primary care (HBPC) model, Ontario, Canada. A model of care targeting housebound patients requiring primary care.	HBPC teams provided urgent and ongoing routine primary care to frail older adults within their delineated geographic boundaries. Teams **integrated** with a comprehensive basket of home care and community support services (e.g., Meals on Wheels, nursing, adult day programmes, respite care) to meet the complex medical, cognitive, and social care needs of patients. Teams were **partnered** with an embedded home care coordinator (HCC) from the regional home care organization. Teams maintained **constant communication** through the use of smartphones, regularly scheduled meetings and/or rounds (at the clinic/agency site), and shared access to patient electronic health records (EHRs). Teams were **multidisciplinary**, although roles were not described.
247	Karlin & Karel. The Gerontologist, 2014.	Incorporation of mental health services into the Veterans Affairs Home-Based Primary Care	The HBPC Mental Health initiative involved the **placement** of a full-time, doctoral level **mental health provider** (typically a

		(HBPC) teams, US.	psychologist or in some cases a psychiatrist) on each of approximately 120 HBPC teams nationally Through screening and stepped care approaches, the MH provider may then **work with the team** to identify veterans that would benefit from specialized MH evaluation or treatment.
306	Desmeules et al. BMC Musculoskeletal Disorders, 2012.	Review of Advanced Practice Physiotherapists in the management of patients with musculoskeletal disorders.	Development of "Advanced practice" or "extended scope practice" for physiotherapists. **Role enhancement** and **role substitution** included: triaging patients; communicating diagnosis; ordering diagnostic or lab tests; prescribing/injecting medications.
330	Kane et al. BMC Family Practice, 2017.	Systematic review and evidence synthesis of to characterize models of primary care for non-communicable diseases (NCDs) in Sub-Saharan Africa by focusing on the interventions themselves and the mechanisms behind these interventions.	Three conceptual models of care for NCDs were identified. Key approaches in developing new models of care included: **training and retraining of staff** to promote staff competence; ensuring **patient adherence** to both medications and follow-up appointments; " to echo the interventions and results in the data. Employing **staff dedicated to management of NCDs**; **good communication** with specialists. The majority of existing interventions found in this review focused on: quality improvement, human resources, decision support and health systems.
332	Carter et al. BMC Health Services Research, 2016.	Review of Canadian primary care reforms funded through the Primary Health Care Transformation Fund.	The Primary Health Care Transformation Fund - $800 million towards reforming primary care in Canada between 2000 and 2006, aimed to address health service needs of ageing population and growing burden of chronic disease. The objectives of the model were similar to that of the US PCMH model, namely to **increase access** to primary care, **promote multidisciplinary team-based care** and **improve chronic disease management**. Approaches that were implemented included: **Extending team roles** to include including nursing and other

			health professionals in primary care practice. This was an integral feature of the Primary Care Network (PCN) and Family Medicine Group (FMG) reforms implemented in Alberta and Quebec. In Ontario, **payment reforms** were the main changes, with the creation of Family Health Teams that operated within specific new payment models.
394	Boult et al. Journal of the American Geriatric Society, 2009.	Systematic review of models of comprehensive care for chronically ill older people.	Fifteen models of care addressing several health-related needs of older persons were identified. Models included: Interdisciplinary primary care; care and case management; disease management; preventative home visits; outpatient comprehensive geriatric assessment and geriatric evaluation and management; pharmaceutical care; chronic disease self-management; proactive rehabilitation; caregiver support; transitional care; hospital-at-home; nursing home; prevention and management of delirium; comprehensive hospital care. However, there was little detail on the approaches or mechanisms in place to deliver these new models of care.

Introduction of new staff groups or redeployment

One of the widely promoted primary health transformation activities was the move to extended teams, where primary care delivery shifts from a physician-centric approach to multidisciplinary teamwork (Nutting et al., 2009a, Ralston et al., 2009, Bitton et al., 2012b, Desmeules et al., 2012, Akinci and Patel, 2014, Friedman et al., 2014b, Gold et al., 2017). Indeed, some authors argue that transformation is impossible without this fundamental change in the role of care providers (Friedman et al., 2014a). The studies included in this scoping review showed that extensions or expansions in staff roles often included staff retraining to take on new or revised additional roles (Friedman et al., 2014, Janamian et al., 2014, Kane et al., 2017), or hiring additional staff from non-medical disciplines or with particular skills to provide an additional service (Bitton et al., 2012, Karlin & Karel, 2014, Kane et al., 2017), depending on the model of transformation. For example, medical assistants in some primary care settings in the US were trained to manage data and be more involved in providing substantial care to patients; in other models, nurses were trained to manage specific chronic diseases in primary care (Bitton et al., 2012, Karlin & Karel, 2014, Kane et al., 2017). In the field of primary mental health care, mental health practitioners were often recruited to provide specialised care in the primary care setting (Karlin & Karel, 2014). However, it could be argued that hiring additional staff to provide specific duties, without fundamental change in the service structure or shift from the physician-dependent care to a more integrative one which serves a diverse group of patients is not 'transformation'.

Use of information technology

The use of information technology (IT) was common in the primary care transformation literature, but the benefits are not well-established (Bitton et al., 2012a). IT systems identified in this review included electronic health records; patient portals (and telephoning) which allowed patients to communicate with their care providers; communication tools (e.g. email and electronic referrals) to improve information flow across practices; and population management and chronic care disease outreach initiatives, for example teleconsultations (Bitton et al., 2012a, Nutting et al., 2009b). However, often this technology was still under development and not embedded into routine use. While some care providers expressed satisfaction at how the electronic health records eased charting patient notes (Bitton et al., 2012a), others shared stories of spending significant time completing their patient notes because simple features were missing, or navigating around the technology was cumbersome (Nutting et al., 2009b). A lack of interoperability between systems was also a barrier. For example, Bitton et al. reported that a lack of interoperability in the IT systems used between practices necessitated manual exchange of patient information, thus diminishing the benefits of IT (Bitton et al., 2012a). There was therefore great potential to improve these technologies in order to realise its full benefits in transforming primary care.

Changes to funding systems and physician reimbursement

Several studies, particularly those published in the US, suggested the need for a change in the current fee-for-service reimbursement system for primary health care (Ralston et al., 2015, Maeng et al., 2012, Maeng et al., 2013, Carter et al., 2015). These new models of payment, as part of the

PCMH approach, hinged on a transformed episodic fee-for-service payment to a new risk-adjustment payment model. In this new model for reimbursement, practices were paid a risk-adjusted base rate per patient per month, in order to support all the efforts by the physician and healthcare team, and the health information technology needed for the new PCMH (Bitton et al., 2012a). In addition, practices might also be rewarded for the quality of the services provided through an element of pay-for-performance incentivised care. While undoubtedly important in primary care systems such as the US, which rely on insurance-based health care, this is less of an issue within the Scottish health care system. However, as will be reported later, payment mechanisms are an issue in relation to some of the identified new models of care.

Patient self-management strategies

It is widely recognised that the 'transformed' primary care setting should be patient-centred, with more opportunity for the patient to be involved in his/her care or developing care goals or accessing care when required (Best et al., 2012, Ralston et al., 2015). However, the literature identified in this review appeared silent on the *process* or even the *components* of patient involvement. It was surprising that the literature on PCMHs focused so much on reimbursement models or medical technology, rather than how patients would be involved in their care. It rather appeared that the concept of patient-centred care was to remind physicians or other staff transforming their roles to consider patients first (Nutting et al., 2009b). There was some indication, however, that the use of health IT would ease communication between patient and clinician, or the change in payment system will allow physicians put patient-care at the core of their practice (Bitton et al., 2012a, Nutting et al., 2009b).

Barriers to 'transformation'

In the papers reviewed there was less focus on barriers and facilitators to transformation, but it is possible to draw together common themes that arose from a small number of the studies.

Lack of funding

Insufficient funding for transformation change was highlighted as a key barrier in the studies reviewed. This included the limited financial capacity necessary to implement change in practices, and the resources required to train staff, purchase new equipment, human resources, and time regardless of the new model of care (Janamian et al., 2014). Due to the financial capital required to implement change, the studies reviewed found that new models of care are often not financially viable outside of trials and demonstration projects (Boult et al., 2009), which was compounded by tenuous funding streams (Quinn et al., 2013). Funders were said by Bitton et al., 2012 to expect quick results, which raises questions about how transformation can be initiated and sustained in the future without more unified and sustained approaches to payment reform. A lack of continuity in funding streams can therefore lead to short-lived transformation efforts and a return to previous systems (Quinn et al., 2013, Friedman et al., 2014). Ensuring an ongoing funding stream for transformation was thus considered crucial to commencing and sustaining transformation

interventions, and to incentivise staff to keep transformation ongoing. However, it was also recognised that there is a need to ensure that transformation is cost effective to the wider health care system in the longer run (Friedman et al., 2014).

Resistance from staff

At the level of practice, the studies reviewed found resistance from staff to be a significant barrier to transformation. As a result of short-term or unsuccessful transformation initiatives mentioned above, staff became sceptical (Best et al., 2012, Quinn et al., 2013), or experienced 'change fatigue'. Ineffective change management, poor communication regarding the transformation process, and placing pressure on staff to work more at the "top of their training" skill level all added to this (Bitton et al., 2012, Janamian et al., 2014). Another barrier to transformation was the reluctance of physicians to participate due to the changing nature of their professional identity when moving to team-based working. This raised issues of power differentials within teams (Nutting et al., 2009, Quinn et al., 2013, Smith-Carrier et al., 2015), and drew attention to physicians ability to veto transformations that may be broadly accepted by others (Quinn et al., 2013b, Best et al., 2012a).

Insufficient time

The studies included in this review found that transformation is challenging and takes time (Nutting et al., 2009, Janamian et al., 2014). In relation to the PCMH model, it was found that the time-frame required to make necessary changes was seriously underestimated (Nutting et al., 2009). Such unrealistic expectations, which as noted above are often established by funders, may result in a tension between a slow transformation process and pressure to move too quickly (Bitton et al., 2012); such an approach sets transformation initiatives up for failure (Nutting et al., 2009). Underestimation of the time necessary for transformation and setting unrealistic goals was also found to negatively impact staff (as discussed above), leading to burn-out and high staff turnover due to the challenging and time consuming work of transformation facing practices who may already be under pressure (Nutting et al., 2009).

