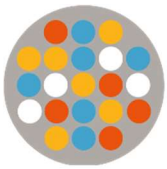
We are the Centre for
Healthcare Innovation Research (CHIR)

Final Report

Evaluating the pilot implementation of UCLPartners Proactive Care Frameworks

Alexandra Ziemann, Zuhur Balayah, Charitini Stavropoulou, Katie-Rose Sanfilippo, Harry Scarbrough



We are the Centre for
Healthcare Innovation Research
Joining the dots between
innovation, policy and practice

Final Report

Evaluating the pilot implementation of UCLPartners Proactive Care Frameworks

Alexandra Ziemann, Zuhur Balayah, Charitini Stavropoulou, Katie-Rose Sanfilippo, Harry Scarbrough

February 2022

This evaluation was commissioned by UCLPartners and funded/supported by UCLPartners, NHSX, and NHS England.

UCLPartners

Correspondence

Dr Alexandra Ziemann
Centre for Healthcare Innovation Research (CHIR)
City, University of London
Northampton Square
London EC1V 0HB
United Kingdom

+44 (0)20 7040 4032
chir@city.ac.uk | alexandra.ziemann@city.ac.uk
http://www.city.ac.uk/chir

Contents

Foreword

We are very grateful to the Centre for Healthcare Innovation Research at City, University of London for this report. This evaluation has examined the pilot implementation phase of Proactive Care @home. The evaluation has focused on early learning from the process of implementation to inform future roll-out efforts.

The twin objectives of the Proactive Care Frameworks are firstly to risk stratify patients with long term conditions in order to prioritise and optimise treatment; and secondly to mobilise the wider primary care workforce to provide patients with more personalised care and structured support for self-management. The overall aim is to support primary care to do things differently at scale in order to improve outcomes for patients and to build capacity in primary care at this time of unprecedented demand.

The findings show that the Proactive Care Frameworks are viewed by staff as having the potential to transform primary care. Clinicians report that the stratification supports them to be more efficient, to prioritise their work and decide who to focus on first in order to prevent complications and exacerbations, and free up time for the more skilled clinicians to see the more complex patients. Staff also report that the frameworks improve the fit between patient needs and practice workforce, increasing support for patient knowledge and self-management skills and providing more personalised and more holistic care.

Barriers to implementation include the current pressures in primary care related both to the pandemic and to the ongoing development of primary care networks. Critical learning includes the need for realistic timeframes for implementation and dedicated implementation support; sufficient engagement with both strategic leads and primary care staff on the ground in order to build understanding of and local adaptation and ownership of the frameworks; and alignment of local incentive schemes with the frameworks and alignment of various national programme asks.

Since the establishment of the pilot sites, there has been substantial national interest in the Proactive Care Frameworks. Many practices around the country are using elements of the frameworks, particularly the stratification tools (of which there have been over 6000 downloads), and some of these are receiving support from the local Academic Health Science Networks. A further group of integrated care systems (ICSs) have been recruited in wave 2, and currently a total of 13 ICSs are embarking on implementation of the Proactive Care Frameworks.

Some of the learning from this evaluation has been emerging in recent months through conversation with the pilot sites and through communities of practice. The national Proactive Care @home team with UCLPartners has used these emerging insights to inform a national support offer that recognises the critical barriers and enablers. This includes provision of funding specifically to support dedicated project management and clinical leadership in local systems, development of a comprehensive implementation guide and a range of other resources to support local clinical engagement, workforce mapping and training, clinical optimisation, and self-management resources for patients.

Further evaluation of the Proactive Care Frameworks will be commissioned to include impact on patient experience and outcomes. In the meantime, as uptake of the Proactive Care Frameworks extends, it is critical that we continue to learn from local experience of implementation so that support for this transformation can be optimised, and the frameworks and resources can be adapted where needed.

Dr Matt Kearney, Programme Director UCLPartners

Executive summary

Background

In 2020, UCLPartners (UCLP) developed a series of Proactive Care Frameworks (PCF), combined with implementation support, to help people who are living with long term conditions (LTC) stay well. The frameworks are currently covering six conditions: Hypertension, Type 2 Diabetes, Cholesterol, Atrial Fibrillation; Asthma, Chronic Obstructive Pulmonary Disease. They are underpinned by the following key principles: risk stratification and prioritisation to support treatment optimisation and help manage clinician workload; use of the wider workforce and digital resources to support a step change in self-management, remote care, and personalisation of care.

Since January 2021, a first wave of four official national pilot sites supported by three Academic Health Science Networks (AHSNs) across England has been underway in implementing the frameworks. A wider group of AHSNs were also involved in the roll-out, though on a more ad-hoc basis and driven by local interest.

The Centre for Healthcare Innovation Research (CHIR) at City, University of London was commissioned to evaluate the pilot implementation of PCF in the four national pilot sites and two further sites across England with the aim to derive implementation learning to inform the wider roll-out of PCF in the future.

Evaluation approach

The evaluation applied a mixed-method comparative case study approach, and was accomplished between June and November 2021. Guided by a Theory of Change, co-developed with pilot implementation stakeholders, we assessed the impact of PCF implementation in the following areas; patient care and primary care work processes with a focus on self-monitoring and remote care processes; the experience of the primary care workforce, and, indirectly, the experience of patients/carers in terms of engaging with PCF; the impact on health inequalities; and the implementation process, including key implementation enablers and barriers.

The analysis was mainly based on qualitative information collected by interviewing 41 staff members at AHSNs, Clinical Commissioning Groups (CCGs)/Integrated Care Systems (ICSs), Primary Care Networks (PCNs), and general practices in the six sites, and observing nine Communities of Practice involving AHSN and ICS/CCG representatives.

Findings

Implementation progress

The evaluation results show that the implementation of PCF is at an early stage with most sites at the point of having run risk stratification searches, carrying out initial engagement and training of the wider workforce, and starting to engage with patients as part of LTC management. Most sites have begun implementation of one or a small number of frameworks, mainly the hypertension framework, and were implementing PCF in a small number of PCNs/practices, while planning to implement all the frameworks across a larger number of PCNs/practices in the future.

Patient care and work processes

PCF has generally been welcomed by PCNs/practices, particularly by clinicians, as a valuable improvement in LTC management. The risk stratification process was highlighted by the primary care workforce as a very useful new way of ensuring that patients receive the right care at the right time. PCF was perceived as providing an appropriate structure supporting the introduction and integration of wider workforce roles, and as supporting both the operationalisation of the personalised care agenda and the transition towards a more holistic care approach.

Workforce experiences

It was too early in the implementation process to gather feedback from primary care workforce on the routine use of PCF and their feedback was referring to the implementation phase. Initial acceptability of PCF varied by workforce group with clinicians, particularly in strategic roles, being generally very enthusiastic about adopting PCF. Some practices and workforce were reluctant to engage with implementing PCF as they

perceived it as not feasible in the context of current pressures in primary care particularly in the context of COVID-19.

Patient experiences (indirectly reported)

General practice staff reported that patients felt particularly positive about an approach that was seen as offering more streamlined, but also more personalised and holistic care. Patients were reportedly appreciative of the wider workforce spending more time with them. Patients reportedly felt more listened to, with their needs being taken seriously, wider or underlying medical and non-medical problems being identified, discussed and managed, and a wider variety of services being provided.

