



Primary Care Home

Evaluating a new model of primary care

Research report

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Executive summary

Introduction to the primary care home (PCH) model

The National Association of Primary Care (NAPC)¹ developed the Primary Care Home (PCH) programme to inspire and support general practice to integrate with the wider health and social care workforce. The programme aims to redesign services to respond to changing population needs, including addressing the social determinants of health and ultimately to deliver on the quadruple aims of health care.

The four core characteristics of the PCH model are: a combined focus on personalisation of care and population health; an integrated workforce with partnerships spanning primary, secondary, mental health, community care, social care and the voluntary sector; aligned clinical and financial drivers that allow for shared risks and rewards between partners; and provision of care to a registered population of between 30,000 and 50,000.

The model draws on the NAPC's organisational memory of the reform programmes for the NHS over the last 30 years. The model creates a conceptual framework for aligning goals and working practices of health and care professionals, rather than a blueprint for implementation. A fully formed 'primary care home' can be seen as the sum of multiple local service innovations and new working practices focused on the health needs of specified subgroups of the local population.

Formative evaluation of the PCH model

Fifteen PCH rapid test sites (RTSs) were selected in December 2015 and launched the following April. The NAPC commissioned the Nuffield Trust to formatively evaluate early development and impact of the PCH model in RTSs between July 2016 and March 2017. The evaluation started at the earliest stage of complex service developments, which changed and adapted as sites went along. It was therefore formative, using early findings to shape the ongoing development of RTSs.

¹ www.napc.co.uk

Each site approached PCH development in a different way, with some launching several interventions from the start and some just one or two. The evaluation therefore focused on the main two interventions in each RTS, and how to combine evaluation of individual interventions *and* progress towards establishing a PCH.

A number of factors complicated the evaluation. The most significant of which was that the Nuffield Trust evaluation took place when RTSs were very early in the journey to becoming primary care homes. Sites were still clarifying how their initial PCH priorities would be implemented and building skills to undertake their local evaluations.

The Nuffield Trust evaluation had three broad aims. First to understand how RTSs were 'building' their PCH model, then to advise on possible evaluation approaches, and finally to share learning across sites. Phase 1 involved all sites (13 engaged with this work) and mapped early approaches to building and evaluating a PCH. Phase 2 focused on three case study sites that had made early progress with implementation – The Healthy East Grinstead Partnership, St Austell Healthcare and Thanet Health CIC – to provide more in-depth advice on data and evaluation methods, as well as draw in early quantitative impacts where possible. We present a summary of our findings below.

Key points

How RTSs began building and evaluating their PCH model

- We reviewed all of the RTSs' PCH logic models and interviewed RTS leads. RTSs targeted their early work at meeting their local health needs and addressing weaknesses in local services. Common objectives included: improving care for high-need, high-cost patients; increasing the sustainability of general practice; developing proactive services to keep people healthy in the community; and developing new workforce skills.
- PCH interventions targeted specific patient groups and complex or frail older patients were the most frequently targeted group. Within six months, the PCH had stimulated partnership working and developed or improved services for at least one patient subgroup across most sites. A few RTSs were also operating as pilot sites for local commissioners who were looking to expand the model.
- The Nuffield Trust evaluation encouraged RTSs to align their local objectives and evaluation metrics with the quadruple aims of the PCH model. By the end of Phase 1, good progress had been made to select metrics and identify data sources, with most

RTSs focusing on hospital and GP activity and patient and staff experience. However, we observed that the financial and human resources committed to evaluation were limited and most RTSs had not yet articulated their theory of change (i.e. how their prioritised interventions would deliver the desired impacts).

Enablers for developing the PCH model

We interviewed PCH teams in three case study sites and worked with the NAPC to identify six 'enablers' to developing a PCH. Key findings are described below.

- **Leadership and engagement:** We observed two models of leadership – CCG led (Thanet and East Grinstead) and provider led (St Austell). Where provider led, leaders felt their independence from the CCG allowed them to make faster decisions. Where CCG led, they were better able to access whole-system data, to link PCH work to commissioning priorities, and to allocate staff and other resources to the PCH.

We observed the PCH model act as a strong catalyst for collaboration between organisations and care sectors. Yet staff and patients were more easily engaged by describing anticipated benefits of individual interventions than by describing the end vision of a PCH itself. As a result, not all staff were aware of the 'concept' of a PCH.

- **Workforce training and culture:** All case study sites were redefining relationships between GP staff and the wider primary community and voluntary sector workforce, often facilitated by co-location and creation of new multidisciplinary teams, which represented early successes for the PCHs. However, it was difficult to assess the size of a PCH team, as some staff only worked part time and numbers could change rapidly if staff providing existing services in a partner organisation were 're-badged' into a PCH intervention.
- **Alignment of financial and clinical aims:** All sites had channelled additional resources into the PCH (beyond £40,000 transformation funding) in the form of staff time and/or funding. Thanet had developed notional budgets for its PCHs and St Austell was reconsidering an initial decision not to take on a PCH budget. East Grinstead had discussed risk/gain sharing with partner organisations, which revealed future collaboration was likely, but leaders were not yet ready to take this on.

- **Organisational form:** At the end of the evaluation, PCH work had been facilitated using Memoranda of Understanding (MOUs) rather than legally binding contracts. Thanet had plans for its four local PCHs to work together as an integrated accountable care organisation (that might in future employ GPs). St Austell and East Grinstead were less certain about future organisational form, although East Grinstead had started to collaborate CCG-wide and with the local Sustainability and Transformation Partnership (STP).
- **Monitoring and evaluation:** All sites had given considered thought to measurement and evaluation, but none had yet established a systematic process for tracking progress against a defined set of outcome measures. Thanet and East Grinstead could link selected data across hospital and community services. Links to social care data were established in Thanet and under development in East Grinstead, but St Austell was limited to using GP practice data.

Early impacts of case study PCH interventions

- Triangulation of patient stories and staff interviews suggested the PCH model had strengthened multi-professional working and stimulated new pathways and services that aimed to deliver high-quality care.

Early quantitative evidence demonstrated that East Grinstead increased self-referrals to musculoskeletal services, freeing up time in general practice. St Austell found their social prescribing pilot had positive impacts on prevention and population health (e.g. wellbeing scores increased and weight loss was achieved). Thanet undertook internal analysis of their pilot of an acute response team for frail older people, and recorded a reduction in hospital admissions over the same time. The forecast cost savings were between £0.1 million and £0.27 million. However, no sites were systematically monitoring inputs into the PCH model, which made it impossible for our team to comment on cost effectiveness.

Reflections for rapid test sites and future PCH sites

From our analyses, we developed a series of lessons for RTSs and future PCH sites on the implementation and evaluation of the PCH model.

Implementing the PCH model

- **Be clear about your ‘theory of change’:** Ensure that every PCH initiative introduces links to an agreed set of local outcomes and that there is an explicit theory of change – rooted in published evidence and local knowledge – to explain how planned changes to create the PCH model will contribute to local outcomes and deliver the quadruple aims of the PCH model.
- **Communicate the PCH vision:** A strength of the PCH model is its simplicity: four core characteristics and four aims. Leaders need to communicate how the aims of each specific initiative address local needs, benefit patients and staff, and fit with the PCH model to build understanding of the PCH concept.
- **Ensure local initiatives are aligned to the aims of the PCH model:** Many RTSs built on local strengths and developed existing projects to ‘kick-start’ their PCH. This created a ‘grassroots’ feeling, and generated the energy and effort required for transformation, but also resulted in varied interpretations of the PCH model. There are merits in ensuring fidelity to the model, but this should not force emerging sites to undertake activities and initiatives where there is no local support. Aligning local objectives with the four characteristics and aims of the PCH model – perhaps through the continued use of logic models or other tools describing change theories – is an essential but difficult balancing act that should be part of starting each new initiative.
- **Support iterative development:** Many sites modified interventions throughout development and implementation phases. To learn and benefit from iterative change, long-term commitment is needed from senior leaders to manage and support change. Formative evaluation methods (such as action research and plan-do-study-act cycles) are also needed to enable RTSs and future sites to learn quickly from early experience and adapt their interventions accordingly.
- **Ensure PCH planning and evaluation develop hand in hand:** Implementation must be linked to formative and summative evaluation from the earliest stage. Access to

timely, reliable and suitably granular data is essential, along with capacity and capability to extract and analyse data from the start.