Time was a particular issue raised in studies discussing the Home-Based Primary Care (HBPC) initiative due to the significant administrative load associated with the model (Smith-Carrier et al., 2015). Further issues arose around the time associated with the demands of travelling when visiting patients, particularly given the high caseloads (Bradley and Karel., 2014, Smith-Carrier., 2015). The implementation of new technology in various transformation efforts was also highlighted as challenging and time consuming and was compounded by the high expectations placed on information technology (Nutting et al., 2009, Quinn et al., 2013). Transformation therefore requires significant changes that are difficult and take time, appearing at times more static than occurring at a steady and predictable pace (Nutting et al., 2009, Janamian et al., 2014).

Facilitators to 'Transformation'

Commitment to transformation

At the level of practice, several studies identified the importance of staff commitment in facilitating transformation. An ongoing and tangible commitment to, and long-term support for a culture of change from staff at all levels was highlighted as an important aspect of the transformation process (Nutting et al., 2009, Akincini and Patel., 2014, Janamian et al., 2014, Smith-Carrier et al., 2015). Change may be facilitated if all members of the practice attempt to take on some of the principles of transformation (e.g. practice-based team care, comprehensive care, coordinated care, shared decision making, cultural competency) and go beyond just delivering services (Akincini and Patel., 2014). However, findings from a systematic review highlighted physician engagement as particularly important in facilitating transformation, as it was found that those in non-physician roles, while more willing to support the process of change, were often less able to resist the effort due to their different status in the health system (Best et al., 2012).

In order to mitigate the issue of staff resistance and 'change fatigue', the early involvement of all staff in the change process, alongside providing them with regular feedback (Quinn et al., 2013) was suggested as a means to facilitate successful transformation. Previous organisational failures in transformation should also be acknowledged and viewed as opportunity for discussion about how to avoid similar situations or how to manage them should they recur (Best et al., 2012). This may help staff to understand the early anticipated barriers and facilitators to the change process, which may allow for realistic goals and expectations to be set that will enable long-term transformation (Quinn et al., 2013). Regular learning sessions during which practice managers shared their experiences of the change process and provide support to other members of staff, was also highlighted as a strategy for engaging staff to facilitate the transformation process (Nutting et al., 2009). Finally, ensuring that executive leadership was in place was also a facilitator to progress (Lee et al., 2012).

Team working

A key facilitator to efficient and successful transformation was the importance of moving away from a physician-centred approach to team-based working (Nutting et al., 2009, Friedman et al., 2014, Janamian et al., 2014). Establishing inclusive and empowered teams that work together to deliver patient-centred services was said to provide the necessary foundation for transformation. This required investment in relationships and trust building, and the right people with the necessary skills, experience, and mentality (Akincini and Patel., 2014, Gold et al., 2017). Physicians in particular were said to require facilitative leadership skills for a team-based environment to function (Nutting et al., 2009). However, Best et al. (2012) argue that due to the complex layering of the health system, it was not only optimal but necessary for leadership to be established as a shared responsibility distributed amongst professionals, partner organisations, and teams (Best et al., 2012, Gold et al., 2017).

Interprofessional team working was encouraged through regular meetings during which care-planning processes were discussed (Smith-Carrier et al., 2015). However, in order for a team to work

effectively, it was important that the various roles and contributions of team members were appreciated and supported (Janamian et al., 2014), with time dedicated to team planning and reflection (Quinn et al., 2013). Team work was also said to be supported by various mechanisms for communication (i.e., smartphones, email and telephone, shared EHRs, and communication folders), as this allowed team members to communicate with one another quickly and efficiently (Smith-Carrier et al., 2015).

In their study of mental health care as part of Home Based Primary Care (HBPC) for veterans, Bradley and Karel (2014) found that developing and adopting interdisciplinary teams allows non-mental health team members to support the assessment of patients and treatment-related activities, allowing the mental health provider to focus on more challenging cases and needs of the team. Team communication and collaboration was therefore said to be essential to the change process, and it was recommended that team based collaborative care should be established as an important area for ongoing education and training (Bradley and Karel., 2014).

Adequate resources

Transformation requires substantial support and adequate resources – both monetary and non-monetary (Janamian et al., 2014). To implement transformation such as the PCMH, practices required appropriate recourses and support over the transformation period such as equipment, human resources, training material, and time and financial capacity to develop the foundations for transformation (Janamian et al., 2014). Variation between practices had also to be addressed, as smaller practices may face greater constraints in terms of budget and resources than larger practices (Akincini and Patel., 2014, Janamian et al., 2014). In the US context, Nutting et al. (2009) argued that despite the existence of diverse funding programmes, large scale transformation required greater availability of funding. Additional resources were also required to support 'medical neighbourhoods' (e.g. speciality services, nursing homes, emergency departments, hospitals, home health, pharmacies) to provide care coordination beyond practices (Friedman et al., 2014).

Despite the high financial costs incurred from ensuring services had sufficient human and technological resources, this can result in longer-term savings (Friedman et al., 2014). Aside from increased funding however, better working environments along with additional training and educational opportunities for staff can help to facilitate transformation (Bitton et al., 2012, Bradley and Karel., 2014, Kane et al., 2017).

Summary of the Systematic Scoping Literature Review

This chapter reports on a scoping review of the international literature, focused on reviews and evidence syntheses across multiple sites. There is a possibility of publication bias in the evidence available on primary care transformation as the studies identified for this scoping review were more likely to report successful organisational change. Over half of studies were based in the US or Canada, with a particular focus on the PCMH or its variants.

There is no agreed definition of primary care transformation, other than it should go beyond the normal or usual service delivery models. However, while allowing flexibility, this lack of an agreed definition may contribute to the variation in approaches to implementing new models of care often observed. Another contributory factor to this variation is the need to recognise both local contexts and the previous history of collaborative working and service delivery in an area. Thus, transformation is often messy, non-linear and time consuming.

The international drivers for primary care transformation mirror those in Scotland: ageing populations, increasing multimorbidity and patient complexity, and the need to contain costs. The mechanisms identified to implement new models of care included extending practice team skill mix; introduction of new staff or retraining existing staff; promotion of multidisciplinary teams; and making greater use of non-physician roles such as nurse practitioners, physician assistants, and medical assistants. Enhancing patient access and supporting transformational change by promoting the use of information technology were also crucial and, in the US contest, tackling provider costs through changes to physician remuneration. However, such initiatives need both resources and adequate time both for implementation to take place and mechanisms developed to ensure sustainability.

There was a lack of evidence around both the issue of sustainability and the use of data to monitor impact and effectiveness of these new models of care. Both need to be addressed if the initiatives described here are to be both transformational and sustainable.

Appendix F: Documents Reviewed for Phase 1

- PCMHTF programme initiation documents (PID) (NHS Lanarkshire, 2017d)
- North Lanarkshire (NL) and South Lanarkshire (SL) programme setup overview (NHS Lanarkshire, 2017c) (NHS Lanarkshire, 2017d)
- IJBs agendas and minutes for NL and SL (Moy, 2016) (Docherty, 2017)
- Sub-committee agenda and minutes
- Primary Care and Mental Health Transformation Programme (PCMHTP) (McGinty, 2017)
- NL and SL strategic plans (North Lanarkshire, 2016) (South Lanarkshire Health & Social Care Partnership, 2016)
- Council news bulletins
- Local delivery plans
- Healthcare strategy documentations
- HSC delivery plans
- Locality modelling implementation plans
- Draft financial plans
- Medical practice cluster arrangements and diagrams for NL and SL
- NHS Lanarkshire Achieving Excellence plan (NHS Lanarkshire, 2017a)
- SL PCTF 2016-2020 programme documentations etc. (Cunningham, 2016)

Appendix G: Lanarkshire Context

NHS Lanarkshire is located across the central belt of Scotland (Figure 5), it the third largest Scottish Health Board after NHS Greater Glasgow & Clyde and NHS Lothian.

It shares borders with Dumfries and Galloway, East Ayrshire, East Renfrewshire, the Scottish Borders and West Lothian, and contains some Glasgow suburbs, including Cambuslang, Rutherglen and the North by Stirlingshire.

Figure 5: Location of NHS Lanarkshire

Both North and South Community Health Partnerships (CHPs) covered the same geographical area, with ten localities including: Airdrie, Coatbridge, North, Bellshill, Motherwell and Wishaw in NL; and Cambuslang/Rutherglen, East Kilbride, Clydesdale, and Hamilton in SL (Figure 6). However, HSCP now supersedes north and south CHPs.

The median age in 2015 was 42 years, similar to the median age of Scotland (41 years). Eighteen per cent of the population were aged 16 years or below, 63% were of working age, and 19% of pensionable age.

(Estimates from National Records Scotland (NRS) indicates that the population of NHS Lanarkshire in 2015 to be 656,490. Lanarkshire has a mixture of urban, rural and isolated settlements over 896 square miles).

FIGURE 6: LOCATION OF **NHS** LANARKSHIRE

Source: NHS Lanarkshire Annual Report Public Health 2015/16

Population description and pertinent trends[11,12]

NHS Lanarkshire covers densely populated areas around Glasgow and rural areas bounded by Stirlingshire, Ayrshire and Arran, Dumfries and Galloway and the Borders. It has a population of 656,490[13] representing 6.3% of the Scottish population, and encompasses two local authorities: NL and SL. The population of Lanarkshire is projected to decrease by 4.7% between 2014 and 2039 – placing it among a minority of NHS board areas across Scotland whose populations are predicted to decline[14]. This decrease is expected to be concentrated among the young (0 -15 years old) and the working age population. In contrast, and in common with all other health board areas, the population of pensionable age is expected to increase by 32% - this represents the third highest increase in Scotland.