Self-monitoring and remote care

In terms of self-monitoring at home, general practice staff reported that patients felt generally confident and motivated about using self-monitoring technology, referring in most cases to blood pressure monitors. As expected, there was a minority of patients who preferred to have their blood pressure measured in the practice. While some patients had difficulties engaging with digital technology to submit their self-monitoring readings, self-monitoring in combination with alternative means of submitting readings was preferred by many patients as an alternative to attending a face-to-face appointment.

Health inequalities

PCF was perceived as providing an opportunity to tackle health inequalities, for example, by supporting implementation in PCNs/practices with greatest deprivation, by including wider patient characteristics next to clinical characteristics in the risk stratification searches, and by offering a more holistic and personalised care approach. In terms of digital exclusion arising from increased application of remote monitoring, practices were offering a hybrid engagement model with the option of using self-monitoring devices and digital communication alongside face-to-face appointments and alternative means of providing self-monitoring readings, e.g., by phone or on paper.

Implementation enablers and barriers

We identified the following main enablers and barriers to implementing PCF:

Enablers:

- the benefits and advantages of PCF in terms of optimising patient care and work processes, and enabling the operationalisation of the personalised care agenda,
- the motivation and support by senior local stakeholders, particularly clinical champions and CCGs/ICSs,
- the flexibility of PCF, allowing local tailoring and adaptation to fit local needs and context,
- continuous and responsive implementation support, particularly as provided by the local AHSNs and the national leadership team, and
- the opportunity to share learning within and across implementation sites.

Barriers:

- the limited capacity of the primary care workforce, particularly during the COVID-19 pandemic,
- the limited maturity of PCNs which are in the early setup phase in some areas,
- the challenge of aligning PCF with the requirements of the Quality and Outcomes Framework and local/national incentive schemes,
- issues with coding patients as part of the risk stratification and review process.

Conclusion and future directions

PCF is in an early phase of implementation and there are some emerging insights into general practice workforce and patients starting to experience the potential PCF can offer, particularly in terms of optimised care and enhanced personalised care. As this evaluation was focusing on the early pilot implementation phase, we recommend that a future evaluation should be conducted to provide more insights into later stages of the PCF delivery and implementation, to collect further direct feedback from patients and carers, and to provide insights into longer-term clinical and effectiveness outcomes.

1. Background

UCLPartners (UCLP) has developed a series of Proactive Care Frameworks (PCF), combined with comprehensive implementation support, to help people living with long term conditions (LTC) stay well. The frameworks are currently covering six conditions: Hypertension, Type 2 Diabetes, Cholesterol, Atrial Fibrillation; Asthma, Chronic Obstructive Pulmonary Disease (COPD). They are underpinned by the following key principles: risk stratification and prioritisation to support treatment optimisation and help manage clinician workload; use of the wider workforce and digital resources to support a step change in self-management, remote care and personalisation of care[1].

Since January 2021, a first wave of four official national pilot sites supported by three Academic Health Science Networks (AHSN) across England has been underway in implementing the frameworks. A wider group of AHSNs were also involved in the roll-out, though on a more ad-hoc basis and driven by local interest. A second wave of sites implementing PCF has commenced in October 2021. PCF is often implemented in close relation to the national programme BP @home which was initiated by NHSX and NHS England and NHS Improvement (NHSE/I) and includes the distribution of blood pressure monitors to patients for remote monitoring at home. Some information in this evaluation might therefore be covering aspects of BP @home as well.

The Centre for Healthcare Innovation Research (CHIR) at City, University of London was commissioned to evaluate the pilot implementation of PCF in the four national pilot sites and two additional sites across England with the aim to derive implementation learning to inform the wider roll-out of PCF in the future.

2. Evaluation Approach

The evaluation applied a mixed-method comparative case study approach and was accomplished between June and November 2021. In terms of project governance, a steering group and a working group (consisting of the national leadership team at UCLP and AHSN representatives of four national pilot sites) were established and met on average every six and two weeks respectively.

The first step of the evaluation was to co-develop the Theory of Change of the pilot implementation process of PCF. It was developed using the methodology suggested by De Silva and colleagues[2], in collaboration with the Working Group. The Theory of Change guided the formulation of the evaluation questions, data collection and analysis, and synthesis.

In terms of data collection, the focus was on conducting semi-structured interviews with operational, clinical and strategic staff members in the implementation sites from Academic Health Science Networks (AHSNs), Integrated Care Systems (ICSs) or Clinical Commissioning Groups (CCGs), and Primary Care Networks (PCNs), and with different members of the primary care workforce. We have collected additional documents provided by the implementation sites, including monthly progress reports submitted by the national pilot sites to the national leadership team, and conducted observations of pan-AHSN and pan-ICS Communities of Practice (CoP). We also conducted a survey among all 15 AHSNs to assess implementation progress with the aim to identify potential further implementation sites to be included in the evaluation (results were presented in the interim report). The views of patients and carers as end users of PCF were captured indirectly through interviews with PCN and practice staff.

Interviews and CoP recordings were transcribed and analysed together with qualitative data from documents and open questions in the survey by applying qualitative thematic analysis. Quantitative data from the documents, progress reports and the survey were analysed by applying descriptive statistics.

Table 1 provides an overview of the study population represented in the interviews and observations. We conducted 41 interviews across six implementation sites and covering the national leadership team. The

[1] Personalised care means people have choice and control over the way their care is planned and delivered, based on what matters to them and their individual strengths, needs and preferences. It represents a new relationship between people, professionals and the system, and is one of the five pillars of the NHS Long Term Plan. Personalised care includes six evidence-based components; shared decision making, personalised care and support planning, enabling choice, including legal rights to choose, social prescribing and community-based support, supported self-management, personal health budgets and integrated personal budgets. The opportunity to deliver personalised care through a holistic Proactive Care approach is referenced throughout this report, particularly with regards to holistic care and structured support for self-management.

[2] De Silva M, Lee L, Ryan G. Using Theory of Change in the development, implementation and evaluation of complex health interventions. London: The Centre for Global Mental Health at the London School of Hygiene & Tropical Medicine and The Mental Health Innovation Network. 2014.

implementation sites were North East London (NEL), North Central London (NCL), Leicester, Leicestershire and Rutland (LLR), Lakeside Health Care Group in the East Midlands (Lakeside), Cheshire and Merseyside (C&M), and the West of England (WoE). We also included data from observations of nine CoP meetings, four with AHSN representatives and five with ICS/CCG representatives.

Table 1: Overview of interview participants and communities of practice

Sites / group	Organisation	No of interviews
National leadership team	AHSN	2
NEL (national pilot site)	AHSN ICS/CCG PCN Practice **Total**	2 2 4 2 **10**
NCL (national pilot site)	AHSN ICS/CCG PCN Practice **Total**	2 2 4 6 **14**
LLR (national pilot site)	AHSN ICS/CCG PCN Practice **Total**	2 2 0 0 **4**
Lakeside	AHSN ICS/CCG PCN Practice **Total**	See LLR 0 2 1 **3**
C&M (national pilot site)	AHSN ICS/CCG PCN Practice **Total**	3 0 2 0 **5**
WoE	AHSN ICS/CCG PCN Practice **Total**	2 1 0 0 **3**
Total	**AHSN** **ICS/CCG** **PCN** **Practice** **Total**	**13** **7** **12** **9** **41**
Community of Practice	AHSN ICS **Total**	4 (Apri-Aug) 5 (May-Sep) **9**

3. Theory of Change & evaluation questions

Figure 1 shows the Theory of Change illustrating how PCF implementation is anticipated to work in practice. It shows which key implementation activities are anticipated to lead to process outcomes (output), short-term effectiveness outcomes and long-term population and health system impacts.

