

Ayrshire and Arran Case Study

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This study is led by the University of Glasgow

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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

NHS Ayrshire & Arran (A&A) Case Study

Findings: A strategic approach was adopted by NHS A&A whereby different funding streams were used, either individually or in combination, to develop and implement **12 tests of change in line with its vision for primary care in the future**. Some operated across all three local Health & Social Care Partnership (HSCP) areas, while others operated in a single site. Some built on previous work, while others were new initiatives. In terms of focus:

- 7 tested redistributing GP workload by redirecting patients to other professionals/ services as the first point of contact – Musculoskeletal (MSK) Advanced Practitioner Physiotherapists, Advanced Nurse Practitioners (ANPs), Eyecare Ayrshire, Independent Pharmacy Prescribers, Pharmacy First, Community Phlebotomist, and the Stewarton Public Information and Engagement Pilot.
- 3 tested models of multidisciplinary team working/integration of care - Integrated Urgent Care, Community Connectors, and Healthy Active Rehabilitation Programme (HARP).
- 1 tested a scheme to encourage early career GPs to work in A&A - GP Recruitment
- 1 tested an approach to promote patient self-management – House of Care (HoC)

Most tests of change were operational by January 2018 when four were selected for more in-depth study (deep dives): Eyecare Ayrshire, Pharmacy First, HARP and HoC. Some short-term outcome measures had been collected, such as number of patients seen by community-based services. Less attention had been paid to developing measures for monitoring their impact on patients' care journeys, GP practices and other parts of the health/social care system, and health inequalities.

Implementation was facilitated by dedicated funding and time to develop the service, pre-existing relationships, and if the service built on existing developments. Implementation and sustainability was challenged by the absence of committed future funding, buy-in from staff, and underdeveloped IT systems to monitor activities and share information. The identified facilitators and challenges resonated with the published, international evidence.

Key informants reported early positive impacts of the tests of change on access to services (Eyecare Ayrshire and Pharmacy First) and on staff development and satisfaction (Eyecare Ayrshire, Pharmacy First and HARP). Implementation of House of Care was sporadic, and there was evidence that this test had not achieved widespread buy-in from practitioners.

Key Recommendations:

- Longer-term dedicated funding would impact positively on forward planning and future **sustainability**.
- Tests of change with **perceived early impacts on improving access** should target three levels: **people** (public information/engagement campaigns), **workforce** (capitalised on previous relationships/ developments and invested in staff engagement, training and support) and **system** (dedicated funding and staff time).
- Support for **data collection, extraction and analysis** is required for **evaluation**.
- **Robust IT systems** are required to capture activity in single services and allow **sharing of information** across services.
- 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

ADOC	Ayrshire Doctors On Call (GP out-of-hours service)
ANP	Advanced Nurse Practitioner
APP	Advanced Practitioner Physiotherapist
AUCS	Ayrshire Urgent Care Service
GP	General Practitioner
GPwSI	General Practitioner with Special Interest
HARP	Healthy and Active Rehab Programme
HBPC	Home Based Primary Care
HSCP	Health and Social Care Partnership
ICF	Integrated Care Fund
IJB	Integration Joint Board
IPP	Pharmacist Independent Prescriber
ISD	Information Services Division
LMC	Local Medical Committee
MSK	Musculoskeletal
NHS	National Health Service
MATS	Musculoskeletal Advice and Triage Service
NHSAA	NHS Ayrshire & Arran
PCFMH	Primary Care Funds for Mental Health
PCMH	Patient Centred Medical Home
PCTF	Primary Care Transformation Funds
PI	Principle Investigator
PN	Practice Nurse
SG	Scottish Government
SPOC	Health and Social Care Partnership Implementation Group
SSPC	Scottish School of Primary Care
UG	University of Glasgow
UTI	Urinary tract infection

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EXECUTIVE SUMMARY

BACKGROUND

In July 2016, the Scottish Government (SG) awarded 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 seven case studies contributing to the SSPC national evaluation. It focuses on primary care tests of change in NHS Ayrshire & Arran (A&A), irrespective of funding source.

A&A, a health board providing health care to a population of around 367,000, works in partnership with Health and Social Care Partnerships (HSCPs) and Integrated Joint Boards for North, South, and East Ayrshire. Responsibility for primary care transformation sits within the East Ayrshire HSCP.

AIMS

The broad aims of this case study were to:

1. understand primary care transformation and the context in which new ways of working were being tested.
2. identify the new ways of working models 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 the Phase 2 deep dives.
5. explore the implementation and sustainability of the deep dive models of care from the perspectives of those involved in the implementation and delivery of these models.
6. develop a logic model to explicate what worked, for whom and in what circumstances.

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, review of national and local documents relating to primary care transformation in A&A, and interviews with key informants involved in planning, implementing and delivering 'tests of change' contributing to primary care transformation in A&A.

The literature review 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'. This literature review was done in conjunction with the Lanarkshire Case Study team.

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 A&A and their progress in relation to 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) four of the identified tests of change, and the key research questions sought to determine their actual impacts, key learning, and likely sustainability and spread/roll-out.

Findings from the data collected from all sources were then synthesised and a logic model identifying inputs, activities/outputs and projected outcomes was developed.

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. Given 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 to 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 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 total of **115 national and local documents** relevant to primary care transformation in A&A were reviewed and **35 key informants were interviewed** (14 in Phase 1 and 21 in Phase 2). This identified 12 tests of change covering a range of services, target populations and conditions. These included Advanced Nurse Practitioners; Musculoskeletal (MSK) physiotherapists; community-based optometry, pharmacy and phlebotomy services; a service for rehabilitating multi-morbid patients; link workers/community connectors based in general practice; an approach to promote self-management for chronic disease; a GP

recruitment scheme; and public information on health services. The tests of change had been in development for different lengths of time and were each funded in different ways, including PCTF and funds from the HSCPs and other Health Board funding. The research team used a implementation staging system to assess the extent to which the tests of change were operational: most were defined as '*implemented*' meaning that they were operational and addressing short-term outcomes, such as redirecting patients from general practices to community-based services.

Four tests of change were proposed by the researchers, and accepted by the SG, for more in-depth exploration (deep dives):

Eyecare Ayrshire, an optometry service that redirected patients with eye problems from general practices to optometry practices located in the community.

Pharmacy First, which provided first point of care to patients with uncomplicated UTIs and with impetigo.

Healthy and Active Rehabilitation Programme (HARP), which provided a holistic rehabilitation service to multi-morbid patients, dealing with all their conditions rather than focusing on only one.

House of Care, which promoted self-management support and new ways of working in general practice.

A set of core components or common activities were identified across these different models of care:

- (i) community engagement and information sharing
- (ii) patient redirection to health care professionals other than GP
- (iii) redistribution of first point of care workload
- (iv) development of professional roles, especially for disciplines other than GPs
- (v) provision of services closer to patients
- (vi) changing skill mix

The evaluation of the deep dives identified some important facilitators and challenges to the implementation of these new ways of working. **Dedicated funding** was a crucial facilitator in enabling new services to be established. However, the funding sources were all short-term, ring-fenced monies for particular strands of work. The lack of long-term commitment to funding these was, therefore, also a key barrier that instilled uncertainty and hindered services from forward planning.

Building on **previous relationships** was a particular facilitator for both Eyecare Ayrshire and Pharmacy First. Staff drew on the local knowledge and relations with GP practices to bring practices on-board and reassure them about the services that were being developed. **Time** for staff to learn about the service was also important and facilitated **staff confidence**. This was for both staff working within the service (HARP, Eyecare Ayrshire and Pharmacy First) and for general practices faced with redirecting patients to a new service (Eyecare Ayrshire and Pharmacy First).

Tests that were perceived to be **relevant** (Eyecare Ayrshire, Pharmacy First and HARP) were not only easier to implement but also contributed to staff development and work satisfaction.

An extensive public information and engagement campaign also facilitated the implementation of the tests of change, particularly those that aimed to redirect patients from GPs as first point of contact to community-based services (Eyecare Ayrshire and Pharmacy First).

Underdeveloped IT systems was a significant barrier. This posed difficulties not only in recording activities and monitoring subsequent changes for the tests of change services, but also in sharing information across different services, which was required in order to assess their impact on other care services.

There was a **lack of monitoring data** across services, particularly in relation to intended impacts and patients' experience. The time needed to ensure that services were 'up and running' was potentially part of the reason for this. However, with the exception of HARP, which had built in its own evaluation from the beginning, most services had neither fully addressed what kind of data they should collect nor how.

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

- Longer-term dedicated funding would impact positively on forward planning and future **sustainability**.
- Tests of change with **perceived early impacts on improving access** should target three levels: **people** (public information/engagement campaigns), **workforce** (capitalised on previous relationships/ developments and invested in staff engagement, training and support) and **system** (dedicated funding and staff time).
- Support for **data collection, extraction and analysis** is required for **evaluation**.
- **Robust IT systems** are required to **capture activity in single services** and allow **sharing of information** across services.
- 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 years¹ 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 to 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% (ISD Scotland, 2018). 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 amongst politicians and policy-makers that new models of primary care are required, drawing on new and different professional groups and working across primary health care 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 Sport and Health 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, 2016c). This was to complement work already underway within Integrated Joint Boards (IJBs) and NHS Boards, supported by a number of primary care funding streams including Pharmacy; GP Recruitment and Retention Fund; and the Out Of Hours 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 A&A, a health board providing health care to a population of around 367,000, 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 new ways of working in NHS A&A.

1.2 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

¹ Person years – a measure of actual time of patients have been registered on a practice list. For example, two people each registered for 1 year is 2 person years.

(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 is relevant to the SSPC evaluation of primary care transformation in the case study sites, the NHS Health Board-focused case studies are – in essence – multiple projects located in a single geographical site. Thus, the definition developed by the Scottish School of Primary Care was used, which 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 Chapter 3.

1.3 Aims

The broad aims of this case study were to:

1. understand primary care transformation and the context in which new ways of working were being tested
2. identify the new ways of working models 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 the Phase 2 deep dives
5. explore the implementation and sustainability of the deep dive models of care from the perspective of those who implemented, and worked in, these models
6. develop a logic model to explicate what works, for whom and in what circumstances.

2. METHODS

The A&A case study was conducted over a 17-month period (January 2017 to 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 Phase 2 of the evaluation (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'. Details of this systematic scoping literature review are provided in Appendix I. This literature review was done in conjunction with the Lanarkshire Case Study team.

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 A&A; and (2) interviews with key informants in A&A.

2.2.1 Documentary analysis

Documents relating to primary care transformation and new ways of working in A&A were identified from relevant websites, such as HSCPs and Integration Joint Boards and also from internet searches. A total of 95 documents were found including Strategic Plans, Delivery Plans, reports and presentations relating to primary care transformation and individual new ways of working and minutes of meetings.

The key informants interviewed as part of the case study were a further source of documents. At the time of requesting their participation in an interview, informants were also asked if they were willing to share documentation relevant to the new ways of working in which they were involved. A total of fifteen documents were received from participants, including reports relating to new ways of working, minutes of meetings, and early results of data collection.

2.2.2 Phase 1 key informant interviews

A snowball approach was used to identify potential key informants to provide information relating to new ways of working in A&A. Initially a number of potential key informants were identified from the documentary analysis and from an initial interview with the Strategic Programme Manager for Primary Care Transformation. These informants were asked to identify other informants who could add to the developing picture of primary care transformation; these potential participants were contacted on an on-going basis.

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

Interviews with key participants involved in new ways of working in A&A were carried out face-to-face and one via telephone.

Prior to each interview, the key informant signed the study Consent Form. If the participant had requested a telephone interview, they were sent the Consent Form by email in advance of the interview and asked to complete and return the form before the interview. All key informants agreed to have the interviews audio-recorded, this was complemented by notes taken by the researcher. Recorded interviews were transcribed verbatim by an experienced transcriber.

2.2.3 Phase 2 key informant interviews

Project leads in NHS A&A for the selected deep dives were asked to provide contact details of potential key informants for Phase 2. These potential key informants were then emailed an invitation to be interviewed, which included a Participant Information Leaflet and Consent Form. Follow-up emails were sent and phone calls made if no response was received. A snowball approach was also used to contact other potential key informants. The research team experienced some difficulty in recruiting key informants. For example, of the 34 potential participants who had participated in House of Care workshops were invited to interview, only two accepted the invitation.

An interview schedule for Phase 2 was developed based on the SSPC Evaluation Framework and findings. 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.

Existing key informants were asked to provide a list of potential key informant who may 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. The aim was to capture the views of stakeholders involved in service redesign and/or the delivery of these services. As the aim was to capture the views of a range of stakeholders, newly identified key informants were asked for the contact details of who might be able to provide additional insights.

2.3 Data Analysis

2.3.1 Phase 1

Documents were read and key 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 A&A.

New ways of working were identified from the interview data and documentary analysis, and 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 (YC) and checked with other members of research team and with the Principal Investigator (COD), who also read the interviews.

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

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.

2.4 Ethical Approval

The study (Project No: 200160144) was approved by the University of Glasgow on 21 June 2017 (Appendix F).

3. PHASE 1 FINDINGS

This chapter gives an overview of the findings from Phase 1, based on a **review of 115 documents and 14 interviews with key informants**, please see Appendix H for more detail about the findings and the Ayrshire and Arran context. For the purpose attributing views and quotes in reporting the study findings, each key informant is coded as AAA with a unique numerical identifier (e.g. AAA17).

The reviewed documents related to primary care transformation and new ways of working in A&A. They included Strategic and Delivery Plans; reports and presentations relating to primary care transformation and individual new ways of working; minutes of meetings, and early results of data collection and evaluation efforts.

A researcher conducted 13 interviews during face-to-face meetings and 1 by telephone. If further information or clarification was required, key informants were followed-up by telephone and/or email.

3.1 Context

NHS A&A has a population of 370,000, it is a mix of rural and urban communities. Within A&A, there are economic and health inequalities, with areas of major deprivation located next to areas of relative affluence (ISD Scotland, 2018). A&A works in partnership with the council areas for North, East and South Ayrshire. Each of the three local authorities has a Health and Social Care Partnerships (HSCP) and Integration Joint Boards (IJB). The IJBs oversee the commissioning of services, while the HSCPs deliver those services in each geographical area.

As of April 2017, there are almost 300 GPs working in 55 GP practices across A&A with a registered practice population of 385,007. This includes one practice each on the islands of Arran and Cumbrae (NHS Ayrshire & Arran, 2017a).

3.2 Primary Care Transformation in Ayrshire & Arran

3.2.1 Infrastructure and vision

A key initiative, which has underpinned much of the work and strategic thinking apparent in A&A, is the NHS Ayrshire & Arran Transformational Change Improvement Plan 2017-20, which lays out the vision and objectives for health and social care in A&A. This plan was influenced by several national documents:

- National Clinical Strategy 2015
- NHS Scotland Quality Strategy and 2020 Vision
- Realistic Medicine 2015; Pulling Together – transforming urgent care for the people of Scotland 2015
- Scottish Government's Outcomes for Primary Care
- NHSAA Transformational Change Improvement Plan 2017-20

These plans envisage that service provision be based on GPs *“at the core of a hub or network of health, social and third sector provision, with the GP focusing on the care of individuals with more complex and undifferentiated conditions”* (NHS Ayrshire & Arran, 2017b). As shown in Figure 1, GPs

work with a wide range of locality teams including health and social care and the third sector, as well as specialist support teams when required.

3.2.2. Implementation of primary care transformation in Ayrshire & Arran

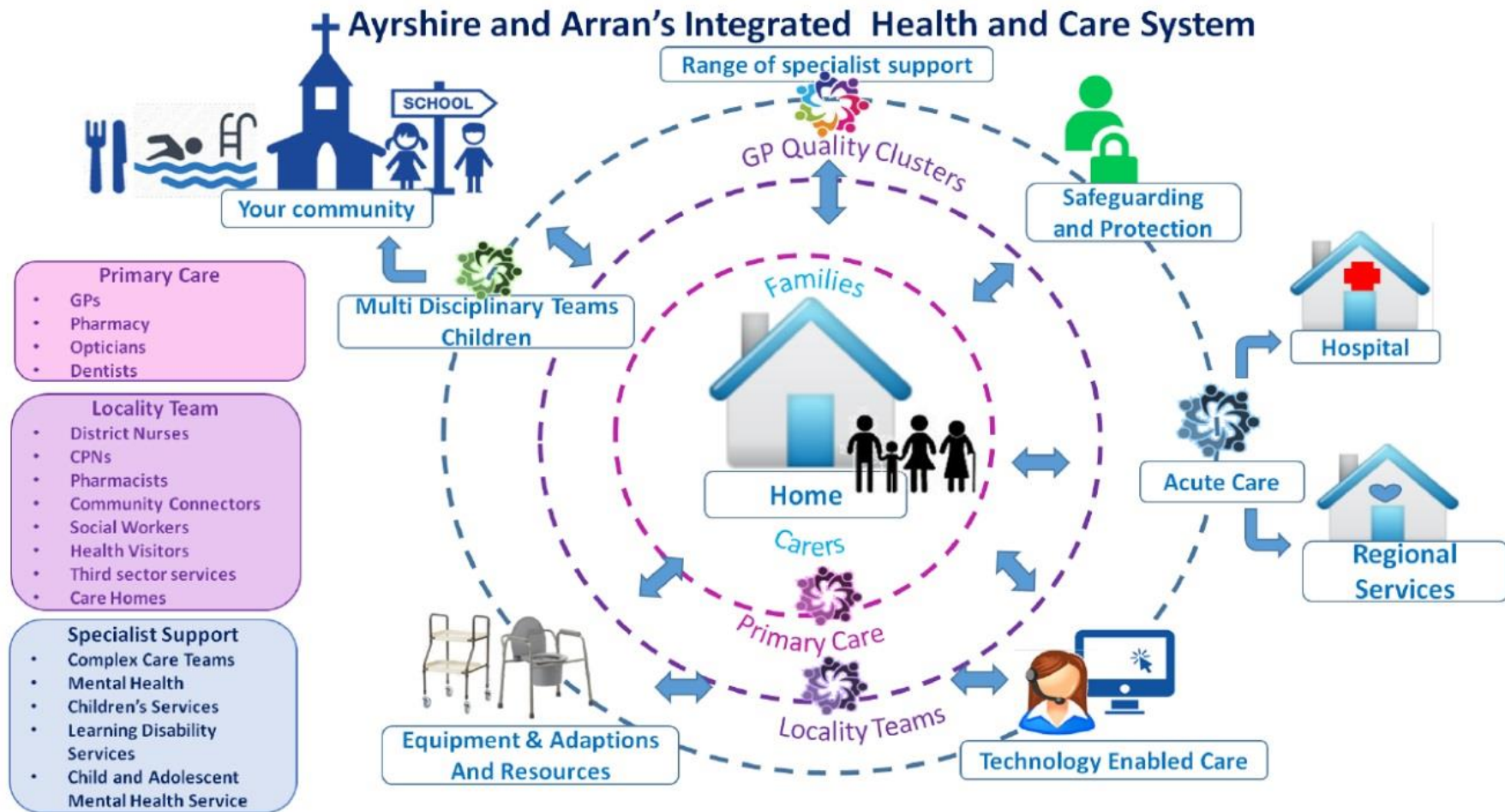
In order to facilitate the implementation of changes and new ways of working in primary care, NHS A&A successfully bid for PCTF and PCFMHS in March 2016 as well as to the GP Recruitment and Retention Fund. The board also received the second year of a three-year fund for clinical pharmacists to work in GP practices (Milliken, 2016).

A Primary Care Programme Board was established to oversee the transformational change programme. This has a number of key roles, including: leading and overseeing primary care workstreams; providing pan-A&A oversight of changes in primary care; and managing resources and “emerging issues”. Membership of the Board includes representation from HSCPs, independent contractor groups and secondary care as well as patients (it was planned to develop a public partnership reference group). The Board first met in March 2016 (and meets quarterly) and agreed the following workstreams:

- develop services around GP clusters/localities
- enable effective service user pathways, support for self-care and shared care
- investigate and address issues of health inequalities
- enable leadership for safety and quality improvement for multi-disciplinary teams in practices, clusters and localities
- increase capacity of services in the community, maximise expertise provided by contractors, achieve collaborative provision and shared care
- workforce sustainability and development of new skills and roles
- primary care infrastructure – premises, IT and shared access to records
- integrate and enable sustainable OOH services (AA21/ NHSAA Transformational Change Improvement Plan 2017-20).

These eight workstreams were refined into the six drivers/workstreams described in the Ambitious for Ayrshire Primary Care Driver Diagram (Note that developing services around GP clusters/localities and increasing capacity of services in the community, maximising expertise provided by contractors and achieving collaborative provision and shared care maps onto the 'increasing capacity in the community' driver, and that enabling leadership for safety and quality improvement for multidisciplinary teams in practices, clusters and localities and workforce sustainability and development of new skills and roles map onto the 'Developing our workforce and approach to contingency planning driver'). Figure 2 shows the Ambitious for Ayrshire Primary Care Driver Diagram.

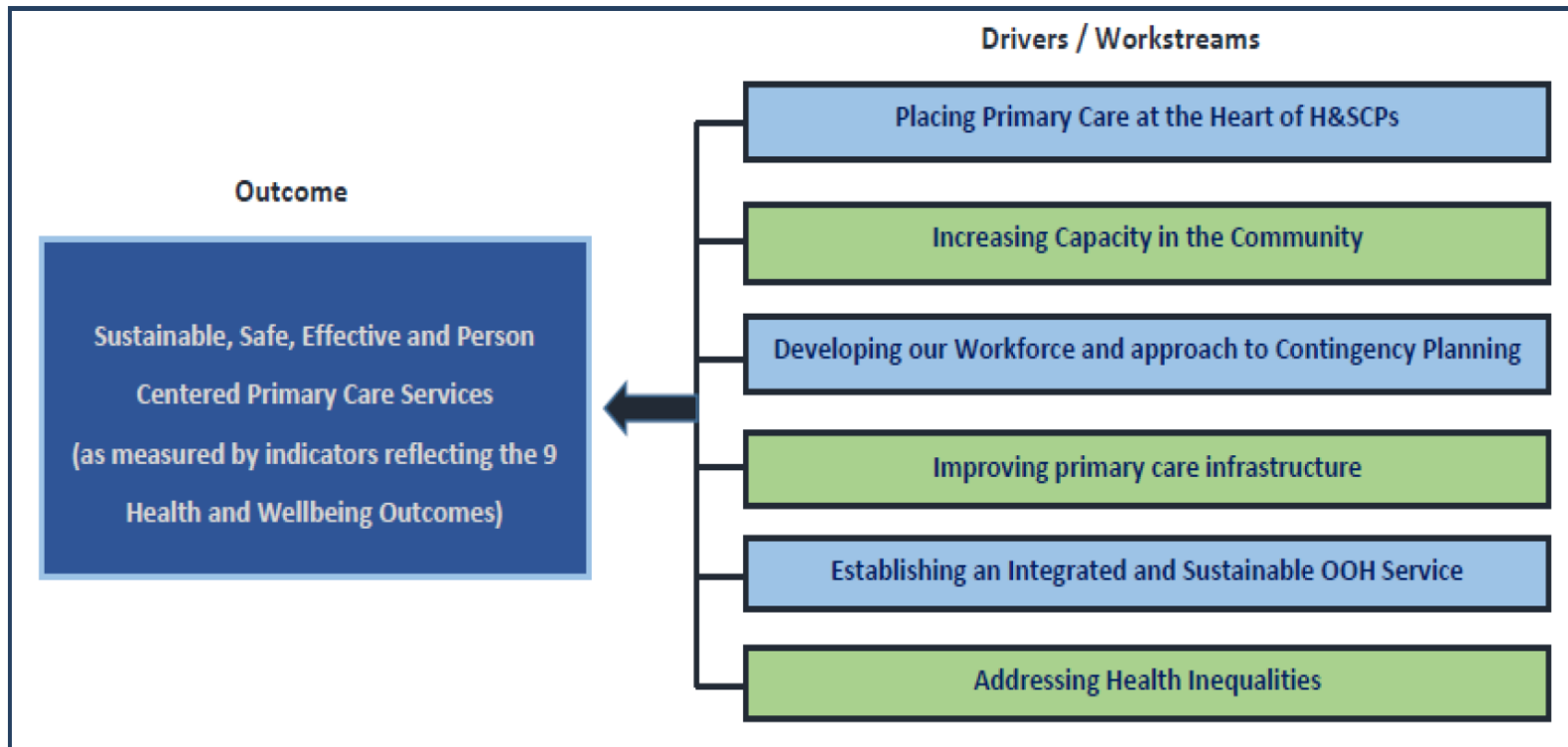
Figure 1. Ayrshire & Arran's Integrated Health and Care System



(A&A primary care development 2017, p. 21).