- **Involve patients and the community:** Some PCH leaders engaged with patient groups and community organisations, but there was scope for their wider involvement. Helpful contexts can include: a historical role for patients in health care system decision-making and change efforts, awareness in staff and patients of success in previous efforts to involve patients; and explicit methods to involve patients and their representatives in feedback and decision-making.
- **Develop robust governance arrangements:** Emerging PCHs need to develop robust organisational governance arrangements at an early stage, if they are to mature to a point where the governing bodies of all participating organisations are willing to accept the financial risks and potential gains associated with joint working.
- **Begin to build knowledge and capability to align clinical and financial drivers:** Emerging PCHs need to rapidly develop systems to monitor resource use and track outputs and outcomes to build the understanding and capacity to hold and manage budgets in the future.

Evaluating the PCH model

- **Link local indicators to the PCH model:** Indicators developed to evaluate progress and impact in RTSs should be linked to the four aims and characteristics of the PCH model to demonstrate theory of change. Indicators should cover enough breadth to be able to measure impact sufficiently, but not be so unfocused that too much random noise in the system obscures what could be valuable findings.
- **Identify the appropriate data for capturing progress:** The availability of appropriate data can be a major challenge. The ideal data set for interventions affecting small populations would be at the patient level and linked across all care sectors, including social care. However, this is not always going to be available and the next best option is often aggregated primary or secondary care data that fit the target population or secondary care episodes within primary care systems.
- **Choose appropriate baselines:** Baselines that are chosen for local evaluations often reflect the situation before the intervention has happened. In several cases this is

appropriate, but there are also many situations where it would be better to use a moving baseline that is continually updated over time.

- **Ensure that observed changes are not due to chance:** Assessment should be made about the extent to which observed changes represent more than a chance occurrence. There are a range of methods that fall under the umbrella term “statistical process control” or SPC, which evaluate time series data and will flag when there is sufficient evidence of a change.
- **Use statistical power calculations to find out how easy it is to spot a change that has occurred:** The number of patients being followed up may be too small to detect if the intervention is truly having a benefit – particularly when measuring against less frequent outcomes, such as hospital admissions. Power calculations should be performed to find out whether it is viable to measure the outcome.
- **Think about whether you can attribute changes in outcomes to the intervention:** Be mindful of other interventions in the PCH that may have an impact on your selected outcomes measures, and choose measures that will be closely linked to your intervention.
- **Ensure you have the appropriate analytical resources:** We recommend that all sites have access to statistical analytic support to ensure that available data is being assessed correctly. However, this may need to be centrally funded and organised, as few PCHs will have the skills or resources available ‘in house’.

Reflections for the NAPC

Issues that NAPC should consider in its ongoing leadership of the PCH programme include:

- Support PCHs to identify outcomes and interventions that address local objectives *and* are consistent with the four aims and characteristics of the PCH model. This could be delivered through the NAPC:
 - providing ongoing coaching about the PCH model, such as how to align clinical and financial drivers

- supporting the development of logic models and other critical elements that support PCH development, such as local provider engagement or population health management
- signposting to advice and training on data extraction and analysis.
- Develop communication aids to help explain the causal links between local service developments and the characteristics and aims of the PCH model.
- Support sites to develop their strategic plans for PCH development to ensure alignment with the aims of their STPs.
- Encourage future sites to undertake evaluation of their PCH interventions and monitor the resources used to develop PCH interventions to understand cost effectiveness.
- Support the ongoing spread and sharing of best practice in development in PCHs, including creating a 'reference library' of exemplar logic models, PCH case studies and linked business cases, and measurement options. Create opportunities for PCHs to undertake peer-to-peer learning, and link them with other similar NHS initiatives.

Reflections for the wider NHS

To support the future development of PCHs, national policy-makers and the wider NHS may need to:

- Acknowledge the time needed to build the relationships that underpin a PCH and recognise that external contexts (particularly STP development) may help or hinder their formation.
- Balance additional general practice funding for individual practices with investment in resources to support the types of multidisciplinary work at scale described in this report.
- Invest in an organisational development (OD) role in local health economies to support and develop the organisational capabilities needed for large-scale primary care initiatives and the development of the PCH model to emerge.
- Support local areas in solving problems with accessing the necessary population health and cost data and integrated IT. This will provide the infrastructure enabling local health and care economies to identify population health priorities, segment patient populations, develop appropriate integrated services, undertake financial planning, and monitor progress against objectives.

1. Introduction

The primary care home (PCH) model was developed by the National Association of Primary Care (NAPC) as a response to workforce challenges, rising demand and opportunities to shape transformation in local health and care systems across England. The PCH programme aims to inspire and support general practice to integrate with the wider health and social care workforce to deliver holistic, proactive care tailored to the needs of the registered patient population, blending initiatives to sustain health and wellbeing with more traditional services to manage illness.

This vision aligns with NHS England's aims to move care closer to home as part of the Five Year Forward View, and with the aspirations of primary care providers to remain sustainable. The PCH model is emerging in an NHS context of widespread transformation and new care models. It aims to stand out as a bottom-up, self-sustaining option for primary care development that will be supported by networks of peers from across different local provider organisations.

Fundamental to the vision are the four core characteristics of the PCH model:

- 1. An integrated workforce, with a strong focus on partnerships spanning primary, secondary, community and social care and mental health.** The NAPC definition of an integrated workforce is a team drawn from an existing workforce comprising professionals from health care (e.g. primary, community, mental health, palliative care and appropriate specialist care teams), social care, voluntary and charitable sector, and patient groups. The NAPC believes that the 'optimum' size for a workforce to be truly integrated and effectively utilise local resources to deliver the quadruple aims of health care is 100-150 (Dunbar, 1993; Hill and Dunbar, 2003).
- 2. A combined focus on personalisation of care with improvements in population health outcomes, which includes:**
 - balancing the provision of personalised care, responsive to the needs of individuals with population health planning and provision
 - focusing on health and social needs, including the social determinants of health
 - focusing on people who share characteristics within a population rather than a disease

- providing proactive, preventative care, for healthy and chronically ill people
 - considering the health of people who are not accessing care regularly.
3. **Aligned clinical and financial drivers with shared risks and rewards.** The aim is for a PCH to have responsibility for a whole-population budget formulated on the needs of the registered list of 30,000-50,000 patients, built around the constituent GP practices involved. The level of whole-population funding will be dependent on the needs of the population and the scope of services that is agreed through local commissioning arrangements.
 4. **Provision of care to a defined, registered population of between 30,000 and 50,000:** From the modelling work the NAPC has done, the 100-150 member PCH workforce is able to maximise the delivery of population health outcomes to a place-based registered population size of 30,000-50,000. At this size the NAPC believes that the PCH is the right size to scale and provide care.