Based on the Theory of Change we identified five main topic areas for the evaluation and formulated specific questions in each area to be answered in this evaluation (table 2).

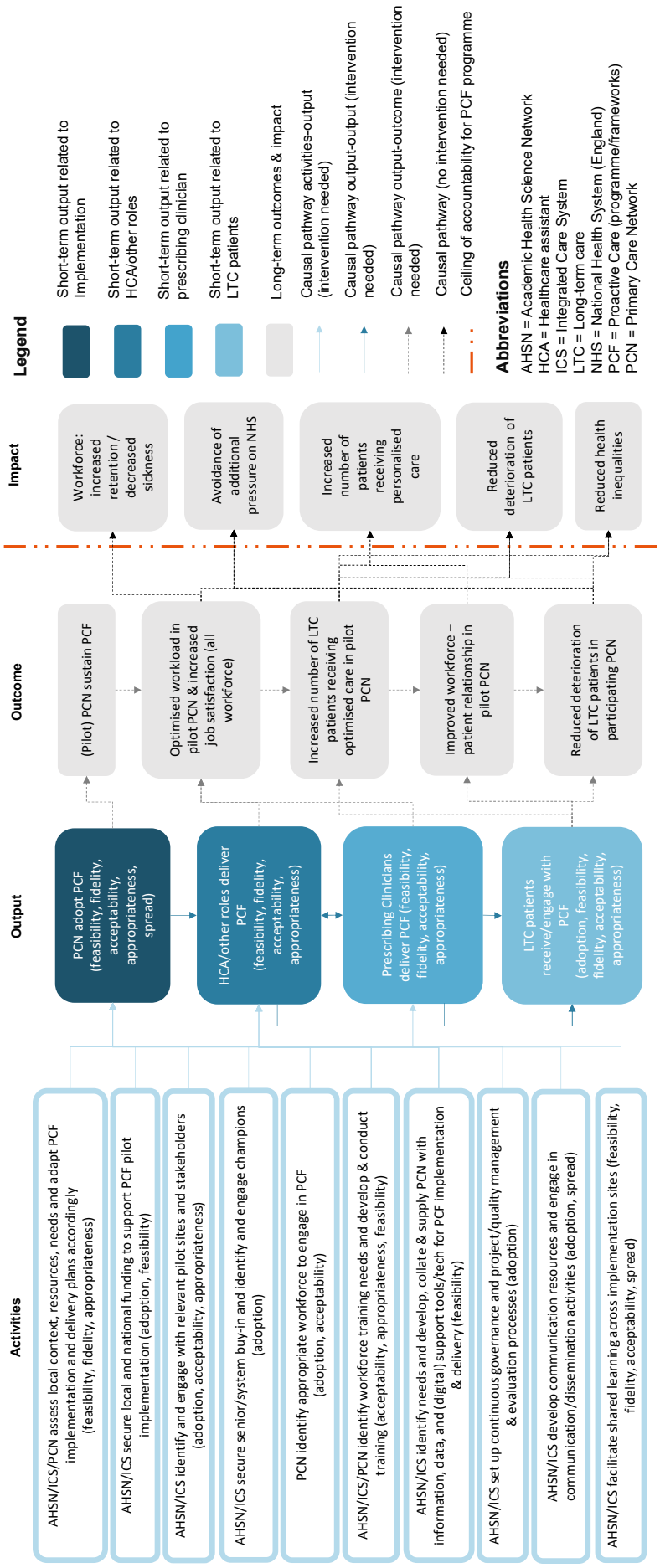


Figure 1: Theory of Change of the pilot implementation of PCF

Table 2: Evaluation questions

Evaluation topic	Evaluation question
Patient care process changes	• How is patient care perceived to change with the implementation of the frameworks? • What is the perceived impact on patient care, e.g., in terms of optimisation of patient care processes, patients and carer's experience of the care processes, increase in personalised care, patient and carer's skills, knowledge, and confidence, patient/carer-workforce relationships, impact on other care pathways, impact on patient care in other care sectors?
Work process changes & workforce experiences	• What workforce roles are involved in implementing and delivering which parts of the frameworks? • How are the workforce assessing the feasibility, acceptability and appropriateness of the frameworks? • What is the perceived impact of the frameworks on work processes, e.g. in terms of workload, task sharing, relationships with other workforce and patients and carers, confidence, competence, job satisfaction, behavioural and cultural change?
Patient experiences and engagement	• To what extent are patients perceived to engage with the frameworks? • How are patients perceived to assess the feasibility, acceptability and appropriateness of the frameworks? • To what extent are patients perceived to use digital and home monitoring technology? • How are patients perceived to assess the feasibility, acceptability and appropriateness of digital and home monitoring technology?
Health inequalities	• How are health inequalities approached in the implementation and delivery of the frameworks in implementation sites?
Implementation outcomes, determinants & activities	• How many implementation sites are adopting the frameworks and to what extent? • How are the frameworks implemented in implementation sites (in terms of e.g., process, activities, recruitment of sites/practices, targeting sustainability/spread, adaptations, behavioural and cultural change, unintended consequences)? • What contextual barriers and enablers are implementation sites encountering (in terms of characteristics of the (delivery of the) frameworks, implementation process, involved individuals, organisational context, external context)? • How are implementation sites assessing the feasibility, acceptability and appropriateness of the implementation process? • How do implementation sites share learning to enable implementation in other sites (e.g., in terms of learning processes, type of knowledge shared, lessons learned that is particularly useful for future implementation sites)?

4. Findings

In the following, we will present the findings of the evaluation grouped by evaluation topic and evaluation question (table 2). We will present the findings in the form of key themes from the qualitative analysis, and provide examples and illustrative quotes from the interviews/Community of Practice meetings. Before we present the specific findings, we would like to set out the context and circumstances of the evaluation that have to be considered when interpreting the findings:

- The implementation of PCF is in an early phase with most sites having run risk stratification searches, starting to engage and train wider workforce, and starting to engage with patients as part of LTC management. This has influenced data availability for the evaluation and led to findings mainly focusing on this early phase of implementation and delivery.

- We had difficulties in recruiting practice staff for interviews mainly due to high workload during the pandemic, particularly in terms of equal representation across pilot sites, which limits representativeness of the findings around workforce and reported patient experience for some of the sites (cf. table 1).

- Most of the sites have chosen to implement the hypertension framework in combination with the BP @home programme. This means that a lot of data is focusing on the optimisation of delivering care to patients with hypertension and the implementation of this particular framework. We also found that many interviewees did not differentiate between the Proactive Care Framework on hypertension and BP @home which means that it might be difficult for some findings to be clearly linked to PCF or BP @home.

- Most sites have been starting with one or a small number of frameworks first, with most implementing the hypertension framework, which limited availability of data referring to other frameworks.