Figure 2. Ambitious for Ayrshire Primary Care Programme Driver Diagram

Ambitious for Ayrshire Primary Care Programme – Driver Diagram 2017-2018



There is a developing timeline for these workstreams (Figure 3).

Figure 3. Timeline for Ambitious for Ayrshire vision.

Primary Care - Ambitious for Ayrshire



3.3 Primary Care Tests of Change

Twelve test of change projects across NHS A&A were identified, some operated across all three local authority areas, while others operated in a single site. Some projects built on previous work, while others were new initiatives.

Funding sources and the length of time that the tests of change had been established varied considerably (Table 1).

Table 1. Sources and details of funding for the identified tests of change (September 2017)

Project name	Funding	Details
Eyecare Ayrshire	PCTF	£60,000 PCTF funding allocated.
Pharmacy Independent Prescribers	PCTF fund for 2 years	In-practice pharmacists are subject to a separate independent national evaluation
Pharmacy First	PCTF	£90,000 PCTF funding allocated.
MSK Physiotherapy	PCTF	£150,000 PCTF funding allocated for Advanced Practitioner Physiotherapists
ANP Academy	PCTF and other sources (see ANP Case Study report)	Total funding of £426,000 of which £281,698 allocated from PCTF.
Link Workers/Community Connectors	Integrated Care Fund.	£257,030 PCTF funding allocated. National rollout of effective model of supporting mental health in primary care by 2020.
HARP, Healthy and Active Rehab Programme	North, East, and South Integrated Care Funds	The total annual cost of delivering HARP for a year from 1 November 2015 until 31 October 2016 is £168,000. It has been backed up and supported by a pre-existing pan-Ayrshire cardiac rehabilitation service.
Ayrshire Urgent Care	Scottish Government Rapid Test of Change	Phase 1 - £195k Phase 2 - £500k
Community Phlebotomy	North, East and South HSCPs.	£260,000 total.
House of Care	The Alliance, existing resources.	Staff developed project as part of normal role; no extra funding provided
GP recruitment	PCTF	Funding for 2 years from PCTF – continuation of this £200,000
Stewarton Pilot	Existing resources	Staff developed project as part of normal role; no extra funding provided. Total spend £1221

Five tests of change, with a focus on enhancing Multidisciplinary Team working, were initiated with funding secured from PCTF, they included:

- MSK Advanced Practitioner Physiotherapist as first point of contact
- Advanced Nurse Practitioners: establish ANP Academy and increase the number of nurses undergoing training in advanced practice
- Eyecare Ayrshire redirection: shifting the balance of care from GP/A&E to optometrist/pharmacist
- Independent Pharmacists Prescribers: provision of support to community pharmacists who undertake the IPP course
- Pharmacy First: developing pharmacy input to patient care, in and out of hours, to decrease the pressure on GP and other services.

The other transformational work identified were:

- implementation of a range of initiatives to attract and retain GPs and enhance GP career development in A&A
- establishment of the Integrated Ayrshire Urgent Care Service
- Healthy and Active Rehab Programme (HARP)
- community phlebotomy
- House of Care, practitioner training to promote an active partnership role for patients, especially those with long term conditions
- Link workers/community connectors
- Stewarton (community information and engagement) pilot.

The 12 projects are briefly summarised here before consideration of the planned outcomes, evaluation, sustainability and future plans. Please see Appendix H for a more detailed description of the projects.

3.3.1 Eyecare Ayrshire

Eyecare Ayrshire was launched in February 2017; its aim was for optometrists to become the first service that patients with eye problems approach. Patients could attend directly or be directed from GP practices.

3.3.2 Pharmacist Independent Prescribers

The aim of this project was to increase the availability of Independent Pharmacist Prescribers (IPPs) to help develop new and innovative services in the primary care setting. The planned action was to offer financial support to community pharmacists to undertake the Independent Pharmacist Prescribing training course with a cohort of trained pharmacist prescribers supporting the existing work being undertaken by community pharmacists.

3.3.3 Pharmacy First

This project aimed to develop the role of community pharmacists in the management of common clinical conditions, initially urinary tract infections (UTIs) and impetigo. The project built on learning from the Minor Ailments Service.

3.3.4 Musculoskeletal (MSK) Physiotherapy

The main changes to MSK services in NHS A&A primary care were:

- the piloting of Advanced Practitioner Physiotherapists (APPs) within GP practices.
- the implementation of NHS 24 Musculoskeletal Advice and Triage Service (MATS), a single point of contact service run through NHS24.

3.3.5 Advanced Nurse Practitioner (ANP) Academy

A competency framework for primary care ANPs was developed together with a new postgraduate programme launched in September 2017. It built on previous work about practice nurses in primary care (this is further detailed in the ANP Case Study Report).

3.3.6 Link Workers/Community Connectors

Focused on mental health, this model operated differently in each of the HSCPs. Generally, a Community Link Worker / Community Connector was available in GP practices to help patients improve their health and wellbeing by connecting them with activities and services in their locality.

3.3.7 Healthy and Active Rehabilitation Programme (HARP)

HARP is a rehabilitation programme for people living with multiple conditions. Since November 2015, almost 500 people had been referred in to the programme.

3.3.8 Ayrshire Urgent Care

The Ayrshire Urgent Care Service (AUCS) was launched in November 2017, and brought together a number of existing services into one 'urgent care resource hub', operating from the Lister Centre at University Hospital Crosshouse.

3.3.9 Community Phlebotomy

Chronic diseases are increasingly managed in primary care, which means that the number of blood and other tests required in the community has risen. A Community Phlebotomy Service was being developed to deal with this workload. The service was planned to be a standalone pan-Ayrshire service with hubs in large towns complemented by a peripatetic service around smaller towns.

3.3.10 House of Care

The aim of the House of Care test in A&A was to improve the way in which care planning occurs with particular emphasis on encouraging patients to identify and adopt self-management approaches. The principal vehicle for affecting the desired change was the provision of training to existing service providers on methods for enhancing conversations with patients and securing their involvement in making joint decisions about their care needs and goal setting.

3.3.11 GP Recruitment

This project was a GP Development Scheme to encourage early career GPs to work in NHS A&A. It includes a new website, networking events for GPs, and a development bursary.

3.3.12 Stewarton Pilot

A focused community redirection initiative taking place in the context of an ongoing A&A public engagement and information campaign called 'Know Who to Turn To'.

3.4 Key Components of the Tests of Change

The 12 tests of change identified during Phase 1 covered a range of services, populations and conditions. Underpinning these tests, however, were a set of key components or activities which were common across the different models of care. These included:

- (i) community engagement and information sharing;
- (ii) patient re-direction to health care professionals other than GPs;
- (iii) re-distribution of first point of care workload;
- (iv) development of professional roles, especially for disciplines other than GPs;
- (v) strategies to enhance GP recruitment;
- (vi) provision of services closer to patients; and (vii) changing skill mix.

These tests of change themselves had been in development for different lengths of time and were each funded in different ways, though mostly by PCTF monies, please see Appendix G for more details of funding. However, by drawing from across the tests of change, commonalities – as well as differences – in their development and long-term sustainability may be found. This will be explored further in the remaining sections of this report.

3.5 Challenges in the Ayrshire & Arran Context

Key informants discussed the implementation challenges particularly in relation to the geography and demography of the area and the local authority structures. The wide geographical area to be covered was cited as a particular challenge to providing primary care services by several key informants:

... just in terms of the geography as well you know our services because we go from away down you know South of Ayrshire to Arran to Cumbrae to Largs you know it's a huge area you're covering so the geography can be a bit challenging at times.

[AAA1]

The particular structure of having three HSCPs to deal with was also identified as sometimes causing decisions about health services to be delayed:

I've been to care home meetings and meetings [I] have managed of course we've run with the health and social care partners so we go to one we've got to go to three and I haven't got time to do everything three times.

[AAA4]

Indeed, some key informants were open about the challenges in managing the three A&A IJBs at a strategic level.

Primary care works differently across Scotland. So, in Ayrshire the model is: we [the test of change model] are a pan-Ayrshire Service, which is led from East Ayrshire so, we sit in East Ayrshire ... So, you have to get three partnerships round the table: you can't make a decision unless everybody's there. So, I think that that's been the challenge.

[AAA2]

Deprivation also presented challenges, with some key informants commenting on the impact this had more widely, for example in the high rates of drug and alcohol dependence in the area:

Every GP practice has our community connector and that's about the number of people with social problems that are going in and out of GP practices, you know, repeatedly. We have a huge issue in East Ayrshire with both alcohol and drug misuse. So the issues, you know, we would do there.

[AAA3]

Another driver for change was the high rates of antidepressant and analgesic prescribing in A&A. This was one driver for a practice-based element to the physiotherapy service:

We know in Ayrshire the anti-depressant prescribing is really, really high and it's the same with our analgesic prescribing so what we are now looking to do is roll out a joint programme with the three new physios that are going out so we've integrated it with the national effective prescribing programme to try and reduce prescribing of analgesics because whilst the patients are waiting 42 weeks to see physio they are on opioids and all various things and some of it is because that's what they want to be doing and other times it's actually the individual just needs their treatment. So we are working the physios and the clinical pharmacists that are based within general practice, we will work together in terms of you know cutting down all those repeat prescriptions for codamol, tramadol, you know because Ayrshire is one of the biggest prescribers.

[AAA1]

3.6 Anticipated Impacts

It was recognised that the new tests of change taking place in A&A would impact on patients, on NHS management and staff, and on the services that the NHS provide. The desired impacts on patients, according to at least one key informant, were changes and improvements in patient pathways:

So I suppose yeah for Ayrshire the focus is around the patient seeing the right person and a pathway

[AAA1]

However, it was recognised that better, and different, patient pathways will need buy-in from the public and patients themselves. This would require work to help patients understand the roles of various healthcare professionals. For example, in an interview about the ANP Academy and the future role of ANPs and other primary care and OOH staff:

I think we'll see a much broader understanding, a much broader recognition of what an ANP is and what they can do and what they can bring. I think we'll see a shift in workload. I think we'll see a much better public awareness and understanding. I think, I suppose, historically, people go to their practice expecting to see a GP. So we need to shoulder the responsibility of reinforcing that you might not always see a GP and it might be that you'll see whoever, an' it doesnae need tae be an ANP – it might be the pharmacist or the physio or, So I think we'll see a much, hopefully, we'll see a much better understanding of, we'll see the public have a much

better understanding of seeing the right person in the right place at the right time. I think we will see a shift.

[AAA7]

In several of the interviews, the issue was framed as one of 'patient education', and discussion focused particularly on public information campaigns about appropriate use of health services. Indeed, the Stewarton Pilot is inherently a public information campaign, with the aim of "trying to change peoples' behaviour" and developing a "community that will use services differently ... and probably more efficiently" [AAA6]. The need to change the public mind-set away from seeing the GP as the default person to attend was also raised:

In the longer term, what I hope will be in place by then will be practice teams who are more resilient, better-educated patients, patients getting to the right clinician first time most often. Together with that, there has to be, and we're trying it locally, is a re-launch of the 'Know Where To Turn To' campaign, re-branded, more, better-explained. I think nationally, we could do ourselves a big favour by coordinating our local efforts, because, at best, I think you could say the messages could be mixed for us as citizens, what you hear on the TV by the way of adverts, what you see in the media, is kind of counter to what we're trying to do at a board level, which is to get people to use services appropriately. It's not about driving people out of the service, it's about having the right ... people coming with the right things to the right person, that's what we're looking for. So, better utilising the wider primary care service, rather than a GP being the default position.

[AAA14]

Key informants were asked if there was any public involvement in developing the new ways of working. However, with the exception of Eyecare Ayrshire, where members of the public were involved in developing the promotional campaign for the new service, there wasn't. One key informant spoke about potential future impacts from possible developments of the patient participant aspect of House of Care:

So medium and long term I would, I would like to see with the House of Care that we develop it further in the local context, every context is different and every thoughts and thinking is different from practice to practice, from healthcare professional to healthcare professional but there's still work to be done, you know, we need to involve our service users a lot closer but having those principles that the basic principles of partnership working, care planning that this is always part and parcel of any future developments yeah, yeah.

[AAA5]

With respect to impacts on staff, participants discussed how they were improving and getting better at the new tasks involved in the new ways of working, e.g. impact on services across the tests of change:

"Well certainly we are, as a board, now chasing GPs into Ayrshire, there's no two ways about that; we are becoming quite good at it ... So we are having some measure of success in that. In terms of the other stuff, what's the impact going to be in the next year? Eyecare Ayrshire, one of the transformation projects is certainly showing very early signs of getting minor eye care conditions away from GP surgeries, out to optometry, which was the desired outcome. I think there's about 900 a month, which is 900 appointments, at least, saved a month, going

in. Of the other things, we're bringing online, online access to prescription requests, and a number of practices, probably two-thirds of the practices, are going online with that, so that's taken off you know."

[AAA14]

Key informants mentioned another proposed outcome which would potentially be important to NHS staff: the creation of new career pathways. For example, for primary care practice nurses:

I think that development could be made easier by governing bodies. I think there has to be a very clearly identifiable career pathway. I think the Transforming Roles documentation highlights that. Positive impact, in two words.

[AAA20]

The development of more reflective practice and experiential learning was also raised. But, some key informants reported taking a very pragmatic approach to the new ways of working within the early stages of transformation:

Well, I would hope that we would have, you know, a different kind of relationship, so one of these inspiring stories or models that we – you might be familiar with, is the Alaska, south central Alaska, the Nuka thing, you know. Some of us have been to hear them and hear their story and three or four weeks ago, [named person] and others were – they were across again and the Scottish government had a big event, and so, you know, they tell their story about – they had no grand plan. It was just a, kind of, instinct and a value-base, really, that drove what they did, and it was around a, sort of, more pragmatic approach. So they have the unit of, you know, they're basically thinking about demand and saying, well, what is it only a GP that's done ten years of training should be dealing with? What is it that other people do, so they have, kind of, behaviour change specialists and so they work out a, kind of, unit of primary care and then for every six of those units, there's another set of support staff, like pharmacists, district nurses and stuff, and I suppose it might be.

[AAA13]

For others, there was a view that they had no choice but to develop new ways of working, in part because of the challenges of GP recruitment and retention in A&A. This had driven the model of a GP 'champion' whose remit was to recruit new GPs to A&A. The importance of sustaining this was also raised, especially in relation to existing funding:

So go sell, you know, working in primary care, 'How can we engage young doctors? How can we engage the older doctors?' So, her half of her or the other half of her job is around that, and she was just fantastic. So, we now have, we're almost up to six. So, it was a slow, slow start and, so much so that now we've exceeded the Primary Care Fund as in spending, and it finishes this year and we just carried on. And, the reason why we've carried on is there's actually no money for it, actually, but, the view is that this is the only thing that's bringing new doctors into Ayrshire. So, this is the conversation I've had with the Director, is, 'I know you've got no money for this. But, if we don't do this we're going to have no GPs. So, we just carried on recruiting to them.

[AAA2]

Some key informants saw the transformation programme as a way to create a new culture in NHS A&A:

My absolute hope is that the outcomes of everything that we're doing means that, before this time next year, we have created a service that's got the right professionals in it, it's got the right support network around it; that people are not, not dictated to; that they are valued and that we can make the best use of our resources. And, we need to increase, significantly increase, our use of Telehealth, and smart supports. And, that we won't be the ones that are taking people into hospital because there's nothing else there. And, that we actually create a new culture. That is, we need to create that new culture.

[AAA8]

The same participant spoke about using the tests of change as an opportunity to address inequalities:

So, I'm hoping in the medium time, we just have a continuum of care and support for people that need it. And, the right care and support for people that need it. So, you know, you don't get, and, that we have equity across Ayrshire that is part of our role: we do address the inequalities; we do make sure that we recognise that, do you know, just because somebody comes with a stubbed toe, that people have the ability to pick up that the, there might be other stuff there; and that then we don't let people fall through the loop....

[AAA8]

Key informants also spoke about the challenges they faced. The uncertainty surrounding funding and future funding was probably the greatest of these, but developing collaborative working nationally was another:

.... the next three months is a time of massive uncertainty for us. Because we do not know if we're going to be mainstream. We don't know if our service is going to become a postcode lottery. So we've got a lot of unknowns. And until there's answers, financially, to some of those unknowns, we can't definitely shape how we're going to look over the next year.

[AAA11]

I feel what we're missing is a national collaborative. There's no forum for me to share in an ongoing basis with my equivalents in other parts. ... So, we are probably re-inventing wheels. We went to see Forth Valley and we went to see Inverclyde but, we did that off our own bat because we, but there's no, and I to me the natural thing would have been to set up a collaborative programme so, to me, that's what I was going to say. I would like a collaborative programme, and I would like more, on the ground support from Health Improvement Scotland but that's, personal.

[AAA2]

3.7 Anticipated Outcomes

At the highest level, the vision for primary care as articulated in the *Service Improvement Plan 2017/18*) is:

- Our vision is of general practice and primary care at the heart of the healthcare system.
- People who need care will be more informed and empowered, will access the right person at the right time and will remain at or near home wherever possible. Multidisciplinary teams will deliver care in communities and will be involved in the strategic planning of our services.

Figure 4 represents how this vision was to be translated into primary care services.

In order to inform this vision and provide strategic guidance for the transformational work that is ongoing across primary care the Scottish Government has developed six primary care outcomes:

- to be more informed and empowered when using primary care
- that primary care services better contribute to improving population health
- the patient experience in primary care is enhanced
- the primary care workforce is expanded, more integrated and better coordinated within community and secondary care
- the primary care infrastructure – physical and digital – is improved
- primary care better addresses health inequalities.

These national outcomes have then influenced the planned outcomes for the primary care tests of change in A&A are summarised in Table 2.

Figure 4. Vision for primary care

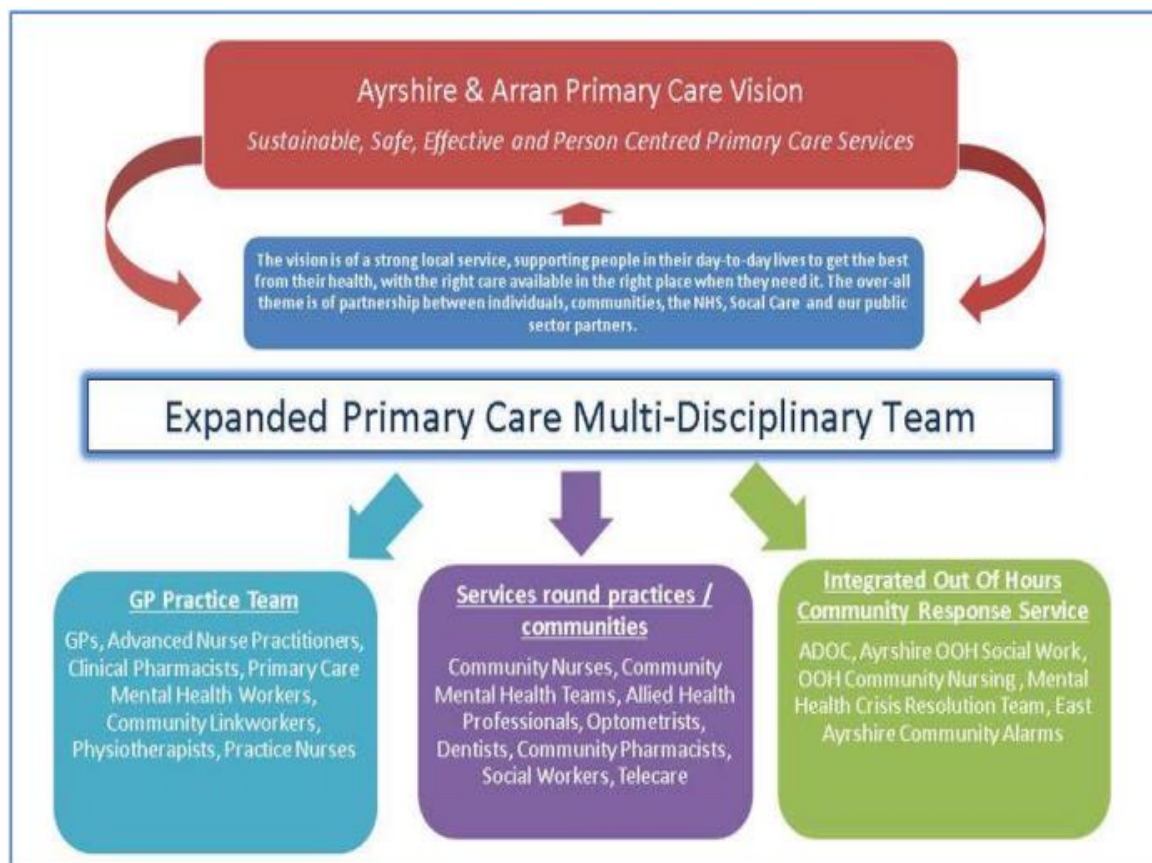


Table 2. Planned outcomes for primary care in Ayrshire & Arran

Project	Expected Outcome	Launch date	Progress ²
Eyecare Ayrshire	Develop optometry pathways within primary care. Pathways are informed and supported to provide for safe, effective, efficient and patient centred care.	Launched in February 2017.	Eyecare Ayrshire is well established and is fulfilling approximately 750 signed orders every month.
Pharmacy Independent Prescribers	Expand the range of services in community pharmacies. The pharmacy input to patient care is being fully utilised, both in and out of hours, and is decreasing the pressure on GP and other services both in and out of hours.	Developed from work done at the Ambitious for Ayrshire events in 2015.	98 community pharmacy outlets are providing 15 enhanced services to meet local needs.
Pharmacy First	Expand the range of services in community pharmacies. UTIs Impetigo	Introduced in March 2016.	Under the Pharmacy 1st umbrella 95 of 98 pharmacies are signed up and providing treatment for UTIs and impetigo. Most recent figures from September 2017 show 198 patients were treated for UTIs and 39 for impetigo and we will launch a local public campaign to raise awareness of the service in early 2018. Discussions have started on the second phase of Pharmacy First and these are likely to cover shingles, COPD rescue remedies, oral/vaginal thrush and skin irritations/infections. The Scottish Government has now made funding available for all Health Boards to make this service available nationally
MSK Physiotherapy	Primary care is contributing to the redesign of patient pathways (e.g. respiratory, diabetes) to enable people to self-manage and avoid hospital activity and admissions.	APP service launched in 2008, MATS launched in 2012.	Three WTE APPs are serving nine primary care practices (in one cluster). MATS24, covering the whole of Scotland, triaged approximately 7000 calls per month from 2012-2016.

² The figures shown in this column indicates the progress of the service improvement as given in the *Primary Care Service Improvement Actions 2017/8, Quarter 3 Progress Update*.

ANP Academy	Enhance the role of primary care ANPs and develop business case for ongoing training. Increasing the number of nurses are undergoing training in advanced practice, supporting the development of a functioning primary care based multidisciplinary team. We are delivering multidisciplinary coordinated care and interventions, co-working, co-production and co-learning and are maximising the skills of individual practitioners.	New postgraduate programme was launched in September 2017	Four nurses have commenced their postgraduate courses in this scheme.
Link Workers/Community Connectors	Community Connectors or Link Workers work with patients to in primary care to offer alternatives and signposting away from specialist mental health services.	Variable, depending on site.	The Community Connectors or Link Workers programme has been established in East and South Ayrshire.
HARP	The HARP programme is a new model of rehabilitation for people living in Ayrshire with multimorbidity. HARP provides rehabilitation to conditions that typically place high demands upon unscheduled care: cardiac or pulmonary disease, cancer, stroke, diabetes and falls.	Project began in April 2015, first patients used it in November 2015. Funding ends in March 2018.	271 people used the HARP service between 1 November 2015 and 31 October 2016.
Ayrshire Urgent Care	Develop an Integrated Ayrshire Urgent Care Service. We have bought together the skills, expertise and capacity of existing services into an integrated service	Launched in November 2017.	Urgent Care Resource Hub established, bringing together health, social care and mental health within the same premises at Crosshouse Hospital. Ongoing development of new multi-disciplinary model of working and joint working with NHS24.

	and are intervening on the principle of right person, right skills, right place and right time.		
Community Phlebotomy	Establish a standalone pan-Ayrshire Community Phlebotomy Service with hubs in large towns complemented by a peripatetic service around smaller towns.	Standard operating procedures were being developed at the time of the interview.	It is planned that that the service will be launched in 2018.
House of Care:	Develop the House of Care in A&A to improve the way in which care planning occurs with particular emphasis on encouraging patients to identify and adopt self-management approaches.	The first workshops were held in early 2017.	Workshops ran in early 2017.
GP recruitment	Support GP recruitment drive e.g. GP career role, GP with Specialist Interests. We have built greater capacity in primary care centred on GP Practices.	Began in January 2017	A 'General Practice Engagement and Networking' event to support recruitment was hosted in Ayrshire in November and attended by 150 GPs. Focus groups have taken place with GPs and a training website has been developed and launched with the LMC. GPs with Special Interests (GPwSI) development posts have been filled and a proposal is currently being developed to expand this approach working with Acute.
Stewarton Pilot	Implement 1st Phase of 'Know Who To Turn To' redirection programme in Stewarton. Test of Change around the full utilisation of health, social care and third sector services.	Began in November 2017.	Press releases, adverts in local press and a children's poster design competition all took place in December in addition to wide scale promotion on social media.