Across Lanarkshire life expectancy for males was 76.14 years and 80.19 years for females (2013 – 2015), both below the Scottish average and the second lowest of any health board area[15]. Furthermore, there are inequalities in life expectancy across Lanarkshire related to deprivation with differences of around 13 years between the most deprived and most affluent areas (NHS Lanarkshire, 2017a).

Description of Primary Care Services

Analysis of key documents indicate that HSCPs (and their respective IJBs) provide services across Lanarkshire – NL HSCP and SL HSCP. While each HSCP delivers services within its specific geographic area, some services are delivered on a Lanarkshire-wide basis with one partnership 'hosting' or acting as 'lead' (SL HSCP webpage).

- NL hosted the Lanarkshire-wide services:
- Care Home Liaison
- Community Children's Services
- Paediatrics;
- Dietetics
- Mental Health and Learning Disability
- Psychology
- Continence Services

[11] Population statistics derived from figures taken from the National Records of Scotland (https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/south-lanarkshire-factsheet.pdf)

[12] Birth and death statistics derived from figures taken from the National Records of Scotland (https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/births-deaths-and-other-vital-events-preliminary-annual-figures/2014)

[13] Population estimates by administrative area, Scotland, mid-2016 (https://www.nrscotland.gov.uk/files//statistics/population-estimates/mid-year-2016/16mype-cahb.pdf)

[14] Population Projections for Scottish Areas (2014-based) (https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/sub-national-population-projections/2014-based/list-of-tables)

[15] Life Expectancy for Areas within Scotland (2013-2015) (https://www.nrscotland.gov.uk/files//statistics/life-expectancy-areas-in-scotland/2013-2015/1315le.pdf)

- Podiatry
- Sexual Health
- Speech and Language
- Substance Misuse
- Prisoner Health Care

(SL HSCP webpage)[16,17].

SL hosted the Lanarkshire-wide services:
- Community Dental Services
- Diabetes
- Health and Homelessness
- Primary Care Administration
- Palliative Care
- GP Out of Hours
- Traumatic Brain Injury
- Occupational Therapy
- Physiotherapy

(SL HSCP webpage)[18]

As required by integration legislation, NL HSCP has defined six localities as part of their Joint Needs Assessment, these localities are: Airdrie, Bellshill, Coatbridge, Motherwell, North – Cumbernauld, Kilsyth and the Northern Corridor, and Wishaw[19]. SL has four localities – Clydesdale, Hamilton, East Kilbride and Cambuslang/Rutherglen.[20] The localities were required to undertake locality profiling to understand the make-up and needs of their population in consultation with local stakeholders and the public. The results of this work were incorporated into the HSCP strategic delivery plans (North Lanarkshire, 2016, Health & Social Care North Lanarkshire, 2016).

One hundred and three general practices are situated across Lanarkshire (a further practice delivers a 'challenging patients service') – 55 are located in NL[21] and 49 in SL (ISD)[22]. Three hospitals – Hairmyres, Monklands and Wishaw – provide care within Lanarkshire. Each has an accident and emergency department, while maternity services for the board area are based in Wishaw. There are also 14 community and day hospitals located across both NL and SL providing a variety of services[23]. A number of community pharmacies also provide services across Lanarkshire, with a total of 144 pharmacies[24] across Lanarkshire.

[16] SL HSCP: file:///C:/Users/lt91r/Downloads/South_Lanarkshire_Integration_Scheme.pdf
[17] NL Demography: http://www.northlanarkshire.gov.uk/index.aspx?articleid=25145
[18] file:///C:/Users/lt91r/Downloads/South_Lanarkshire_Integration_Scheme.pdf
[19] NL Joint Strategic Commissioning Plan (April 2013-March 2023):
https://www.northlanarkshire.gov.uk/CHttpHandler.ashx?id=12704&p=0
[20] SL HSCP Strategic Commissioning Plan (2016-19): http://www.nhslanarkshire.org.uk/boards/2016-board-papers/Documents/January/SL-HSCP-Draft-Strategic-Commissoning-Plan-16-19--January-2016-Board.pdf
[21] NL Demography: http://www.northlanarkshire.gov.uk/index.aspx?articleid=25145
[22] GP Workforce & Practice Populations: http://www.isdscotland.org/Health-Topics/General-Practice/Workforce-and-Practice-Populations/
[23] NHS Lanarkshire: https://www.scot.nhs.uk/organisations/lanarkshire/
[24] https://www.nhsinform.scot/national-service-directory/pharmacies?hb=s08000023&locpt=55.673865%2c-3.782138&searchTerm=Lanarkshire&sortby=_distance&sortdir=Asc

North Lanarkshire

Around 339, 390 people live in NL (National Records of Scotland, 2016b) it is the fourth largest local authority in Scotland by population (North Lanarkshire, 2016). In geographic terms the area spans 469.9km^2 across the central belt from Kilsyth in the north, to Overtown in the south, Harthill in the east and Stepps (and largely bounded by the M74 and M73 motorways) to the west. The area includes a range of rural villages and larger urban areas such as Motherwell and Cumbernauld (North Lanarkshire, 2016).

Of those residing within NL, 17.2% are aged between 16 and 29 years of age, while those over 60 years of age account for 22.2% of the population – the proportion of these groups is lower than that found in the Scottish population as a whole (National Records of Scotland, 2016b). Projections suggest that the population of North Lanarkshire will fall by 0.4% between 2014 and 2039, in contrast to the overall Scottish population which is expected to increase by 6.6% and the majority of other local authorities (Health & Social Care North Lanarkshire, 2016). However, similar to many areas of Scotland, projections suggest that the number of children and the working age population in NL will fall - by 9.0% and 6.6% respectively - over the same period (National Records of Scotland, 2014). The only age group projected to increase is those of pensionable age. This group is expected to grow by 30.6%, with the number of those aged over 75 years predicted to increase by 87% - higher than the increase of 85% of over 75 years in Scotland as a whole (National Records of Scotland, 2014).

It is estimated that 22% of the population in NL live in the 15% most deprived areas in Scotland, ranking only behind Glasgow City in the number of data zones within the worst 15%[25] (North Lanarkshire, 2016). The effect of deprivation on life expectancy is evident in NL with up to a 13 year difference between the most affluent and deprived areas (North Lanarkshire, 2016). The average life expectancy for males in NL is 75.34 years and 79.58 years for females - lower than in SL and the Scottish average (National Records of Scotland, 2016a). The main cause of death is cancer, followed by circulatory disease (National Records of Scotland, 2016b). Across NL around 30% of the population lived with one or more long term conditions in 2013/14 - around 22% had one long term condition, 6% had two long term conditions, 2.3% had three long term conditions and 1.4% had four long term conditions[26]. In the Wishaw locality, around 32% of the population had one or more long-term conditions, the highest in NL[27]. There are also higher rates of smoking and alcohol-related deaths than the average across Scotland, smoking rates are higher in more deprived areas[28].

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[25] The Scottish Index of Multiple Deprivation (SIMD) 2016 Briefing Note
https://www.aberdeenshire.gov.uk/media/18046/scottish-index-of-multiple-deprivation-simd16-briefing-note.pdf
[26] Coatbridge Health and Social Care Locality Profile September 2016
https://www.northlanarkshire.gov.uk/CHttpHandler.ashx?id=20507&p=0
[27] Wishaw Health and Social Care Locality Profile
https://www.northlanarkshire.gov.uk/CHttpHandler.ashx?id=20508&p=0
[28] Airdrie Health and Social Care Locality Profile
https://www.northlanarkshire.gov.uk/CHttpHandler.ashx?id=18468&p=0

South Lanarkshire

SL is the fifth largest local authority in Scotland by population, estimated to be 317,100 in 2016 (National Records of Scotland, 2015). It spans an area of 1,772 km^2 from Rutherglen in the north, to Crawford in the South, Dolphinton in the west and Thorntonhall and Drumclog in the west – and is bisected by the M74 motorway. SL comprises large areas of rurality alongside small towns such as Lanark and larger conurbations such as East Kilbride and Hamilton.

The population of SL is older than the overall population of Scotland, with 24.8% of the population aged over 60 years (National Records of Scotland, 2015) - in contrast, those aged 16 to 29 years account for 16.0% of the population, lower than Scotland as a whole (National Records of Scotland, 2015). SL's population is predicted to grow by 3.6% between 2014 and 2039, in contrast to the decline in NL, but below the Scottish average (+6.6%) (National Records of Scotland, 2014). However as elsewhere in Scotland, the proportion of those of working age is predicted to fall - by 4.3% - and those aged 0-15 years is also expected to fall by 3.3%, yet this decline is less severe than in NL (National Records of Scotland, 2014). The population aged over 75 years is projected to increase by 95% by 2039 in SL, higher than across Scotland as a whole (85%) and NL (National Records of Scotland, 2014). Within SL, the Clydesdale locality is expected to experience the largest growth in population over 75 years (Health & Social Care North Lanarkshire, 2016).

Life expectancy in SL is lower than the Scottish average – males are expected to live to 76.97 years and females to 80.81 years. The main cause of death is cancer followed by circulatory disease, both accounting for over half of all deaths (National Records of Scotland, 2015, Health & Social Care North Lanarkshire, 2016). A total of 15,386 people aged 65 years and over were living with a long term condition in SL in 2013/14 and 4141 people aged 65 years and over were living with three long term conditions (Health & Social Care North Lanarkshire, 2016). This represented an increase of 5% and 10% respectively between 2011/12 and 2013/14 (Health & Social Care North Lanarkshire, 2016). The number of people identified as having complex health and social care needs in SL (279.8 per 10,000) was higher than the Scottish average (235.1 per 10,000) in 2013/14, with the Rutherglen locality having the highest rate in SL (293.3 per 10,000) (Health & Social Care North Lanarkshire, 2016). It is estimated that service users and patients who are identified as having complex health and social care needs use around 50% of available resources (Health & Social Care North Lanarkshire, 2016). Around 20% of data zones in SL are among the 20% most deprived data zones in Scotland (National Statistics Scotland, 2016).