- Given the early implementation progress and sites only starting to engage patients, the evaluation did not collect data directly reported by patients/carers. Instead, we asked practice staff members about any feedback they received from patients/carers. This might limit the validity of the findings around patient experience, while still providing some early insight into patient and carer experiences.

4.1. Patient care process changes

How is patient care perceived to change with the implementation of the frameworks?

Risk stratification has been applied in most sites with searches being run at practice or PCN level. Workforce tasked with running the searches varies across sites with some sites tasking a different role for the initial searches during the pilot implementation phase while developing a plan which role is going to run searches long-term, and recruiting and training appropriate personnel. The risk stratification process was mostly replacing previous review processes, but in one case it was seemingly combined with existing processes, e.g., PCF searches might be run for a certain patient cohort by birth month. Some practices have adapted the risk stratification searches by using additional search criteria such as social or demographic characteristics or considering multimorbidity. This change to patient care is mainly experienced by practice workforce and less so by patients/carers.

> I felt that the risk factors we also needed in there were things like asylum-seeker, depravation-type scores, social complexity, basically, and missing reviews. […] I ended up manipulating the searches a little bit, and adding in people with missing reviews to be higher risk.
> **PCN clinical staff/GP, pilot site 3**

Self-monitoring during the pilot implementation phase was almost entirely focused on blood pressure monitoring using **home monitoring technology** provided as part of the **BP @home** programme. This could be explained by sites most often selecting to implement the hypertension PCF first and engaging with BP @home at the same time. Most sites have started sending or lending out blood pressure monitors to patients for self-monitoring and are engaging with patients in returning blood pressure readings using **digital technology** and software.

Another key change to patient care is the involvement of **wider workforce roles (including Additional Roles)** in LTC management. This is closely connected to the other key PCF elements, risk stratification and self-monitoring, as wider workforce roles were or were planned to be involved in running searches, and delivering care to low-/medium risk patients, including organisation of self-monitoring and remote engagement with patients/carers. Most sites have either started to recruit and/or train wider workforce with larger practices or PCNs leading the way by using existing workforce. There were diverse roles engaged in and sometimes leading on PCF delivery/implementation such as clinical pharmacists, trainee nurse associates, care coordinators, or health care assistants. Closely linked to the engagement of wider workforce is another transformative change mostly experienced by patients/carers, the enhancement of a **personalised care** approach. Key activities of the personalised care agenda were mostly provided by or expected to be provided by members of the wider workforce.

What is the perceived impact on patient care, e.g., in terms of optimisation of patient care processes, increase in personalised care, patient and carer's skills, knowledge, and confidence, patient/carer-workforce relationships, impact on other care pathways, impact on patient care in other care sectors?

> [Within] a month - our backlog patients list for our six conditions went down by […] 4000 patients [or patients with 4000 LTC indicators] of a backlog of around […] 100,000 [indicators] but if we can make that kind of difference in a month with not that many practices on board, […] then we're winning.
> **ICS operational staff, pilot site 4**

PCF has generally been welcomed by PCN/practices who see the potential of PCF to improve LTC management and supporting the transition towards personalised care. It was also particularly welcome during the COVID-19 pandemic to help some practices manage the backlog. During the pilot implementation phase practices have experienced impact on patient care mainly in terms of the following aspects:

Matching workforce and patients: With the inclusion of wider workforce roles and increased task sharing, it was possible to better match patient needs with clinician skills and capacity.

Preventing deterioration: The introduction of risk stratification led to a prioritisation of high-risk patients with the potential of preventing complications and reducing care resources needed for future acute care.

> Two big benefits, that the right patient sees the right clinician, therefore that frees up time for the more experienced and skilled physicians to see the more complex patients, and it also allows us to decide who to focus on first, or who to focus on in a certain way.
> **GP, pilot site 1**

Continuity of optimised care: The ability to repeatedly run risk stratification searches, periodically reviewing patients, and having a structured process and capacity for follow-up appointments showed the potential to improve continuity of optimised patient care.

Efficiency of patient care processes: Some practices reported a decrease in efficiency in terms of reviewing patients as the separation of frameworks by specific LTC and the selection of single frameworks for initial implementation led to an increase in appointments to review patients separately by condition. The majority of sites reported the opposite with an increase in efficiency in terms of bundling reviews for separate conditions into one appointment or making use of existing appointments to also cover reviews or taking readings. This might be related to the introduction of several frameworks at the same time or an adaptation of the risk stratification or review process to target multiple conditions at the same time. The introduction of self-monitoring was generally connected to an increase in efficiency as less appointments were necessary for taking readings.

> We managed to get another 650 more cervical smears done in one of our sites […] Every site reached over 90 per cent of their learning disability checks. […] We managed to reduce the length of [the nurses'] consultations.
> **GP, pilot site 5**

Practice and workforce capacity: The application of risk stratification and subsequent involvement of the wider workforce to provide care to low/medium risk patients increased capacity in some practices to manage more patients, to spend more time with patients, for highly skilled clinicians to see more complex or high-risk patients, and for other non-LTC related care processes.

Patient/carer skills and knowledge: Being involved in their own care through increased self-monitoring was reportedly linked to an increased ownership and motivation of some patients to take care of their own health and to continued adherence to treatment plans. Self-monitoring but particularly also the involvement of wider workforce in the management of LTC patients was reported as increasing some patient's skills and knowledge about the management of their conditions and allowed for an optimised application of treatment plans, e.g., through education on the correct use of home monitoring or treatment technology.

Personalised care: The application of risk stratification but moreover increased capacity and improved fit between patient needs and practice workforce role has reportedly led to an increase in personalised care provision. Risk stratification in itself and also some of the adaptations of the searches considering additional risk factors and multimorbidity helped to prioritise and identify a targeted management approach for patients. Engaging wider workforce roles with their specific skills, knowledge and capacity led to patients receiving more tailored and more holistic care. Several practices were applying a flexible and inclusive approach towards engaging patients in LTC management and supporting access to primary care that considers the personal circumstances of patients.

> We assume […] their social care needs or their other needs, will be picked up by some of these reviews and actually then addressed via the PCN. As opposed to medicalising everything […]. We're trying to shift away from that I think in terms of a much more holistic model; […] so the social prescribing element of this.
> **PCN clinical staff/GP, pilot site 5**

There have been no reports on changes in relationships between patients/carers and workforce nor impacts on other care sectors which can be explained by sites not having engaged with PCF for that long to see these kinds of impacts. It is also too early to see any impacts on patient's clinical outcomes.

4.2. Work process changes & workforce experiences

What workforce roles are involved in implementing and delivering which parts of the frameworks?

Several different workforce roles were involved in implementing and delivering PCF (table 3). Depending on the implementation progress in sites, the number of different workforce roles varied. Within sites, the engaged workforce roles vary depending on practice size, capacity of existing staff members to become involved, or recruitment status of new staff. Four out of six sites mentioned that they were making use or planning to make use of the Additional Roles Reimbursement Scheme. There was less mention of the Personalised Care DES which might be explained by this scheme only becoming available later in 2021.