3.8 Evaluation of the Tests of Change

The plans for evaluating the tests of change are summarised in Table 3.

Table 3. Summary of plans for evaluation of tests of change

Test of change	Evaluation plans
Eyecare Ayrshire	Eyecare Ayrshire have been monitoring the number of signed orders per month (around 750 per month). Recognising that patients may receive multiple prescriptions, they plan to change this to count the number of patients rather than prescriptions.
Pharmacy Independent Prescribers	--
Pharmacy First	Currently monitoring the number of prescriptions as well as feedback from GPs. Future evaluation will include work on patient and health professionals' perceptions of the service as well, though there are no concrete plans for this yet.
MSK Physiotherapy	--
ANP Academy	Targets have been set to monitor academic development, offering clinical knowledge, skills, and expertise. The impact that that has had on the GPs and their accessibility to patients will also be monitored.
Link Workers/Community Connectors	To be determined
HARP, Healthy and Active Rehab programme	Evaluation is ongoing and has been presented at conferences and to the Scottish Government. Quantitative evaluation, patient demographics, changes to the distribution of morbidity, numbers using the service from each area etc. Qualitative evaluation of the impacts it has on service users and staff. Full internal evaluation report available here: https://www.south-ayrshire.gov.uk/health-social-care-partnership/documents/item%205%20app%201%20-%20harp%20spag%202017%2011%2014.pdf
Ayrshire Urgent Care	To be determined
Community Phlebotomy	To be determined
House of Care	They are gathering data, and want to measure clinical outcomes, healthcare utilisation, economic analysis, and do qualitative analysis with patients and service users and staff. Nothing is in place as yet.
GP recruitment	Patient experience will be measured in the annual survey. Routine patient data will be joined to secondary care data sets and presented as workable information to practices. As yet no decision on measures of success or quality standards.
Stewarton Pilot	To be determined

The evaluation plans for Pharmacy Independent Prescribers and MSK Physiotherapy were not reviewed as they were being evaluated separately. Also, at the time of interviewing, firm plans for evaluation of some of the tests of change had not been decided. For the key informants who did discuss evaluation plans in some detail, they talked about what motivated them to do evaluation, what support they felt they needed and what methods they used.

Motivations for doing self-evaluation were in order to prove themselves and their work, and in particular to help secure future funding. Good news emerging from evaluations was also seen as a way of motivating staff and management:

So, we, but we need to flag up the good news stories because that's what motivates people to do it differently.

[AAA8]

Evaluation was also seen as a way of sharing learning:

But, we are reporting and we're sharing it so, [AAA7] and I did a presentation at the NHS event, and, so we'll continue to do that and we'll share, we've had a couple of people, like, talking to us because, we want to share our learning as well, with others. And, equally so, can they share with us.

[AAA8]

When key informants were asked about what support they required to carry out evaluation work, three main issues arose: national measures, systemic management issues; and lack of funding and uncertainty over future funding.

As with support for public engagement, some key informants said that they needed greater support at a national level, for example in developing national measures and standards:

We yeah, well we I think we were getting a bit desperate about the national ones and we were starting to think, "Look, we're going to have to do this ourselves". So, but I think it's useful now we heard you know, people have been round visiting about the pharmacy ones.

[AAA4]

One key informant experienced problems carrying out an efficient evaluation because the service had changed but the management and reporting infrastructure supporting it had not. This meant that the IT and monitoring systems were not optimised for evaluation purposes.

Concerns were expressed by some interviewees that no funding had been allocated at the strategic level to support the implementation and evaluation of the tests of change, so for example, no extra staff could be allocated to data collection or other evaluation work. This meant that the redesign of primary care was carried out without any extra resources for facilitating it, and evaluation was often postponed until late in the implementation process.

The uncertainty surrounding funding in the long term also made evaluation and planning evaluation difficult. So for example, if a resource was not replaced or if funding was later cut, then this affected evaluation:

Absolutely yes, yes, and we had said we had the [named individual role] in place you know, did [a] beautiful job you know, great job and retired and wasn't replaced, I mean I guess

that's beyond discussion with the partnerships they are, they are willing to put someone in place hopefully and then, without that you cannot run anything like that, I as a clinician wouldn't have the time to coordinate that or communicate or gather data that would be impossible, nor our [named individual role].... is busy with all these other things you know so you need someone else to coordinate and support that yeah definitely yeah.

[AAA5]

Key informants described a variety of evaluation methods which they planned to use. Some focused on patients, some on staff, and they used qualitative and quantitative methods. Some, for example HARP, also used more innovative methods (such as filming patient stories).

Table 4 details the quantitative data available for evaluation. Note that some cells are blank, that is because the evaluation for those will be carried out by different groups. (TBD =to be decided)

Table 4. Quantitative data useful for evaluation of tests of change.

Test of change	Quantitative evaluation data
Eyecare Ayrshire	Number of signed orders per month.
Pharmacy Independent Prescribers	--
Pharmacy First	Number of prescriptions.
MSK Physiotherapy	--
ANP Academy	Number of students graduating.
Link Workers/Community Connectors	TBD
HARP, Healthy and Active Rehab programme	Changes to the distribution of morbidity in service users.
Ayrshire Urgent Care	--
Community Phlebotomy	TBD
House of Care	Changes to clinical outcomes for patients Economic analysis of care.
GP recruitment	Annual patient survey. Routine patient data joined to secondary care data sets.
Stewarton Pilot	TBD

3.9 Sustainability

When asked about the sustainability of the new ways of working, some key informants were quite positive, regarding the cost savings brought about by the projects as the reason they would be sustainable into the future. For example, for Eyecare Ayrshire, redirecting eye complaints to optometrists was perceived to save money because optometrist appointments were cheaper than GP appointments. However, future sustainability (and spread) could be negatively impacted by a shortage of skilled staff, in particular optometrists:

I would imagine that, you would cost the appointments saved with GP as compared to the appointment with an optometrist, probably it's cheaper, most of the optometrist appointments are going to be done under what's called supplementary eye examinations from the general ophthalmic service, so your fees are sitting at about £24.50 for that, if it turns out to be a full eye examination you're talking between £37 and £45 for presentation but I would imagine either way probably it's a cheaper service.

[AAA4]

Staff shortages were raised by other key informants, partly due to lack of funding and by uncertainty surrounding new contracts. Staff were also viewed as doing transformation work 'on top of' [AAA1] their day jobs, which was considered unsustainable in itself. However, some key informants were more confident about the future sustainability of their project. For example, one key informant believed that Eyecare Ayrshire was already embedded:

Yeah now it's been established for over a year now, so now we get them through regularly, they're just part of the normal dispensing process now that we would be taking, taken into the pharmacy as any other prescription is taken in and dealt with in accordance of our kind of normal dispensing process, and the only difference would be that at the end instead of filing it like a normal prescription it gets filed in the Eyecare Ayrshire folder along with all the other Eyecare Ayrshire prescriptions.

[AAA27]

3.10 Selection of the Tests of Change for the Phase 2 Deep Dives

The identified tests of change were assessed using an implementation staging system to decide which would be more usefully evaluated. Tests of change were categorised as follows: well established and *implemented*; *partially implemented*; and those that *not got off the ground* or *stopped*. This assessment for all the tests of change is summarised in Appendix G. At the end of the scoping exercise (December 2017), all but two of the tests of change were assessed as implemented:

- **10 were implemented**
- **1 was partially implemented** (the Stewarton Community Information and Engagement Pilot which was launched in November 2017)
- **1 was stopped** (Community Phlebotomy which had a planned launch date in January 2018).

This assessment provided the basis of the selection of the deep dives for Phase 2. These were:

- Eyecare Ayrshire (community pharmacy as first point of contact for eye conditions)
- Pharmacy First (community pharmacy for UTIs and impetigo)
- Health and Active Rehabilitation Programme (HARP) for people with multimorbidity

- House of Care (an approach to promoting self-management).

The rationale for selecting the four models of care for more in-depth exploration is outlined in Table 5. A brief description of each test is provided before going on to consider implementation; impacts and outcomes; sustainability and expansion; and finally deprivation and equity of access.

Each deep dive was considered to be a new way of organising care.

For **Eyecare Ayrshire and Pharmacy First**, there was a clear focus on moving first point of contact care for patients away from GP practices to other health care providers in the community. These models also promoted new examples of inter-professional collaboration, for example optometrists working collaboratively with community-based pharmacists.

HARP was considered unique (at least in the context of A&A); while its management and governance were located in secondary care, it operated in a primary care/community setting, bringing rehabilitation 'close to home' for patients with multiple complex health care needs. It also worked closely with third sector and local authority organisations in the provision of care and settings.

Finally, **House of Care**, a national programme designed to bring care closer to patients, support self-management and, through the use of IT, promote new solutions to service organisation and delivery.

3.11 Summary of Phase 1

Phase 1 comprised a review of 115 documents together with fourteen interviews with key informants. The documentary analysis explained the context in which the work was being carried out as well as the drivers/workstreams for the work. These drivers included placing primary care at the heart of H&SCPs; increasing capacity in the community; developing the workforce and approach to contingency planning; improving primary care infrastructure; establishing an integrated and sustainable OOH service; and addressing health inequalities.

Thirteen models of care were identified, five of these were focused on multidisciplinary team working. Four were selected for deep dives for Phase 2 of the case study.

TABLE 5. Test of change details and rationale for deep dive selection (October 2017)

Test of change	Core components	Assessed implementation status	Details and rationale for selection
Eyecare Ayrshire	<p>Optometrists have become the first port of call for all eye presentations, so if the patient presents to the GP surgery with an eye problem they'll be directed to an optometrist, optometrists set aside appointments every day and can provide signed orders to be filled at community pharmacies.</p> <p>Was subject of a large, well-planned publicity campaign</p> <p>So far around 600 patients seen per month, with approx. 750 signed orders issued per month</p>	Implemented	<p><u>Context:</u> There was a scheme in Lanarkshire, 'Lens', A&A thought they could do something similar, to take away some workload from GPs, and also optometrists have more expertise in diagnosing eye conditions.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> Launched in February 2017.</p> <p><u>Governance:</u> Governance around optometry is run within the general ophthalmic service and the governance for Eyecare Ayrshire is no different, nothing's changed from their point of view.</p> <p><u>Evaluation:</u> Eyecare Ayrshire had been monitoring the number of signed orders per month (it's around 750), they plan to change this to count the number of patients rather than prescriptions.</p> <p>Rationale for Deep Dive Selection:</p> <ul style="list-style-type: none"> • It was subject to a widespread publicity campaign, including advertising on the sides of buses, local radio and newspapers. This campaign built on previous campaigns encouraging people to use services appropriate to their condition • It had a public engagement element, in that focus groups etc. were used to develop materials for the campaigns (Note there wasn't any public engagement/dialogue used to develop the scheme itself) • It involved collaboration between optometry and community pharmacy services • It had a role of primary care practice managers and receptionists in redirecting patients to optometrists.

Pharmacy First	<p>Developing the role of community pharmacists around the management of common clinical conditions. So far, this has been rolled out for UTIs and impetigo.</p> <p>Similar to Eyecare Ayrshire, with community/high street pharmacist as first point of contact.</p> <p>A similar publicity campaign to Eyecare Ayrshire was planned.</p> <p>Collecting data on number of prescriptions issued.</p>	Implemented	<p><u>Context:</u> Patients attending their pharmacy as a first port of call for common conditions relieves some pressure on GPs and out-of-hours services.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> Introduced in March 2016.</p> <p><u>Governance:</u> Overarching medicines governance is under the Drugs and Therapeutics Committee, primary care clinical governance is under Primary Care Quality and Safety Assurance Committee.</p> <p><u>Evaluation:</u> Currently monitoring the number of prescriptions and feedback from GPs. Future evaluation will include work on patient and health professionals' perceptions of the service as well, though there are no concrete plans for this yet.</p> <p><u>Rationale for deep dive selection:</u></p> <ul style="list-style-type: none"> • similar publicity campaign to Eyecare Ayrshire • role of primary care practice managers and receptionists in redirecting patients to pharmacists.
HARP, Healthy and Active Rehab Programme	<p>Rather than running separate rehabilitation programmes for heart disease, stroke, falls, cancer patients etc., a multimorbidity programme includes all patients.</p> <p>It's a tiered approach, the first level is a multi-morbidity approach for rehabilitation. The next tier down is leisure delivered rehab, and then the final</p>	Implemented	<p><u>Context:</u> It was very difficult to maintain individual rehab programmes for separate conditions, also placed a large treatment burden on patients.</p> <p><u>Funding:</u> North, East, and South integrated care funds have given this body of funding, and it's been backed up and supported by the fact that we had a pre-existing pan-Ayrshire cardiac rehab service.</p> <p><u>Duration:</u> Project began in April 2015, first patients used it in November 2015. Funding ends in March 2018.</p> <p><u>Governance:</u> So because we're part of a big organisation, we've got really quite robust governance measures in place in terms of how we operate, you know, how we audit ourselves.</p> <p><u>Evaluation:</u> Evaluation is ongoing and has been presented at conferences and to the Scottish Government.</p> <p>Quantitative evaluation, patient demographics, changes to the distribution of</p>

	<p>layer is linking what's going on in the third sector to improve knowledge, skills, and opportunities that are out there for people who have health conditions to do things that reduce social isolation.</p> <p>Multi-morbidity Rehabilitation Longer standing project – not funded from PCTF, but from HSCPs and Health Board.</p> <p>Well-established service, operating in primary care/community settings but managed from secondary care.</p> <p>See themselves as providing 'primary care' service.</p>		<p>morbidity, numbers using the service from each area etc.</p> <p>Qualitative evaluation of the impacts it has on service users and staff.</p> <p>Rationale for Deep Dive Selection:</p> <ul style="list-style-type: none"> • It provided a primary care service in the community though it managed from secondary care. • Use of volunteers: Those who complete HARP can also volunteer their time and support others through the programme, they currently have 25 volunteers on the books • They link with local leisure services to provide classes • They have carried out substantial evaluation work so far, including quantitative evaluation of patient demographics, changes to the distribution of morbidity, numbers using the service from each area etc. and qualitative evaluation of the impacts it has on service users and staff.
House of Care	<p><u>Change:</u> Co-creating health project, introducing self-management support, enhancing the conversation between the healthcare provider and</p>	Implemented	<p><u>Context:</u> Some very good messages are coming from Government, such as 'realistic medicine', Vision 2020, collaborative working and shifting the balance of care, but on the ground people are just scrambling to keep the service going in difficult conditions.</p> <p><u>Funding:</u> The Alliance, existing resources.</p> <p><u>Duration:</u> Workshops ran in early 2017.</p>

	<p>the patient or service-user. Trainers give workshops about care planning, and goal setting.</p>		<p><u>Governance</u>: For now, it sits under SPOC (health and social care partnership implementation group).</p> <p><u>Evaluation</u>: They are gathering data, and want to measure clinical outcomes, healthcare utilisation, economic analysis, and do qualitative analysis with patients and service users and staff. Nothing is in place as yet.</p> <p>Rationale for Deep Dive Selection:</p> <p>Different models of House of Care have been adopted in different geographical areas, and inclusion of the A&A model offers the potential for further learning on the ease of implementation, adoption and impact in an asset-based context (i.e. relies on improving and utilising skills of existing staff rather than investing in additional staff to address a gap in service provision).</p>
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4. PHASE 2 FINDINGS

This chapter is based on the findings of further **interviews with 21 individuals**. They included NHS managers, clinicians and non-clinical primary care, optometry and pharmacy staff.

4.1 Eyecare Ayrshire

4.1.1 Outline of the service

Eyecare Ayrshire was considered to be well-established in the Board, with around 750 signed orders (similar to GP prescriptions) processed each month. All 60 optometry practices could participate in this test of change.

Important features of Eyecare Ayrshire included:

- collaboration between optometry and community pharmacy services
- role of primary care practice managers and receptionists in redirecting patients to optometrists
- use of a widespread publicity campaign, including advertising on the sides of buses, local radio and newspapers, to inform the population of A&A of this new service
- use of public engagement events to develop the publicity campaign.

Eyecare Ayrshire was developed by a team comprising lead pharmacists, optometrists, a consultant ophthalmologist, a GP, programme improvement manager and a primary care manager following an audit of the number of GP appointments used for eye conditions. It built on previous work carried out in NHS Lanarkshire, the Lanarkshire Eye-health Network Scheme (LENS).

It had developed optometry pathways within primary care. Since its launch in February 2017, optometrists had become the first port of call for all eye presentations. Patients presenting to GPs or pharmacists with eye complaints were redirected to an optometrist, optometrists set aside appointments each day to deal with Eyecare Ayrshire patients and could provide signed orders to be filled at community pharmacies.

4.1.2 Implementation

Interviews were conducted with a range of stakeholders. However, in terms of representation, the only optical assistants interviewed worked in two branches of a single independent optometry practice. This means that there may be a particular perspective reported here as the key informants emphasised that their practice had a very clinical focus, rather than concentrating on selling spectacles: “Yeah we are, we are the kind of practice which is very clinical anyway” [AAA71].

While a new service, the optometrists and optical assistants interviewed commented that they had previously seen patients with eye complaints, although the numbers were smaller than that experienced now with Eyecare Ayrshire: “Uh huh what would happen was it would usually be our regular patients that would come to us if they had a problem with their eye,” [AAA70].

Pharmacists also stated that they had in the past sometimes referred patients to an optometrist, but Eyecare Ayrshire made that process easier and more transparent, with a clearer route for patients to obtain medications, if required:

Where we are it's probably relatively new. Obviously before we might have sent patients to the opticians but then we wouldn't have really have seen them back with anything. Or they may have come back with a recommendation [for medication] but then they would have had to either purchase it or be provided with it through minor ailments. Because we're not that close the optician, they probably don't maybe directly send patients to, you know, to us, you know, where some of the other pharmacies that are closer might have a better relationship and providing signed orders previously. But just with our location being kind of in the middle of a housing estate, and it's not that close to the opticians, we probably didn't have that much to do with them before. So definitely doing more now.

[AAA26]

Eyecare Ayrshire was launched at an event held in February 2017. A key aim of this launch event was to ensure participation from all the constituent professions:

It was decided that there would be a launch evening at Crosshouse, where we had one of the consultant ophthalmologists who was involved in the working group before. We had pharmacists, we had our optometric adviser [AAA4] talking at it, and we tied it in with the CET [Continuing Education and Training] lecture from [AAA44], so we hoped that would sort of encourage attendance. We invited all optometrists we also invited pharmacists and GPs. We went for the whole gamut, the only people we didn't have there were the dentists! So we did get a fair turn out. We had a lot of pharmacists in the room, and we also got quite a few GPs and practice nurses, which for me was encouraging

[AAA25]

Optometrists and pharmacists who attended the launch event responded positively to it and to the training materials and guidelines supplied. The launch was backed up by an extensive advertising campaign:

I kind of worked quite closely with [named individual]. I knew what she was doing I mean we really advertised it to death! I mean it was on buses, it was on trains, we actually saw somebody on Facebook had taken a picture of somebody on the train and the poster was behind them. We thought 'Yes!' So we kind of did that. We had pens that went global.

[AAA25]

However, pharmacy assistants, GP receptionists, and optical assistants were not present at the launch, and the responsibility for training them lay with individual practices. In general staff felt confident dealing with redirecting (in the case of GP receptionists and pharmacy assistants) and triaging (in the case of optical assistants), however one key informant expressed reservations and said that they would like more training:

There has been no training, we were looking for a kind of triage list that we could go through this. We just ask them if they are in pain, if they see any flashing lights. Just the normal symptoms that if they are along, you know they are coming with so sometimes a lot of people come along that they have maybe had it for a week.

[AAA70]

Key informants agreed that Eyecare Ayrshire had been more successful than they had expected, and reported that it was a popular service with both staff and patients:

That's what you want to hear, that means it's working and at the same time the optometrists are telling you we are seeing patients so it seems to be the GP practices are quite happy about it. They don't have access to a slit lamp or anything, so it makes sense, and I think there is, there seems to be fair use of it and they all have got the posters up in their surgeries. I see them when I'm going about.

[AAA25]

However, one optical assistant noted that it was difficult for some older patients in particular to get used to going to an optometrist with an eye complaint rather than to a GP as they had always done.

Key informants cited their relationships with other primary care professionals as being an important factor in implementing Eyecare Ayrshire (as well as other new services, such as Pharmacy First). For example, one spoke about how useful she found regular formal and informal meetings with the practice manager of the nearby GP practice, and another spoke of attending meeting with local primary care clinicians. Prior relationships with a local practice was considered important when it came to telling them about the new service and the patients it was targeting:

..... we're so close to the surgery and we have such a good relationship with them that that probably, you know, allows us to, you know, to sorta deal with quite a lotta their patients and, you know, we're able to very easily send patients back to them or, you know, just pick up the phone and speak to them about patients. It's like there's just that sort of natural relationship that when I pick up the phone I know who's on the other end of the phone, they know me, and, you know, they're, it just allows for a, a really easy transition for patients if they're with that surgery.

[AAA26]

4.1.3 Improvements/changes after Implementation

Key informants were asked about what changes they would like to see made to the Eyecare Ayrshire, in particular whether they could easily feedback suggestions for improvement. In general, there were few suggestions about improvements or changes. However, one key informant observed:

I don't, I don't really think so. I mean I think it's definitely working, you know, working really, really well. But I don't think there's anything that I probably maybe didn't expect to happen. I suppose the only drawback can be sometimes if there's items that are... on the Eyecare system, and is out of stock, and obviously that has initially caused a bit of a problem because opticians were writing signed orders for a product which we couldn't get. So there was a bit of toing and froing between the pharmacies and the opticians maybe having to send patients back. But at a health board level they have sort of sent out an amendment, because that product is unavailable they've sort of given us a list of things that we can choose from to treat the patient with, you know, so we just make a note of what we've actually given. So, I suppose in that way, it's given us a wee bit of, you know, freedom in that sense where, you know, if something's unavailable you're given sort of, you know, the next, the next best thing to treat them.

[AAA26]

Another observed that for schemes like Eyecare Ayrshire (and Pharmacy First) to work: “we need to make the paperwork slick” [AAA30]. This had already fed back this to the project leads together with

suggestions that these schemes should be rolled out nationally rather than individually by each board:

You know? Why have we got all these people doing the same thing? Why is [named organisation] doing the same, I know, yeah, I know, they all just cut and paste and put their own board on top. But this should just be national, and then we can go to... release a press release and say, 'across Scotland, you have this, you can go to your pharmacy, you don't go to your doctor.' That's what it should be.

[AAA30]

4.1.4 Impacts and outcomes

Eyecare Ayrshire was popular with the optometrists interviewed, as they felt that it allowed them to do the work for which they were trained. Key informants reported that it was popular with patients as well: "The patients who we've had in have really appreciated it" [AAA30]. However, no formal evaluation of patient opinion on the service had been carried out.

Eyecare Ayrshire was being evaluated by NHS A&A at the time of writing, including the number of patients using the service and the number of signed orders created. Efforts were also being made to identify codes in the GP patient records system that related to eye complaints and group them meaningfully so that any change in eye presentations at GP practices can be measured:

Well, that's one of the things we are hoping to do an evaluation is to try and show how many patients that would have been seen in the GP practice have been seen in the optometry practice, and try and relate that back to a value in a GP consultation.

[AAA25]

Key informants agreed that the short-term outcomes for Eyecare Ayrshire (expected to be evident two to three years after its launch) were that patients would become more accustomed to presenting to an optometrist with eye complaints rather than to a GP. It was acknowledged that this required a change in mind-set for both staff and patients. This related not simply a matter of changing to presenting to an optometrist with an eye complaint, but rather of gaining an understanding that primary care comprises a wide range of qualified clinical staff:

Yeah I think a lot of patients aren't aware of how qualified in eye care we are. They think we just do refraction and sell specs. So I think education from that point of view.