Appendix H: Implementation of Primary Care Transformation in Lanarkshire
Lanarkshire's vision for primary care transformation

The vision for the future model of primary care in Lanarkshire is to:

> *"…help all clinicians to spend more time with their patients, less time on unwarranted bureaucracy and have each professional individually and collectively working to their full potential. It will promote the aims at the core of Scotland's Quality Strategy. Safe, effective and person-centred care will be delivered within a more collaborative health and social care system, and increasingly shaped at a community level. Stronger primary care services are essential to: managing future demand; ensuring the success of community-based integrated working and reducing the healthcare system's reliance on hospital beds. Multidisciplinary teams in health and social care will work together to meet the assessed needs of patients and it is this multidisciplinary team work which will deliver improved care for the future."*
>
> (NHS Lanarkshire, 2017a)

The SG Primary Care Directorate urged NHS Lanarkshire to develop a Board-wide programme of primary care transformation prior to other areas bidding for funding from the PCTF and the PCFMH. NHS Lanarkshire formed a Primary Care Transformation Programme (PCTP) Board with the purpose of co-ordinating a variety of new ways of working and tests of change and managing them as one programme over a period of four years. Additional projects relating to mental health were later incorporated into the programme (NHS Lanarkshire, 2017b).

The programme was formulated with reference to, and is a key feature of, NHS Lanarkshire's Healthcare Strategy, Achieving Excellence (NHS Lanarkshire, 2017a) and the Health and Social Care Partnerships Commissioning Plans (North Lanarkshire, 2016, South Lanarkshire Health & Social Care Partnership, 2016). Furthermore, the programme was drawn from a number of national strategies such as The National Clinical Strategy for Scotland (Scottish Government, 2016c), The Future of General Practice in Scotland (RCGP, 2011), The National Delivery Plan for Allied Health Professionals in Scotland (Scottish Government, 2012) and The Public Bodies (Joint Working Scotland Act 2014) Integration of Health and Social Care (Scottish Government, 2016a) — and forms part of Lanarkshire's response to their requirements (Cunningham, 2016); (NHS Lanarkshire, 2017b).

A number of 'guiding principles' informed the aims of the transformation programme in Lanarkshire, with the overall aim being to:

> *"put patients at the forefront of redesigning services; increase the range of access methods for general practice; increase the range of services available in a community setting; enable enactment of local and national policy; reduce inefficient work practices; improve quality and safety of care; re-vitalise workforce; highlight and better signpost better use of community alternatives"*
>
> (Cunningham, 2016)

Analysis of the key documents indicated that the purpose of the first two years (first phase) of the programme has been to test a number of new ways of working; this has involved a number of stages:

"By March 2017 carry out in-depth work to establish the root cause of current service challenges, test out new ways of working to transform general practice and associated community services.

By July 2017 redesign primary care services to meet future needs with a particular focus on ensuring general practice is sustainable for the future demand.

By October 2017 complete a review of current service and begin to support GPs and multi-disciplinary teams to redesign services, pathways and processes, based on evaluation of tests of change to establish new ways of working that will shift the balance of care, ensuring people's conditions can be managed and treated in a community setting where clinically safe to do so with access to hospital based services when required.

By March 2018 establish plans to embed, spread and sustain new ways of working which evaluate positively"

(NHS Lanarkshire, 2017b)

In the longer term (the next five to ten years) the aim of the primary care transformation programme in Lanarkshire is:

"…to transform our approach to primary care, supporting GPs and blended teams to work together to enable the sustainable delivery of high quality, safe and effective patient care that is integrated where necessary with access to hospital based services where required."

(Cunningham, 2016)

The further phases of the programme necessary to the achievement of these aims are:

"Phase 2: 2018-2020/21: Implementation of substantial changes required by new GP contract. This work will lead to widespread use of new roles with more integrated working. Will implement s to provide staff who have the right skills and competences to meet changing patient and carer needs.

Phase 3: 2020-2025: Consolidation and completion of spread of successes of 2018 contract and new service models using the evidence from the test of change to demonstrate improved access, better outcomes and enhanced patient and carer experience".

(NHS Lanarkshire, 2017a)

Initial transformation plans focused on two localities – East Kilbride (SL) and Coatbridge (NL) and to be further incrementally rolled out (Cunningham, 2016).

Figure 7 defines Lanarkshire's quality approach that provides an outline of its vision, mission and objectives. Its core components for sustainability include: leadership, improvement and innovation, evidence based services, comprehensive communication and engagement plans, data collection for better service provision, and knowledge and skills exchange.

FIGURE 7: LANARKSHIRE QUALITY APPROACH

Source: NHS Lanarkshire Quality Strategy 2018-2023[29]

Infrastructure

NHS Lanarkshire adopted a programme approach in November 2015 to support the primary care transformation within general practice, the community and across localities (Figure 8). Furthermore, an Improvement Support Team (IST) was also set up with an aim to address the gap in improving quality and safety in primary care settings. NHS Lanarkshire has 103 practices across two integrated authorities, and with the assistance of the IST aimed to train and support practices within varying settings and patient mixes (NHS Lanarkshire, 2017b, Cunningham, 2016).

FIGURE 8: PROGRAMME INFRASTRUCTURE

Source: (Alexander, 2018)

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[29] http://www.nhslanarkshire.org.uk/boards/2018-board-papers/Documents/May/08b-Lanarkshire-Quality-Strategy-2018-23--May-2018-Board.pdf
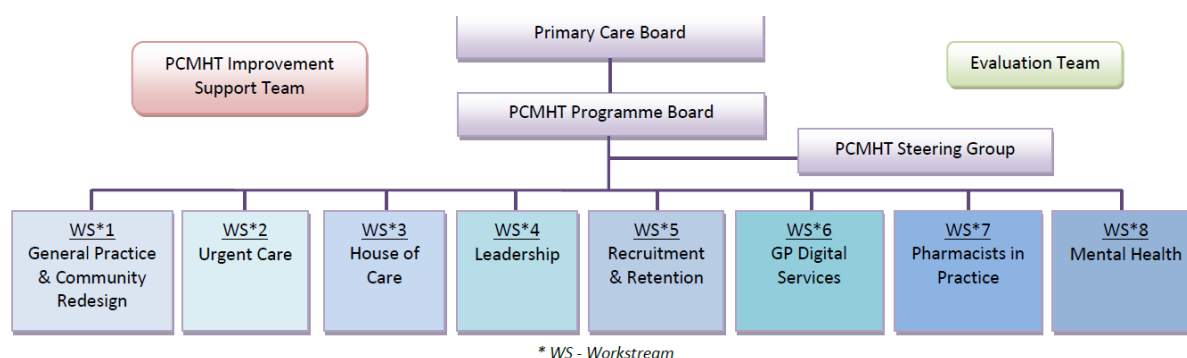
This demonstrates NHS Lanarkshire programme infrastructure with several cross cutting themes to enable economies of scale in relation to limited capacity. For instance, the GP and Community Services Redesign WS is intended to improve patient access to new ways of collaboration (e.g. locality/cluster teams). OOH was integrated with Urgent Care. HoC proposed a change in how care was planned with patients, carers and families, but also considered third sector inputs. Digital Health covered ehealth and information systems developments. Pharmacists in GP practices supported Prescription for Excellence, the Scottish Government's Vision and Action Plan for pharmaceutical care to be delivered by clinical pharmacist independent prescribers, in collaboration with patients and other health and social care providers in a variety of settings, to improve patient outcomes (Scottish Government, 2013). Integrated teams within the HSCPs developed locality based integrated community healthcare teams (e.g. Links Workers).

Primary Care Transformation Programme Board and Steering Group

In order to develop and implement the programme, a transformation board, steering group and work streams were formed. Support for the programme was provided by the formation of the Transformation Board, comprising managers and clinicians from across primary care, allied health professionals, HSCPs and NHS Board, and voluntary and public representatives. The board was intended to *"design and develop the programme as well as manage the testing and spread phase to ensure sustainable roll out and transfer to business as usual practice".* The board was formed in July 2016, meeting initially every month, then quarterly from 2017 (NHS Lanarkshire, 2017b).

The Primary Care and Mental Health Transformation Board was responsible for:

- *"developing a resourced programme with clinical leadership and the right infrastructure to ensure sustainable change*
  - developing a compelling transformation programme and plan
  - engaging all stakeholders in the design and delivery of the programme
  - delivering the overall programme
- *having oversight of each stream of transformation ensuring in particular that financial management is correct. This includes reporting to funding departments*
- *having oversight of the evaluation of each stream of transformation so that they know what works*
- *ensuring that greatest possible value is achieved from each part of the transformational programme by identifying and linking common purposes and actions*
  - ensuring the service users outcome is at the centre of all changes
  - establishing and maintaining programme management reporting structures
  - developing and supporting a communication plan
  - maintaining a risk register."