Table 3: Workforce roles involved in PCF

Workforce roles	NEL	NCL	LLR	Lakeside	C&M	WoE
GP	x	x	(x)	x	x	(x)
Practice nurse	x	x	(x)	x	x	(x)
Advanced nurse practitioner	x			x	x	
Nursing assistant	x					
Nursing associate		x				
Physician associate	x				x	
Clinical pharmacist	x	x	(x)	x	x	
Pharmacist technician		x		x		
Health care assistant	x	x		x	x	(x)
Social prescribing link worker	x			(x)		(x)
Care coordinator	x	(x)				
Health and wellbeing coach	x			x		
Paramedic		(x)		x		
Administrative roles	x	x	(x)	x	x	
Other	Community pharmacists			IT consultant	Community pharmacists	

x = involved at present, (x) = planned

Lakeside have been applying an interesting approach of modelling workforce across their whole group of practices (across several PCN) considering local needs, staff capacity, and skills. This helped them to identify training and recruitment needs and also allowed for (remote) sharing of workforce across practices within the group.

How are the workforce assessing the feasibility, acceptability and appropriateness of the frameworks?

Feasibility: It was too early to assess the feasibility of delivering PCF with most feedback referring to the feasibility during the implementation phase of PCF (see below).

Acceptability: Information on acceptability of PCF was referring more towards a general assessment of the expected usefulness and the initial decision to adopt and start engaging with PCF, and not to experiences of using PCF. Initial acceptability of PCF varied by workforce group with clinicians particularly in strategic roles being generally very enthusiastic about PCF. Operational staff, particularly in administrative or managerial roles were at times more reluctant to engage in implementing the programme with the main reasons being the additional workload during implementation, or not feeling confident taking over additional responsibility in the care of patients. Some sites had positive experiences engaging with more reluctant staff by applying a targeted communication strategy to explain the benefits of PCF to their work processes long-term.

> [PCF] is probably the one thing that I've been rolling out recently that clinicians really get, […] that people want to buy into.
> **ICS CoP**

Appropriateness: PCF was overwhelmingly seen as having the potential for a transformative change in primary care and as being beneficial to both patient care and work processes. Particularly the risk stratification process was highlighted by primary care workforce as a very useful new way of working leading to patients receiving the right care at the right time. PCF was perceived as supporting the operationalisation of the personalised care agenda and transition towards a more holistic care approach. It also provided an appropriate structure that supports the introduction and integration of wider workforce roles.

What is the perceived impact of the frameworks on work processes, e.g. in terms of workload, task sharing, relationships with other workforce and patients and carers, confidence, competence, job satisfaction, behavioural and cultural change?

Workload changes were difficult to assess with some staff members suggesting an increase and others suggesting a decrease in workload. An increase in workload was rather connected to the implementation of PCF which was expected to cause a temporary increase in workload. There were some emerging insights that there is a shift in some LTC-related work processes taking a different amount of time. For example, the risk stratification is experienced as another way of doing reviews, not increasing workload but rather decreasing it because of a more streamlined process. Review appointments might take more time with a shift to providing more personalised and holistic care. With the introduction of self-monitoring as part of the hypertension framework for example, workload changed for administrative staff who do not deal with as many patients using the practice-based blood pressure machine anymore, and time is saved for clinical staff members who needed to do much less face-to-face appointments for blood pressure checks with patients.

> Sometimes, there wasn't the capacity to put in the reviews […] and also with the results that were coming back in. Whereas now, because I can do it, I can file them and I can call them back within a couple of days. It just makes that a lot quicker. It also frees up slots for the practice nurses to do other things.
> **Specialist nurse, pilot site 5**

Task sharing between different workforce has been changing. With an increased engagement of wider workforce in the risk stratification and review appointment process, more time was available for clinicians to spend on other tasks or more complex patients. One example was an increased engagement of clinical pharmacists who were taking over reviewing moderate risk patients and would write prescriptions without the engagement of a GP.

Clinical staff felt they can build much more on wider workforce strengths and skills with the introduction of PCF. Some practices reported how the introduction of PCF improved the **relationships** among the workforce, for example, in terms of better communication in the team, closer collaboration among clinical and wider workforce, also leading to an increased understanding of different skill sets among team members, or wider workforce staff feeling more integrated in the team when they got more involved in the care of patients.

> Also the admin staff have really found it useful being part of this because it makes them feel like they're really contributing to the care that they're giving in the practice, as part of the practice care team as well.
> **AHSN CoP**

It has taken time for some (smaller) practices for these work process changes to come into effect if they had to recruit additional workforce first and could not rely on already employed staff. It was too early in the implementation process to derive any findings around relationship changes with patients, cultural/behavioural changes in workforce, or job satisfaction.

4.3. Patient experiences and engagement (indirectly reported)

To what extent are patients perceived to engage with the frameworks?

Sites were starting to engage with patients, particularly in terms of inviting them to reviews based on the results of the risk stratification searches, and in terms of self-monitoring and here mainly as part of the hypertension framework to obtain blood pressure readings. Some sites reported on engagement with patients as part of education or social prescribing appointments, but there was less information available on this. There were emerging insights that initial patient engagement might vary depending on their LTC and personal circumstances, and the way in which practices were making contact, e.g., text messages leading to less engagement than phone calls. Interestingly, some practices were starting to organise virtual group consultations for LTC patients and reported varied engagement, but it was also too early to assess this form of engagement.

How are patients perceived to assess the feasibility, acceptability and appropriateness of the frameworks?

Feasibility: Feasibility from the patient/carer's point of view reportedly improved particularly with an increase in efficiency of services, for example, when patients had to attend less appointments because of the introduction of self-monitoring and a more holistic and multimorbidity approach.

Acceptability and appropriateness: The main feedback reported to staff by patients was focusing on the enhanced personalised care and holistic approach taken by practices to managing their LTC. This was closely connected to the engagement of wider workforce and increased capacity for providing personalised care. Patients were reportedly appreciating the time wider workforce could offer them, they felt listened to, their needs taken seriously, wider or underlying medical and non-medical problems identified, discussed and managed, and a wider variety of services was provided that went beyond the traditional primary care offer, e.g., education, referral to community services.

> One of the main feedbacks that we've had is around the education side of it; that they've really loved that she's actually sat down and listened to the patients, treated them as an individual and listened to their concerns. I think it's been really nice to be able to incorporate that type of thing in this, so it was more of a personalised approach.
> **AHSN operational staff member, pilot site 3**

To what extent are patients perceived to use digital and home monitoring technology?

The use of **home monitoring technology** was mainly referring to the implementation of the hypertension framework and in connection with the implementation of the BP @home programme. Many practices reported on the distribution and use of blood pressure monitors (as part of BP @home) and they were reporting different levels of engagement depending on personal circumstances of patients and the way practices chose to distribute monitors. For example, there was higher engagement if monitors were provided to patients in financial difficulties and lower engagement if patients had to come into the practice to pick up their monitors instead of them being sent to them. There was also less uptake of blood pressure monitors in patient groups who already owned a blood pressure monitor.

The engagement with **digital technology** was mainly referring to the submission of blood pressure readings using digital devices and software, for example, AccuRx. Many patients made use of digital means to transfer readings, particularly among affluent and younger patient groups, but some LTC patients reportedly faced difficulties in engaging with digital technology and relied on other means to submit their self-monitoring readings, e.g., by phone, on paper, with the help of a carer, or they chose to not engage with self-monitoring at all. There was no information on using other digital technology, for example, for conducting remote appointments.