[AAA71]

In the medium term, defined at interview as in three to five year's time, key informants thought that the service could expand. Pharmacists in particular, agreed that a wider range of eyedrops or other medications could be included in the service. In the long term (over five years), key informants were vague about what they expected, though they noted that the environment they worked in was constantly changing. One observed that he had seen more changes in the past five or ten years than he had in his previous thirty years in practice. Another believed that a service such as Eyecare Ayrshire could become obsolete in the long term, as more and more optometrists trained and qualified as independent prescribers:

Because I was speaking to one of my colleagues the other day there and he's just started the course. And he was saying now he's only 31 so he's not been qualified anywhere near as long as me and he was saying he was one of the oldest on the course. It's almost like they are

newly qualified optometrists are just saying: 'right, get qualified', I think you need two years experience then straightaway going in to do your IP [independent prescriber] qualification [AAA71]

4.1.5 Sustainability and expansion

All key informants agreed that the availability of funding going forward was key to the future sustainability of the service. In making this assertion, they believed that Eyecare Ayrshire saved money as GP appointments cost more than optometrist appointments. However, some raised the issue of remuneration of optometrists, which may not be sustainable at current levels:

I think we need to look at remuneration because I don't think we get paid for, you can get someone in and they are in and out in ten minutes and they are away, or you can get someone in and it's very complex and you could be with them for an hour and we claim £24.50 from the health board to see that so I think what needs to be looked at if this is ongoing is greater remuneration for it. Because again it's still going to be much, much less expensive than people seeing their GP.

[AAA71]

Indeed, Eyecare Ayrshire was described by one key informant as “a victim of its own success” [AAA25], and future sustainability of the scheme could be threatened if optometrists are required to see more patients than they do currently:

Because some days practices can be, some practices can be very busy with patients presenting under Eyecare Ayrshire. It doesn't seem to be a huge complaint. But it's something that has been mentioned you know where they were keeping one appointment aside they've actually needed three or four.

[AAA25]

Some key informants also emphasised the importance of good communication and strong relationships between the different stakeholders involved:

I mean I suppose, I suppose the other thing we really need to do is, I suppose for the likes of Eyecare Ayrshire, you know, we need to make sure the opticians are still on board with it because if it's not working for them then, you know, it's not gonna work, you know, it's not gonna work for us. So there has to be a bit of a relationship between the pharmacy, the opticians and obviously the opticians need to be happy with how it works for them... and I suppose again that they have enough staff to deal with, you know, the potential influx of more and more patients on their doorstep.

[AAA26]

As for the potential for expanding the service, some key informants believed that it would not grow any further: “I don't necessarily think it will get to that” [AAA70]. One reason put forward for this was that the pool of potential patients requiring redirection to Eyecare Ayrshire had been identified:

We are working with one GP practice, just as an example, on another project, sort of redirection, signposting and they had actually, when we were all sitting together, optometrists and pharmacists were in the room with the GPs, and we had asked and the GPs actually kind of looked at each other and said: 'you know I don't remember when I last saw an eye complaint?'.

However, while the service may have reached equilibrium in Ayrshire, the same key informant suggested there was scope for the Eyecare Ayrshire model to spread to other boards.

4.1.6 Deprivation and equity of access to care

Key informants were specifically asked about what impact Eyecare Ayrshire had on people living in deprived areas. They were positive about this, and thought the service suited such patients because “it's available everywhere and to everybody” [AAA25]. They also believed that patients appreciated that the service was free, quicker than visiting a GP, and locally available. As a result, it had the potential to relieve pressure on patients who, otherwise, might self-manage without any clinical advice and input:

I think it definitely has. It probably has an impact, as I say, because certainly for things like Eyecare Ayrshire, it means that they don't need to pay for that treatment so as long as they're able to get to the opticians they can be treated for free. They're not having to, you know, maybe like phone the surgery and make an appointment and then get to the surgery and then get to the pharmacy. So hopefully it, in that sense, besides patients, say they were able to treat sort of eye conditions because certain, you know, eye medications, like eye drops and things, can be quite expensive, so it's quite off-putting..... So it's definitely, you know, and having these services locally especially if a patient's surgery's maybe a bus ride away or a taxi ride away, whereas the pharmacy is generally, you know, there's a pharmacy probably within walking distance of most patients, so, you know, they can walk to the pharmacy, they don't need to necessarily get a bus or a taxi or get in the car and get here. So, I suppose that, that really makes it a lot easier for them because it kind of takes potentially that element of paying for travel to get somewhere out of it.

4.1.7 Summary of Eyecare Ayrshire

Eyecare Ayrshire appeared to be bedding in successfully into NHS A&A. Qualitative evidence from key informants suggested that it was building on previous relationships and on the model from another Health Board. However, a lack of data on patient use, in particular on the demographics of patients using the service, means that this view is not supported by evidence. The model of patient redirection to local optometrists and pharmacist should ensure local, accessible and free services for patients, which – at least in theory – should reduce inequities in health care access. However, again, evidence is required to support this.

A challenge to the long-term sustainability of the service may be the level of reimbursement required by optometrists to meet the increasing patient demand and potential complexity of some of the presenting cases. The growth of independent prescribing amongst optometrists may also impact on the service. Work is also required to assess the level of patient knowledge and satisfaction with the service.

4.2 Pharmacy First

4.2.1 Outline of the service

Pharmacy First aimed to build on and develop the role of community pharmacists in the management of common clinical conditions in the community setting. As such, it developed from the work done to establish the Minor Ailments Service in A&A. Funding for this service was provided entirely by the PCTF. All 98 pharmacies were eligible to participate.

Introduced in March 2016, it provided pharmacy care for uncomplicated UTIs (in women aged between 16 and 64), and for impetigo. Patients who presented to GP practices with UTIs and impetigo are redirected to a pharmacy, this redirection was usually carried out by receptionists at GP surgeries. Since its inception, 95 of 98 pharmacies in NHS A&A have signed up and were providing treatment. The most recent figures from September 2017 showed that 198 patients had been treated for UTIs and 39 for impetigo. It was planned to roll it out in the future for other conditions such as shingles, Chronic Obstructive Pulmonary Disease (COPD) rescue remedies, oral/vaginal thrush and skin irritations/infections.

Key feature of Pharmacy First were:

- redirection of patients from general practice to pharmacists
- new role for primary care practice managers and receptionists in redirecting patients to pharmacists
- extending skill set of pharmacists
- extensive publicity campaign to promote redirection
- reduce pressure on general practice by redirecting patient demand.

4.2.2 Implementation

Implementation focused on building the clinical skills of pharmacists and, in common with other redirection initiatives such as Eyecare Ayrshire, building awareness among patients about the range of services that a pharmacy can offer:

I think it's, certainly getting the patients away from the surgery and into the pharmacy to treat minor conditions, you know, [depends] on the sort of confidence of the pharmacist to treat conditions, and use their clinical skills and knowledge to provide these services and, you know, triage patients and things like that. So I suppose the things that we're allowed to do are, you know, are probably very different from minor ailments in the sense that they're prescription only there's just a wee bit, you know, there's obviously kind of a lot more thought and time and things that, that go into, you know, prescribing items to a patient minor ailments is things that you're, you know, you've probably dealt with for years and years and years, and it's medication that you're very comfortable in counselling patients with whereas with Pharmacy First it's obviously something that's quite new and you're having to build your confidence in speaking to patients about these conditions and learning all about them and things like that. So that's sort of totally different.

[AAA26]

As part of this upskilling of pharmacists, those wanting to participate in the Pharmacy First scheme were required to undertake an online training course. The pharmacists interviewed were satisfied with this course, describing it as:

...the training for, certainly for the UTIs was thorough, and the one for the impetigo – it was pretty good as well

[AAA30]

.... the online training was the main sort of area where you would have learned everything that you really needed to know to provide the service.

[AAA26]

An identified potential barrier to implementation was the requirement for the whole pharmacy practice to participate, not just one pharmacist. Thus, all the pharmacists in a branch needed to complete the training, to ensure that there weren't any interruptions to the service:

So all the pharmacists that work between the, the eight branches are able to do it and then generally if there are any locums that are working in branch, so say to cover days off or holidays, then they would also be expected to have done, to have completed the training so that they were able to provide the service so that, you know, there's a continuity [for patients]

[AAA26]

There was recognition that Pharmacy First meant a change in the activities of GP practice receptionists which they were initially hesitant about. However, participation in the scheme did allow them to gain confidence in their ability to redirect patients, particularly as they were not required to make 'clinical decisions':

I think they would need to make it that you were confident if people, you couldn't be asked to do that because they said at the training we wouldn't be, we will not be asked to make a clinical decision but if we are in any doubt put them into a GP and will be up to that GP to say well you know that's not where you should have been.

[AAA68]

The importance of relationships between pharmacist and general practice staff was considered important, and that having frequent contact provided reassurance about how the service would operate and its aims. This was thought to be particularly important in the early stages of implementation:

For Pharmacy First, you definitely need to make sure that, you know, for it to work properly, that you have the sort of support of your local surgeries as well and that they understand it and they know how it works. And obviously for most surgeries, you know, they are more than happy for someone to be seen by someone else other than one of their nurses or GPs or other prescribers because they're under so much pressure. But, they also need to sort of buy into the idea that patients are gonnae, you know, are gonnae be seen and, by the pharmacy and they're not just gonnae send them to a pharmacy and they're gonnae be sent back. So, they just need to be able to buy into the service and understand who can access the service as well so that they, so that they know sort of how, how it works and that they're keen for it to, to go ahead with our, with our ideas.

[AAA26]

Pharmacists and pharmacy assistants had both changed the way they worked under Pharmacy First. However, for implementation to be successful, pharmacists in particular had to gain confidence in dealing with Pharmacy First patients:

I think definitely having done it for a few months, you know, your confidence builds, your experience builds and, you know, you sort of learn what questions you maybe need to probe further and what types of things that patients maybe say and, you know, how to do deal with their answer So at first it was probably quite nerve-wracking to go in and have this consultation and, you know, sit down and ask a patient about their symptoms and try and decipher what, you know, what they're telling you into, you know, does this fit into the format, do they have a urinary tract infection, you know, or is it more serious.

[AAA26]

4.2.3 Improvements/changes after implementation

Redirection from GP practices meant that patients arrived in a community pharmacy and, often, would first be dealt with by non-clinical counter staff. This meant that the pharmacists had to develop some new approaches for dealing with this. Responsibility for training these non-clinical pharmacy staff lay with the pharmacists, who described the guidance materials that they had created for staff dealing with Pharmacy First patients:

Yeah, what we did was we, we, well, I drew up the folder, and within the folder we had the very obvious exclusions. So if, if a woman came in, for example, with, saying "I'm looking for something for a urinary tract infection", which has always happened, we always do have that, and we've always had to refer them on or treat them with something for cystitis. The girls would know that, yes, there is something the pharmacist can do but, A, are you female? And B, are you within the age range? So those two simple ones are the only triaging they would do, and if, and that's normally fairly obvious just by looking at the person. And then they would just ask for the pharmacist on duty to come out, and then we would then go through the pro forma from the Health Board.

[AAA30]

However, an additional advantage of this approach meant that the pharmacist had some idea of the patient and their presenting complaint before they spoke to the patient. Some patients also had to be referred back to their GP if, for example, there was a contra-indication for some prescriptions; pharmacists who were interviewed agreed that using a screening pro-forma by non-clinical staff could therefore pick this up more quickly.

Some key informants suggested that some parts of the Pharmacy First service could be improved, for example the Postgraduate Diploma (PGD) for UTIs, and posters had to be sent back because they displayed some incorrect information. Some also acknowledged that their own clinical knowledge was being improved by their participation in the scheme:

Well obviously we've got kinda more knowledge about, you know, like urinary tract infections, impetigo infections and kinda anti-microbial stewardship. I mean, that was all part of the training.

[AAA30]

Suggested tweaks to the Pharmacy First process had been discussed, in one case to flag to the GP when a patient presented with recurring UTIs:

But we have had a wee discussion wi' [Pharmacist Name] about maybe somebody going more than three times. And if we, we haven't yet, but I think other places have had it, you know, if we then had a wee message about it to everybody. If you notice the paperwork that comes in, and they've had three, in say six months, highlight it to a GP. Before it, you know, after it gets work flowed. Just to make them aware more than anything.

[AAA28]

4.2.4 Impacts and outcomes

Redirection of patients – and getting GP staff used to redirecting patients away from general practice surgeries – was recognised as a key short-term impact of Pharmacy First (along with Eyecare Ayrshire) by both pharmacists and GP staff. Patient feedback (which was not gathered in any formal way in the practices visited, but was reported informally in interviews) was on the whole positive about Pharmacy First:

'Cause they come in, and like "I've got a urine infection, do I have to go to the doctor?" And we'll take them through it, and they seem very grateful that: "here's a course of antibiotics, and this is what you would have got from the GP," so, you know.

[AAA30]

Key informants were asked to comment on what they thought the short-term (within 1 to 2 years), medium (three to five years) and long-term (over five years) outcomes of Pharmacy First would be. Key informants didn't have a clear view of the expected impact and outcomes of Pharmacy First, and also struggled to attach timelines to the outcomes that they did mention. For example, when asked about short-term outcome, one said:

I think it will just continue to jog along

[AAA25]

One member of staff at a GP practice described the impact the service had in terms of being able to redirect patients to a pharmacist rather than having to try to fit them into busy GP appointment schedules. The GP staff also discussed the difficulty recruiting GPs, and expressed hope that transferring some of the primary care workload to pharmacists would help them. Perhaps as a result of its perceived 'success', the medium to long-term view was that Pharmacy First could expand to manage other conditions, which was planned in A&A. This would mean that the service itself would become bigger, which had the potential to present new challenges:

Yeah, I think it definitely will grow. I think as more patients find out about it, through the kinda publicity, I also think the surgeries will become more confident in triaging patients to the pharmacy...

[AAA26]

4.2.5 Sustainability and expansion

As described above, key informants believed that the service would expand. However, staff in both GP surgeries and pharmacies recognised associated challenges with this:

I mean there's obviously, you know, there's always gonna be patients who, you know, aren't suitable for treatment... and I hope that that wouldn't sort of prevent the surgery from

triaging patients because they would think, 'Oh right, well if they're just gonna send them back,' so, you know, 'what's the point in sending them?'

[AAA26]

Key informants emphasised that the most important requirement for the successful expansion of the scheme was that the administrative aspects run smoothly. At the time of interview, the referral pro-formas for UTIs and impetigo were both paper-based and different from each other. This was recognised as a barrier to use in the practice. Standardisation of forms and a move to an electronic referral system were seen as necessary, especially if the service were to expand to other conditions:

In terms of setting up the procedures, I think if they were to move it on, I would say that what's really important for any extension of Pharmacy First is the paperwork's got to be quite slick, or it's gotta be electronic in some way. Once we've decided, right, okay, it's okay to supply, we then have to get the prescription dispensed, so we do that. We then have to get the leaflet from the folder, we then have to get the referral letter. We have to get the patient to fill in all their GP details, if we don't have it already, and sign the form to say it's okay to notify their GP. Sign the back of the prescription. Then we have to go over the dispensing with the patient, then when they've left the shop we then have to then fax it through to the, so there's a lot o' steps there.

[AAA30]

4.2.6 Deprivation and equity of access to care

Key informants expressed similar views to those held for Eyecare Ayrshire, namely that the service was supportive to people living in areas of socioeconomic deprivation as the service was provided in local communities, reduced the need for patients to travel for care and, potentially, meant that people did not need to take time off from work to attend their GP:

I think for, for Pharmacy First ... it might stop someone having to take a day off their work, you know, or from having to take up a, a doctor's appointment ... and having these services locally especially if a patient's surgery's maybe a bus ride away or a taxi ride away, whereas the pharmacy is generally, you know, there's a pharmacy probably within walking distance of most patients, so, ... they don't need to necessarily get a bus or a taxi or get in the car and get here. So I suppose that, that really makes it a lot easier for them because it kind of takes potentially that element of paying for travel to get somewhere out of it.

[AAA26]

4.2.7 Summary of Pharmacy First

Key informants expressed similar views about Pharmacy First and Eyecare Ayrshire, perhaps unsurprisingly as both aimed to redirect patients from general practices to locally available community-based health care providers (pharmacists and optometrists respectively). Although there was a lack of monitoring data and patient experience data, respondents felt that the service was embedding successfully into the local health care system and would, therefore, expand and address a wider range of conditions. However, one barrier might be that all pharmacists in a local pharmacy needed to undergo training in order to provide seamless and continual prescribing support for patients. Future expansion was also likely to depend on the development of standardised referral pro-formas and an electronic, rather than a paper-based, system.

4.3 Health and Active Rehabilitation Programme (HARP)

4.3.1 Outline of the service

HARP is a rehabilitation programme for people living with multiple conditions. This innovative approach arose from the involvement of one of the key respondents with the local Multi-Morbidity Action Plan (interview with AAA18). Since November 2015, almost 500 people have been referred to the programme. HARP is funded by the three A&A HSCPs service, but the levels of funding from each varied. While this gave each HSCP 'buy-in' to the service, it is difficult for the service itself as securing agreement for on-going funding meant that negotiations had to take place three times.

HARP was established in April 2015 when a rehabilitation service team based in secondary care at Crosshouse Hospital set out to realign its rehabilitation services to the needs of individuals rather than individual conditions. This team worked with local partners, including teams from across NHS A&A, leisure trusts, local authorities, third sector organisations and service users to develop a tiered, menu based rehabilitation programme. Importantly, rather than focus on one condition at a time, this approach recognised the growing complexity of patients requiring care. A multimorbidity approach was developed targeting people with cancer, COPD, cardiac conditions, stroke or a high risk of falls, and at least one other condition. HARP is available across North, South and East Ayrshire.

Key features of HARP included:

- a secondary care managed service in primary care
- recognition that care must be local to patients
- addressed multiple chronic conditions at the same time
- volunteer workers (patients who had completed HARP)
- link with local leisure services
- pre-existing local evaluations.

4.3.2 Implementation

HARP built on the evidence base for cardiac rehabilitation, but extended that to deal with multi-morbid patients requiring rehabilitation close to home. The evidence base that cardiac rehabilitation is effective, coupled with the good reputation of the cardiac staff, were believed by participants to have made implementation of HARP easier.

One key informant described its emphasis on patient-centred and self-management approach:

So they are referred into the service, they are then vetted by a trained member of staff, and they've got to have one kind of main disease area, and then one other, which would be a kind of multi-condition for that. So they're then appointed to a clinic which lasts approximately an hour, they see one of the HARP nurses, ... for approximately half an hour where ... do a kind of generalised assessment of them and really the purpose of that is kind of twofold. First and foremost it's kind of trying to look out for any red flags that would make it detrimental to their health to be exercising, and the second one is really what are they actually kind of wanting, wanting out of it, because it's very much based on a kind of self-management. What, what we're trying to do ... is helping the patient kind of feel kind of more in control of their condition and building up their confidence which is what I would say the majority of them lack ...

[AAA20]

Thus HARP fits well with the stated aims of NHS Ayrshire & Arran and the Scottish Government's '2020 Vision' documents (NHS Scotland, 2012). The latter states:

We will have a healthcare system where we have integrated health and social care, a focus on prevention, anticipation and supported self-management.

[NHS Scotland, 2012]

Funding for HARP was released in April 2015. Before the first patients were seen, managers spent six months training staff, preparing the referrals process, setting up the systems and making links with other services. The first patients used the service in November 2015. This approach was felt to be necessary to ensure that the service was 'completely embedded' in the wider health care system. IT was also seen as important to ensure smooth referral pathways:

So, we had to work on all the paperwork: so, referral forms; referral processes. We had to put in place a, we've got, what we've got for a referral is an email box: a clinical email that acts as a referral box. So, we had to put all those processes in place so we knew, if we got a referral what we'd do with it.

[AAA18]

Working with patients using the HARP model involved a substantial change for staff. When working with cardiac patients, cardiac rehabilitation nurses were centred in their area of expertise. Moving on to working with a variety of co-morbid patients was challenging for them, as they were working with people with conditions they were not expert in. Some key informants told how they were hesitant (or indeed very much opposed) to HARP when the idea was first introduced to them:

We were very iffy or I would say probably out of the whole team I would have been one of the most vociferous in my dislike of the idea. [I] was very much pure cardiac rehab and had done my masters in cardiac rehab and I knew what we should deliver and what we were striving for and I just felt it was the start of the slippery slope downwards that we were diluting our service and providing a cheap diluted service for lots of people instead of a very pure and specialised [service].

[AAA23]

Staff were given formal training about HARP including "an initial day where all the specialities gave presentations" [AAA23] as well as informal meetings and support:

Yes we were very supported, it was all brand new, it's never been done before and we were very much part of the process of developing it. It wasn't just: "This is happening and go and do it" but in fact we built the whole thing up together as a team and through that process there was constant linking networking, educational developments

[AAA23]

Problems and issues were discussed and dealt with as they arose, both in informal discussions and through more formal processes. In particular, key informants described the Action Log that the manager used:

We had an action log. [Named individual] took responsibility for the practicalities and the patients, the staff who were doing the clinics had action logs for anything that came up that could be reported, and it was circulated around everybody that was doing the clinics at the

time so that we could identify issues that needed to be tackled. And then, as I say, we had a washout session at the end of the first year.

[AAA18]

Key informants talked about how the attitudes of all the staff changed as they began to implement HARP and gained confidence in the new way of working. One key informant saw a very marked difference over the course of one year:

[at first] everyone was a bit up in arms and panicking and 'where do we start?' a year later it was a completely different landscape, people were just so much more on board and comfortable with it.

[AAA19]

Because of the uncertainty of future funding the managers implementing HARP were slow to involve GPs in the service. This hesitancy was because they were wary of introducing GPs to a programme which could be cancelled:

And, certainly the GP, I was inhibited by the fixed-term nature of the project because, I've developed services for GPs for years, and I'm not setting foot in that environment without being absolutely clear on what I'm delivering, and what the benefit is. So, I've been a bit cautious about pushing the GPs but, I think, there's a lot of people out in 'GP land' that would benefit. And, the GPs that refer do refer well. You know, we've done a lot of work with them to improve, and, it's a lot of practice nurses that refer as well. So, there is that element of: 'We could probably, could do an awful lot more in that environment', but have been, maybe, too cautious because of the funding element, because, the one thing I don't want to do is say: 'Oh, here, you can refer to this service', and then six months' later it's gone.

[AAA18]

4.3.3 Improvements/changes after Implementation

It was striking with HARP that key informants not only spoke about improvements to the service but also to their own professional life. Many key informants spoke about the personal satisfaction that they derived from the new way of working, they enjoyed the variety of the work, because of the mix of attendees to the classes, and in particular they enjoyed forming relationships with patients:

This role, brings loads of job satisfaction, you know, it's something to be very proud of, and sometimes somebody like myself is quite positive, that can rub off on your colleagues as well and they buy into it, the more success you have the more they buy into it I think, I think as a team the more successes we were seeing the more everyone bought into it, but you're right not initially.

[AAA22]

Key informants also spoke about their satisfaction with improvements in their clinical skills and knowledge:

Well me as a professional, I've learned absolutely masses, you know in terms of extending my knowledge and extending my role it's been a big steep learning curve.

[AAA21]

Performing a thorough evaluation of the HARP service was a priority for the team from the beginning of the project. One of the team was responsible for this work to whom the others members fed back evaluation data. The evaluation report for the work done is available here: <https://www.south-ayrshire.gov.uk/health-social-care-partnership/documents/item%205%20app%201%20-%20harp%20spag%202017%2011%2014.pdf>

This very thorough report describes activity and outcomes for HARP from 1st November 2015 to 31st October 2016. Overall activity within the HARP model was presented, including information on developmental work, activity and outcomes, and on service improvement projects for each tier. The report included quantitative analysis of readmissions into hospital for patients going through HARP, and suggested that these had decreased over the timeframe of the service.

Local evaluation of the service was on-going. As well as the formal evaluation, key informants working with patients spoke about the informal feedback that they had received from them:

It's not glamorous and yet, if you speak to the patients, and you see the patient feedback that we've had through Patient Opinion, the patients, regardless of their diagnosis just love it, absolutely love it. They love what difference it makes to their life. And, we love it because we, that's why we do it, because we see people leaving at the end of the time they've been with us and they've got a new lease of life. So, I suppose, yes. One of the reasons is because it isn't glamorous. It's not particularly expensive. It's, sometimes, I think, seen as a frill.