(Moy, 2016)

The main functions of the Steering Group (Figure 9), whose membership comprised a small group of members from the PCTP Board were to:

> - *"develop and manage the programme plan*
> - *secure and retain commitment from staff and stakeholders*
> - *ensure that the project delivers its objectives*
> - *facilitate project monitoring and delivery of agreed milestones*
> - *make decisions on where these cannot wait for PCTB meetings*
> - *confirm governance arrangements are robust and can be monitored".*

(Moy, 2016)

FIGURE 9: OVERALL GOVERNANCE
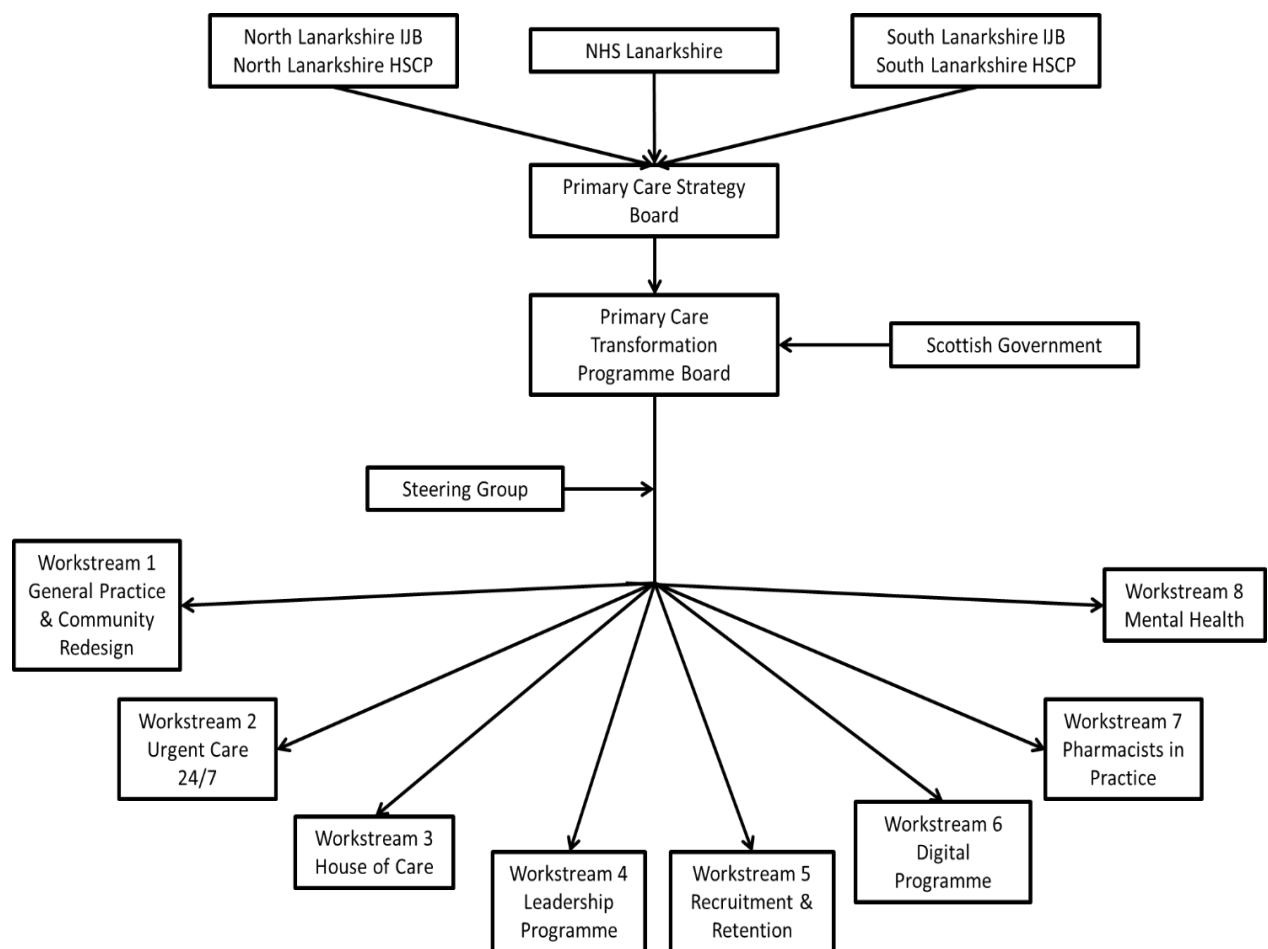
Source: (NHS Lanarkshire, 2017b)

The numerous new ways of working and tests of change proposed within Lanarkshire have been organised into eight WSs in total, while only six WSs have been evaluated. A lead and project management support was appointed for each work stream. In addition, further support was provided by the creation of an Improvement Support Team – as previously noted each work stream was supported by an Improvement Manager.

Funding

NHS Lanarkshire adopted a strategic approach to funding its PCTP whereby several funding streams were utilised including PCTF, PCFMH , PfE and Digital Services Fund (which is combined with Digital Hardware) (Moy, 2016).

FIGURE 10: ORIGINAL FINANCIAL FRAMEWORK

Propsal/Workstream	Original NHSL Bid Value	SG Notified Bid Value	Allocation Received To Date	Comments
Digital Services Fund	629,986	686,415	162,539	
Hoc Alliance	60,000	60,000	60,000	Non SG funded.
Mental Health Investment		434,855	434,855	
Pc Transformation Fund		998,668	998,668	
Pharmacy Investment	798,076	806,000	628,470	
Recruitment + Retention Fund	124,200	100,000	100,000	
Urgent Care		860,316	150,000	No figure in original bid.
	1,612,262	3,946,254	2,534,532	

Source: (NHS Lanarkshire, 2017b)

Table 6 summarises the funding allocation in the original proposal submitted to the SG.

TABLE 6: THE FINANCIAL FRAMEWORK FOR THE OVERALL PRIMARY CARE TRANSFORMATION PROGRAMME

Work stream	Allocation Received To Date
WS 1 General Practice & Community Redesign	998,668[30]
WS 2 Urgent Care	150,000
WS 3 Hoc Alliance	60,000
WS 4 Leadership Programme (NES Funded)	0
WS 5 Recruitment Retention Fund	100,000
WS 6 Digital Services Fund	162,539
WS 7 Pharmacists in Practice	628,470
WS 8 Mental Health Investment	434,855
Programme Budget	**2,534,532**

(NHS Lanarkshire, 2017b)

Anticipated Outcomes and Impacts

NHS Lanarkshire utilised a Contribution Analysis Approach to evaluate the WSs (NHS Lanarkshire, 2017b). This approach was chosen as it could incorporate both the complexity of WSs and changes over time (NHS Lanarkshire, 2017b). Most WSs had an Achievement Framework, however it was not obligatory that all WSs have an achievement framework. The frameworks detail the inputs and expected outcomes of the new ways of working within the WSs, across their lifetime and beyond. Metrics were then decided between the WS leads and the evaluation/IST, along with the type of

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[30] The Improvement Support Team (including evaluation) costs of approx. £255,000 and an allocation to the HoC work stream of £123,000 have been funded from the PCTF total of £998,668. The remaining funding of £620,668 is the funding assigned to deliver the action plan of the General Practice & Community Redesign.

data to be collected. NHS Lanarkshire also appointed an evaluation lead to study the outcomes from the evaluation.

Once collected, data were then to be collated by the in-house evaluation team, which was charged with writing "a contribution story using robust evidence of outcome achievement" (NHS Lanarkshire, 2017b). Using the same evaluation approach across the WSs aided the collation of evidence from completely different work streams with many different tests of change (NHS Lanarkshire, 2017b). It was not required for each WS to evidence how its achievements had contributed towards meeting the nine national health and social care integration outcomes. They were included in the achievement frameworks as long-term outcomes but there was no expectation that any evidence would be gathered within the lifetime of PCMHT (NHS Lanarkshire, 2017b).

To support the achievement of the programme aims and objectives, NHS Lanarkshire established a range of tests of change, many of which may now have changed[31]. These included:

- ANPs working in GP Practices as part of the general practice team
- Advanced physiotherapists providing assessment and management of some musculoskeletal conditions in GP Practices.
- Mental health and paediatric trained staff working in OOH Hub to see patients with certain conditions.
- ANPs working in OOH Hub to see patients with certain conditions and also to undertake home visits instead of GPs in out of hour settings.
- The aim of surgery pods in GP practices was to release GPs time for more complex patients. Surgery pods were implemented for the measurement of height; weight; BMI; blood pressure. Some other functions included protocol questionnaire function (e.g. new patient registrations).
- Pharmacists working in GP practices as part of the general practice team
- Community pharmacists supporting patients with mental health illness who use community pharmacies, including the clozapine dispensing services within NHS Lanarkshire.
- Improved use of IT to support efficient working within general practice.
- Link workers in general practice in North Lanarkshire. Reviewing this model and exploring the possibility of expanding across Lanarkshire.
- A review of the use of self-management and social prescribing programmes by GP-referred patients to address the wider individual, social and economic determents of mental health and well-being.
- Creation of two Primary Mental Health Care GPs to provide GP influence and leadership in Primary Care Mental Health.
- Implementation of House of Care framework to provide an integrated approach and collaborative care planning process for people with long-term conditions.

(NHS Lanarkshire, 2017b)

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[31] Certain components of the tests of change while accurate at the time of data collection (Sept. 2017-Feb.2018) may now have changed and been replaced with other tests of change. This is a reflection of the rapidly evolving nature of the implementation. For updates please visit: http://www.nhslanarkshire.org.uk/About/PCMHTP/Pages/default.aspx or contact Helen Alexander: Helen.Alexander@lanarkshire.scot.nhs.uk

University of Glasgow | College of Medical, Veterinary & Life Sciences

1. **Study title**
Evaluation of New Models of Care: NHS Lanarkshire

2. **Invitation paragraph**
You are being invited to take part in the NHS Lanarkshire case study, which is part of the Scottish School of Primary Care's national evaluation of Primary Care Transformation projects. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

3.   **What is the purpose of the study?**
This study aims to identify the challenges and facilitators to implementing new models of care in NHS Lanarkshire. The study will involve two phases. The **first phase** aims to identify the range of transformation projects in Lanarkshire, to understand where they are happening and who is involved, and also their intended impacts. The **second phase** of the study will identify a number of these projects or locations for an in-depth case study. We will focus on identifying any impacts; barriers and facilitators in implementation; lessons learned; and impacts for patients, practitioners and the wider health system of Lanarkshire. The study will last from June 2017 to September 2018.

4.   **Why have I been chosen?**
You have been identified as a key stakeholder involved in new ways of working in primary care in Lanarkshire. Your views will help us to better understand the development and implementation of new models of care and what lessons have been learned about establishing and sustaining them.

5.   **Do I have to take part?**
It is up to you to decide whether or not to take part. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still free to withdraw at any time and without giving a reason.

6.   **What will happen to me if I take part?**
If you do agree to take part, you will be asked to meet with a researcher for an interview at a time and location suitable to you. The interview is expected to last for around 60 minutes. You will be asked at the beginning of the interview if you have any questions about the study, and you will then be given a consent form to complete and sign (you will be given a copy of this information sheet and your consent form to keep). If a face-to-face interview isn't suitable, but you would like to take part, we can arrange a telephone interview instead. In this case we will send you a consent form and ask you to complete it and return it to us before the interview.