How are patients perceived to assess the feasibility, acceptability and appropriateness of digital and home monitoring technology?

Feasibility: Generally, patients were reported to be confident about using blood pressure monitors at home with a minority who didn't feel confident and were seeking to have their blood pressure measured in the practice which was expected. In terms of other self-care equipment, a number of patients reportedly did not use asthma inhalers or not correctly which became apparent during reviews. Patients were reported to engage in education sessions with wider workforce as part of PCF to learn about the correct use of their inhalers. There was no information yet on other self-monitoring or self-care technology. For some LTC patients, the use of digital technology to submit blood pressure readings was reportedly not feasible and often practices offered alternative ways to submit readings to practices.

> They felt the process was easy […]. Getting patients to monitor their own blood pressure they were happy to do it because they understand […] it's making sure that they are keeping healthy. […] There was probably one or two that were just, 'Can the doctor just do it for me?' which is expected.
> **PCN operational staff member, pilot site 2**

Acceptability: Acceptability of using self-monitoring technology for blood pressure was generally high with staff reporting increased levels of motivation and buy-in of patients to engage more in their own care and reduced levels of worry if patients could regularly monitor blood pressure themselves. There was some reference to increased acceptance of self-monitoring equipment with patients who already had experience using oximeters during the pandemic. While some patients had reportedly difficulties engaging with digital technology to submit their readings, self-monitoring in combination with alternative means of submitting readings was preferred by many patients instead of having to attend a face-to-face appointment.

Appropriateness: It was reported that particularly among financially deprived patient groups the free blood pressure monitors that were available through BP @home have been welcomed. Among more affluent population groups, purchasing a blood pressure monitor for self-monitoring was reportedly seen as appropriate for the level of control they gain about their own health and the reduced effort of coming into the practice for blood pressure monitoring.

4.4. Health inequalities

How are health inequalities approached in the implementation and delivery of the frameworks in implementation sites?

> We can use the social prescriber resource, I think it's just helpful for clinicians; they're going to help people find the tools that help them improve for themselves and those tools are not necessarily about medication or losing weight. They might be about loneliness; they might be about debt resolution. So there's a whole set of things that make a difference to people's lives that aren't about medicine.
> **PCN clinical staff/GP, pilot site 2**

PCF provided an opportunity to reduce inequalities during implementation caused, for example, by financial deprivation, personal/social circumstances, learning difficulties, physical impairments and multimorbidity. Some practices were specifically invited by the local ICS/CCG/AHSN to implement PCF because they were serving particularly large numbers of vulnerable patients with LTCs, and the AHSN and ICS/CCG were providing more targeted support for the implementation of PCF to these practices. The risk stratification searches included certain patient characteristics next to clinical characteristics to identify at-risk patients, including ethnicity, age, or co-morbidities. Self-monitoring devices (referring to blood pressure monitors as part of BP @home) were provided for free to patients who could not afford them. The holistic and personalised care approach and the involvement of wider workforce played a key role in enabling practices to tackle health inequalities.

> The [PCF] searches, it's based on their comorbidities, their age, […] ethnicity and […] blood pressure. […] We are doing a clinical review […] how we think we can best serve those patients, [e.g.,] people with sight impairment, severe arthritis, […] learning disabilities. Are they […] self-reporting […], working with a carer, [coming] into the practice, or [do we] send a district nurse?' Different strategies for different patient needs.
> **PCN clinical staff/GP, pilot site 1**

Sites have developed strategies to mitigate the risk of some inequalities impeding PCF implementation, particularly in terms of digital exclusion, language, learning difficulties, impairments and multimorbidity. For example, sites have amended the review process following the risk stratification by looking for further patient characteristics that might impede engagement with the self-monitoring aspect of PCF such as learning disabilities or sight impairments, and developed strategies about how to involve those patient groups. For the case of taking blood pressure readings, practices proposed to engage carers in submitting self-monitoring device readings to practices, or engaging wider community workforce or volunteers to obtain blood pressure readings and help patients accessing the practice to obtain blood pressure readings there. Regarding digital exclusion, practices have chosen to offer a hybrid engagement model for LTC management with the option of using self-monitoring devices and digital communication for patients where possible but always offering the alternative of face-to-face appointments and practice workforce taking readings or other means of providing self-monitoring readings by phone or on paper. In terms of language hurdles, some practices were providing information in different languages or were working on changing the language of digital software solutions used to submit self-monitoring readings.

4.5. Implementation outcomes, determinants & activities

How many implementation sites are adopting the frameworks and to what extent?

Table 4 provides an overview of how many PCNs or practices were currently adopting PCF (engaged), were committed to adopt PCF (planned), or showed an interest in potentially adopting PCF (interested). Most sites opted to start implementation with a smaller number of PCN/practices with the intension to roll it out across all PCNs in their AHSN region in the future.

Table 4: Adoption of PCF across sites

PCF adoption level	NEL	NCL	LLR	Lakeside	C&M	WoE
Engaged	10 PCN	7 PCN 2 practices	6 PCN	4 PCN	12 PCN	2 practices
Planned	48 PCN		25 PCN			25-30 practices
Interested						20-40 practices

Table 5 gives an overview which LTC frameworks were currently implemented or planned to be implemented in each pilot site. There was a large variation across sites having chosen either to implement all or the majority of frameworks or starting with a few frameworks. The majority of sites chose to implement the hypertension framework.

Table 5: Selection of LTC frameworks currently implemented or planned to be implemented across sites

LTC framework	NEL	NCL	LLR	Lakeside	C&M	WoE
Hypertension	x	x	x	x	x	
Diabetes	x		x	x		x
Asthma	x		x	x	x	x
COPD			x	x	x	
Cholesterol			x	x	x	
Atrial Fibrillation			x	x	x	

How are the frameworks implemented in implementation sites (in terms of e.g., process, activities, recruitment of sites/practices, targeting sustainability/spread, adaptations, behavioural and cultural change)?

Sites applied a variety of implementation strategies and activities as set out in the Theory of Change. It is important to highlight that no single implementation strategy/activity was connected with successful implementation but a mix of these activities was necessary, such as context assessment, dissemination of information, stakeholder engagement, and capacity building. Activities/strategies developed by sites to tackle barriers and using enablers (incl. unintended consequences) are covered in the next section. We are elaborating in the following on the processes/activities which were of particular relevance for the implementation of PCF.

Recruitment of practices: The majority of sites applied a voluntary approach for PCNs/practices to sign up for implementing PCF, e.g., via a call for expression of interest. Some PCNs or practices also approached either their local AHSN, ICS/CCG or the national team to express their interest. This approach led to the engagement of "willing" practices who most often have the capacity to implement PCF. One pilot site added another recruitment strategy and directly invited additional practices who might benefit the most from implementing PCF to manage their backlog of LTC patients. Practice engagement was led mostly by senior PCN/CCG leads. One pilot site engaged mid-career primary care clinicians to lead practice engagement.

Targeting sustainability/spread: Sites were employing two strategies towards spreading PCF across their region, either all at once which took more time at the beginning to setup a governance strategy or in a stepped approach, starting with some pilot PCNs/practices and the aim to rolling out PCF across all PCNs/practices at a later stage.