[AAA18]

4.3.4 Impacts and outcomes

Key informants were asked about the outcomes and impacts they expected from HARP in the short term (one year), medium (two to five years) and long term (more than five years).

The **short term outcome** was expected to be the delivery of a "safe effective person-centred programme" [AAA20]. For another, short-term outcomes centred around supporting behaviour change; changes to service use were a longer term outcome:

In terms of individual outcomes as well, we've looked at it and, the initial outcomes are around behaviour change, quality of life. The longer term outcomes are around reduction in readmissions, reduction in bed-days. We're obviously not going to say anything about reduction in mortality, but the evidence is there, that if you exercise for any length of time you will reduce mortality

[AAA18]

Key informants also spoke about the importance of **short term impacts** on patients' lives and quality of life, including goal setting and engaging with the advice given. Expected short-term impacts were that the patients become better self-managers, and consequently have a better quality of life, they "*get their life back*" [AAA20], receive education and emotional support, and that staff increase their clinical skills and knowledge

The main **medium term outcome** was the continuing professional development of staff, including increasing their clinical skills and knowledge, and in the long term, the expected outcome was a

continuation and progression of the programme, an expansion of GP referral and self-referral, and a possible change to the model of care to become more person-centred and less condition-specific. In relation to **medium term impact**, it was hoped that patients maintained lifestyle changes and continued to self-manage after they have finished the programme.

Patients becoming better self-managers was also one of the expected **long term impacts** as well as future research projects to contribute to the evidence base. Indeed, this was the only deep dive in which research and evaluation was regarded as a long-term impact:

I think the problem is there is no, there is nothing on the evidence base for this. The only evidence that is out there is for like combining two groups so bringing people with cancer along to a cardiac rehab programme, that type of thing, so we don't really have anything to base it on. And actually that's something we have talked about in the longer term if our funding was maintained and secured rather, then we might look at research projects to try and contribute to the evidence base so the qualitative work that we have done.

[AAA18]

4.3.5 Sustainability and expansion

Key informants believed that HARP was sustainable, and provided it kept getting funding, would continue to provide a better service to patients:

There's a lot of people who are not being referred at the moment who could be referred, which would change the model of how we treat a lot of these conditions. In terms of cost, is it cost effective? Well, we've shown it is, because, although the data for the first cohort was just under the cost effectiveness ratio, we've kept the cost the same, and the number of patients have gone up. So, when you put it all together the likelihood is that the cost effectiveness ratio is going to go down, and we're still not at full capacity for the funding, totally.

[AAA18]

Key informants also noted the importance of the economic argument:

you'll not get it [funding] without the economic argument

[AAA21]

Key informants believed that the service could be adapted to work in other health boards because:

you know, patients are the same wherever you are and conditions are the same wherever you are"

[AAA21].

They told of how people in the professional rehabilitation community as well as cancer charities had already expressed interest in the model, for example a group from Wales had been to visit to find out more about it:

In terms of the model, I mean, within the Cardiac Rehab community its well-publicised. And, in terms of the HARP in Wales, that was the cancer networks. We've been asked, we've been approached by some of the cancer charities and cardiac charities to look at how it could be spread.

[AAA18]

It seems to have been such a successful model and already it's getting attention ... that I can't see it not continuing to expand and to be successful and possibly go, you know, out with Ayrshire, unless everything is pulled financially But I could see this model being adapted and adopted by other health boards.

[AAA23]

4.3.6 Deprivation and equity of access

The locations of the HARP classes were purposely chosen to be in areas with high levels of deprivation. As one key informant put it: *"you get such a mixture of people and certainly we have people from very deprived lifestyles and situations come into the class"* [AAA21]. Key informants thought that the service being free made it easier for this deprived population, but acknowledged that they may not be reaching all the people who could benefit from the programme as they have a certain number of people who are referred but do not attend. One key informant thought that there could be patients who did not attend because of difficulties getting to classes:

I still think there's an issue with getting, getting to these people. Because if you, if you provide a service that maybe, you know, there's a bus journey involved or, you know, people have, people have to travel and they may feel that they then have to maybe buy the right clothes to come to your exercise class which isn't, isn't the case but sometimes it you know, finances can be a barrier to, you know, to people coming along to our services.....

[AAA22]

4.3.7 Summary of HARP

HARP is different from the other deep dives as a secondary care service which is delivered care in the primary care setting. Patient-centred, rather than condition-centred, it acknowledged that rehabilitation services can address patient complexity in terms of multiple chronic diseases. While funding from all three HSCPs resulted in buy-in from across the Health Board, it also enhanced uncertainty in relation to sustainable funding and expansion. HARP also had a robust internal evaluation, allowing the collection of quantitative and qualitative data to measure short-term impact on other services and on participating patients.

4.4 House of Care

4.4.1 Outline of the service

The aim of the House of Care test in A&A was to improve the way in which care planning occurred with particular emphasis on encouraging patients to identify and adopt self-management approaches. The principal vehicle for affecting the desired change was the provision of training to existing service providers on methods for enhancing conversations with patients and securing their involvement in making joint decisions about their care needs and goal setting. This is illustrated in Scotland's House of Care Logic Model (Table 6).

Table 6. Scotland's House of Care Logic Model

Implementing Care and Support Planning Using The House of Care Framework to Deliver Person Centred Care							
Assumptions	Resources	Activities	Deliverables 2016-17	STOs 2016-17	MTOs 2017-18	LTOs 2018-19	Potential Measures
<p>Collaborative Care and Support Planning (C&SP) is an evidence based approach for person centred care that meets the needs of people with LTCs and of staff</p> <p>Prevalence of long term conditions predicted to rise (already close to half the Scottish population)</p> <p>Current system of supporting people with LTCs not financially viable or broad enough in scope to meet all of their needs or respond to increased emphasis on person-centred support</p> <p>Need a shift – away from the 'medical model' of illness, towards model of care and support which works with expertise of those living with LTCs, utilising resources their communities provide in an holistic approach to their lives and to help best possible outcomes be achieved</p> <p>Staff morale and health under strain, recruitment issues in general practice and high numbers of retirement imminent</p> <p>Builds on the strong platform of activity, driven by the ALLIANCE, to embed self management as core plank of health and social care</p> <p>Crucial time of opportunity as integration demands far greater collaboration across sectors, new models of care and a deep shift in culture</p> <p>Reflects a direction of travel that has been reiterated in successive Scottish policy, most recently the National Clinical Strategy, Realistic Medicine, RCGP Blueprint and Gaun Yersel</p>	<p>National Executive Group and associated working groups</p> <p>Adopter Steering Groups and Project Managers</p> <p>ALLIANCE: Scotland HoC Programme Manager, ALISS, LwS, PPH&W, Third Sector Health & Social Care Support; Self Management; Dementia Carers Voices; and other ALLIANCE programmes and resources</p> <p>Year of Care Partnerships BHF</p> <p>National Clinical Lead</p> <p>SG Person Centred Lead at Scot Gov Realistic Medicine Team</p> <p>Nat Clinical Strategy Leads</p> <p>John Mitchell PMO</p> <p>HIS PCC Lead</p> <p>NES Lead</p> <p>Diabetes UK</p> <p>Macmillan Cancer Care</p> <p>Committed Funding</p> <p>SG PCC and primary care funding until March 2017; imminent</p> <p>BHF funding until March 2017; BHF extension funds for 3 Early Adopter sites until March 2018</p> <p>Bids</p> <p>RCGPS/ALLIANCE to Primary Care Transformation Fund, ALISS Phase 3,</p> <p>Links Worker Programme (+250)</p> <p>Academic links</p> <p>Aberdeen University- Vikki Entwistle</p> <p>SSPC :Stewart Mercer and Frances Mair</p> <p>University of Oxford, Informed Medical Decisions Foundation</p> <p>Boston - Angela Coulter</p>	<p>(i) Promote C&SP and HoC across Scotland so it becomes standard practice within primary care (ensuring better outcomes are achieved for patients, their families and carers, wider communities and staff)</p> <p>(ii) Build on successes in primary care and the early adopter sites, ensure that C&SP is available to all health and social care providers</p> <p>(iii) Ensure that C&SP in primary care, and the quality improvement required to build the HoC, are informed by and developed with people living with LTCs and their wider community</p> <p>(iv) Promote this model of person-centred care and support for self management and wellbeing across all health and social care disciplines for people with long term conditions</p> <p>(v) Support primary care teams to understand and adopt a framework that ensures Quality after QoF</p> <p>(vi) Agree recommendations around what needs to happen to support a high degree of fidelity to the process and better conversations and ensures links with more than medicine / self-management support</p>	<p>Health and social care supported to flourish by focussing on:</p> <p>a) Scottish capacity built for person centred care through collaborative care and support planning conversations that include, and are informed by, the voices of people with lived experience</p> <p>b) Stories of this working captured and shared in ways that can be understood by a wide audience</p> <p>c) Streams of good practice including ALISS, National Links Worker and PP&W programmes amplified and connected.</p>	<p><i>Practice Level</i></p> <p>Collaborative Care and Support Planning. (CC&SP) is adopted and spread in Scotland</p> <p><i>Cluster/locality Level</i></p> <p>Increased links with, and awareness of support for self management/ more than medicine</p> <p><i>DB Level</i></p> <p>Mechanisms for C&SP to be able to influence resource allocation</p>	<p>People living with long-term conditions:</p> <ul style="list-style-type: none"> • are empowered by the model of care and the care planning process • are enabled to articulate their own needs, deciding on their own priorities, supported by health and social care professionals through a collaborative conversation • are supported to develop the knowledge, skills and confidence to manage their condition(s) effectively in the context of their everyday life • have an improvement in their experience of care, which should become more coordinated, with a measurably improved 'patient experience' <p>Staff are empowered by the model of collaborative care and support planning through improved skill mix and improved team working/job satisfaction, are supported to develop knowledge, skills and confidence in their person centred approach</p>	<p>A fundamental shift in the relationship between person and professional that supports that person to be in the driving seat of their health and social care, with self-management at the heart of it</p>	<p>National Health and Wellbeing Outcomes/ Indicators 1 3 4 5 6 8 9</p> <p>Personal Outcomes</p> <p>Primary care Transformation Evaluation</p> <p>BHF Measures</p> <p>In tune with guidance for the new GP Contract</p> <p><i>Indicators to be agreed that reflect all parts of the House:</i></p> <ul style="list-style-type: none"> -improvement in both health and personal outcomes for people (biomedical outcomes and care process measures) -improvement in level of support for self management, self efficacy - greater engagement with, and development of, community and peer support - people feel more involved and in control of decisions about their care -professionals have reported greater satisfaction in this way of working - whole systems change (described by the HoC) -catalyst for transformation, person-centred quality improvement and Health, Social and 3rd sector integration -service use (better use of primary care, more appropriate specialist referrals, better uptake of more than medicine

As part of a national programme, House of Care is funded by the Alliance for Health and Social Care Scotland.

Identification of participating GP practices was slower than in the other deep dives. As a result, there are less data to present at this point of writing, with no discussion of sustainability and expansion or of the issues of deprivation and equity of access.

4.4.2 Implementation

Key informants said that some aspects of House of Care were already being implemented by practices. Indeed, it was described by one GP practice staff member as “*re-inventing the wheel*” [AAA57].

Another key informant from a different care setting made a similar observation:

A lot of what was discussed is what we were already using or doing, a lot of the techniques.

[AAA38]

This was recognised by those involved in the delivery of the House of Care training, particularly for practitioners who were recognised as being forward thinking and innovative.

Key informants also mentioned changes that had been made to their practice independently of House of Care.

As House of Care was not fully implemented in any practice in NHS A&A, it was difficult to recruit participants for these interviews. Those who did participate were hesitant about doing so, as they did not feel that they had sufficient involvement in House of Care:

I know, because, there was no, from my, because I’m not part of the actual. Well I’m aligned with, and I’m an attached member of staff, but I’m only in [Practice Name] two or three sessions a monthThat’s why, I did wonder whether to even say ‘yes I would speak to you about this’, because I thought: ‘Oh gosh, I’m not actually working for the practice’. If you know?

[AAA38]

One key informant described how one GP practice considered implementing the House of Care model, but did not go ahead with it: “*So that was kinda broached, but then nothing, nothing was ever done about it*” [AAA38]. The key informant went on to describe the challenges that practices would face if they tried to implement it:

So I think they were going to do that, but they were concerned about the time-scale, their own, who was gonna actually do that. Which member of staff. And would the patients actually do it.

[AAA38]

Key informants were also concerned that patients would resist implementation, that progress would be slow, or that it would not be suitable for their particular patient population:

I think it sounds like a great idea to give everyone information so that It’s more like you know less of a surprise, more person-, sort of, orientated. It sounds great, I do think that we’re in a

situation where there is a lot of expectation that the healthcare professional makes the decision a lot of the time, and that, when you try to, sort of change that status quo, that, you know, that's challenged, you know: "But that's your job!" kind of thing. So, you know, it's not to say that you don't try but I think that's going to take a while, the generational thing.

[AAA50]

For the GP practices that did attempt to implement House of Care, there were reports of negative feedback from patients who had difficulty in engaging with the new approach:

And I think, if I remember, some of the feedback from some of the patients was that it was, I think it was quite unsettling for them as well. Because they weren't used to [laughs] being involved.

[AAA34]

Indeed, one key informant was concerned that the House of Care model was a potential source of harm to patients through having access to too much information that might be a source of worry for them:

For patients we were talking about giving them access to blood results, we also came up with negatives. I actually think, maybe I might be wrong, we have a percentage of patients who would worry if you know they would absolutely worry if we started that, yeah they're absolutely going to worry about, which has not got the patient, you know it's supposed to be constructive and not, I suppose we could be a wee bit selective about it, but then again who are we to decide who's to get results or not? You have to address it for everybody. Ultimately you want it for patient benefit, you want patients to benefit and self-manage.

[AAA57]

4.4.3 Impact and outcomes

As none of the practices in A&A had fully implemented House of Care, key informants were unable to provide clear ideas of the expected outcomes and impacts though one who had participated in the training workshop did think that it may have had some impact on practice:

I mean what usually would happen, it would be either, certainly in the GP practices, it's the GP or Practice Nurse or Advanced Nurse Practitioner, or any of the practice staff actually, who would be, I'm assuming having a conversation with the patient about their condition and then, you know, the need or the wish to be referred on for a [named] assessment. So maybe even having the House of Care training and all being there together, maybe that conversation is different. But we haven't actually looked at that

[AAA38]

Key informants were on the whole satisfied with the standard of the training workshops, they praised the trainers and the structure of the days:

Well I think, I mean the days were well attended, they were, I mean everybody was very engaged. They were enjoyable days, and actually it was nice to feel kind of part of the team. That is quite nice, because we are on our own so much. So I think so, I think if the support was there and there was designated help for whatever was required and whatever you were wanting to implement, I think it could be done. 'Cause certainly there was a willingness, I

mean there was lots of different staff attended, from GPs to Practice Nurses to, there was students there, there was a midwife, you know, there was a whole range.

[AAA38]

However, key informants kept returning to the pressure that primary care practices are under. They discussed how, even if staff 'bought-in' to the idea of House of Care, they were reluctant to create more work for staff:

But they were really, they were really, the sorta feeling that came across there, the practices, that they were really under pressure. And they'd really struggled to release anybody to come [to the training].

[AAA34]

The ongoing changes to primary care were also cited by key informants as reasons they were unable to fully engage with House of Care:

Yeah, it'll be interesting to look at that in another couple of years, as I say, I think because, I think because there is a lot of change coming into primary care, everything's kinda on hold and it would be interesting to look at it in a couple of years to see, if things we think now are barriers are no longer going to be barriers and maybe we'll have a renewed enthusiasm for things.

[AAA57]

It was noted that NHS A&A was under particular pressure, which might impact on its ability to implement House of Care. Another key informant explained that, for House of Care to work, administrative support would need to be provided as practices were already finding it difficult to deal with their current workloads:

Yeah, I think certainly, just the admin support side. And that's what the practice were even concerned about and they've got, well to my mind, they've got loads of admin support, and they were concerned. Whereas we have none. So it would be the admin support I think where, and the organisation of it, I think that's maybe where it falls down. Because we're here, there and everywhere, and even getting the time just to, that was what was good about it, you know, you'd certainly the time to sit and think and plan what would work. But, the support, uh-huh. It needs to be designated people to, to actually put whatever your plan is in place, from an admin point of view. To manage it all. And then admin to evaluate it too 'cause if it's, you know, there's no point in doing it and then you don't know whether it's actually, have people come? How have they found it? It's all that.

[AAA38]

Also, according to one key informant, supporting programmes like House of Care via short bursts of funding and via staff on short term contracts was not a solution. Other barriers to the implementation of House of Care discussed were problems with IT, and the facilitators having a background in secondary rather than primary care.

4.4.4 Sustainability and expansion

As House of Care has not been implemented, key informants were unable to answer any questions about its future sustainability and expandability.

4.4.5 Summary of House of Care

The implementation of House of Care was still in its early stages in NHS A&A. Although training workshops had been run, and were well received, there had been only sporadic progress since then.

4.5 Summary of Phase 2

The policy and literature review carried out alongside the Phase 1 and 2 work identified some key drivers for changes in primary care that were exemplified in some the transformation projects. More in-depth qualitative work across the four selected deep dives confirmed and expanded on the importance of these drivers and further explored the solutions and potential outcomes across the four new models of care.

5. Discussion

In this chapter, we bring together the findings from Phase 1 and Phase 2 of the evaluation in order to describe primary care transformation in NHS A&A, 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:

1. understand primary care transformation and the context in which new ways of working are being tested
2. identify the new ways of working models that are being tested in primary care
3. identify which models seem to be working well, and why; and which are not working so well, and why
4. identify new models of working for further exploration in the 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
6. develop a logic model to explicate what works, for whom and in what circumstances.

5.1 Phase 1 Findings

The scoping review in Phase 1 identified 12 tests of change in place in NHS A&A. These covered a range of services and initiatives including Advanced Nurse Practitioners, Musculoskeletal Physiotherapists, community-based optometry, pharmacy, and phlebotomy services; rehabilitation for multi-morbid patients; link workers/community connectors based in general practice; self-management for chronic disease; GP recruitment; and public information on health services.

Although different in terms of aims, primary care service setting and professional groups involved, it was possible to identify commonalities across the services. These commonalities were outlined in a preliminary logic model (Figure 5). From this, it was clear that a key input was the availability of **dedicated funding**, be that from the PCTF, the PCFMH, NHS A&A or the HSCPs. This funding allowed strategic development and planning around activities and outputs.

Key activities and outputs across these tests of change included: (i) **community engagement and information sharing**; (ii) **patient re-direction** to health care professionals other than GPs; (iii) **re-distribution** of first point of care workload; (iv) **development of professional roles**, especially for disciplines other than GPs; (v) **strategies to enhance GP recruitment**; (vi) provision of **services closer to patients**; and (vii) **changing skill mix**.

Table 7. Preliminary Logic Model for the A&A-specific tests of change (September 2018)

Inputs	Activities/Outputs	Outcomes	
		Short-term	Medium to Long-term
<i>Eyecare Ayrshire</i>			
£60,000 from PCTF Staff time – optometrists seeing patients Optometrists prescribing Pharmacists providing medications Practice staff redirecting patients to optometrists	Optometrists as first point of delivery Direct route of access for patients Re-direction from general practice by practice staff Publicity campaign Delivered across A&A	Patients been seen safely by optometrists and receiving appropriate medication, if required	Development of optometry care pathways with primary care Safe and acceptable first point of contact for patients with eye problems
<i>Pharmacy First</i>			
£90,000 from PCTF Buy-in from community pharmacies Recruitment of community pharmacies to the scheme Pharmacists prescribing	Pharmacists as first point of care for impetigo and UTIs Direct route of access for patients Developing publicity campaign Delivered across A&A	Ensure community pharmacies are signed up to provide the service Provision of treatment for impetigo and UTIs	Public awareness campaign Expansion of service to cover other minor ailments
<i>Link Workers/Community Connectors</i>			
£257,030 from PCTF and integrated Care Fund	Link work/community connector a new role in primary care teams Offer alternative care and signpost patients away from mental health services Provide on-going support for complex patients	Reducing waiting times for mental health	To be fully articulated
<i>HARP, Health and Active Rehab Programme</i>			
£168,000 annual costs met from Integrated Care Funds from the three HSCPs	Rehabilitation service close to patients’ location Offers rehabilitation to multi-	Continued individual improvements in patients participating in the programme	Influence at Scottish Government level, to expand the sustainable model of multi-morbid

	morbid patients Enhances practitioner confidence in providing care for multi-morbid patients	Scoping the possible role of the rehabilitation programme for people with diabetes	rehabilitation. NOTE: Key informant noted that it was difficult to assess the future because of the uncertainty of their funding situation
Community Phlebotomy			
£260,000 from the three HSCPs	Develop Standard Operating Procedures for service Establish hubs in large towns and peripatetic service elsewhere	Launch service early in 2018.	Not yet clearly articulated
House of Care			
Funding from The Alliance and other primary care funds	Workshops with staff have taken place	Encourage patient self-management	
GP Recruitment			
£200,000 from PCTF	Ran GP Engagement and Networking event Training website developed Filled GP with Specialist Interests Development Posts	Attract more GPs to Ayrshire	Retain new GPs in Ayrshire Increase GP capacity in Ayrshire
Stewarton Pilot			
£1221 from existing resources	Press releases and adverts in local press Children's poster competition Social media campaign	Change in community understanding of how to access primary care services	Change in community understanding of how to access primary care services More efficient use of primary care services

The application of a staging system to evaluate progress found that all but two of the tests of change were evaluated as 'Implemented', meaning that they were established and addressing their early outcome measures, such as redirecting patients to other community-based services. However, it was clear that most attention had been paid to establishing the services, with less attention paid to monitoring service throughput, or outcomes (whether for patients, the service itself or other parts of the A&A health system). The deep dives provided the opportunity to explore these issues in more detail.

5.2 Synthesis of Findings

The initial logic model and the review of policy documents highlighted the challenges facing primary care, not just in Scotland but internationally. The Five Year Forward View (NHS England, 2014a) and Transforming Primary Care (NHS England, 2014b) in England, as well as Scotland's 2020 Vision for health care (NHS Scotland, 2013) all acknowledged some of the key challenges facing health care delivery in the 21st century. These are shown in Figure 5.

The scoping review found that, while the rubric of 'primary care transformation' is often used in documents, there was a lack of clarity around its definition – beyond that of 'large-scale transformation across multiple sites' – meaning that health care organisations are free to interpret and implement 'transformation' according to local needs and contexts. Most of the identified literature came from the US, raising issues of transferability to the Scottish NHS, particularly in relation to physician reimbursement models. However, as Figure 5 demonstrates, there are commonalities across the international literature, and these are reflected in the solutions being tested in the NHS A&A tests of change. The solutions include:

- providing services closer to patients
- integration of services across primary and secondary care and across health and social care
- redirecting and redistributing work from general practice (and GPs) to other primary care providers and services
- developing and extending multidisciplinary team working
- extending and expanding professional roles
- increasing the use of information technology and mobile health solutions.