With your permission we will record the interview to ensure that we retain an accurate account of the discussion. If you do not wish the interview to be audio recorded please indicate this to the researcher and omit this part of the consent form. All recordings will be held on secure University of Glasgow servers and will be destroyed at the end of the study. Interviews will be transcribed and anonymised. Transcripts will be retained securely for 10 years. Your anonymised data will be stored for additional future research performed by approved researchers.

It is possible that you might be asked to take part in a second interview later in the project. This might happen if you are involved across a range of different projects being developed in Lanarkshire, or to help us understand how the projects develop over time.

When you are asked to participate in the interview you will also be asked, if it is appropriate, whether you are willing to receive ongoing email prompts that aim to keep the research team informed of important changes or events in your local area (these might include larger stakeholder events or changes in key personnel or restructuring of local services). If you choose to take part in this then you will received a structured email at intervals agreed between you and the research team, but not more than monthly. If we don't receive a response from you then you will receive only one reminder and if you decide that you no longer wish to take part then we will not send you any more prompts.

You will also be asked whether you are willing to complete two questionnaires. The first questionnaire, called NoMAD, will help us identify and understand barriers and facilitators of the new models of care being developed. The questionnaire will be sent to you by email or in paper format at the beginning of the study. We will ask you to complete this questionnaire a second time later on in the study. If we don't receive a response from you then you will receive only one reminder and if you decide that you no longer wish to take part then we will not send you any more questionnaires.

The second questionnaire called an outcomes rating scale will help us to understand the objectives of the work being carried out in Lanarkshire and when these might be achieved. The questionnaire will be sent to you by email or in paper format at the beginning of the study. We will ask you to complete this questionnaire once. If we don't receive a response from you then you will receive only one reminder.

7.   **What are the possible disadvantages and risks of taking part?**
Taking part in the evaluation will require you to give a modest amount of your time.

8.   **What are the possible benefits of taking part?**
You will receive no direct benefit from taking part in this study. The information that is collected during this study will give us a better understanding of what new models of care are being developed and how they are being implemented. Additionally, your views will help us understand better what those charged with planning and implementing new models feel about their data and support needs.

9.   **Will my taking part in this study be kept confidential?**

All information which is collected about you, or responses that you provide, during the course of the research will be kept strictly confidential. When we use the information provided by you, from the interviews, electronic prompts or questionnaires, it will be anonymized and depersonalized. No names or identifiable data will be mentioned if we quote something that you say in future reports or publications. You will be identified by an ID number, and any information about you will be removed so that you cannot be recognised from it.

However, some participants may be easier to identify due to their unique or role or profile. In recognition of this, quotes that may be attributable to a participant due to their unique or key role will not have a role identifier attached, and if this is not sufficient to ensure anonymity then these quotes will not be used. Your anonymised data will be stored for additional future research performed by approved researchers.

Please note that assurances on confidentiality will be strictly adhered to unless evidence of serious harm, or risk of serious harm, is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

10.   **What will happen to the results of the research study?**

The results from the interviews will be used by the research team to provide feedback to stakeholders and to our funders, the Scottish Government, via the Scottish School of Primary Care. We will also aim to publish our findings in academic journals and presentations at conferences.

11.   **Who is organising and funding the research?**

The Scottish Government is funding this research and the funding is being administered by the Scottish School of Primary Care. The study is led by the University of Glasgow.

12.   **Who has reviewed the study?**

This study has been reviewed by the University of Glasgow, College of Medical, Veterinary and Life Sciences Ethics Committee.

13.   **Contact for Further Information**

If you would like further information about this study, please contact Professor Kate O'Donnell. Kate.O'Donnell@glasgow.ac.uk; Tel 0141 330 8329.

Thank you for taking part in this study

University of Glasgow | College of Medical, Veterinary & Life Sciences

Participant Identification Number: N/A
GU Project R&D No: 77013

Title of Project: Evaluation of New Models of Care: NHS Lanarkshire

Name of Researcher(s): Linda Thomas

Please initial box

I confirm that I have read and understand the information sheet dated _____
(version _____) for the above study and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw at
any time, without giving any reason, without my legal rights being affected

I agree to my anonymised data being archived and that electronic versions of these
will be stored on password protected University of Glasgow computers.

I understand my information will be stored for additional future research and I will
not be able to be identified from any analyses performed by approved researchers.

I understand that if some of my views are quoted in a report or published papers,
this will be done in a way that ensures that I cannot be identified.

I understand that, subject to my permission, the interview will be audio recorded
for the purpose of the study and that any recordings will be destroyed at the end
of the study. Depersonalised transcripts of the recordings will be kept for a period
of 10 years to ensure accurate reporting in any future publications.

If appropriate, I agree to being sent electronic prompts and/or questionnaires to
complete, and understand that I will be given the opportunity to withdraw from
future surveys.

I agree to take part in the above study.

<div style="border: 1px solid black; width: 60px; height: 60px; float: right;"></div>

_____   _____   _____

Name of subject   Date   Signature

_____   _____   _____

Name of subject   Date   Signature
(if telephone interview)

_____   _____   _____

Researcher   Date   Signature

(1 copy for subject; 1 copy for researcher)

Appendix K: Ethical Approval Letter

University of Glasgow

21st June 2017
Dear Professor O'Donnell.

MVLS College Ethics Committee
Project Title: Evaluation of New Models of Care: MSK Physiotherapy Across Scotland
Project No: 200160146

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: End January 2019
- The data should be held securely for a period of ten years after the completion of the research project, or for longer if specified by the research funder or sponsor, in accordance with the University's Code of Good Practice in Research: (http://www.gla.ac.uk/media/media_227599_en.pdf)
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

Jesse Dawson
MD, BSc (Hons), FRCP, FESO
Clinical Reader / Honorary Consultant
NRS Stroke Research Champion / Clinical Lead for Scottish Stroke Research Network
Chair MVLS Research Ethics Committee
Institute of Cardiovascular and Medical Sciences
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Glasgow
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jesse.dawson@glasgow.ac.uk

Evaluation of New Models of Care: Lanarkshire
Phase 2 – Digital/HoC Interview Schedule

Thank you for agreeing to meet with one of our researchers to discuss your views and experiences of primary care transformation implementation in NHS Lanarkshire.

This study is being conducted in two phases.

In Phase 1, we were interested in exploring what activities are taking place in Lanarkshire and how these fitted with the on-going health system in Lanarkshire.

In Phase 2, we will focus more on actual projects, examining their aims and objectives, milestones and achievements.

Phase 2: Impacts, Learning, Spread and Sustainability

1. Can you describe your role?

2. Can you describe the HoC/Digital project and your role in it?
     - How long have you been in this role?
     - Do you work closely with the Health Board?

3. Does the project build on previous work or is it an entirely new way of working?

4. Can you describe how the project has been implemented? (e.g. self-check-in, digital signage, vision anywhere, surgery pods etc.)
          - Were staff given/did you receive (enough) training about it?
          - Did staff 'buy in' to the idea? Are you confident with the new way of working?
          - How were patients informed of the new way of working

5. What progress has been made so far?
          - How many patients have used the new service/way of working?
          - Have you had any results from evaluation or staff and patient feedback?

6. Who are involved in driving the project in your practice?

  - who else is involved, what are their roles and how were these determined, have their roles evolved/changed over time?

  - what involvement did primary care practitioners (e.g. GPs) have?

  - who is not really involved who you think should be?

7. Who have you engaged with in order to implement the project?

  Was there any patient or public involvement in implementing the project?

8. What have you learned from implementing the project/services?

  - What have the team/ your colleagues learned?

  - Have you fed back any suggestions for improvements based on what you learned?

  - Have you changed anything about the ways it works?

9. Have there been any unintended consequences from the project?

  Positive?

  Negative?

10. What are the expected overall outcomes of the project?

  - short term (within the next year)?

  - medium term (within the next two to three years)?

  - long term (beyond three years)?

11. Have the outcomes so far varied much from the intentions at the start of the project?

12. What do you expect to be the impact of the project? What difference will it make to staff and patients? In deprived populations? In what timescales:

  - short term (within the next year)?

  - medium term (within the next two to three years)?

  - long term (beyond three years)?

13. How will these outcomes/impacts be measured? Do they require existing or new data? How will the data be collected and by whom?

  - Will support be required to collect data to inform the measurement of impact?

  - Have quality standards/measures of success for this been agreed? What are these, how were they identified and by whom?

14. Do you think this project/services is/are sustainable in the future?

  - Who are the key stakeholders in terms of future sustainability?

  - Do you foresee any facilitators/barriers to the future sustainability of the project?

  - What are the resource implications of these projects? Now and in terms of sustainability?

15. Do you think this new way of working will spread?

   - Who are the key stakeholders in terms of future spread?

   - Do you see any barriers/facilitators to the spread of the project?

16. Are plans being developed for any new ways of working arising out of this project?

17. Are plans being developed for any other new ways of working?

18. How does this project fit into the wider goals of your practice?

19. Is there anything else you would like to add?

Appendix M: Search Strategies

	Search term	Number of hits
Ovid Searches 1 and 2.		
1.	Primary care.m_titl	66681
2.	Health care.m_titl	113826
3.	1 OR 2	179456
4.	"transfom*".m_titl	99780
5.	3 AND 4	825
6.	Remove duplicates from 5	457
7.	Limit 6 to English language	445
8.	Limit 7 to human	339
9.	Limit 8 to "reviews (best balance of sensitivity and specificity)"	40
10.	Primary care.mp	189826
11.	Transform*.mp	817183
12.	10 AND 11	2009
13.	Remove duplicates from 12	1273
14.	Limit 13 to English language	1214
15.	Limit 14 to human	1072
16.	Limit 15 to "reviews (best balance of sensitivity and specificity)"	143
Ovid Searches 3 and 4.		
1.	Models of care_mp	5346
2.	Transform*.mp	817183
3.	1 AND 2	172
4.	Remove duplicates from 3	105
5.	Limit 4 to English language	102
6.	Limit 5 to human	99
7.	Limit 6 to "reviews (best balance of sensitivity and specificity)"	21
8.	Primary care.mp	189826
9.	Health care.mp	1648637
10.	8 OR 9	1739123
11.	1 AND 8	769
12.	Remove duplicates from 11	502
13.	Limit 12 to English language	492
14.	Limit 13 to human	460
15.	Limit 14 to "reviews (best balance of sensitivity and specificity)"	100
EBSCOHost Search 1.		
1.	TI primary care OR TI health care	78105
2.	TI transformation Or TI transforming	12507
3.	1 AND 2	332
4.	Limit 3 to English language	327

5.	Limit 4 to Review	51
EBSCOHost Search 2.		
1.	TI models of care AND TI primary care	163
2.	Limit 1 to English language	157
3.	Limit 2 to Review	73

Shaded rows included in final database of papers.