There were different strategies aiming to achieve sustainability with the most mentioned being the development of local ownership. Achieving buy-in from local system organisations such as CCGs and PCNs, and from senior local leaders at CCG or PCN level was seen as key strategy to achieve sustainability. It was suggested in one site that the local AHSN should work more in the background and the local organisations being "the face of the project" (AHSN operational staff, pilot site 6). Another strategy to achieve sustainability was assuring funding in the long-term with one pilot site currently mapping annual funding sources which could support PCF long-term. Any support from national or local level in terms of bringing in levers and incentives was seen as another pathway towards sustainability. Taking time to plan the implementation project, assessing the local context and developing a local implementation and delivery strategy that best fits the local context and that is owned by local stakeholders was also expected to help achieve sustainability, even if that could cause a delay of the start of the implementation. Furthermore, the importance of continuous development of implementation and delivery support, of relevant metrics for evaluating PCF, and adding to and updating the evidence base underlying PCF beyond the initial pilot implementation phase was highlighted.

Behavioural and cultural change: It was too early in the implementation process to gain much information on behavioural and cultural change. In the pilot implementation phase, the focus of such activities was on encouraging and supporting practices and individual practice staff members to adopt/implement PCF. This encompassed mainly dissemination and communication activities, such as for example, adopting a targeted communication strategy towards administrative practice staff to explain the benefits of PCF to their work processes.

> [We don't know] what the core elements of the programme are. What can you mess with and what can you not mess with, and what's the evidence base that sits underneath that? For me, if none of them do remote monitoring, that probably wouldn't be [the] end, but we don't know.
> **AHSN strategic staff, pilot site 4**

Adaptation: The ability to adapt PCF to local needs and contexts was key to adoption, and it was crucial that PCF was flexible enough to allow this. However, there was some concern that there was not enough clarity yet around specifying the core components of PCF, and how much adaptation of the component features was possible without limiting its effectiveness. Some barriers, for example around coding, arose from trying to integrate PCF into local practice information systems. This prompted some sites to develop or request further adaptations to PCF.

What contextual barriers and enablers are implementation sites encountering (in terms of characteristics of the (delivery of the) frameworks, implementation process, involved individuals, organisational context, external context, incl. unintended consequences)?

External context characteristics (beyond implementation site organisations)

National and local priorities: There were a lot of different asks and initiatives coming from the national level (NHSE/I & NHSX) and aligning these with the implementation of PCF could be improved. A specific example was the combination of PCF and BP @home with some sites having realised the benefits of having a clearly defined additional project in BP @home that helped them to implement PC, and others having seen BP @home as separate initiative from PCF, and spending a lot of time trying to implement both or align or integrate them. Aligning PCF with local priorities and policies was seen as an enabler, for example, by being able to select specific LTC frameworks that best fit local needs.

> There were so many NHS England things. […] We […] get different messages. […] the pilot sites have the potential to be a real enabler for this […] if they could just streamline and clarify the asks […] what's pilot work, what's [regional] work, what's national work, what's coming down the pipeline?
> **ICS/CCG operational staff, pilot site 1**

National and local levers: In relation to PCF, the Quality and Outcomes Framework (QOF) has been mentioned by many participants as an important lever. During part of the COVID-19 pandemic, QOF supported PCF implementation as risk stratification was made a requirement for income protection and PCF was offering this risk stratification approach. Practices reported challenges aligning the usual outcome-oriented QOF requirements with the process-oriented PCF approach which delayed the implementation process in some cases. Some staff perceived PCF as not helping to achieve QOF targets but adding additional workload, e.g., by spending more time with patients as part of PCF than they would have usually done to meet QOF targets in the past. Sites were looking at different mitigation strategies, for example, a call to the national level to tweak QOF, or to develop local levers by CCGs/ICSs that allow PCF to work alongside QOF.

COVID-19 pandemic: The pandemic was functioning both as a barrier and enabler. PCF was seen as a solution to manage the backlog of LTC patients that have increased during the pandemic which in turn drove implementation of PCF. The increased workload caused by the pandemic during the implementation phase was often perceived as a barrier as practices didn't have the capacity to implement PCF.

Internal context characteristics (implementation site organisations, i.e. ICS/CCG, PCN, practices)

PCN maturity: There was a large variety in PCN maturity which influenced implementation. Mature PCNs seemed to have more headspace, freedom/independence in decision making, and established working and collaboration processes in place that enabled PCF implementation. Less mature PCNs were focusing on the new governance setup and PCF implementation was less of a priority. In less mature PCNs, implementation was driven more via single practices which might have driven implementation short-term but was costing more time and might have delayed the implementation process across a PCN long-term.

Pressures in primary care: The very common time pressures in primary care were often mentioned as a barrier to implementation, particularly during the pandemic and some practices and workforce have been reluctant to implement PCF as they perceived it as adding too much workload. Such reluctant practices and workforce could sometimes be engaged by communicating the potential efficiency and workload gains for their own work processes in the long term.

Existing practices, processes and infrastructure: Some practices and workforce were reluctant to implement PCF if they had the feeling they were already applying these processes. Another barrier was the difficulty to integrate PCF with existing system infrastructure. These integration issues were now explored by the national leadership team, for example, the integration with Ardens. Another often mentioned barrier was the inability to code patients in practice information system who had been reviewed which led to patients being called/invited unnecessarily again. PCNs or practices developed work-arounds in their own IT systems which caused delays and increased costs of implementation. The national leadership team in collaboration with NHSE have been working on a general solution.

> So the biggest problem we have at the moment […] is the fact that the Ardens way of doing recall is different to the way that [PCF] works. […] That's going to take time to move from processes that we were adopting two years back.
> **ICS/CCG strategic/operational staff, pilot site 6**

Innovation characteristics (PCF)

PCF benefits - free, flexible and transformative: PCF was often perceived as transformative in its potential for primary care to deliver a more holistic, personalised, and proactive public health approach which was an enabler for implementation as it was aligning with local priorities and particularly also the ambitions of primary care workforce. Its flexibility in terms of local adaptability and being available free of charge also enabled implementation.

Evidence base: Some participants mentioned the lack of evidence for PCF which could be a barrier to implementation. This refers to the form or combination of components that PCF consists of, rather than the content of the frameworks, the risk stratification and suggested management and treatment actions that are evidence-based. Related to this was the question of how the frameworks would be kept up to date in the future which might function as a barrier if no process was set in place. The national leadership team have been working on developing such a long-term sustainability plan.

Implementation process characteristics

Unrealistic implementation plans and implementation support: Time plans or expectations on how quickly PCF could be implemented were experienced by some as unrealistic risking demotivation of implementers. Suggested mitigation strategies were to fund more back-fill time for primary care practitioners, planning in more time for implementation preparation, better aligning different steps in the implementation process and context (e.g., see above alignment with levers). Implementation support tools, e.g., a communication pack targeting practice workforce, was perceived as helpful in reducing implementation workload; however, some of these support tools were not available early in the implementation process which caused delays or sites developing their own support tools.

Stakeholder engagement: There were two important stakeholder groups for PCF implementation, practice staff and senior (clinical) stakeholders. Having the support of senior clinical stakeholders at PCN or ICS level was perceived as an enabler similarly to engaging (non-clinical) staff in practices, e.g., practice managers. Focusing engagement on these stakeholder groups, taking the time to foster engagement, and finding the right language or evidence (e.g., experiences from other sites) to engage and support these stakeholder groups were perceived as successful implementation strategies.