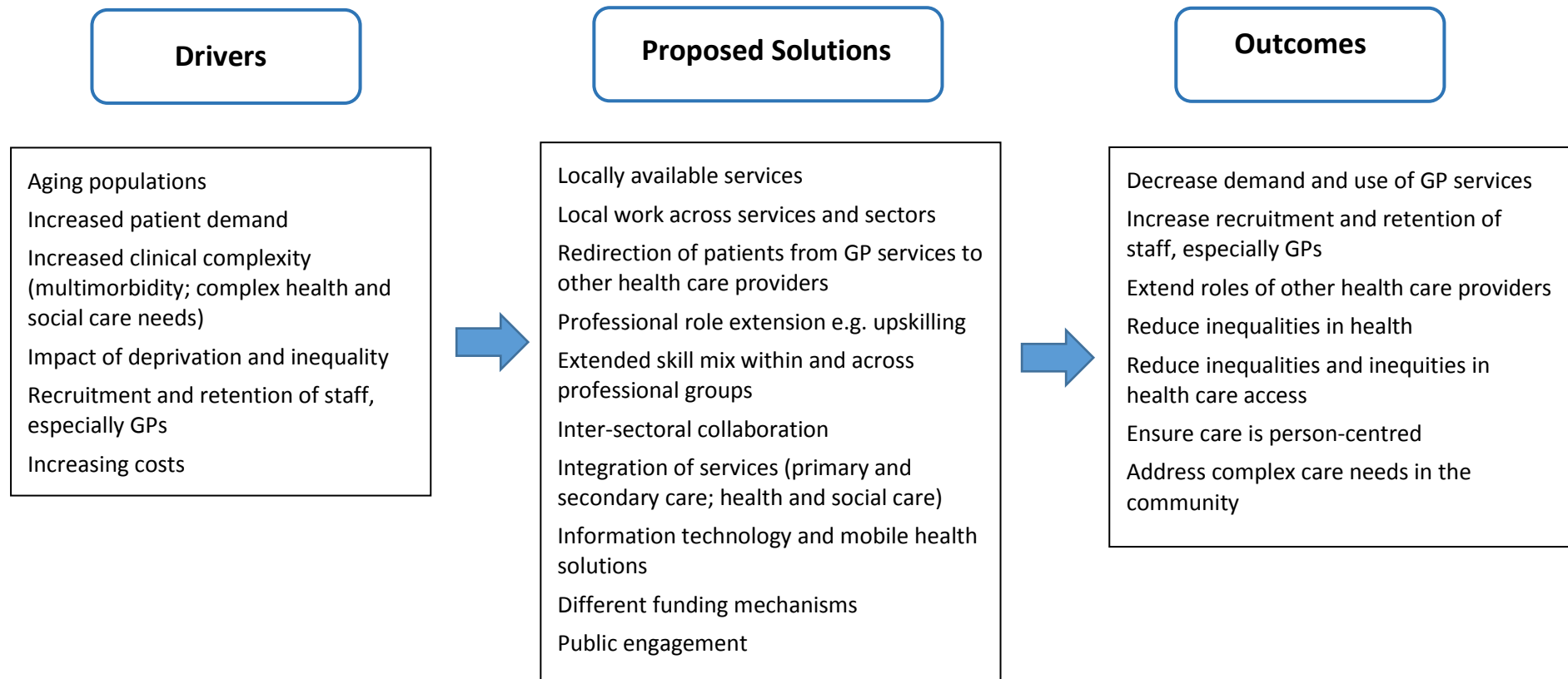
Figure 6 gives an overview of these solutions, together drivers and outcomes.

5.2.1 Barriers and facilitators

The evaluation of the deep dives identified some important barriers and facilitators to the implementation of these new ways of working. These mirrored the barriers and facilitators identified in the scoping review.

Dedicated funding was a crucial facilitator, enabling new services to be established. However, the funding sources were all short-term, ring-fenced monies for particular strands of work. The lack of long-term commitment to funding was, therefore, also a key barrier instilling uncertainty and hindered services from forward planning.

Figure 5. Drivers, proposed solutions and outcomes of primary care transformation



Building on **previous relationships** was a particular facilitator for both Eyecare Ayrshire and Pharmacy First. Staff drew on the local knowledge and relations with GP practices to bring practices on-board and reassure them about the services being developed.

Time for staff to learn about the service was also important and facilitated **staff confidence**. This was both for staff working within the service (e.g. as exemplified in HARP) and for general practice staff faced with redirecting patients to a new service.

Development of IT to support information sharing across services was also important. This required time and relied on **interoperability** across services.

There was a **lack of monitoring data** across services, particularly in relation to **outcomes**. The time needed to ensure that services were 'up and running' was potentially part of the reason for this. However, with the exception of HARP, which had built in its own evaluation from the beginning, most services had not fully addressed what kind of data they should collect nor how. It may be that, going forward, a **central resource** is required from NHS A&A to provide this support.

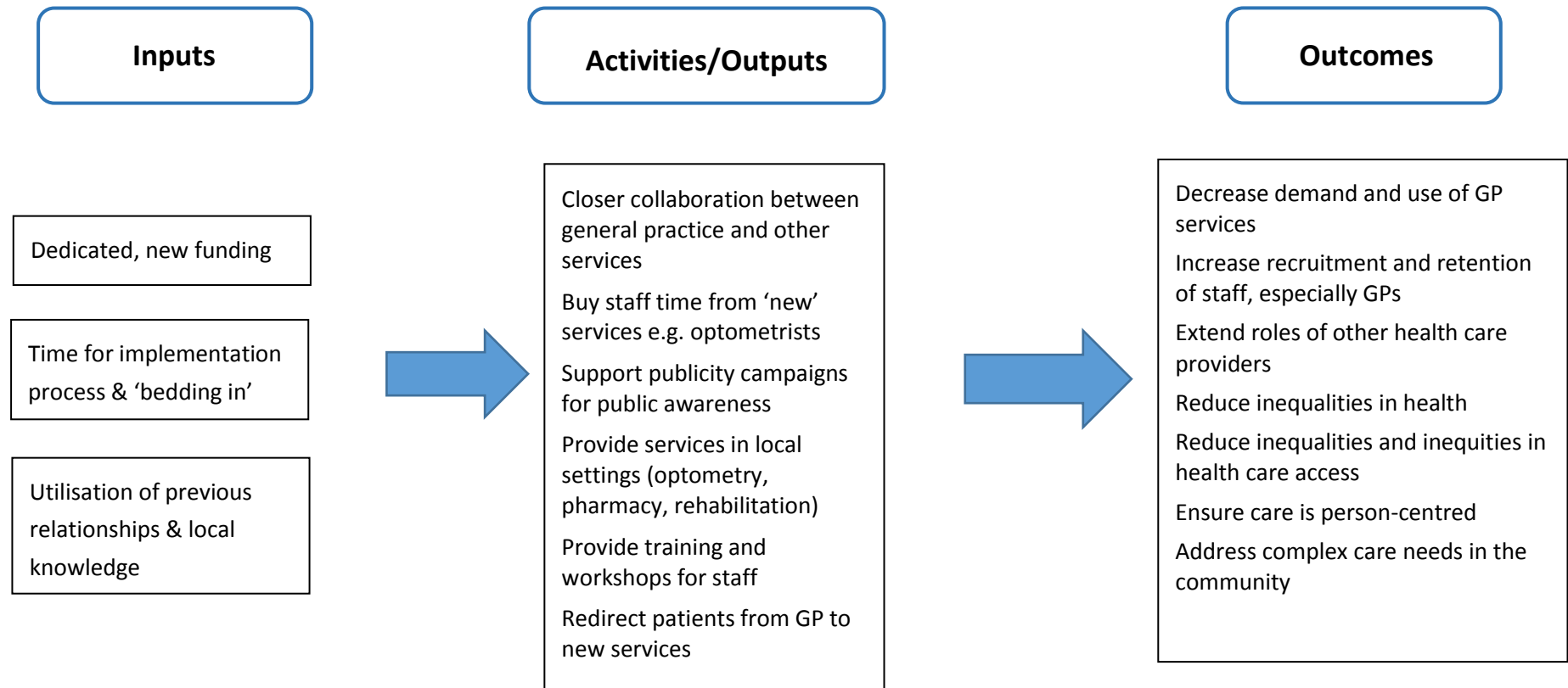
These barriers and facilitators are not new. Many evaluations of large scale NHS implementation have identified similar issues. Examples include the evaluation of NHS 24 (Heaney et al., 2005, Haddow et al., 2007); Keep Well (Mackenzie et al., 2012, O'Donnell et al., 2012); the Whole System Demonstrator project in England (Sanders et al., 2012); and the implementation of IT solutions to support health and wellbeing in the community across multiple sites in the UK (Devlin et al., 2016, Lennon et al., 2017). However, there is now a need to think about how to use these recognised facilitators to overcome the barriers identified here and elsewhere.

5.3 Revised Logic Model for NHS Ayrshire & Arran Tests of Change

Figure 6 outlines a revised logic model for the tests of change. As well as funding, other key inputs were adequate time to plan and implement the model and draw on the strength of previous relationships and local knowledge to bring others on board, notably general practices.

A range of activities and outputs have been identified across the tests of change; they are well established across A&A. Attention now needs to be given to monitoring these activities in a way that is timely, reliable and can be shared across systems. Key learning from this case study are that there needs to be a clearer articulation of the timescales required to ensure that there are impacts on the stated outcomes; however, that also requires both time and funding. Finally, there needs to be more attention paid to the identification of 'success indicators' and consideration given to the mainstreaming of services into the health system of A&A, rather than relying on recurrent, ring-fenced funding.

Figure 6. Revised logic model for tests of change in NHS Ayrshire & Arran



5.4 Strengths and Limitations

5.4.1 Strengths

- This evaluation adopted multiple methods including an analysis of the international literature on primary care transformation; analysis of 115 national and NHS A&A policy documents; and 35 qualitative interviews (14 in Phase 1, 21 in Phase 2) with key informants at three levels: health board programme managers; staff involved in the new models of care; and general practice staff.
- The evaluation process had good engagement with key informants in both Phase 1 and Phase 2 with the majority of those approached taking part in the interview process.

5.4.2 Limitations

- It was too early to evaluate impacts and sustainability given the short timeframe of this evaluation in relation to the implementation of the tests of change.
- It lacks data on patient experience and perceived impacts of these new ways of working.
- There was no engagement with general practices who did not participate in the tested new models of care and low uptake in relation to the House of Care model; 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.

5.5 Key Learning and Recommendations

Overall, our findings resonate with the existing literature on primary care transformation, particularly 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 (please see Box G1 on page G-4 for a summary of key learning from the Health Foundation and the King's Fund evaluation of new models of care in England (Starling, 2017, The King's Fund, 2016, The King's Fund, 2018)). The barriers and facilitators identified during the implementation journey resonate with those from other national evaluations of service change.

Support for data collection, extraction and analysis was required, all of which required robust IT systems to capture activity in single services and allow sharing of information across services.

There is a need to continue to evaluate primary care transformation journeys over the next five to ten years in order to measure their actual impacts, sustainability and spread.

Key Recommendations

- Longer-term dedicated funding would impact positively on forward planning and future **sustainability**.
- Tests of change with **perceived early impacts on improving access** should target three levels: **people** (public information/engagement campaigns), **workforce** (capitalised on previous relationships/ developments and invested in staff engagement, training and support) and **system** (dedicated funding and staff time).
- Support for **data collection, extraction and analysis** is required for **evaluation**.

- **Robust IT systems** are required to **capture activity in single services** and allow **sharing of information** across services.
- 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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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.

A.1 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.



Figure a.1. Phases of evaluation framework

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**.

A.2 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.



Figure a.2. SSPC collaborative teams

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.

APPENDIX B – Ethical Approval



21st June 2017

Dear Professor O'Donnell.

MVLS College Ethics Committee

Project Title: Evaluation of New Models of Care: NHS Ayrshire and Arran

Project No: 200160144

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

A handwritten signature in black ink, appearing to be 'JD' with a stylized flourish.

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

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PARTICIPANT INFORMATION SHEET

1. Study title

Evaluation of New Models of Care: NHS Ayrshire & Arran

2. Invitation paragraph

You are being invited to take part in the NHS Ayrshire & Arran 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 Ayrshire & Arran. The study will involve two phases. The **first phase** aims to identify the range of transformation projects in Ayrshire & Arran, 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 Ayrshire & Arran. 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 Ayrshire & Arran. 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 Ayrshire & Arran, 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 receive 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 Ayrshire & Arran 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 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!

APPENDIX D – Consent form



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

Participant Identification Number:

GU Project R&D No: 77015

CONSENT FORM

Title of Project: Evaluation of New Models of Care: NHS Ayrshire & Arran

Name of Researcher(s):

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.

☐

Name of subject

Date

Signature

Name of subject

Date

Print Name

(if telephone interview)

Researcher

Date

Signature

(1 copy for subject; 1 copy for researcher)

APPENDIX E – Interview Topic Guide



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

Evaluation of New Models of Care: NHS Ayrshire & Arran Interview Topic Guide

Thank you for agreeing to meet with one of our researchers to discuss your views and experiences of the implementation of new models of care in NHS Ayrshire & Arran. This study is being conducted in two phases.

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

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.

During these interviews, we would like to discuss some, or possibly all, of the following issues – depending on your role and knowledge of activities:

- What prompted Ayrshire & Arran to bid for funding, including from the Primary Care Transformation Fund/Primary Care Mental Health Transformation Fund?
- What projects have been developed and why did you choose to fund these?
- Do these projects build on previous work or are they entirely new ways of working?
- What do you think are the aims of primary care transformation nationally?
- What do you think are the aims of primary care transformation locally?
- Who have you had to engage with in order to develop and deliver these projects?
- What are the expected outcomes/impacts of new models of care in Ayrshire & Arran? In what timescales (short, medium and long-term)?
- How will these outcomes/impacts be measured? Do they require existing or new data? How will the data be collected and by whom?
- What are the resource implications of these projects? Now and in terms of sustainability.
- Are there plans for local evaluation and, if yes, by whom?
- What is your relationship with the local projects? And with national stakeholders?
- Are there plans for identifying 'success' and sustainability?
- Who are the key stakeholders in terms of future sustainability and spread?

Phase 2: Impacts. Learning, Spread and Sustainability.

During these interviews, we would like to discuss some, or possibly all, of the following issues – depending on your role and knowledge of activities:

- Can you describe your project and your role within it?
- Who are the key stakeholders in your project?
- Is this based on current ways of working or is it a new way of working?
- What has been achieved to date, e.g. in terms of setting up; patient/participant throughput; development of outcome measures?
- Has that varied much from the intentions at the start of the project?
- Has the project changed much over time? If yes, how?
- Have there been any unintended consequences (positive and negative)?
- Who have you had to engage with in order to develop and deliver this project?
- Have you developed a local evaluation – if yes, can you tell me more about it? What data are being collected? Have you defined measures of ‘success’ or ‘sustainability’?
- What is your relationship with (a) the Health Board; (b) national Government?
- What are the resource implications of these projects? Now and in terms of sustainability.
- How sustainable is your project in the long-term? What do you need to maintain that?
- How does this project fit into the wider health system of Ayrshire & Arran?

APPENDIX F – 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 F.1).

BOX F.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.

OVID and EBSCOHost were searched to identify relevant publications from 1996 to 19 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 carried out focused only on titles.

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

F.1 Screening of identified publications

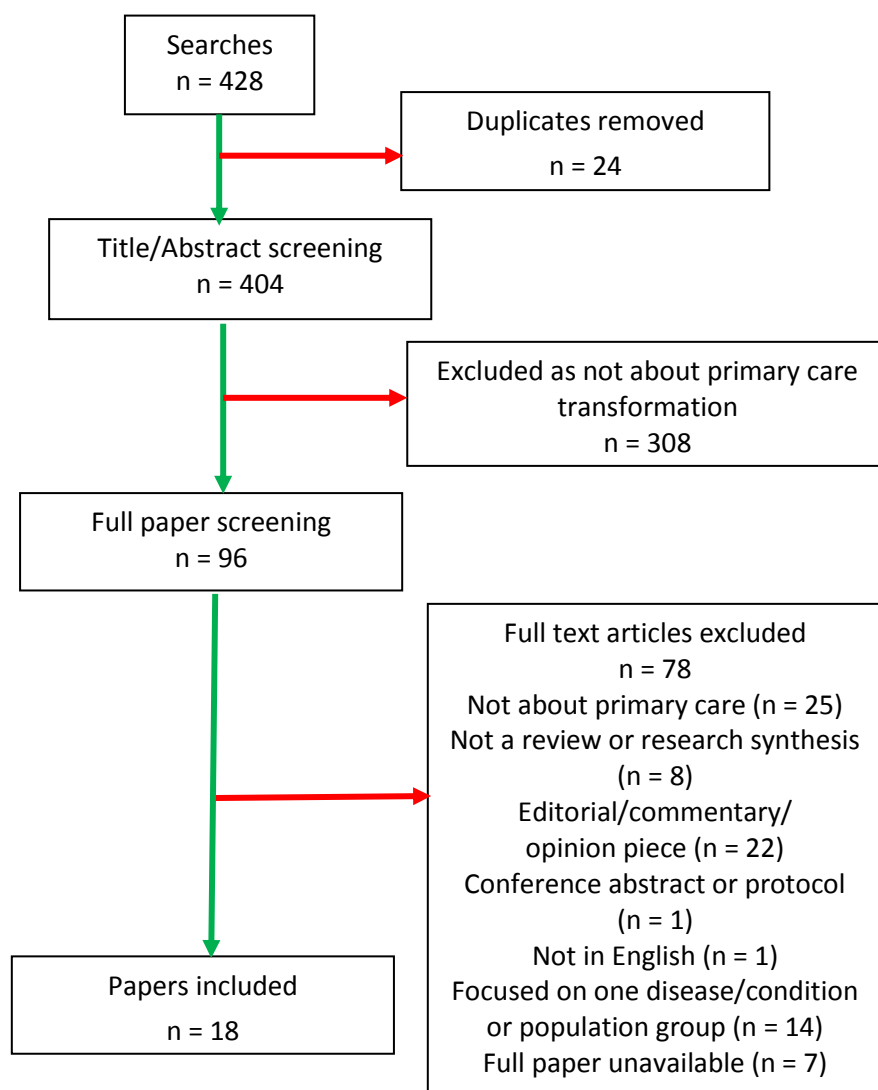
A total of 428 papers were identified, and downloaded to Endnote for final duplicate checking. Following removal of 24 duplicates, 404 papers imported into DistillerSR software for screening. Screening was conducted by two team members (SD and COD). Inclusion and exclusion criteria are described in Box F.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 F.1.

BOX F.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 F.1: PRISMA diagram of the results of searching and screening



n = number

F.1.1 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.

F.1.2 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.

Table F.1 Search strategies (shaded rows included in final database of papers)

	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

Table F.2 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	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	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.

						to outline options for evaluation.	contributing to change) through a wide range of different mechanisms.	
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	Lack of qualitative data in the literature to clarify context of innovations. Also a lack of information relating to longer-term sustainability or dissemination.

							<p>identified recent innovations which attempted to fundamentally transform the existing practice, with transformation being defined as a change in practice members' governing variables or values in regard to their workforce role.</p> <p>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.</p>	
82	Janami et al. Medical Journal of Australia	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,	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;	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

	a, 2014.					topical in current Australian primary care reforms.	challenges with funding and appropriate payment models; insufficient resources and infrastructure within practices; and inadequate measures of performance.	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 reviewers were used per paper.
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	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.

							<p>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 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.</p>	
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	<p>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</p>	<p>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</p>

						obstacles.	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 to PCMH transformation.	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.
117	Bitton et al. Milbank Quarterly, 2012.	Qualitative	5 practices	PCMH Initiative, Massachusetts, 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	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.

							change in a short time period, and the challenges of sustaining it.	
149	Ralston et al. Medical Care Research and Review, 2009.	Mixed methods	12 Group Health Leaders interviewed. 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 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.	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.
150	Nutting et al. Annals of Family Medicine,	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	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	Analysis for this study was incomplete, and reported findings were early lessons in advance of planned the mixed methods research.

	2009.					facilitated assistance to practices, compared to controls who were in self-directed group, in supporting the transformation.	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 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	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.

							patients in decision making).	
199	Maeng et al. American Journal of Managed Care, 2012.	Retrospective claims data analysis	26,303 members from 43 Proven Health Navigator (PHN) clinics	ProvenHealth 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 0.3-3.0) and 1.0 (95% CI 0.1 to 2.0), respectively.	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 enrollees of a single managed care organization.
244	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,	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.

			social workers, physicians, occupational therapists, physician assistants, nurse practitioners, nurses and pharmacists					
247	Karlin & Karel. The Gerontologist, 2014.	Questionnaire/Survey	132 mental health providers, representing 119 HBPC programmes; 112 programme directors	HBPC, Veterans' Health Administration, USA	Not stated	To examine the nature and extent to which MH care processes and practices have been integrated into HBPC nationally. Specifically, the aims of the current evaluation are to characterize (a) the MH issues identified and addressed in HBPC; (b)	The most common clinical issues addressed by MH providers were depression, coping with illness and disability, anxiety, 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	Not stated. RR unclear.

						<p>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.</p>	<p>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.</p>	
306	Desmeules et al. BMC Musculoskeletal Disorders, 2012.	Systematic review	16 papers	International	N/A	<p>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.</p>	<p>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 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</p>	<p>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.</p>

							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 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.	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.

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-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	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.
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							<p>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.</p>	
394	<p>Boult et al. Journal of the American Geriatric Society, 2009.</p>	Systematic Review	123 papers	International	N/A	<p>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.</p>	<p>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.</p> <p>Benefits of models included: interdisciplinary primary care; care</p>	<p>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.</p>

							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.	
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APPENDIX G – 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 USA (Stewart et al., 2010, Hoff et al., 2012, Jackson et al., 2013); Patient-Centred Medical Homes (PCMH) in Australia (Janamian et al., 2014); 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, 2016, The King’s Fund, 2018).

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.

G.1 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 PCTF to support the redesign of primary care services in Scotland was in line with the previous 2020 Vision for health care in Scotland, which mapped out a route map for primary care (NHS Scotland, 2013).

As illustrated in Table G.1, 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 G.1 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 healthy, independent and out of hospital. Will initially target people with the 'most complex needs'	<p>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.</p> <p>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.</p> <p>System level. Removal of organisational barriers. More funded 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</p>

		care.
(NHS England, 2014a)	<p>To improve prevention and public health.</p> <p>To ensure patients have greater control over their own care.</p> <p>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.</p>	<p>System level.</p> <p>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.</p> <p>Primary and Acute Care Systems: integration of hospital and primary care providers, similar to Accountable Care Organisations in other countries.</p> <p>Redesign of urgent and emergency care services to integrate A&E, GP out-of-hours, urgent care services, NHS 111 and ambulance services.</p> <p>Increased support for frail older people living in care homes.</p>
(NHS Scotland, 2013)	<p>To continue to provide high quality health and care services for the people of Scotland.</p>	<p>System level.</p> <p>Increase the role of primary care, including implementation of a new GP contract and new models of 'place-based' care, including for remote areas.</p> <p>Integrate health and social care services.</p> <p>To improve delivery of unscheduled and emergency care.</p> <p>To improve support and care for people with multiple and chronic illnesses.</p> <p>To reduce health inequalities by targeting resources to the most deprived areas.</p>
(Scottish Government, 2016)	<p>To provide high quality health care to the people of Scotland, build on collaboration not competition.</p>	<p>System level.</p> <p>Promote planning and delivery of primary care services around individuals and their communities.</p> <p>Plan hospital networks at a national, regional, or local level based on a population paradigm.</p> <p>Provide high value, proportionate, effective and sustainable healthcare.</p> <p>Promote transformational change supported by investment in e-health and technological advances.</p>

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 (The King’s Fund, 2016, Starling 2017, The King’s Fund, 2018). 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 G.1. 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 G.1 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 2016, Starling et al, 2017, The King’s Fund, 2018).

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.

G.2 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 H.

G.2.1 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, 2012).

A common element in the differing definitions, regardless of setting, is that primary care transformation involves change that is ‘profound’ (Quinn et al, 2013), ‘significant’ (Janamian et al, 2014), ‘dramatic’ (Gold et al, 2017) or ‘epic’ (Nutting et al, 2009). Transformational change is further defined as being ‘intended’ and ‘coordinated’ across the setting, and as ‘systematic’ in nature (Lee et al, 2012; Best et al, 2012) rather than ‘a series of incremental changes’ (Janamian et al, 2009). 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., 2014). It is, therefore, regarded as a radical change from practices that have become routine or are historic (Janamian et al, 2014; Lee et al, 2012). Nutting et al describe ‘replacing old patterns and processes with new ones’ in the context of primary care practices in the USA transforming into PCMH (Nutting et al, 2009). Practices and processes targeted by transformational change can include the roles and responsibilities of staff (Friedman et al, 2014; Quinn et al, 2013; Carter et al, 2016), relationships, culture, mind-set (Gold et al, 2017); increasing patient-centeredness (Janamian et al, 2014; Akincini & Patel, 2014; Ralston, 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, 2012)

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, 2012; Gold et al, 2017; Carter et al, 2017; Akincini & 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, 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., 2012)

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).

G.2.2 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, 2014) - have been a key driver of primary care transformation. The ageing population has placed growing strain on primary care services (Friedman et al, 2014; Smith-Carrier et al, 2015; Desmules 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 (Bradley & Karel, 2014) 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, 2013).