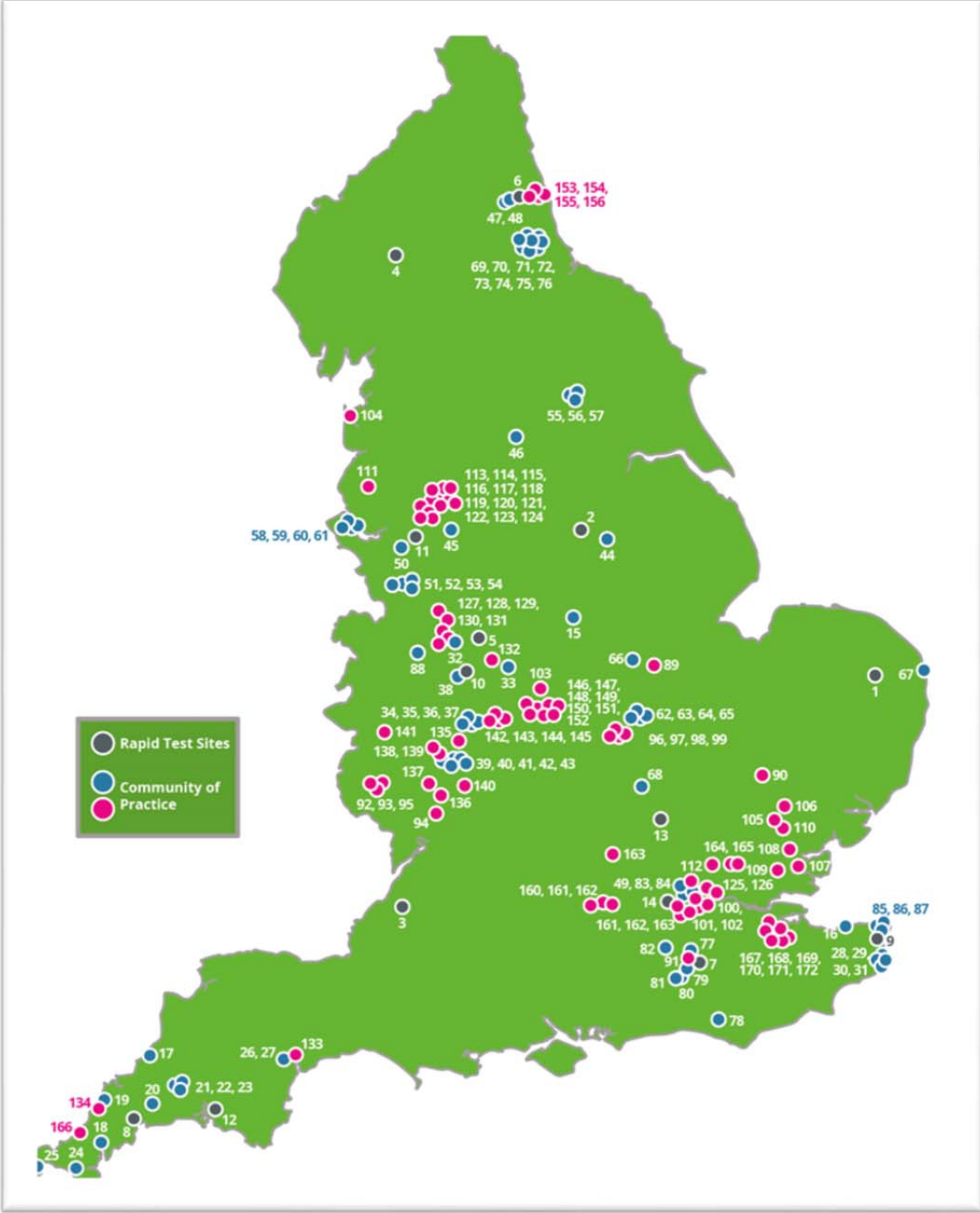
The PCH model aims to achieve the quadruple aims of health care to:

- improve health and wellbeing for patients
- improve the quality of care for patients and communities
- improve the overall use of local health and care resources
- improve staff satisfaction and reduce burnout (Berwick et al., 2008; Bodenheimer and Sinsky, 2014).

A period of rapid testing of the PCH model across England

The NAPC selected 15 ‘rapid test sites’ (RTSs) in December 2015 to test and assess the enthusiasm and development of the PCH model at local levels. Each RTS was allocated £40,000 of funding to provide them with the headspace to develop and implement the model from April 2016 onwards. Since then, a further 170 sites have been added to the programme as ‘community of practice’ sites (see Figure 1 on page 16). NHS England has proposed that the PCH model – focused on populations of 30,000 to 50,000 patients – could be one local delivery model for services commissioned through which a new multispecialty community provider (MCP) could be developed (NHS England, 2017). The speed at which the model is being adopted and expanded suggests that it is therefore important to learn quickly about the impact of this new concept of primary care delivery and integration.

Figure 1: Map of PCH RTSs and community of practice sites



Purpose of the report

The NAPC commissioned the Nuffield Trust to undertake a formative evaluation of the early development of the PCH model in RTSs between July 2016 and March 2017.

The NAPC wanted to evaluate whether the implementation of the four characteristics of the PCH model across local services and initiatives would deliver improved outcomes across the quadruple aims. Given the very early stage of PCH development, the aims of the evaluation were therefore to look at what initiatives sites were focused on, how sites were developing the characteristics of the PCH to deliver them, what indicators could be used to measure impact and what, if any, early impacts were being achieved. The Nuffield Trust advised sites on possible evaluation approaches and also shared learning across sites.

We interactively fed back to the NAPC and RTSs about sites' progress, which informed the early phases of the programme and the ongoing development and spread of the model. This report summarises the Nuffield Trust's findings about how RTSs implemented their initial PCH priorities and, where early impacts were available in RTSs, we captured these as findings. We also provide lessons to the RTSs, NAPC and wider NHS on enabling RTSs to continue building their PCH.

2. Evaluation methods

The Nuffield Trust’s formative evaluation of the primary care home model was carried out in two phases between July 2016 and March 2017. The research methods are summarised in Table 1, and detailed description follows.

Table 1: Summary of aims, research questions, data collection approaches and outputs

	Phase 1 (Jul-Oct) With 13 RTSs	Phase 2 (Nov-Mar) With three case study sites
Aims	<ul style="list-style-type: none"> Map 13 RTS plans and alignment with the PCH model Advise 13 RTSs on readily available data and possible measures Select three RTSs for in-depth case study analysis 	<ul style="list-style-type: none"> Support three varied sites to refine logic models Collect data to support/develop PCH programme theory Co-design evaluation approaches Spread learning to RTSs and ‘community of practice’ sites
Research questions	<ul style="list-style-type: none"> How is the PCH being implemented by RTSs – what patient cohorts, interventions and progress measurement approaches did they prioritise? How do the selected priorities align with the PCH model described by the NAPC? 	<ul style="list-style-type: none"> How have case study sites been forming? How prepared are case study sites to carry out an effective longer-term evaluation? Have case study sites demonstrated improvement against their own performance in the short term and against PCH goals?
Data collection approaches	<ul style="list-style-type: none"> Review of 13 logic models and PCH applications Telephone interviews with clinical and managerial leads across 13 RTSs Questionnaires for 13 RTSs about data, key indicators and measurement tools 	<ul style="list-style-type: none"> 30 face-to-face interviews with leadership and frontline staff Follow-up telephone interviews with managers and analysts Co-creation of ongoing monitoring and evaluation approaches (with the goal of developing a dashboard with key measures)
Outputs for RTSs, case study sites, and the NAPC	<ul style="list-style-type: none"> Personalised letters with advice on nationally available data, local indicators and bespoke tools (e.g. patient and staff satisfaction questionnaires) for RTSs Workshop with all RTSs and NAPC to share findings from document review, interviews, data questionnaires 	<ul style="list-style-type: none"> Personalised letters with advice on nationally available data, local indicators and bespoke tools for RTSs Workshop with all RTSs to share case study findings Training with practical tips for measurement and evaluation Evaluation resources (e.g. resource use costing template, review of bespoke tools aligned with PCH aims [see Appendix]) Final report

In **Phase 1** we worked with the rapid test sites (13 engaged with this work) to review their logic models, interview their leaders, and identify their initial priorities in building a PCH. We mapped the interventions they were implementing and the populations they were targeting to examine how these would demonstrate the four characteristics of the PCH model.