Appendix N: Characteristics of Included Papers

ID	Citation	Study Design	Sample size	Location	Ethical approval	Aim of the study	Key findings	Limitations
14	Lee et al. Medical Care Research & Review, 2012.	Systematic review	56 papers	International	N/A	To identify the antecedents, processes (or paths), and outcomes of transformational change in health and non-health care settings and provide some guidance to managers and policy makers.	Limited differences were found between health care and non-health care studies. Available research documents the multiplicity of factors affecting change and the complexity of their interactions, but less information is available about the processes of transformational change than about its antecedents and consequences. Executive leadership; capacity for transformation; favourable socio-political and economic conditions are all facilitators for transformation.	Existing literature may be biased towards studies of successful transformation. Most studies had short timeframes and often defined the period of investigation as the timeframe for which data were available. Furthermore, conceptualization of transformation as intended change may have led to the omission of studies describing transformations as result of continuous and iterative change.
18	Best et al. Milbank Quarterly, 2012.	Realist review	84 papers	International	N/A	To analyse examples of successful and less successful transformation initiatives, to synthesize knowledge of the underlying mechanisms, to clarify the role of government, and to outline options for evaluation.	Rapid realist review identified five "simple rules" of LST that were likely to enhance the success of the target initiatives: (1) blend designated leadership with distributed leadership; (2) establish feedback loops; (3) attend to history; (4) engage physicians; and (5) include patients and families. These principles play out differently in different contexts affecting human behaviour (and thereby contributing to change) through a wide range of different mechanisms.	Constrained to a six month period of data collection and analysis. Another limitation was what was not reported in the literature, namely gaps in the literature relating to transformation.

47	Gold et al. Journal of the American Board of Family Medicine, 2017.	Qualitative	11 practices (community mental health, and primary care practices); Number of participants not stated.	Advancing Care Together (ACT) evaluation, Colorado, USA	Yes	To present the key lessons identified by practice leaders ('innovators') at the end of a 3-year programme of practice transformation.	Five key themes were captured: (1) frame integrated care as a necessary paradigm shift to patient-centred, whole-person health care; (2) initialize: define relationships and protocols up-front, understanding they will evolve; (3) build inclusive, empowered teams to provide the foundation for integration; (4) develop a change management strategy of continuous evaluation and course-correction; and (5) use targeted data collection pertinent to integrated care to drive improvement and impart accountability.	None stated. However, practices involved were volunteers to the programme; data collection method may have meant that other/discordant views were not articulated.
78	Friedman et al. Medical Care, 2014.	Review	331 papers	USA	N/A	To identify and describe a typology of different models of primary care staffing and workforce.	This synthesis led to the development of a typology of workforce innovations represented in the literature. Many workforce innovations added personnel to existing practices, whereas others sought to retrain existing personnel or even develop roles outside the traditional practice. Most of these sought to minimize the impact on the existing practice roles and functions, particularly that of physicians. The synthesis also identified recent innovations which attempted to fundamentally transform the existing practice, with transformation being defined as a	Lack of qualitative data in the literature to clarify context of innovations. Also a lack of information relating to longer-term sustainability or dissemination.

						change in practice members' governing variables or values in regard to their workforce role. Conclusions: Most conceptualizations of the primary care workforce described in the literature do not reflect the level of innovation needed to meet the needs of the burgeoning numbers of patients with complex health issues, the necessity for roles and identities of physicians to change, and the call for fundamentally redesigned practices. However, we identified five key workforce innovation concepts that emerged from the literature: team care, population focus, additional resource support, creating workforce connections, and role change.	
82	Janamian et al. Medical Journal of Australia, 2014.	Systematic review	28 papers	International	N/A	To review the available literature to identify the major challenges and barriers to implementation and adoption of the PCMH model, topical in current Australian primary care reforms.	The main barriers identified related to: challenges with the transformation process; difficulties associated with change management; challenges in implementing and using an electronic health record that administers principles of PCMH; challenges with funding and appropriate payment models; insufficient resources and infrastructure within practices; and inadequate measures of performance.	The search strategy did not include grey literature, and unpublished evaluation studies or reports may have been missed. There could also be other challenges or barriers not reported in the reviewed publications. The review was limited to studies that used the Joint Principles, because this definition fits well with the RACGP's 'A quality general practice of the future', but may have missed literature published outside this definition. Data abstraction may have been subject to reviewer bias, but two

97	Akinci & Patel. Hospital Topics, 2014.	Systematic review	15 papers	USA	N/A	To break down and demonstrate the need for quality improvement in the US delivery of healthcare by examining PCMH.	Healthcare using the PCMH model is delivered with the patient at the centre of the transformation and by reinvigorating primary care. The PCMH model strives to deliver effective quality care while attempting to reduce costs. In order to relieve some of our healthcare system distresses, organizations can modify their delivery of care to be patient-centred. Enhanced coordination of services, better provider access, self-management, and a team-based approach to care represent some of the key principles of the PCMH model. Patients that can most benefit are those that require long-term management of their conditions such as chronic disease and behavioural health patient populations. Although significant resources may need to be allocated for smaller organizations, the principles on a basic level can be fulfilled by any dedicated institution. The principles serve various roles, they can be guidelines for some practices and it can be a full commitment by other practices. The PCMH is a feasible option for delivery reform as pilot studies have documented successful outcomes. Controversy about the	reviewers were used per paper. Not stated. However, lack of grey literature in the review and lack of detail describing how the review was conducted raise issues about the potential quality and rigour of the work.

							lack of a medical neighbourhood has created concern about the overall sustainability of the medical home. The medical home can stand independently and continuously provide enhanced care services as a movement toward higher quality care while organizations and government policy assess what types of incentives to put into place for the full collaboration and coordination of care in the healthcare system.	
103	Quinn et al. Ethnicity & Disease, 2013	Qualitative	98 interviews with administrators, providers and clinical staff	Safety Net Medical Home Initiative, Chicago, USA	Yes		To understand the views and experiences of staff in the safety net health centres preparing for PCMH adoption, including identification of anticipated benefits and obstacles.	Anticipated benefits for participating in the PCMH included improved staff satisfaction and patient care and outcomes. Obstacles included staff resistance and lack of financial support for PCMH functions. Lessons learned included involving a range of staff, anticipating resistance, and using data as frequent feedback. Conclusions—SNHCs encounter unique challenges to PCMH implementation, including staff turnover and providing care for patients with complex needs. Staff resistance and turnover may be ameliorated through improved healthcare delivery strategies associated with the PCMH. Creating predictable and continuous funding streams may be more fundamental challenges	First, interviews were conducted during the first year of a five-year intervention; we did not sample staff views retrospectively, after the five-year intervention. Second, respondent clinics comprised a purposive sample, and were not randomly selected which may limit generalizability. Third, patients were not involved. Fourth, because this study examined staff experience early in the PCMH transformation process, PCMH-related benefits were largely anticipated rather than actually accrued, while obstacles were those actually encountered. It is possible that the obstacles encountered may have influenced anticipation of benefits.

					to PCMH transformation.		
11 7	Bitton et al. Milbank Quarterly, 2012.	Qualitative	5 practices	PCMH Initiative, Massachu setts, USA	Yes	To understand how participating practices approached the new PCMH payment and practice transformation model.	We identified specific contextual factors related to wide variations in change tactics, including starting points, approaches and interventions. We also observed widely varying approaches to catalysing change using (or not) external consultants, specific challenges regarding health information technology implementation, team and staff role restructuring, compensation, and change fatigue, and several unexpected potential confounders or alternative explanations for practice success. The results raise insights into the heterogeneity of medical home transformation, the central but complex role of payment reform in creating a space for change, the ability of small practices to achieve substantial change in a short time period, and the challenges of sustaining it.	Owing to resource constraints, there were no control practices included in the qualitative evaluation. No baseline quantitative data to support or refute qualitative data. Furthermore, the data was based on subjective staff impressions that was susceptible to bias and recall. Limited data-collection period to evaluate complexity of significant change efforts in primary care practice.
14 9	Ralston et al. Medical Care Research and Review, 2009.	Mixed methods	12 Group Health Leaders interview ed. Number of patients in survey is unclear.	Access Initiative, Group Health, Seattle, USA	Not stated	To evaluate the impact of the Group Health Access Initiative on patients' experience with access to care, providers' work environment quality and health plan enrolment.	Redesign targeted five areas: (a) offering a patient website with patient access to patient-physician secure e-mail, electronic medical records, and health promotion information; (b) offering advanced access to primary physicians; (c) redesigning primary care services to enhance care efficiency; (d) offering direct access to physician	Low response rates for both provider (RR of 40 to 50%) and patient surveys (RR 43 to 49%). All parts of the intervention rolled out at once, so could not look at individual components. Other care experience domains among patients may be relevant but were not assessed.