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 (Akincini & Patel, 2014; Ralston, 2009; Boulton et al, 2009), in particular, the fragmented nature of services was cited as contributing to patients suffering and losing faith in the system (Akincini & Patel, 2014). Overall quality of care was also reported to be poor (Ralston, 2009; Maeng et al, 2012), with the focus on acute care meaning the system was not sufficiently prepared to care for chronic illnesses (Boulton et al, 2009; Lee et al, 2012). Best et al (2012) 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 (2014) 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, 2014)

Other workforce issues such as staff shortages have also lead 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, 2014; 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 2014; Lee et al, 2014). In Canada, provincial governments have funded projects to guide policy initiatives (Best et al, 2012). 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 PCTF. Furthermore organisations such as the Institute of Medicine - with its six quality aims - (Akincini et al, 2014; Ralston, 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 USA, while debates and controversy have surround the introduction of legislation at a national level (e.g. Patient Protection and Affordable Care Act (Akincini & Patel, 2014)), some reform has occurred via the spread of the PCMH model (Akincini & 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, 2012); an increasing body of evidence to support the model (Janamian et al, 2014; Maeng et al, 2013); a recognition process administered by the National Committee for Quality Assurance (Maeng et al, 2013; Nutting et al, 2013); and collaborations within and between states (Maeng et al, 2013). Bitton et al's (2012) 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, 2014).

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, 2014)

G.2.3 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., 2009, Bitton et al., 2012, Quinn et al., 2013), including systematic reviews exploring this model of care (Akinci & Patel, 2014, Janamian et al., 2014). 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 & Patel, 2014). For patients, the aim is to provide comprehensive, continuous, patient-centred, team-based care delivered within patients' communities (Quinn et al., 2013), there are different mechanisms being implement to achieve this. These are discussed more fully in 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 ProvenHealth Navigator model in the US (Maeng et al., 2012, Maeng et al., 2013).

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

G.3 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 G.2). 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., 2009, Bitton et al., 2012, 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 of previous relationships with other service providers (Nutting et al., 2009).

Table G.2 Models of Care and Underpinning Mechanisms Identified from the Scoping Review.

ID	Citation	Model of care	Mechanisms identified
14	Lee et al. Medical Care Research & Review, 2012.	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.

			<p>Develop a change management strategy of continuous evaluation and course.</p> <p>Use targeted data collection pertinent to integrated care to drive improvement and impart accountability.</p>
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.	<p>Characteristics of Workforce Innovation</p> <ol style="list-style-type: none"> 1. Add staff to existing practice 2. Retain or redesign existing practice 3. Develop role outside traditional practice <p>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.</p> <p>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.</p>
82	Janamian et al. Medical Journal of Australia, 2014.	Review of the PCMH approach.	<p>Approaches utilised in the implementation of the PCMH included:</p> <p>Increased focus on patient-centeredness in the design and delivery of services.</p> <p>Payment reform for physicians and practices.</p> <p>Increased role for external facilitators and experts to support staff training and service redesign.</p> <p>Increased/Improved use of IT and ehealth, e.g. electronic health records.</p> <p>Significant investments in terms of finances, training, equipment, staff time.</p>

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	Evaluation of the Access Initiative, implemented by Group Health on North-	Implemented five major changes to health care delivery systems: Offered a patient Web site providing patient access to patient-physician

	Research and Review, 2009.	western US to improve patient-centred access to care.	<p>secure e-mail, portions of their electronic medical records (EMRs), and to health promotion information.</p> <p>Offered advanced access to primary physicians – this could be through a website or by telephone.</p> <p>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.</p> <p>Removed primary care gatekeeping function by offering Group Health members direct access to hospital-based specialties. Members could make their own appointments to 16 different specialties without primary care doctor referral.</p> <p>Aligned primary physician compensation through new incentives for patient satisfaction, productivity, and secure messaging with patients.</p>
150	Nutting et al. Annals of Family Medicine, 2009.	Early evaluation of the PCMH approach across a number of US sites.	<p>Transformation to a PCMH required a continuous, unrelenting process of change, with old patterns and processes of practice replaced by new ones. Approaches included:</p> <ul style="list-style-type: none"> 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. <p>There were multiple pathways toward the PCMH and evidence of local variation, which was highly dependent on initial conditions at the local</p>

			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.	<p>PHN model of care consisted of five core components:</p> <ol style="list-style-type: none"> 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.	<p>HBPC teams provided urgent and ongoing routine primary care to frail older adults within their delineated geographic boundaries.</p> <p>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.</p> <p>Teams were partnered with an embedded home care coordinator (HCC) from the regional home care organization.</p> <p>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).</p>

			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 (HBPC) teams, US.	The HBPC Mental Health initiative involved the placement of a full-time, doctoral level mental health provider (typically a 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

			<p>multidisciplinary team-based care and improve chronic disease management.</p> <p>Approaches that were implemented included:</p> <p>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.</p> <p>In Ontario, payment reforms were the main changes, with the creation of Family Health Teams that operated within specific new payment models.</p>
394	Boult et al. Journal of the American Geriatric Society, 2009.	Systematic review of models of comprehensive care for chronically ill older people.	<p>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.</p> <p>However, there was little detail on the approaches or mechanisms in place to deliver these new models of care.</p>

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.

G.3.1 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., 2009, Ralston et al., 2009, Bitton et al., 2012, Desmeules et al., 2012, Akinci & Patel, 2014, Friedman et al., 2014, 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., 2014). 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 USA 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 diverse group of patients is not ‘transformation’.

G.3.2 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., 2012). 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 (Nutting et al., 2009, Ralston et al., 2009, Janamian et al., 2014, Bitton et al., 2012, Smith-Carrier et al., 2015). 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., 2012), 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., 2009). 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., 2012). There was therefore great potential to improve these technologies in order to realise its full benefits in transforming primary care.

G.3.3 Changes to funding systems and physician reimbursement

Several studies, particularly those published in the USA, 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., 2012). 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.

G.3.4 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., 2009). 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 (Nutting et al., 2009, Bitton et al., 2012, Ralston et al., 2015).

G.4 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.

G.4.1 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).

G.4.2 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 (Best et al., 2012).

G.4.3 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 was said to set 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).

G.5 Facilitators to ‘Transformation’

G.5.1 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).

G.5.2 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).

Inter-professional 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).

G.5.3 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 resources 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).

G.6 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 USA 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 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 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 H – PHASE 1 DETAILED FINDINGS

The findings of this chapter are based on a **review of 115 documents and 14 interviews with key informants**. For the purpose attributing views and quotes in reporting the study findings, each key informant is coded as AAA with a unique numerical identifier (e.g. AAA17).

The reviewed documents related to primary care transformation and new ways of working in A&A. They included Strategic and Delivery Plans; reports and presentations relating to primary care transformation and individual new ways of working; minutes of meetings, and early results of data collection and evaluation efforts.

A researcher conducted 13 interviews during face-to-face meetings and 1 by telephone. If further information or clarification was required, key informants were followed-up by telephone and/or email.

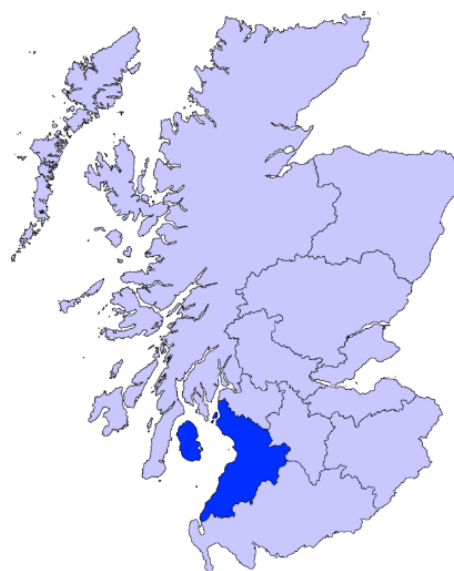
H.1 Context

NHS A&A is located in south-west Scotland, stretching from Skelmorlie in the north, to Balantrae/Barhill in the south and to New Cumnock in the east. The islands of Arran and Cumbrae fall within the health board area.

WITH A POPULATION OF 370,000, IT IS A MIX OF RURAL AND URBAN COMMUNITIES. WITHIN A&A, THERE ARE ECONOMIC AND HEALTH INEQUALITIES, WITH AREAS OF MAJOR DEPRIVATION LOCATED NEXT TO AREAS OF RELATIVE AFFLUENCE.

(Source: ISD Scotland, 2018)

Figure H.1. Map of Ayrshire & Arran



(the area of A&A is highlighted in royal blue)

Projections suggest that between 2014 and 2039 the population will grow, however the increase of 1.5% is below the expected growth in the Scottish population of 6.6%. The working age population in A&A is projected to fall by 13% by 2039 while the population of 0-15 year olds is expected to fall by 11%. Both figures represent the joint second highest decline for these age groups across Scotland. Life expectancy rates across A&A (2013-2015) were 76.61 years for males and 80.44 years for females, both below the average life expectancy of the Scottish population as a whole.

Figure H.2 Ayrshire & Arran Council Areas



A&A WORKS IN PARTNERSHIP WITH THE COUNCIL AREAS FOR NORTH, EAST AND SOUTH AYRSHIRE (FIGURE H.2).

AN ANALYSIS OF A NUMBER OF COMMON GENERAL PRACTICE ACTIVITIES (PRESCRIBING, CONSULTATIONS AND LABORATORY TESTS) WAS UNDERTAKEN IN A&A IN 2016 AND REPORTED IN THE EAST AYRSHIRE HEALTH AND SOCIAL CARE PARTNERSHIP, PRIMARY CARE AND OUT OF HOURS COMMUNITY RESPONSE SERVICE: SERVICE IMPROVEMENT PLAN 2017/18 (HEREAFTER CALLED THE SERVICE IMPROVEMENT PLAN 2017/18).

The findings from this analysis reflected many of the similar pressures which were outlined in the 2016 national report (Scottish Government, 2016b). These included:

- 31% increase in acute “new” prescriptions between 2010-2015
- 22% increase in the rate of consultations per 1000 patients between 2011-2015
- 13% increase in average annual rate of laboratory test results processed (main test types) between 2013-2015.

This care is under pressure, largely due to the changing demographics of the population (see 4.1.1), advances in treatments and increasing public expectation (Burkitt et al., 2018). The A&A Local Medical Committee (LMC) and GP Sub Committee identified in ‘General Practice in A&A: A Vision for Change 2015’ challenges including providing a universal, holistic, demand-led service and responding to shifts of care away from hospitals. At the same time funding for primary care as a share of the overall NHS budget reduced every year, from 8.3% to just over 7.5% between 2010/11 and 2015/16 (BMA, 2016). The funding position has been compounded by a significant workforce crisis, with recent figures showing one in four of A&A GP practices having a vacancy, 15% of the local GP workforce being over 50 years and 20% over 55 years of age (BMA Scotland, 2018). Looking to the future, the 2017-18 budget commitment by the Scottish Government to increase general practice spending in Scotland to 11% of the NHS budget by 2021 will see a significant increase in the level of funding when compared with previous (Millett, 2016).

H.1.1 Population demographics

According to ISD Scotland, all three local authority areas have an ageing population, with the population aged 60 years and over higher than the Scottish average for each local authority (ISD, 2018). This coupled to a decreasing birth rate in both North and East Ayrshire and life expectancy in all three geographical areas being lower than the Scottish average, means that the population projections from 2012 to 2037 for each area show a decline of 8.8%, 2.4% and 7.1% for North, South

and East Ayrshire respectively. This is compared to a population increase of 8.8% for Scotland as a whole, over the same period.

This change in population demography is accompanied by the twin problems of deprivation and accessibility.

In 2016, North Ayrshire was the most deprived of the three local authority areas, with 37.6% of its datazone areas classified as being in the 20% most deprived areas in Scotland; South Ayrshire was the least deprived, with 18.3% of its datazones classified as the most deprived (ISD, 2018). This is reflected in the national rankings of the 32 local authority areas in Scotland by deprivation. North Ayrshire is the fourth most deprived; East Ayrshire sixth; and South Ayrshire twelfth.

In relation to accessibility, using the Scottish Government's Urban/Rural classification, all three local authorities have significant areas of rurality, particularly South and East Ayrshire (ISD, 2018). North Ayrshire is the most urban of the three authorities.

It is these demographic, socioeconomic and geographic challenges that make finding new ways of organising and providing primary care services necessary across A&A.

H.1.2 Health and Social Care Partnerships/Integration Joint Boards and primary care organisation

Each of the three local authorities has a Health and Social Care Partnerships (HSCP) and Integration Joint Boards (IJB). The IJBs oversee the commissioning of services, while the HSCPs deliver those services in each geographical area. However, a number of services are delivered on a pan-Ayrshire basis. Such services are delegated to a lead partnership, which manages and provides professional leadership on behalf of the other partnerships (East Ayrshire Health and Social Care Partnership, 2015; North Ayrshire HSCP, 2016). The services for which North Ayrshire HSCP acts as lead partnership are (East Ayrshire Health and Social Care Partnership, 2015):

- Mental Health Inpatients Services (including Addictions)
- Psychiatric Medical Services
- Eating Disorders
- Forensic
- Crisis Resolution and Home Treatment Team
- Liaison (Adult, Elderly Learning Disabilities and Alcohol, ANP services)
- Learning Disabilities Assessment and Treatment Services
- Child and Adolescent Mental Health Services
- Psychology Services
- Family Nurse Partnership
- Community Child Health, Immunisation and Infant Feeding Service.

South Ayrshire HSCP is the lead partnership for (East Ayrshire Health and Social Care Partnership, 2015):

- Allied Health Professionals
- Community Continence Team
- Telehealth and United for Health and Smartcare European Programme and workstreams.

East Ayrshire HSCP acts as lead partnership for (East Ayrshire Health and Social Care Partnership, 2015):

- health
- primary care (General Medical Services, General Dental Services, NHS Ayrshire Doctors on Call, Area Wide Evening Service (Nursing), and Prison Service and Police Custody services.

A key requirement of integration legislation is for all HSCPs to incorporate locality planning into their strategic and delivery plans – ensuring that the unique needs and characteristics of each local area are understood and take into account in decision making (Milliken, 2016). A range of stakeholders is involved in such planning including the public. In order to meet this aim, each Ayrshire HSCP has defined a number of localities within its geographic boundary. North Ayrshire has six localities – Arran; Garnock Valley; Irvine; Kilwinning; North Coast and Cumbrae; and Three Towns (North Ayrshire Health and Social Care Partnership, 2016). There are also six localities within South Ayrshire - Troon and Villages; Ayr South and Coylton; Ayr North and Former Coalfield Communities; Maybole and North Carrick Villages; Girvan and South Carrick Villages (South Ayrshire Health and Social Care Partnership , 2016). Three localities have been established in East Ayrshire – Kilmarnock; Northern (Annick and Irvine Valley) and Southern (Ballochmyle, Cumnock and Doon Valley) (East Ayrshire Health and Social Care Partnership, 2015).

A&A, as the overarching Health Board, is responsible for community and primary care health services. 'Primary care' refers to the four independent contractors which provide the first point of contact for people with the NHS. These contractors are general practitioners, community pharmacists, optometrists and general dental practitioners. 'Out-of Hours'(OOH) refers to services provided beyond the common working pattern of 9.00 am to 5.00 pm and includes both primary care health and social work OOH services.

As of April 2017, there are almost 300 GPs working in 55 GP Practices across A&A with a registered practice population of 385,007. This includes one practice each on the islands of Arran and Cumbrae (NHS Ayrshire & Arran, 2017a).

There are also 70 dental practices. More than 160 general dental practitioners providing NHS dental services at more than 70 sites, including Arran. Ninety-eight community pharmacies provide a range of pharmaceutical services, including minor ailment services and public health services, across A&A. Sixty optometry practices providing services ranging from NHS eye tests to diabetic retinopathy screening and cataract follow-up across mainland Ayrshire, Arran and Cumbrae, with seven practices providing care in people's homes.

The Managed Dental Service also offers accessible dental care to local residents who have not yet registered with a general dental practitioner or who require more care, time and support to benefit from dental treatments. These services are offered from Access Centres at Ayrshire Central Hospital in Irvine, Miller Road Clinic in Ayr and North West Kilmarnock Area Centre, as well as from a range of community-based facilities across the mainland and from two facilities on Arran.

Finally, OOH primary medical care is provided by NHS Ayrshire Doctors on Call (ADOC).

H.2 Primary Care Transformation in Ayrshire & Arran

H.2.1 Infrastructure and vision

A key initiative, which has underpinned much of the work and strategic thinking apparent in A&A, is the NHS Ayrshire & Arran Transformational Change Improvement Plan 2017-20, which lays out the vision and objectives for health and social care in A&A. According to this, NHS A&A's local health and wellbeing framework: *"provided a strategic overview with a locally relevant interpretation, describing how NHS Ayrshire & Arran would work towards the 2020 Vision, linking the various strategies and programmes into an overarching strategic framework"* (NHS Ayrshire & Arran 2017c, p. 6). NHS A&A has acknowledged this framework, which has more recently been expressed in the Health and Social Care Delivery Plan (2016), and has planned transformational change that will deliver health and social care designed to meet the needs of the local population (p. 7).

The Transformational Change Improvement Plan 2017-20 was also influenced by several national documents:

- National Clinical Strategy 2015
- NHS Scotland Quality Strategy and 2020 Vision
- Realistic Medicine 2015; Pulling Together – transforming urgent care for the people of Scotland 2015
- Scottish Government's Outcomes for Primary Care
- NHSAA Transformational Change Improvement Plan 2017-20

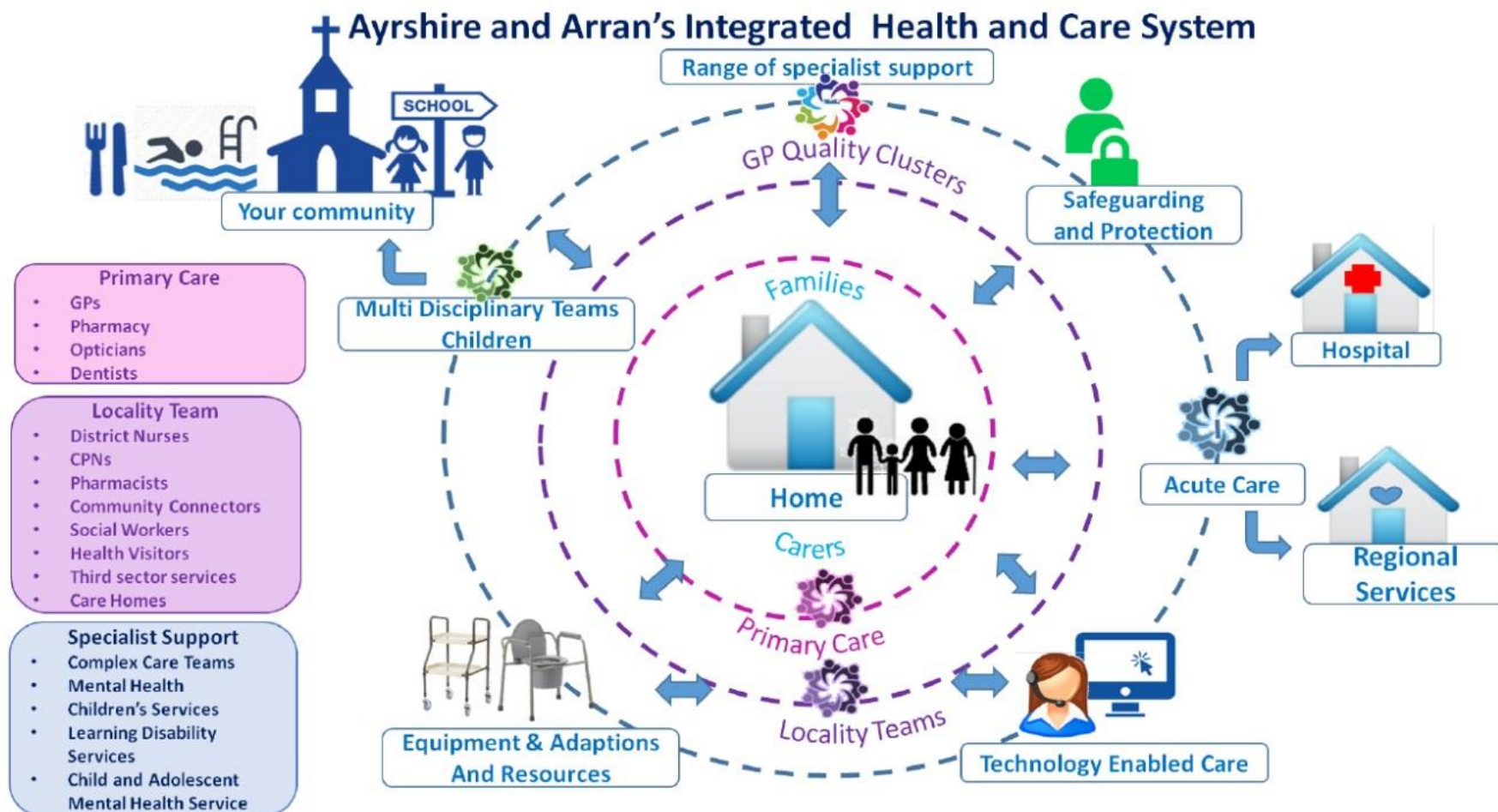
These strategies posit a future NHS which integrates health and social care; provides care as close to the patient as possible (dependent on health need and geography); and focuses on prevention, anticipatory care and supported self-management. Throughout, the patient is seen as being at the centre of all health and social care decisions. Building on this, A&A's vision specifically relating to primary care is to achieve:

"A strong local primary care service, supporting people in their day-to-day lives to get the best from their health, with the right care available in the right place when they need it. The overall theme is of partnership between individuals, communities, the health and social care with partners."

(NHS Ayrshire & Arran, 2017a)

Service provision was thus to be based on GPs *"at the core of a hub or network of health, social and third sector provision, with the GP focusing on the care of individuals with more complex and undifferentiated conditions"* (NHS Ayrshire & Arran, 2017b). However, as is illustrated in Figure H.3, GPs are not the only health care professional who can deliver such care.

Figure H.3. Ayrshire & Arran's Integrated Health and Care System



(A&A primary care development 2017, p. 21).

Instead, there is a recognition that primary care is wider than general practice, with pharmacy, opticians and dentists all explicitly mentioned. Primary care will then work with a wide range of locality teams including health and social care and the third sector, as well as specialist support teams when required.

H.2.2 Implementation of primary care transformation in Ayrshire & Arran

A number of stakeholder events were implemented to contribute to the development of a transformation programme for primary care in A&A. The events were multidisciplinary and focused on building on the direction of the strategy, sustainability, workforce planning and new quality aims. Among these events were two 'Ambitious for Ayrshire' events in August and December 2015. These involved primary and secondary care professionals, and HSCP, IJB staff and SG staff (Milliken, 2016).

In order to facilitate the implementation of changes and new ways of working in primary care, NHS A&A successfully bid for PCTF and PCFMHS in March 2016 as well as to the GP Recruitment and Retention Fund. The board also received the second year of a three-year fund for clinical pharmacists to work in GP practices (Milliken, 2016).