We then advised RTSs on how to evaluate their PCH impacts against the quadruple aims of the PCH model. The advice was provided via personalised advice notes, which aimed to:

- Encourage sites to align the aims and outcomes of their interventions with the quadruple aims, which we divided into six distinct measurement domains (see Table 2).
- Highlight basic tools that sites could use to collect data to measure patient and staff satisfaction. To facilitate bespoke data collection, we also developed templates of surveys to measure staff and patient experience/satisfaction with the PCH.
- Advise sites on what additional data they could be collecting and, where sites had already decided on measures, we offered validation of their approaches.
- Highlight ‘enabler measures’ sites could use to measure early progress (ahead of outcome data being available).

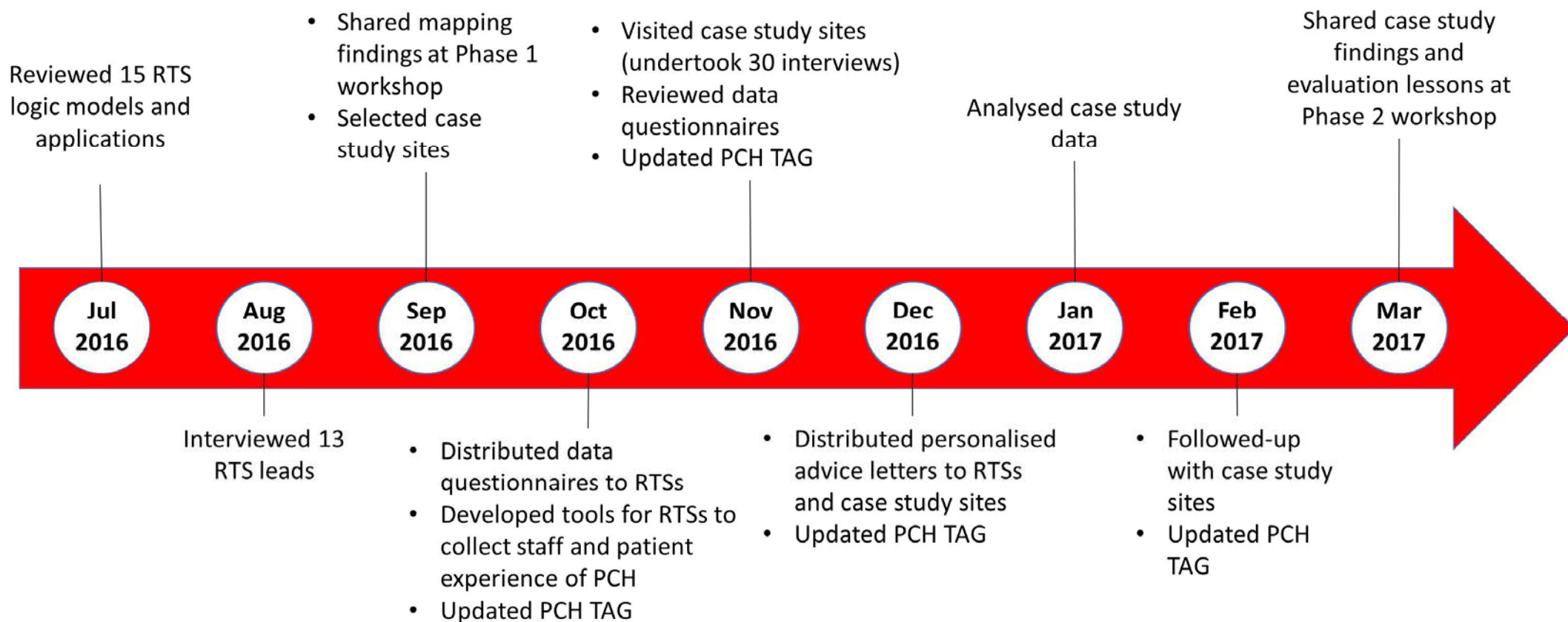
Table 2: Mapping framework used in personalised advice letters

Four aims for the PCH	Domains of measurement	Examples of ways to measure this
Improve whole-population health and wellbeing	Population health and wellbeing	Your current proposed measures: Additional measures you could use:
Improve quality and experience of care for patients	Patient outcomes (including clinical and process measures)	Your current proposed measures: Additional measures you could use:
	Patient experience	Your current proposed measures: Additional measures you could use:
Improve utilisation and sustainability of local health and social care resources	Health and care activity	Your current proposed measures: Additional measures you could use:
	Cost of delivering care	Your current proposed measures: Additional measures you could use:
Improve staff experience	Staff experience and engagement	Your current proposed measures: Additional measures you could use:

In **Phase 2** we undertook a more detailed case study examination² with a subgroup of three rapid test sites – The Healthy East Grinstead Partnership, St Austell Healthcare, and Thanet Health CIC – to assess the factors (enablers and barriers) helping and hindering their progress on their priorities. We also developed more detailed methodological guidance about how they could evaluate the impact or ‘outcomes’ of their interventions. The time between launching the PCH RTSs and reporting on early progress and impact was too short to allow quantitative evaluation of their effect on outcomes, so we were only able to capture limited early quantitative impacts. We reported our evaluation progress to the PCH Technical Advisory Group (TAG), composed of varied national and local stakeholders, throughout the project. A timeline for the evaluation is provided in Figure 2 on page 21.

² To meet the research team’s inclusion criteria, case study sites were required to have implemented at least one priority intervention by October 2016 and have access to data, enabling our team to add value to the initiative’s evaluation. These criteria narrowed candidates to six RTSs, from which four were chosen with the PCH Technical Advisory Group because they represented maximum variation across a range of features (e.g. geography, priorities, leadership held within CCG or GP, and targeted population cohorts). One case study dropped out due to lack of capacity to collect and analyse data at the end of 2016, resulting in three case study sites.

Figure 2: Timeline of the evaluation approach



Challenges encountered during the evaluation

Several factors complicated the Nuffield Trust evaluation, the most significant of which was that it took place when RTSs were very early in the journey to becoming PCHs. Sites were still clarifying how their initial PCH priorities would be implemented and how these would fit into their local commissioning plans and STPs. Many were also in the early phases of building skills, capabilities and capacity to undertake their local evaluations.

The PCH programme offered RTSs an opportunity to build on their local strengths and implement interventions that addressed the needs of their local population. A range of approaches to developing the PCH model emerged. Some RTSs began by delivering one to two initiatives, while others simultaneously implemented multiple projects – which risked making their local evaluations overwhelming and difficult to share learning overall. We therefore asked RTSs to concentrate on evaluating their ‘top two’ initiatives, limiting the breadth of description provided in this report compared to the breadth of ambition of some RTSs. We were also cautious about increasing the burden of work on PCH staff in Phase 1 of our evaluation, given the limited time and resource available to establish their interventions, so we restricted our data collection to document reviews and a single phone call – followed up by emails to clarify areas of uncertainty.

Another major challenge was that many RTS logic models did not include information about the assumptions through which each planned initiative would bring about change, or about the target population for each intervention. It was therefore not always clear which measures would best capture the progress and impact of the intervention. Furthermore, our ability to attribute changes in outcome measures to the activities of a PCH was limited by the finding that some services and activities were established prior to the inception of the PCH, so there was no clear baseline against which to measure progress. In addition, the time needed between implementation and measurable impact was too long to allow us to capture and/or quantify changes in outcomes during a nine-month study.