Adaptation: The ability to adapt PCF to local needs and contexts was key to achieve adoption and it was crucial that PCF was flexible enough to allow this. However, some participants expressed their worry that there was not enough clarity yet about what the core components of PCF were and how much adaptation of which components was allowed without limiting its effectiveness.

Governance: Governance approaches varied across sites with some having taken a comprehensive system approach aiming to implement all frameworks across all PCNs in one area at the same time and others having chosen a step-wise approach starting with few frameworks and a small number of PCNs. Selection strategies of practices varied with approaches to 'work with the willing' or targeting practices that could benefit the most from PCF but had little time for implementation. There were different leadership approaches to employing enthusiastic but busy mid-career practitioners at practice level or senior clinicians at PCN/ICS level to drive implementation. All of these approaches have their advantages and disadvantages, and there was not enough information yet if one approach worked better than another.

Individual stakeholder characteristics

Enthusiastic champions and careful opponents: A clear enabler was the support of enthusiastic individual (often clinical) stakeholders, and ICS/CCGs driving the implementation process as local champions and engaging other local stakeholders to become involved and adopt PCF. This was also linked to achieving local buy-in driving sustainability in the long term. Participants suggested to support champions, for example, by providing back-fill funding and implementation support tools. On the other hand, there were some practitioners reluctant to engage, mainly due to additional workload during the implementation phase. A targeted communication strategy to explain the benefits of PCF to their work processes long-term was suggested as a mitigation strategy.

> The CCGs are super-engaged, really keen on taking a population health management approach, and being very proactive with regards to aligning the CCG long-term provision strategies and local incentive schemes to the frameworks.
> **AHSN CoP**

Role of AHSNs and national leadership team: Several participants praised the local AHSNs as key for enabling implementation by providing implementation support and sign-posting, for example, to funding sources and levers. Equally, the national leadership team was overwhelmingly seen as enabling local implementation of PCF providing implementation support and continuously working to solving problems and improving PCF during the pilot implementation phase.

How are implementation sites assessing the feasibility, acceptability and appropriateness of the implementation process?

Feasibility and acceptability: Particularly the benefits and characteristics of PCF, the availability of implementation support from the national leadership team, and availability of funding led to increased acceptability and feasibility of the implementation effort. Some perceived the implementation phase as producing more additional workload and taking more time than initially expected and particularly barriers emerging during the implementation phase caused additional workload and delayed progress. Additional pressures for primary care arising from the COVID-19 pandemic during the implementation phase, for example the vaccination programme, limited feasibility of implementation. These limitations to feasibility and acceptability are referring particularly to the pilot implementation phase and cannot be generalised to future implementation efforts.

Appropriateness: Implementation plans and expectations for the pilot implementation phase were perceived by some as unrealistic. Appropriateness could have been increased with the provision of some implementation support tools and local/national levers being better aligned with the implementation efforts. This is particularly applying to the pilot implementation phase and cannot be generalised to future implementation efforts.

How do implementation sites share learning to enable implementation in other sites (e.g., in terms of learning processes, type of knowledge shared, lessons learned that is particularly useful for future implementation sites)?

Shared learning processes: Communities of Practice were the main method to share learning. Next to the two communities set up by the national leadership team for AHSN and ICS/CCG representatives, there were also local communities established in some sites across PCN/practices involved in that pilot site. Some sites established regular meetings or virtual drop-in sessions for local implementation stakeholders to come together and discuss progress and any issues with the local CCG/ICS or AHSN. There was also a lot of informal shared learning, also developing on the back of the Communities of Practice, for example, individual conversations across sites, practice staff connecting to other staff members within a practice or PCN, or connecting to their local CCG/ICS or AHSN. Sharing learning was generally perceived as very useful, with the majority of sites particularly appreciating exchanging learning with other sites, however, some felt that there were too many meetings being organised and they didn't have the capacity to attend.

> I have learned the value in being part of the Community of Practice. I really enjoy those monthly sessions, and I have sparked off other meetings so I catch up with other project managers in the other AHSNs separately. We share our learning and we catch up and share resources; [but] it's really valuable to hear from [the national team].
> **AHSN operational staff, pilot site 6**

Type of knowledge shared: The Communities of Practice would be used to disseminate any relevant information from the national leadership team to local implementation stakeholders, share progress updates and any emerging issues from sites, and discuss any solutions to issues, for example, by sharing experiences from sites or developing solutions together. Some Communities of Practice sessions would be dedicated to certain topics of relevance to all sites, or would encompass in-depth presentations from sites around locally developed solutions or adaptations to PCF that were of interest to other sites.

Particular lessons learned for future implementation sites are summarised in the next section.

5. Conclusions & Recommendations

PCF is in an early phase of implementation and there are some emerging insights into practice workforce and patients starting to experience the potential PCF has to offer, particularly in terms of optimised care and enhanced personalised care. All aspects of PCF, risk stratification, self-monitoring, and engaging wider workforce were intertwined and equally relevant to offering these opportunities.

It was too early for this evaluation to gather information about later stages of PCF delivery, workforce experience of the actual use of PCF and not only its implementation, directly reported patient/carer experiences, and later-stage effects on job satisfaction and retention, workload, workforce-patient relationships, health inequalities, and clinical outcomes of patients.

During the pilot implementation phase, it was particularly important that PCF allowed for local tailoring and adaptation to fit the local needs and context, that there was continuous and targeted implementation support provided by the national leadership team and local AHSNs and ICS/CCG, and that there was the option to share learning among implementation stakeholders.

Based on the evaluation findings, we can derive the following key recommendations for different stakeholder groups:

Innovator / national leadership team:
- Continuous development and adaptation of PCF and implementation support tools in response to barriers/challenges identified and emerging during the pilot implementation phase
- Conducting/commissioning another evaluation at a later implementation and delivery stage of PCF

Pilot sites (AHSN, ICS, PCN, practices):
- Focusing on sustainability of PCF in current implementation sites, particularly in terms of a continuous funding source
- Targeting implementation and delivery support to smaller and struggling practices
- Continuing roll-out to further sites only after challenges identified during pilot implementation phase are addressed

Future adopters and implementers (AHSN, ICS, PCN, practices):
- Taking sufficient time to plan, prepare, and conduct implementation
- Ownership for implementation and delivery should be with local implementation stakeholders (ICS/CCG, PCN, practices), securing senior clinical champions and system-level (CCG/PCN) buy-in, seeking local AHSN support
- Supporting local implementers particularly with funding to create implementation capacity (e.g., back-fill funding for senior clinical implementation leads) and delivery capacity (i.e., engaging wider workforce)

Policymakers, commissioners (NHSE/I & NHSX):
- Seeking alignment of national and local levers and incentives with implementation efforts, particularly concerning national programmes
- Aligning and guiding local stakeholders in terms of how different closely related national programmes and requests are to be operationalised

Future evaluators:
- Capturing insights at later stage of PCF delivery and implementation
- Collecting patient/carer-related information directly from patients/carers
- Identifying core components and functions of PCF and developing and validating evaluation metrics