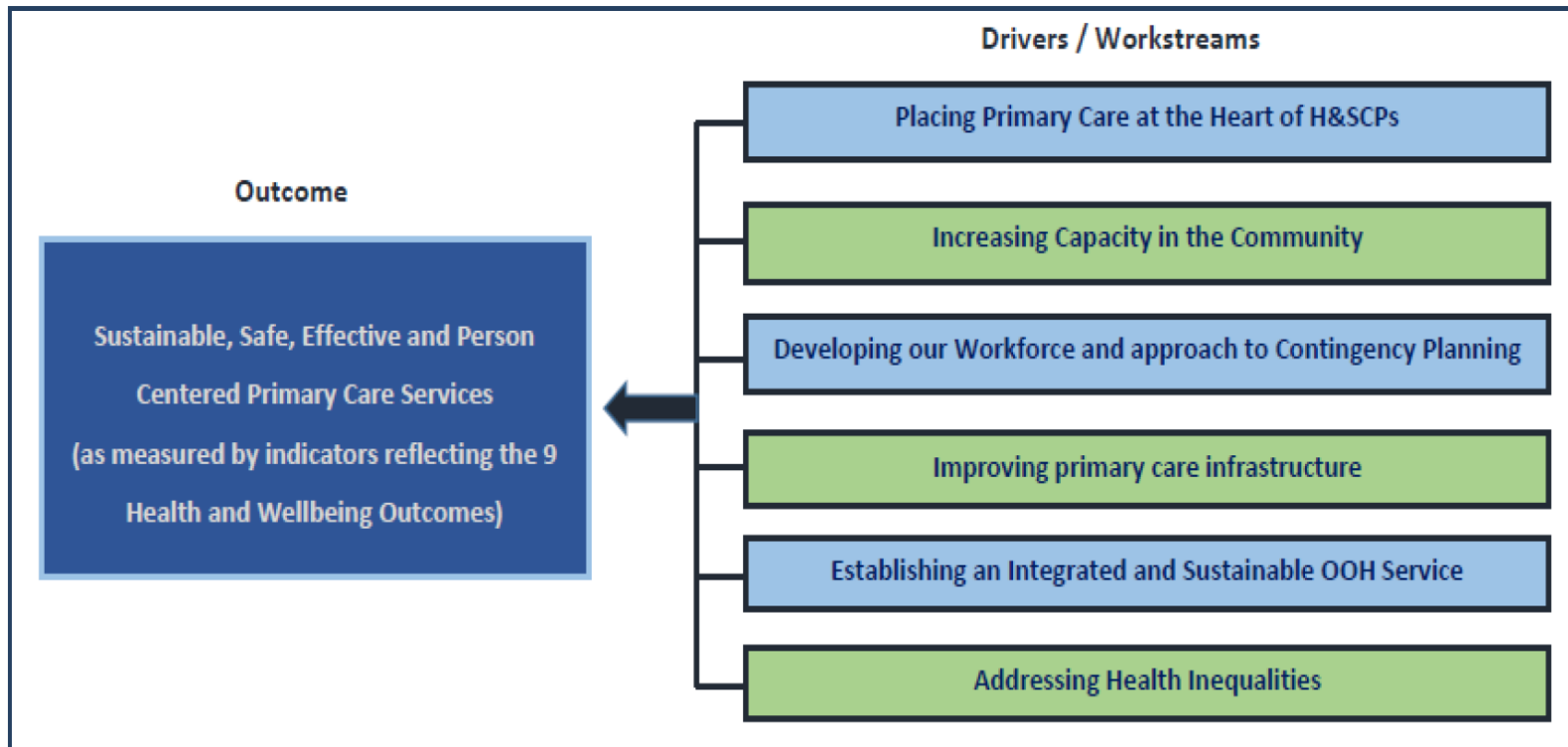
A Primary Care Programme Board was established to oversee the transformational change programme. This has a number of key roles, including: leading and overseeing primary care workstreams; providing pan-A&A oversight of changes in primary care; and managing resources and "emerging issues". Membership of the Board includes representation from HSCPs, independent contractor groups and secondary care as well as patients (it was planned to develop a public partnership reference group). The Board first met in March 2016 (and meets quarterly) and agreed the following workstreams:

- develop services around GP clusters/localities
- enable effective service user pathways, support for self-care and shared care
- investigate and address issues of health inequalities
- enable leadership for safety and quality improvement for multi-disciplinary teams in practices, clusters and localities
- increase capacity of services in the community, maximise expertise provided by contractors, achieve collaborative provision and shared care
- workforce sustainability and development of new skills and roles
- primary care infrastructure – premises, IT and shared access to records
- integrate and enable sustainable OOH services (AA21/ NHSAA Transformational Change Improvement Plan 2017-20).

These eight workstreams were refined into the six drivers/workstreams described in the Ambitious for Ayrshire Primary Care Driver Diagram (Note that developing services around GP clusters/localities and increasing capacity of services in the community, maximising expertise provided by contractors and achieving collaborative provision and shared care maps onto the 'increasing capacity in the community' driver, and that enabling leadership for safety and quality improvement for multidisciplinary teams in practices, clusters and localities and workforce sustainability and development of new skills and roles map onto the 'Developing our workforce and approach to contingency planning driver'). Figure H.4 shows the Ambitious for Ayrshire Primary Care Driver Diagram.

Figure H.4 Ambitious for Ayrshire Primary Care Programme Driver Diagram

Ambitious for Ayrshire Primary Care Programme – Driver Diagram 2017-2018



The anticipated outcomes of these workstreams were outlined as:

“ensure that primary care services are sustainable; practices are improving the quality of care by working in clusters of practices and undertaking peer review and continuous quality improvement; pathways are informed and supported to provide for safe, effective, efficient and patient centred care; collaborative leadership across clinical contractors is supporting primary care contribution to cluster and locality working; there is a shared understanding of the primary care response to deprivation and need; an integrated Out of Hours service, which is providing safe, effective and person-centred care which supports service providers to deliver; and, enhanced opportunities for GP recruitment and retention in Ayrshire & Arran”

(NHS Ayrshire & Arran, 2017c)

There is a developing timeline for these workstreams (Figure H.5).

Figure H.5 Timeline For Ambitious For Ayrshire Vision.

Primary Care - Ambitious for Ayrshire



H.3 Primary Care Tests of Change

Twelve test of change projects across NHS A&A were identified, Some operated across all three local authority areas, while others operated in a single site. Some projects built on previous work, while others were new initiatives.

Funding sources and the length of time that the tests of change had been established varied considerably (Table H.1).

Table H.1 Sources and details of funding for the identified tests of change (September 2017)

Project name	Funding	Details
Eyecare Ayrshire	PCTF	£60,000 PCTF funding allocated.
Pharmacy Independent Prescribers	PCTF fund for 2 years	In-practice pharmacists are subject to a separate independent national evaluation
Pharmacy First	PCTF	£90,000 PCTF funding allocated.
MSK Physiotherapy	PCTF	£150,000 PCTF funding allocated for Advanced Practitioner Physiotherapists
ANP Academy	PCTF and what other source	Total funding of £426,000 of which £281,698 allocated from PCTF.
Link Workers/Community Connectors	Integrated Care Fund.	£257,030 PCTF funding allocated. National rollout of effective model of supporting mental health in primary care by 2020.
HARP, Healthy and Active Rehab Programme	North, East, and South Integrated Care Funds	The total annual cost of delivering HARP for a year from 1 November 2015 until 31 October 2016 is £168,000. It has been backed up and supported by a pre-existing pan-Ayrshire cardiac rehabilitation service.
Ayrshire Urgent Care	Scottish Government Rapid Test of Change	Phase 1 - £195k Phase 2 - £500k
Community Phlebotomy	North, East and South HSCPs.	£260,000 total.
House of Care	The Alliance, existing resources.	Staff developed project as part of normal role; no extra funding provided
GP recruitment	PCTF	Funding for 2 years from PCTF – continuation of this £200,000
Stewarton Pilot	Existing resources	Staff developed project as part of normal role; no extra funding provided. Total spend £1221

Five tests of change, with a focus on enhancing Multidisciplinary Team working, were initiated with funding secured from PCTF, they included:

- MSK Advanced Practitioner Physiotherapist as first point of contact
- Advanced Nurse Practitioners: establish ANP Academy and increase the number of nurses undergoing training in advanced practice
- Eyecare Ayrshire redirection: shifting the balance of care from GP/A&E to optometrist/pharmacist
- Independent Pharmacists Prescribers: provision of support to community pharmacists who undertake the IPP course
- Pharmacy First: developing pharmacy input to patient care, in and out of hours, to decrease the pressure on GP and other services.

The other transformational work identified were:

- implementation of a range of initiatives to attract and retain GPs and enhance GP career development in A&A
- establishment of the Integrated Ayrshire Urgent Care Service
- Healthy and Active Rehab Programme (HARP)
- community phlebotomy
- House of Care, practitioner training to promote an active partnership role for patients, especially those with long term conditions
- Link workers/community connectors
- Stewarton (community information and engagement) pilot.

The 12 projects are now summarised in turn before consideration of the planned outcomes, evaluation, sustainability and future plans.

H.3.1 Eyecare Ayrshire

Eyecare Ayrshire was launched in February 2017; its aim was for optometrists to become the first service that patients with eye problems approach. Patients could attend directly or be directed from GP practices. Eyecare Ayrshire was developed by a team comprising lead pharmacists, optometrists, a consultant ophthalmologist, a GP, a programme improvement manager and a primary care manager following an audit of the number of GP appointments for eye conditions. It built on previous work carried out in NHS Lanarkshire, the Lanarkshire Eye-health Network Scheme (LENS). This service is now well-established in A&A, with around 750 signed orders (similar to a GP prescription) processed each month.

Eyecare Ayrshire had a number of interesting features:

- It was the subject of a widespread publicity campaign, including advertising on the sides of buses, local radio and newspapers. This campaign built on previous NHS A&A campaigns encouraging people to use services appropriate to their condition.
- It had a public engagement element, in that focus groups and other patient engagement techniques were used to develop materials for the campaigns.
- Optometry and community pharmacy services collaborated using the signed orders mechanism.

- There was a new role for primary care practice managers and receptionists in redirecting patients with eye problems to optometrists.

H.3.2 Pharmacist Independent Prescribers

The aim of this project was to increase the availability of independent pharmacist prescribers (IPPs) to help develop new and innovative services in the primary care setting. The planned action was to offer financial support to community pharmacists to undertake the Independent Pharmacist Prescribing training course with a cohort of trained pharmacist prescribers supporting the existing work being undertaken by community pharmacists.

So far, ten community pharmacists have undertaken the education and training to become an IPP. (NHS Ayrshire & Arran, 2017a).

H.3.3 Pharmacy First

This project aimed to develop the role of community pharmacists in the management of common clinical conditions, initially urinary tract infections (UTIs) and impetigo. The project built on learning from the Minor Ailments Service.

Introduced in March 2016 for UTIs (in women aged between 16 and 64) and impetigo, it was planned to roll it out in the future for other conditions. By making treatment for UTIs and impetigo available in extended-hours pharmacies across A&A, it hoped that it would decrease pressure on GP and other services both in and OOH.

Pharmacy First features included:

- a publicity campaign similar to that used for Eyecare Ayrshire
- a role for primary care practice managers and receptionists in redirecting patients to pharmacists

H.3.4 Musculoskeletal (MSK) Physiotherapy

The main changes to MSK services in NHS A&A primary care were:

- the piloting of Advanced Practitioner Physiotherapists (APPs) within GP practices, working in a first point of contact role as an alternative to a GP appointment. The aim was to decrease patient waiting lists, improve patient outcomes and free up GP time.
- the implementation of NHS 24 Musculoskeletal Advice and Triage Service (MATS), a single point of contact service run through NHS24. Callers are triaged over the phone and either given self-management advice or referred to local services. Call operators are supported by a team of clinicians.

H.3.5 Advanced Nurse Practitioner (ANP) Academy

A competency framework for primary care ANPs was developed together with a new postgraduate programme launched in September 2017. It built on previous work about practice nurses in primary care. The NHS A&A ANP Academy model supported practices financially in the development of their employee(s) into an ANP role. It was hoped that more qualified ANPs would lead to a blended model of GP and ANP care delivery in primary care.

Targets had been set to monitor academic development, offering clinical knowledge, skills, and expertise. It was intended that the impact of the model on the GPs and accessibility to patients will also be monitored.

H.3.6 Link Workers/Community Connectors

Focused on mental health, this model operated differently in each of the HSCPs. Generally, a Community Link Worker / Community Connector was available in GP practices to help patients improve their health and wellbeing by connecting them with activities and services in their locality. They worked with patients to link them to groups and services covering a range of needs, topics and interests such as training, volunteering and employment, self-management of health, money and welfare support, local activities and hobby groups and housing issues.

H.3.7 Healthy and Active Rehabilitation Programme (HARP)

HARP is a rehabilitation programme for people living with multiple conditions. Since November 2015, almost 500 people had been referred in to the programme.

In April 2015, a staff team at NHS A&A set out to realign its rehabilitation services to the needs of individuals rather than individual conditions. Working with local partners, which included physiotherapy teams from across NH SA&A, leisure trusts, local authorities, third sector organisations and service users, a tiered menu-based rehabilitation programme was developed for people with cancer, COPD, cardiac conditions, stroke or a high risk of falls, and at least one other condition. The programme was available across North, South and East Ayrshire and built on previous work of the cardiac rehabilitation service.

HARP had a number of interesting features:

- It provided a primary care service in the community though it is managed from secondary care.
- It included volunteer workers. Those who complete HARP could volunteer their time and support others through the programme, it had 25 volunteers on the books.
- It linked with local leisure services to provide classes.
- It had carried out substantial evaluation work, including quantitative evaluation of patient demographics, changes to the distribution of morbidity of participating patients, numbers using the service from each area, and qualitative evaluation of the impacts it had on service users and staff.

H.3.8 Ayrshire Urgent Care

The Ayrshire Urgent Care Service (AUCS) was launched in November 2017, and brought together a number of existing services into one 'urgent care resource hub', operating from the Lister Centre at University Hospital Crosshouse. This hub was to be supported by the existing two urgent care centres at University Hospital Ayr and Ayrshire Central Hospital, and the home visiting service.

Services based at the urgent care resource hub included:

- Ayrshire Doctors On Call (ADOC)
- OOH's district nursing service
- Crisis Resolution Team
- OOH's social work

- East Ayrshire overnight emergency response personal carers

H.3.9 Community Phlebotomy

Chronic diseases are increasingly managed in primary care, which means that the number of blood and other tests required in the community has risen. If a hospital clinician requests bloods to be taken from a patient in the community, the first point of contact is often the GP surgery. This results in many patients attending a GP surgery to have bloods taken prior to hospital appointments or after hospital discharges. An Ayrshire-wide audit of GP Practices undertaken in 2013 found that 2100 appointments per month were used for this purpose. This audit was repeated in February 2016 and the figure had increased to 3580 appointments.

A Community Phlebotomy Service was being developed to deal with this workload. According one key informant, the service was planned to be a standalone pan-Ayrshire service with hubs in large towns complemented by a peripatetic service around smaller towns. Standard operating procedures for the service and the referrals process were being developed, as yet, there were no plans in place for the future evaluation of this service.

H.3.10 House of Care

The aim of the House of Care test in A&A was to improve the way in which care planning occurs with particular emphasis on encouraging patients to identify and adopt self-management approaches. The principal vehicle for affecting the desired change was the provision of training to existing service providers on methods for enhancing conversations with patients and securing their involvement in making joint decisions about their care needs and goal setting. The NHS A&A House of Care model was developed from the NHS England Year of Care (Scottish House of Care 2016). Different models of House of Care have been adopted in different geographical areas, and inclusion of the NHS A&A model offered the potential for further learning on the ease of implementation, adoption and impact in an asset-based context (i.e. relies on improving and utilising skills of existing staff rather than investing in additional staff to address a gap in service provision).

H.3.11 GP Recruitment

This project was a GP Development Scheme to encourage early career GPs to work in NHS A&A. A bespoke website had been set up in collaboration with the LMC containing information about the local area, childcare, schools, social events, and life in A&A (<https://ayrshireandarrangp.co.uk/>). The NHS A&A Primary Care Management Team organised networking events for GPs, meeting with them at various points of their training, and offering newly-qualified and trainee GPs a bursary of up to £5000 to support their development. GPs participating in the scheme were placed in a practice part time and used the remainder of their time to pursue a specialist interest or education, which was hoped to further enhance care in a practice or an area.

H.3.12 Stewarton Pilot

This pilot project, based in Stewarton, a small town in East Ayrshire, was a focused community redirection initiative. This was taking place in the context of an ongoing A&A public engagement and information campaign called *'Know Who to Turn To'*.

The aim was community engagement and direction to the most appropriate service, according to need. It was hoped that the initiative would highlight and promote the right health service for people's medical condition. Part of the intended approach was direct community engagement to co-produce a range of information and methods to promote messages in response to needs. The campaign opened in October with a poster competition for children held by NHS A&A. Local schools and groups were asked to design a poster to promote the different health services in Stewarton and Dunlop. The idea behind the campaign is to inform the community about what health services are available to them, and about the appropriate use of those services. The campaign targets young people as a way of reaching the wider community.

APPENDIX I – Case Study Tests of Change

The table below displays details of the twelve tests of change in NHS A&A. Each project is briefly described. A ‘staging system’ was used to describe what stage the implementation of the teste model was at. ‘Implemented’ indicates that the new way of working had been implemented, ‘stopped’ means it had not yet got off the ground and ‘partial’ means that was still in the planning stages (i.e. not yet fully implemented). This table also gives a very brief overview of the context, funding, duration, governance and local existing/planned evaluations of the test of change.

Table I.1 Overview of tests of change

Number	Test of Change	Components	Implementation Status	Details
1.	Eyecare Ayrshire	<p>Optometrists have become the first port of call for all eye presentations, so if the patient presents to the GP surgery with an eye problem they’ll be directed to an optometrist, optometrists set aside appointments every day and can provide signed orders to be filled at community pharmacies.</p> <p>Was subject of a large, well-planned publicity campaign</p> <p>So far around 600 patients seen per month, with approx. 750 signed orders issued per month</p>	Implemented	<p><u>Context:</u> There was a scheme in Lanarkshire, ‘Lens’, A&A thought they could do something similar, to take away some workload from GPs, and also optometrists have more expertise in diagnosing eye conditions.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> Launched in February 2017.</p> <p><u>Governance:</u> Governance around optometry is run within the general ophthalmic service and the governance for Eyecare Ayrshire is no different, nothing’s changed from their point of view.</p> <p><u>Evaluation:</u> Eyecare Ayrshire have been monitoring the number of signed orders per month (it’s around 750), they plan to change this to count the number of patients rather than prescriptions.</p>

2.	Pharmacy Independent Prescribers	Part of an 'academy' approach – identifying and training pharmacists to become independent prescribers.	Implemented	In-practice pharmacists are subject to an independent national evaluation, so will not be considered here.
3.	Pharmacy First	Developing the role of community pharmacists around the management of common clinical conditions. So far, this has been rolled out for UTIs and impetigo. Similar to Eyecare Ayrshire, with community/high street pharmacist as first point of contact. Will have similar publicity campaign. Collecting data on number of prescriptions issued.	Implemented	<p><u>Context:</u> If patients attend their pharmacy as a first port of call for common conditions this relieves some of this pressure on GPs and out-of-hours services.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> Introduced in March 2016.</p> <p><u>Governance:</u> Overarching medicines governance is under the Drugs and Therapeutics Committee, primary care clinical governance is under Primary Care Quality and Safety Assurance Committee.</p> <p><u>Evaluation:</u> Currently monitoring the number of prescriptions and feedback from GPs. Future evaluation will include work on patient and health professionals' perceptions of the service as well, though there are no concrete plans for this yet.</p>
4.	MSK Physiotherapy	Physiotherapists to be first point of contact for patients with clearly defined problems; aim to reduce workload within general practice and to reduce referrals to secondary care.	Implemented	Will be part of MSK Transformation evaluation, so not considered further here.
5.	ANP Academy	Introduction of a Development & Competency framework for Primary Care Advanced Practitioners and	Implemented	<u>Context:</u> A blended model of GP and ANP clinical presence works in out-of-hours services, and so is being introduced into in-hours services.

		launch of the ANP Academy. The Academy model supports practices financially in the development of their employee(s) into an ANP role.		<p>It was a win for nursing in that it was giving people an opportunity to expand their knowledge base and develop their clinical practice, and that can only ever be a good thing, and it was also gonnae offer an opportunity to support practices and the populations that they serve.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> New postgraduate programme was launched in September 2017</p> <p><u>Governance:</u> ANPs require effective clinical supervision throughout their careers, but it is particularly crucial during their early career development. It is recommended that this utilises a combination of competency frameworks, formal academic study and local education programmes with effective supervision. All of which, in combination, is essential to evaluate the clinical competence of each ANP.</p> <p><u>Evaluation:</u> Targets have been set to monitor academic development, offering clinical knowledge, skills, and expertise. The impact that that has had on the GPs and their accessibility to patients will also be monitored.</p>
6.	Link Workers/Community Connectors	Focus on mental health. Model of care focused around either a Links Worker model or Community Connectors. – located in the 3 HSCPs; different model in each site.	Implemented	<p><u>Context:</u> Located within the Health & Social Care Partnerships, each HSCP has developed a different model for Mental Health. Aim is to support patients with mental health issues. East and South HSCP more developed than North HSCP. Have focused on developing a tier of link worker focused on mental health, and acting as a bridge between general practice and mental health services.</p>

				<p><u>Funding:</u> Integrated Care Fund.</p> <p><u>Duration:</u> Variable, depending on site.</p> <p><u>Governance:</u> Each governed by HSCP.</p> <p><u>Evaluation:</u> Unclear at the moment.</p>
7.	HARP, Healthy and Active Rehab programme	<p>Rather than running separate rehabilitation programmes for heart disease, stroke, falls, cancer patients etc., a multimorbidity programme includes all patients. It's a tiered approach, the first level is a multi-morbidity approach for rehabilitation. The next tier down is leisure delivered rehab, and then the final layer is linking what's going on in the third sector to improve knowledge, skills, and opportunities that are out there for people who have health conditions to do things that reduce social isolation.</p> <p>Multi-morbidity Rehabilitation</p> <p>Longer standing project – not</p>	Implemented	<p><u>Context:</u> It was very difficult to maintain individual rehab programmes for separate conditions, also placed a large treatment burden on patients.</p> <p><u>Funding:</u> North, East, and South integrated care funds have given this body of funding, and it's been backed up and supported by the fact that we had a pre-existing pan-Ayrshire cardiac rehab service.</p> <p><u>Duration:</u> Project began in April 2015, first patients used it in November 2015. Funding ends in March 2018.</p> <p><u>Governance:</u> So because we're part of a big organisation, we've got really quite robust governance measures in place in terms of how we operate, you know, how we audit ourselves.</p> <p><u>Evaluation:</u> Evaluation is ongoing and has been presented at conferences and to the Scottish Government.</p> <p>Quantitative evaluation, patient demographics, changes to the distribution of morbidity, numbers using the service from each area etc.</p> <p>Qualitative evaluation of the impacts it has on service users and</p>

		funded from PCTF, but from HSCPs and Health Board. Well-established service, operating in primary care/community settings but managed from secondary care. See themselves as providing 'primary care' service.		staff.
	Ayrshire Urgent Care	--	Implemented	--
9.	Community Phlebotomy	There will be a hub in large towns as well as a peripatetic service around smaller towns, where people can go to have their bloods taken. The service takes the blood and the result goes back to the requester so it cuts out the middle person.	Stooped/ not started	<u>Context:</u> In primary care the number of requests coming from acute for bloods to be taken in the community were rising quite significantly, an audit carried out two years ago showed that there were 2200 appointments per month for bloods across Ayrshire. <u>Duration:</u> Standard operating procedures were being developed at the time of the interview. <u>Governance:</u> Not mentioned. <u>Evaluation:</u> Not mentioned.
10.	House of Care	<u>Change:</u> Co-creating health project, introducing self-management support, enhancing the conversation between the healthcare provider and the patient or service-user. Trainers give workshops about care planning, and goal setting.	Implemented	<u>Context:</u> Some very good messages are coming from Government, such as 'realistic medicine', Vision 2020, collaborative working and shifting the balance of care, but on the ground people are just scrambling to keep the service going in difficult conditions. <u>Funding:</u> The Alliance, existing resources. <u>Duration:</u> Workshops ran in early 2017. <u>Governance:</u> For now, it sits under SPOC (health and social care partnership implementation group). <u>Evaluation:</u> They are gathering data, and want to measure clinical outcomes, healthcare utilisation, economic analysis, and do

				qualitative analysis with patients and service users and staff. Nothing is in place as yet.
11.	GP recruitment	GP Development Scheme to encourage early career GPs to come to work in Ayrshire. They have set up a bespoke website along with the LMC, containing information about the local area, childcare, schools, social events, etc. They organise networking events and meet with GPs at various points of their training, and offer new GPs a 'golden hello'; of £5000 which they can use on anything they want.	Implemented	<p><u>Context:</u> The Board has had to take over four practices since last September, and “<i>we’ve probably averted half a dozen, maybe eight, total, since then, by putting a lot of work into them</i>”. To make primary care sustainable, they need to work on developing practices.</p> <p><u>Funding:</u> PCTF</p> <p><u>Duration:</u> Began in January 2017</p> <p><u>Governance:</u> New GPs are under the governance of the practice, for the other specific schemes that GPs spend their time on, governance is shared, for example a GP who spends two days a week at a hospice is under the governorship of the practice at his time there, but also the senior medic at the hospice.</p> <p><u>Evaluation:</u> Patient experience will be measured in the annual survey. Routine patient data will be joined to secondary care data sets and presented as workable information to practices. As yet no decision on measures of success or quality standards.</p>
12.	Stewarton Pilot	A focused community redirection initiative is to be piloted in Stewarton. The campaign will highlight and promote the right health service for people’s medical condition. Part of the approach will be direct community engagement to co-produce a range of	Partially implemented	<p><u>Context:</u> This is in the context of the ‘Know Who to Turn To’ and other campaigns held across A&A, which align with the Wellbeing theme of the Community Plan 2015-30.</p> <p><u>Funding:</u> Existing resources.</p> <p><u>Duration:</u> Began in November 2017.</p> <p><u>Governance:</u> Programme improvement, primary care</p> <p><u>Evaluation:</u> TBD.</p>

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