3. How RTSs began building their PCH model (Phase 1)

This chapter describes how RTSs began building their PCH model – focusing on the progress they made in the first six months after launching in April 2016. We describe the varied cohorts and interventions they identified as early priorities in interviews and document reviews. We also describe our perceptions of how RTSs had progressed in embodying the core characteristics of the PCH model.

Patient cohorts and interventions prioritised in early implementation

The two priority interventions varied significantly across the 13 RTSs. Common among the PCH leaders we interviewed, however, was a high level of ambition to transform primary care. They seized the opportunity brought by the PCH to either start or continue building relationships with their local providers, commissioners and communities, and to introduce a new health and care offer to their patient population.

There were some common local level objectives that RTSs aimed to address through the PCH, including work to:

- Better manage high-need, high-cost patients (e.g. complex and frail older people) to avoid unnecessary hospital admissions.
- Stabilise and improve local general practice services, which were struggling with issues of recruitment and patient demand including, in some sites, work to address more effectively the needs of frequently-attending patients.
- Introduce new services or pathways for: a) patients who had issues that could be dealt without a practice-team intervention (for example, introducing self-referral pathways), b) patients who had non-clinical needs (e.g. navigation to debt services or employment advice), c) patients who would benefit from proactive services to improve health and

wellbeing (e.g. social prescribing); d) people with complex needs would benefit from primary care working more closely with local community, specialist and voluntary sector providers to provide multidisciplinary team (MDT) interventions.

- Introduce selected specialist clinics in the community including for musculoskeletal, dermatology and diabetes services.
- Address the high 'transaction costs' associated with referrals between providers (for example, when referring patients between community and practice-based nursing teams) and wanted to develop seamless handovers between primary and community-based teams.

The logic models developed by RTSs often sought to address these local objectives with an intervention and to define the group of patients who would benefit from the PCH intervention. There was insufficient time in our interactions with RTSs to examine in detail how local challenges and interventions were prioritised and who had been involved in decision-making. However, we were told in many cases that patient subgroups were identified using varied approaches by clinical leads or (where available) MDTs, and only two sites reported using risk segmentation tools to determine their target cohort for interventions.

While eventually the PCH model requires that all PCH sites provide proactive and personalised services to all patients registered within a PCH, in total, the 13 RTSs initially focused on 31 diverse interventions that would benefit 10 broad patient cohorts and two staff cohorts. Almost all interventions by each RTS targeted one segment of their registered patient population, such as complex patients at risk of hospital admission or patients affected by access issues in general practice (see Table 3 on page 25). Other interventions targeted care home, practice and community-based staff (see Table 4 on page 26). No interventions targeted children or young people.

Table 3: Targeted patient cohorts and planned interventions

Targeted patient cohort	Interventions (and RTS locations)
Patients affected by general practice access issues	<ul style="list-style-type: none"> • New work processes (e.g. direct referrals, changes to prescription management) (The Healthy East Grinstead Partnership) • Single point of access for practice and community teams (Larwood and Bawtry) • Volunteer home-visiting (Richmond) • Overflow clinics for urgent needs (Aspire Integrated Rugeley (AIR)) • Community clinics for leg ulcers (South Bristol Primary Care Collaborative) • Care navigation for non-health issues (South Bristol Primary Care Collaborative) • Integrated on-the-day home visiting service (St Austell Healthcare)
Complex patients at risk of hospital admission	<ul style="list-style-type: none"> • Virtual ward (Beacon Medical Group) • Care planning (Breckland Alliance) • Integrated practice and community care planning (The Healthy East Grinstead Partnership) • Prescriber undertaking home visits (South Bristol Primary Care Collaborative) • Proactive frailty service delivered by MDT (Thanet Health CIC)
Care home residents	<ul style="list-style-type: none"> • Pharmacist-led ward round (Beacon Medical Group, Larwood and Bawtry) • Better routine management (Breckland Alliance) • Volunteer visiting service (Richmond) • Proactive frailty service delivered by MDT (Thanet Health CIC)
Patients with polypharmacy risks	<ul style="list-style-type: none"> • Regular pharmacist review (Luton Primary Care Cluster) • Polypharmacy review as part of frailty clinic (Wolverhampton Total Health Care)
Patients who may need specialist intervention	<ul style="list-style-type: none"> • Practice-based dermatology clinic and diagnostic equipment (Larwood and Bawtry) • Community Psychiatric Nurse offering practice-based clinics for patients with mental health issues (South Durham Health CIC)

Patients with diabetes	<ul style="list-style-type: none"> • Development of referral protocols and pathways (The Winsford Group) • As above (Wolverhampton Total Health Care)
Care home residents at risk of hospital admission	<ul style="list-style-type: none"> • Information continuity via detailed patient record and care plan (Richmond)
Patients who do not comply with traditional services	<ul style="list-style-type: none"> • Care navigation for people with diabetes who have been “hard-to-engage” diabetics (Luton Primary Care Cluster)
Frail patients being discharged from hospital	<ul style="list-style-type: none"> • Development of multidisciplinary discharge plan (Aspire Integrated Rugeley (AIR))
All registered patients	<ul style="list-style-type: none"> • Social prescribing of exercise (St Austell Healthcare)

Table 4: Targeted staff cohorts and planned interventions

Targeted staff cohort	Interventions
Integrated team of practice and community staff	<ul style="list-style-type: none"> • Co-location (Larwood and Bawtry) • Development of an integrated patient record (Thanet Health CIC) • Stabilising general practice through large-scale working (Thanet Health CIC) • Transfer of management of wound dressings service to community nurses (from general practice)
Care home staff	<ul style="list-style-type: none"> • New joint learning workshops (Richmond)

Progress towards embodying the PCH core characteristics

The development of the PCH model, like most NHS transformation, is a journey that is likely to take many years of working with partners, refining initiatives, and building capacity over time to deliver longer-term outcomes. It was therefore impossible at this early stage for RTSs to demonstrate the full benefits of the PCH model and to comment on whether sites were delivering against the quadruple aims. We instead provide a summary of key reflections below from the mapping exercise we undertook with sites to identify how the sites had begun to develop the characteristics of the PCH model to implement their priority interventions (after six months).

- **An integrated workforce, with a strong focus on partnerships spanning primary, secondary, community and social care, and mental health:** Partnership with community nurses appeared to be the most common form of joint working, and many partnerships across health and care were forming locally. However, there were challenges with recruiting key members of staff, engaging local partners, finding the time and capacity for leaders to get interventions off the ground, and difficulty in securing additional funding needed – this delayed their early development.
- **A combined focus on personalisation of care with improvements in population health outcomes:** All RTSs had focused their interventions on a segment of the patient population. They were not yet clear about the timeline over which they would expand to undertake whole-population health management – many saying it was too difficult to predict the future.
- **Aligned clinical and financial drivers with appropriate shared risks and rewards:** A few RTSs were exploring options, and Thanet was anticipating holding a unified capitated budget in shadow form, and had developed shadow budgets for its four PCH populations from April 2017.
- **Provision of care to a defined, registered population of between 30,000 and 50,000:** All sites had a population of between 30,000 and 50,000. Several RTSs were operating as PCH ‘pilot sites’ for their CCG and had ambitions to join with other local PCHs once formed– which suggests the PCH was interpreted as both a building block for larger new care models and a final state of practice.

4. How RTSs began evaluating their PCH model (Phase 1)

This chapter describes how RTSs planned to evaluate their PCH models, drawing on information gathered from their logic models, interviews and questionnaires with leaders.