							specialists; and (e) aligning primary physician compensation through incentives for patient satisfaction, productivity, and secure messaging with patients. In the two years following the redesign, patients reported higher satisfaction with certain aspects of access to care, providers reported improvements in the quality of service given to patients, and enrolment in Group Health stayed aligned with state-wide trends in health care coverage.	
150	Nutting et al. Annals of Family Medicine, 2009.	Qualitative	36 practices, out of 337 participated	National Demonstration Project, PCMH Initiative, USA	Not stated	To report on the effect of the PCMH model on patient and practice outcomes and the effectiveness of facilitated assistance to practices, compared to controls who were in self-directed group, in supporting the transformation.	Early lessons from the real time qualitative analysis of the NDP raise some serious concerns about the current direction of many of the proposed PCMH demonstration projects and point to some positive opportunities. We describe six early lessons from the NDP that address these concerns and then offer four recommendations for those assisting the transformation of primary care practices and four recommendations for individual practices attempting transformation. These include: ensuring adequate resources; tailoring approaches to practices; supporting physicians; addressing national recognition; re quality; allowing adequate time for transformation; developing	Analysis for this study was incomplete, and reported findings were early lessons in advance of planned the mixed methods research.

						flexible IT plans; monitoring change fatigue; and being a learning organisation.	
197	Maeng et al. Population Health Management, 2013.	Questionnaire/Survey	855 patients (499 from ProvenHealth Navigator (PHN) patients sites and 356 from non-PHN sites)	ProvenHealth Navigator Initiative, Geisinger Health System, USA	Not stated	To evaluate the impact of PHN on patient experience of care	The results suggest that patients in PHN sites were significantly more likely to report positive changes in their care experience and quality; moreover, they were more likely to cite the physician's office as their usual source of care rather than the emergency room (83% vs. 68% for physician's office; 11% vs. 23% for emergency room). However, the results also suggest that there was no significant difference between PHN and non-PHN patients in their perceptions of access to care or primary care physician performance in terms of patient-centred care (e.g., listening, explaining, involving patients in decision making).	Not stated. However, RR low (42% in intervention group; 27% in control group). Study doesn't explore clinic or physician factors note related to PHN that might influence patients' care experiences.
199	Maeng et al. American Journal of Managed Care, 2012.	Retrospective claims data analysis	26,303 members from 43 Proven Health Navigator (PHN) clinics	Proven Health Navigator Initiative, Geisinger Health, USA	Not stated	To estimate cost savings associated with ProvenHealth Navigator (PHN), which is an advanced model of PCMHs developed by Geisinger Health System, and determine whether those savings increase over time.	In both models, a longer period of PHN exposure was significantly associated with a lower total cost. The total cumulative cost savings over the study period was 7.1% (95% confidence interval [CI] 2.6-11.6) using the model with the prescription drug coverage interaction effects and 4.3% (95% CI 0.4-8.3) using the model without the interaction effects. Corresponding return on investment was 1.7 (95% CI 0.3-	There may have been changes other than drug coverage in the benefit design (e.g., changes in participating provider network) that may have impacted each member's total costs over time. Unfortunately, our claims data do not include detailed information on each member's benefit design other than the drug coverage status. This problem, however, is somewhat mitigated by the fact that our sample includes only the Medicare Advantage

						3.0) and 1.0 (95% Cl-0.1 to 2.0), respectively.	enrolees of a single managed care organization.
24 4	Smith-Carrier et al. Home Health Care Services Quarterly, 2015.	Qualitative	17 members of inter-professional teams in Home-based primary care, including: home care coordinators, social workers, physicians, occupational therapists, physician assistants, nurse practitioners, nurses and pharmacists	Home-based primary care providers, Ontario, Canada	Yes	To explore Inter-Professional Team (IPT) members' perspectives and experiences providing home-based primary care (HBPC) in Ontario, Canada and their perspectives on the key characteristics that facilitate or hinder HBPC service provision	Themes emerged in the data in relation to the benefits of the HBPC model, and the barriers associated with its provision, as well as the key components that enable or hinder inter professional collaboration in the HBPC environment. These include collaboration across professional groups, enhanced by a shared vision and common goals for client care; trust and respect for each other; effective leadership; and constructive avenues for handling conflict.	Not stated.
24 7	Karlin & Karel. The Gerontologist, 2014.	Questionnaire/Survey	132 mental health providers,	HBPC, Veterans' Health Administr	Not stated	To examine the nature and extent to which MH care processes and practices have been	The most common clinical issues addressed by MH providers were depression, coping with illness and disability, anxiety,	Not stated. RR unclear.

			representing 119 HBPC programmes; 112 programme directors	ation, USA		integrated into HBPC nationally. Specifically, the aims of the current evaluation are to characterize (a) the MH issues identified and addressed in HBPC; (b) strategies for MH screening, evaluation, and intervention; (c) how time was being spent by the integrated MH providers in various professional activities; (d) the extent of integration into team functioning; and (e) ongoing educational needs.	caregiver/family stress, and cognitive evaluation. Other team members typically conducted initial MH screenings, with MH providers' time focusing on cases with identified needs. Approximately 40% of MH providers' time was devoted to direct clinical care. Significant time was also spent on team activities, driving, and charting. Implications: Integration of MH services into HBPC is feasible and facilitates service access for a vulnerable population. Mental health care delivery in HPBC generally involves a high degree of interdisciplinary practice. Mental health integration into HBPC may serve as a model for other systems interested in promoting MH care delivery among homebound and other older individuals.	
306	Desmeules et al. BMC Musculoskeletal Disorders, 2012.	Systematic review	16 papers	International	N/A	The aim of the current systematic review was to update the evaluation of the expanding role of advanced practice/extended scope physiotherapists in the management of patients with musculoskeletal disorders.	Included studies varied in designs and objectives and could be categorized in four areas: diagnostic agreement or accuracy compared to medical providers, treatment effectiveness, economic efficiency or patient satisfaction. There was a wide range in the quality of studies (from 25% to 93%), with only 43% of papers reaching or exceeding a score of 70% on the	A new tool was developed to evaluate satisfaction studies, but this has not been validated. There were no papers examining waiting times, and due to study heterogeneity, meta-analysis was not feasible. Furthermore, the included studies did not present data on whether APP care will impact access to care by reducing wait times.

						methodological quality rating scales. Their findings are however consistent and suggest that APP care may be as (or more) beneficial than usual care by physicians for patients with musculoskeletal disorders, in terms of diagnostic accuracy, treatment effectiveness, use of healthcare resources, economic costs and patient satisfaction. Conclusions: The emerging evidence suggests that physiotherapists in APP roles provide equal or better usual care in comparison to physicians in terms of diagnostic accuracy, treatment effectiveness, use of healthcare resources, economic costs and patient satisfaction. There is a need for more methodologically sound studies to evaluate the effectiveness APP care.	
330	Kane et al. BMC Family Practice, 2017.	Systematic review	12 papers	International	N/A	To systematically review the literature for evidence to guide the development of primary care models for diabetes mellitus, CVD and respiratory disease.	For this review there was a near-consensus that passive rather than active case-finding approaches are suitable in resource-poor settings. Modifying risk factors among existing patients through advice on diet and lifestyle was a common element of healthcare approaches. The priorities for disease management in primary care were identified as: availability	Focus was on Sub-Saharan Africa, but primary studies came from only seven of the 48 SSA countries. There were different study designs, interventions and outcomes across the studies. Poor quality in some studies means that results have to be interpreted with caution.

							of essential diagnostic tools and medications at local primary healthcare clinics and the use of standardized protocols for diagnosis, treatment, monitoring and referral to specialist care.	
33 2	Carter et al. BMC Health Services Research, 2016.	Systematic review	14 papers	Canada	N/A	To synthesize the evidence of a causal effect and draw inferences about whether Canadian primary care reforms improved health system performance based on measures of health service utilization, processes of care, and physician productivity.	We found moderate quality evidence that team-based models of care led to reductions in emergency department use, but the evidence was mixed for hospital admissions. We also found low quality evidence that team-based models, blended capitation models and pay-for-performance incentives led to small and sometimes non-significant improvements in processes of care. Studies examining new payment models on physician costs and productivity were of high methodological quality and provided a coherent body of evidence assessing enhanced fee-for-service and blended capitation payment models. Conclusion: A small number of studies suggested that team-based models contributed to reductions in emergency department use in Quebec and Alberta. Regarding processes of diabetes care, studies found higher rates of testing for blood glucose levels, retinopathy and cholesterol in Alberta's team-	Heterogeneity in study design and interventions meant that meta-analysis and sub-group analyses were not feasible. Administrative data is limited in gauging the heterogeneity of reform implementation within practices.

							based primary care model and in practices eligible for pay-for-performance incentives in Ontario. However pay-for-performance in Ontario was found to have null to moderate effects on other prevention and screening activities. Although blended capitation payment in Ontario contributed to decreases in the number of services delivered and patients seen per day, the number of enrolled patients and number of days worked in a year was similar to that of enhanced fee-for-service practices.	
394	Boult et al. Journal of the American Geriatric Society, 2009.	Systematic Review	123 papers	International	N/A	To identify models of comprehensive care that high-quality research has shown to be capable of improving the quality, outcomes, and efficiency of care for chronically ill older persons.	Fifteen models have improved at least one outcome: interdisciplinary primary care (1), models that supplement primary care (8), transitional care (1), models of acute care in patients' homes (2), nurse–physician teams for residents of nursing homes (1), and models of comprehensive care in hospitals (2). Policy makers and healthcare leaders should consider including these 15 models of health care in plans to reform the U.S. healthcare system. The Centers for Medicare and Medicaid Services would need new statutory flexibility to pay for care by the nurses, social workers, pharmacists, and physicians who staff these promising models.	Not stated, however literature identified showed considerable heterogeneity. High-quality studies with a variety of designs have shown that all 15 models are capable of improving the quality, outcomes, or efficiency of care, but except for the meta-analyses, Table 1 and Appendix S1 Tables S1 to S15 summarize only positive studies and, therefore, should not be used to quantify the relative strengths of the 15 models. Publication bias and exclusion of negative studies would strongly bias any such rankings.

							Benefits of models included: interdisciplinary primary care; care or case management; disease management; preventive home visits; outpatient comprehensive geriatric assessment and geriatric evaluation and management; pharmaceutical care; chronic disease self-management; proactive rehabilitation; caregiver support; transitional care; hospital-at-home; nursing home; prevention and management of delirium; and comprehensive hospital care.	