Logic models and key interventions: A rapid review of the 13 RTS logic models highlighted that most sites lacked a clear explanation of how the planned interventions would deliver expected impacts. Interviews confirmed that many sites were focused on setting up interventions, and had given less detailed thought on how to measure progress and evaluate impact early on.

Capacity and resources: Sites made variable progress with setting up the monitoring and evaluation of PCH interventions. While most initially reported having capacity and the ability to define what to measure, access to data, and the skills to analyse relevant data, their financial and human resources to do this appeared to be limited. Sites were either relying on GP practice clinical or administrative staff, analysts based in commissioning support units (CSUs) or CCGs, or had partnerships with academics to carry out data analysis.

Data sources: RTSs had plans to access data from multiple sources (See Table 5 on page 30), the three most common of which were bespoke surveys, GP and hospital systems. Almost all sites (11/13) planned to carry out bespoke survey collection – most of which planned to use tools to collect staff and patient experience – but few had conducted baseline surveys. Nine sites planned to use GP systems to monitor progress across several indicator areas, such as clinical outcomes or prescribing. Seven sites planned to rely on hospital systems, but almost exclusively to measure hospital activity.

Of the nine RTSs that planned to measure hospital activity, two planned to use GP data, three planned to use a mix of GP and hospital data, and four reported wanting to use

hospital data alone. Most sites had data-sharing agreements or MOUs in place to facilitate data sharing, or planned to use data that did not require agreements. Phase 1 did not allow for the assessment of the breadth and quality of the data available to the sites.

Indicators and measurement progress: RTSs selected a range of process and outcome indicators to monitor their progress towards achieving the goals of their PCH priority interventions. Popular indicator areas included hospital activity (9 RTSs), GP activity (8 RTSs), patient experience (6 RTSs) and staff experience (6 RTSs).

Some sites planned to use multiple metrics to measure progress against a single intervention, while others planned to use one or two – likely driven by their perceived ease of access to data. Some sites were using validated tools, but many were designing their own.

As most sites were still identifying appropriate measures for their priority interventions at the time of our interviews, baselines were not available. Most sites planned to compare current to past service use (retrospectively) or evaluate prospectively against their own objectives. Survey questions about past experience were also considered as baselines. Sites had limited tools (e.g. Excel) and methodologies for analysis.

Table 5: RTSS' planned indicator areas and data sources for evaluation (with colours indicating progress made by October 2016)

Indicator areas	Hospital dis summary (1 RTS)	Case notes (1 RTS)	Local GP systems (9 RTSS)	Hospital systems (7 RTSS)	HES (1 RTS)	Bespoke surveys/ PCH collection (11 RTSS)	Existing survey tools/ data (2 RTSS)
Staff satisfaction/ engagement (6 RTSS)						Rugeley, Beacon, South Durham, Larwood and Bawtry, East Grinstead, St Austell	
Patient experience/ satisfaction (6 RTSS)						East Grinstead, St Austell, Beacon, Rugeley, Larwood and Bawtry	South Durham
Patient wellbeing/ quality of life (5 RTSS)						St Austell, Beacon, Luton, Richmond, Thanet, South Durham	
Hospital activity (9 RTSS)	Luton		Rugeley, St Austell, Beacon, South Durham, Thanet	South Bristol, Rugeley, Thanet, W'verhampton, East Grinstead, St Austell	East Grinstead	East Grinstead	
Clinical outcomes (5 RTSS)		Luton	Beacon, W'hampton, St Austell			South Bristol	
GP activity (8 RTSS)		Luton	South Bristol, Larwood, St Austell, Rugeley, East Grinstead, W'hampton	South Durham		South Durham	
Prescribing (3 RTSS)		Luton	Beacon, W'hampton				
Education (1 RTSS)						Richmond	
Self-management (4 RTSS)		Luton				Luton, South Bristol	Luton, South Durham

Care plan (1 RTS)	Beacon	Beacon
Diagnostics (1 RTS)	Thanet	
Enabler (4 RTSS)	Thanet	Richmond, South Bristol, Larwood and Bawtry

Note: Green – Already collecting data; Red – Know the measure and maybe the data source but not collecting; Black – May have a measure but not clear on data source.

In summary, we observed a diversity of measures from varied sources being used to capture progress and outcomes – likely because of the wide-ranging interventions and population cohorts described above. Almost all sites ambitiously planned to use a range of data sources, including bespoke data collection, and to measure change by comparing current to past service use or experience – rather than finding comparison groups outside of the PCH. Sites were particularly interested in knowing their interventions’ impacts on hospital activity and patient and staff satisfaction, but few appeared to have committed financial and human resources to monitoring and evaluation to make this happen.

5. Enablers and barriers to developing the PCH model (Phase 2)

The chapter examines in detail how three case study sites³ – The Healthy East Grinstead Partnership ('East Grinstead'), St Austell Healthcare ('St Austell'), and Thanet Health CIC ('Thanet') – engaged their local partners, selected their priority initiatives, and started to monitor and evaluate their progress against their top two PCH priorities. We describe enablers and barriers to forming the PCH model and have organised them into six themes adapted from a development framework designed by the NAPC for aspiring PCH sites:

1. Building leadership and engagement
2. Redesigning services that contribute to the PCH model
3. Creating a PCH workforce and culture
4. Aligning clinical and financial drivers
5. Developing an organisational form and governance arrangements
6. Monitoring and evaluating progress and outcomes

Although our comparative commentary to follow discusses the strengths and weaknesses across sites, no single case study site has been more successful in forming a PCH model than others. Each has made progress in aspects of their PCH development and confronted a range of challenges in other areas. They were all actively engaged with some partner organisations and finding it harder to engage with others. However, each appeared to be building momentum to transform primary care in their local areas. A summary of each of the three sites is available in Tables 6, 7, and 8.

³ See footnote on page 20 for case study site inclusion criteria.

Table 6: Overview of The Healthy East Grinstead Partnership

Case study site (partners)	Issues to be addressed by PCH	Description of interventions (start date)	“What would success look like in the longer term?”
Healthy East Grinstead (GPs + community FT, acute FT, mental health FT, LA, VCS, fire service)	<ul style="list-style-type: none"> • Increase in size of ageing population • Rise in A&E admissions • Rise in elective acute wait times • CCG and LA not co-terminous 	Community nurses joined the community-based Proactive Care Team creating the EPCT to care plan with wider MDT for c150 patients at risk of admission. EPCT checks in with case list daily, practice-based MDT meets 6-weekly (10/16)	<ul style="list-style-type: none"> • Ultimately all working together to care for a population, so that it’s not “my patients” but “our patients” • Joined-up, seamless care • Bringing together children and family services with the EPCT MDT • Providing as much care as possible in locally, keep people in their homes • Patients more involved in self-care, knowing where to go • Embedding the patient role in shaping projects across all of East Grinstead • Developing an urgent care hub to support on-the-day demand and community teams (using skill-mix) • Improving practice access to the acute’s rapid diagnostics • Creating capitated budgets for GPs to make or buy services
		Project 1: Direct access to hospital outpatient physiotherapy (07/16)	
		Project 2: Direct referrals to midwifery (12/16)	
		Project 3: Practice-based bulk purchasing of wound dressings for any registered patient (instead of GP prescriptions for individual patients) (03/17)	

Table 7: Overview of St Austell Healthcare

Case study site (partners)	Issues to be addressed by PCH	Description of interventions (start date)	“What would success look like in the longer term?”
St Austell Healthcare (GPs + LA, Local private sector, VCS, Community & MH T)	<ul style="list-style-type: none"> • Large local practice closed – increasing patient demand and pressure on workforce • Increase in numbers of complex patients 	Practice employed a social prescriber to refer c150 patients who could benefit to local exercise schemes and support for 12 weeks using motivational interviewing. More recently two health promotion officers from public health are co-located. (06/16)	<ul style="list-style-type: none"> • Improve patient health and wellbeing • Make a difference for our patients • De-medicalise people’s lives – empower them • All staff working around the patient – ‘one big happy family’

<ul style="list-style-type: none"> • Rise in chronic disease • Local health and social care services fragmented 	<p>Peer-led training 6-weekly (0.5d) for GPs, nurses and admins (09/16)</p> <hr/> <p>Community and practice nurses managing on-the-day needs of frail/vulnerable patient at home through triage and home visits (04/17)</p>	<ul style="list-style-type: none"> • Become part of the community, not the GP practice in St Austell • Improve recruitment/retention and staff wellbeing/happiness • Improve the sustainability of general practice • Hold a budget for social prescribing • Expand social prescribing to children and young people
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Table 8: Overview of Thanet Health CIC

Case study site (partners)	Issues to be addressed by PCH	Description of interventions (start date)	“What would success look like in the longer term?”
<p>Thanet Health CIC</p> <p>(Margate locality GPs + Community FT, Acute FT, LA, MH T, VCS, Hospice, Ambulance service)</p>	<ul style="list-style-type: none"> • Rise in demand on services • Increase in frailty in younger populations (55+) • Desire to integrate practices within localities – and create new model of care (in line with FYFV) • Poor digital interface between providers (acute, out-of-hours, mental health) 	<p>Use GP-system based proactive screening tool to identify mild, moderate and severely frail patients in general practice. Engage GPs in MDT working with community clinicians, hospital-based acute response team and a consultant geriatrician to create care plans. (10/2016)</p> <p>Frail patients needing immediate intervention are referred to the Acute Response Team (ART), where a 5-day package of care is put in place (often either enabling patients to stay at home or be discharged if they had been admitted to hospital). (11/2016)</p> <p>Implement an integrated IT system, resulting in read/write access to a single care record (2015)</p>	<ul style="list-style-type: none"> • Forming a Thanet-wide Integrated Accountable Care Organisation (IACO) • Feed new patient records into Kent Integrated Dataset to develop capitated budgets to enable packages of care to be more tailored to patients’ needs • More accessible and timely service

Building leadership and engagement

History: Work with partner organisations was shaped by local context and the extent of existing relationships between stakeholders. In East Grinstead, a two-decade long history of collaboration between local GPs meant initial conversations with potential partners had already happened when the PCH bid was written – creating an important catalyst for its formation. In Thanet and St Austell, collaboration between practices was more recently driven by sustainability concerns, and the PCH bid provided a stimulus for a distinct shared project. St Austell reported that developing the PCH bid “made us all realise how similar we were” regarding values and aspirations for primary care.

Leadership: We observed how differences in the source of ‘driving energy’ behind the PCHs resulted in substantial variations in how the interventions were implemented and evaluated. At St Austell, leadership and project management was embedded in the GP practice, and leaders reported their separation from the local commissioners allowed them to make rapid progress early on. Alternatively, East Grinstead and Thanet were CCG led, but managed by a multi-organisational operations team that met face to face regularly with representation from all partner organisations. Members of the East Grinstead operations group were described by interviewees as competent and committed: “people just go off and do the tasks they’re supposed to do” and “the glue that holds the PCH together”. At both sites, membership of the operations group grew as projects evolved to involve new local partners. Because the CCG held leadership and project management roles, it appeared easier for teams to access whole-system data, and for leaders to tie in commissioning priorities and allocate staff (e.g. finance, commissioning, membership development, and workforce and education) and other resources to develop the PCH. Sites reported that this meant that PCH formation had not added to the workloads of frontline staff and locality meetings could focus on the PCH.

Partner engagement: We observed PCHs act as a catalyst for collaboration between organisations and care sectors. The two sites led by CCGs appeared to have stronger buy-in from local partners. Although there was no one clear explanation, we observed that the CCG leads were able to allocate considerable staff time to PCH development and this may have helped to build collaboration at a faster pace than in the GP practice-led site.

East Grinstead described how GPs had developed good relationships with the local acute provider and community teams in previous collaborative projects, and the hospital saw its sustainability as dependent on better community-based services. The operations team

reported that the PCH facilitated joint working because “it overlapped so much with what everyone was already trying to do”.

At St Austell, a prevention-focused intervention engaged local authority public health staff early on, but it took longer for the CCG to engage. A combination of positive reports from the St Austell PCH site; shifts in national policy towards larger-scale general practice CCG and new leadership of primary care commissioning in the CCG increased their interest in the PCH programme and they encouraged nine other localities to join the NAPC ‘community of practice’. However, St Austell PCH struggled to build an effective working relationship with at least one partner organisation that was more focused on establishing county-wide services rather than the very local needs and ambitions of a small PCH.

Staff engagement: Senior leaders in each site described drawing staff into the work of the PCH through individual projects, rather than the concept as a whole. For example, the community and practice nursing staff in Thanet were invited to an event to redesign a patient pathway to create better outcomes for patients and more efficient ways of working. Leaders across all sites were clear that conversations about new ways of working and potential benefits to staff and patients were more engaging than descriptions of the organisational structure of a PCH. A slow start in two sites meant that some GPs lost interest in the PCH after initially being engaged. However, as momentum built around particular projects and early results became available, leaders reported that staff became more engaged.

Patient engagement: The rationale for St Austell’s social prescribing project was rooted in patient-centred goals and priorities and there was an active patient participation group for the practice. In Thanet, a patient had been recruited to serve on Thanet’s future accountable care organisation’s board, and a few stakeholder engagement events had happened at all three case study sites. But overall, across sites, there was still work to do to put in place mechanisms to gather patient views on how the PCH should develop.

The role of patients in influencing the development of a PCH was explored during the March 2017 workshop, including a brief discussion about the extent to which patients should be invited to participate in certain aspects of the work of a PCH, and whether there is scope to invite them to lead on patient engagement and developing links with local communities.

Redesigning services to align with the PCH model

Some priority interventions in the PCH were existing services that had been adapted to involve new teams and patients while others were new services altogether (see Tables 6, 7 and 8 from page 33 for details).

At East Grinstead, the Enhanced Primary Care Team grew out of existing community care services that the CCG wanted to integrate with GP practices. In contrast, interventions that aimed to increase primary care capacity emerged from GPs and community nurses exploring how to improve integrated working.

St Austell could not access CCG data to guide priority setting so they focused on social prescribing and same-day home visiting as two areas of interest to the PCH leaders. The former addressed risk factors for diabetes and obesity and fitted with PCH aims around population health and prevention of illness, and the service expanded its scope and strengthened its focus on exercise when the opportunity arose to host a public health funded health coach within the practice.

In contrast, the home visiting service for high-risk patients had a more challenging journey as funds were not available to sustain the service after an initial pilot period, and efforts to use a lower cost staff skill mix to run the service proved to be unfeasible. At the time of the case study, negotiations with the community trust to re-establish the service were ongoing, but the planned service was not operating.

Thanet's focus on frailty was underpinned by data demonstrating frequent emergency admissions of frail older people and evidence of increasing and complex health and social care needs among relatively young patients. GP practices were facing various barriers to collaborative working, including a lack of integrated IT (with hospital and community services) and staffing shortages. The CCG facilitated change by regularly convening Thanet-wide meetings and committing to combine three practice budgets to support new initiatives.

It appeared difficult for the case study sites to identify a target patient cohort for interventions, even in East Grinstead and Thanet where risk stratification tools were being used to support the work of the PCH. This may have been because the PCH initiatives were building relationships between GPs, community services and other providers. The new collaborations created new referral criteria, and teams wanted to be sure they were still meeting the needs of patients who had previously relied on their services. In East

Grinstead specifically, GP engagement with risk stratification tools and handing over responsibility of their patients to an MDT that sat in part outside of their practices was also challenging – but within three months, community teams reported that GPs had told them “as soon as you have identified an eligible patient on my list, it should be an automatic referral”. Thanet also had unique methodological challenges in identification of cohorts, as most practices were given an option to use a standard frailty screening tool built into their clinical systems, but not all practices adopted the approach and opted instead for identification via a CCG-funded health and social care coordinator role. Therefore some practices returned data the CCG described as “incomplete and inconsistent” – as they perceived to be overestimations of frail registered patients relative to the percentage of practice population aged over 60 – while others underestimated, and finally some did not return data at all. Moreover, for new services, like St Austell’s social prescribing scheme, it was important to think about which patients would benefit most, but at the same time not overwhelm the service – but the enthusiasm for the service and broad referral criteria at the end of Phase 2 had created a steady six-week waiting time since the service’s launch.

Beyond priority initiatives, it was clear that sites had ambitions to expand their development and implementation of the PCH model. However, they were not always able to articulate how this would be achieved, as they were unclear about future sources of financing for new interventions. St Austell, for example, reported a desire to expand social prescribing to children using a partnership with the children’s lead at the local authority, and hold the public health budget, but said “other than that, it’s too difficult to see what the future might look like”.

Developing the PCH workforce and culture

It was difficult for project leads to describe how many people were employed by the PCH. For all sites, the PCH was delivered by an interconnected web of staff from several agencies, and appeared to be expanding as the PCH gained momentum in the local area, and shrinking as interventions faced challenges. Furthermore, staff providing existing services in partner organisations were sometimes re-aligned as participating in a PCH intervention and other spent only part of their time on this work – adding to the challenge of quantifying the workforce.

The culture towards training, education and upskilling often reflected that of the lead provider organisation in the PCH. In St Austell, as a GP-led PCH, learning and education was explicitly embedded in their culture of continuous professional development and interventions. All leaders pointed to one experienced senior partner who was passionate

about continuing professional development (CPD) and led six-weekly half-day learning events that included invited speakers, reviews of current project work, clinician updates and audit results. The aims of events were to develop better relationships among peer groups, facilitate upskilling of staff and enable staff to meet CPD requirements. A culture of transformation was also facilitated by a staff newsletter that explained the PCH services, the vision of the organisation and early successes.

At East Grinstead, the CCG reported encouraging transformation by hosting regular locality meetings for clinicians to engage in the development of model, funding proactive care nurses to travel to community nurses to describe how their service previously functioned and would change to embed community nurses. The CCG also had plans to organise one-to-one catch ups for all frontline staff to develop effective relationships and improve patient hand-offs.

At Thanet, at the outset, joint consultant/GP meetings were held to explain the PCH model and work through the integrated working opportunities for acute and primary care. As part of the Enhanced Frailty Pathway, geriatricians were assigned to each PCH and worked with each to determine the best use of their time. For some, this resulted in attendance at MDT meetings during which pre-identified patients were discussed and care plans agreed. For others, the resource was used for joint visits to wherever the patients reside (home or nursing home). Whatever the chosen method, this created opportunities for the upskilling of clinical staff to better meet the needs of patients.

All case study sites strived to develop new day-to-day working relationships between GP staff and the wider community and voluntary sector workforce. Reducing barriers to multidisciplinary working and creating shared accountability for complex patients were specific aims in each site. Co-location was considered an important enabler of these aims. Particular individuals at sites also drove integrated working. For example, the practice-based care coordinators at East Grinstead worked across teams as boundary spanners, drawing in patient-focused expertise, ensuring that not all decisions needed to be passed through the GP. The practice-based social prescriber at St Austell also formed a group of community-based partners, such as local exercise clubs and garden centres, into an integrated network of health care providers.

Regardless of good progress and commitment from partners, staff turnover and recruitment difficulties were common, and disrupted emerging relationships.

Aligning clinical and financial drivers

Holding a fully capitated budget for all health and social care services is one of the four core characteristics of a PCH, but early guidance on the emerging MCP suggests that only populations over 100,000 will be eligible for the new contract because the actuarial risks for pooled smaller populations is estimated as too high for health care providers. Thus, PCHs covering 30,000-50,000 patients will need to develop alternative financial models to hold and manage a budget at this population level.

To date, Thanet is the most advanced of the three case study sites in terms of quantifying a capitated budget for each of its four PCHs. Data analysts in Thanet are modelling current spend on each age decile of the local population and are experimenting with adjustments for deprivation. This will result in age, sex and deprivation-adjusted notional budgets for the four PCHs. St Austell had not initially intended to take on a PCH budget, but the local CCG has just taken on delegated commissioning and it now sees that holding at least a notional budget for selected services for the PCH population will be part of the organisation's future development.

Alongside budget development, Thanet CCG are using commissioning to achieve the aims of the PCH – pooling the resources from a range of current incentive schemes and services to fund a single service specification for the Enhanced Frailty Service. With a total budget of approximately £800,000 over 12 months available to fund the service across four PCHs, the CCG has developed incentive payments for GPs, invested in support services for practices and leadership capacity to develop the service, and has commissioned consultant geriatricians to work with practice teams. In addition, considerable CCG staff resources are being channelled into the frailty project to support implementation and evaluate its impact. By January 2017, a decision had been made by the CCG to continue to pilot the scheme for a further six months, improve data collection and move the entire scheme towards an outcome-based payment methodology. The CCG has also commissioned an acute response team to try to prevent hospital admissions at the time of clinical deterioration.

The approach in East Grinstead is slightly different with PCH resources (in the form of an Enhanced Primary Care Team staffed by proactive care teams in the community health provider) supporting GPs to develop care coordination plans for patients at high risk of hospital admission. These resources were boosted when a national incentive scheme worth £5 per patient was invested in the MDT reviews in GP practices. The PCH operational board offer leadership to embed the initiative into practices and practical support to

resolve operational challenges that arise as the initiative is developed. East Grinstead is using its powers as a 'convener' to bring together members of the community trust and general practice to deliver the proactive care service, but there is no formal contract for this yet.

In contrast to these CCG-led activities, St Austell had few extra staff to allocate to the PCH and only the modest start-up funds awarded by NHS England (via the NAPC). As a GP provider-led PCH, there has been no CCG-led 'commissioning' of PCH work to date in St Austell and it was the practice (partnership board) that decided to invest its PCH start-up funds in the social prescribing facilitator it now employs. The Board was able to extend the scope of service offered by hosting a local government funded health coach within the practice. The PCH leads are in negotiation with the CCG for funds for a further pilot of the integrated visiting service. If successful, a nurse employed by the community and mental health trust will be seconded to the practice from April.

Developing an organisational form and governance arrangements

None of the three sites had yet created a new (real or virtual) organisation for the PCH, although in Thanet the newly appointed operations director in the community health trust was leading work to establish an accountable care organisation that may eventually hold a PCH budget and potentially employ GPs in the future.

At the time of the case studies, two organisations were collaborating on the basis of shared commitment to the goals of the PCH with MoUs rather than formal contracts between partner organisations (Thanet and East Grinstead).

Governance arrangements and decision-making authority for PCH activities also varied in line with the differing structures described above. In St Austell, day-to-day operations were overseen by an operations board of four GPs and the practice's executive manager. Decisions about resource allocation and funding for the PCH social prescribing initiative were taken by the partnership group (which included the executive manager). Implementation was supported by the lead GP and executive manager, working in collaboration with staff within the practice with a natural interest in the project. With no direct involvement in the governance or day-to-day work of the community trust, progress with establishing the PCH care coordination intervention was slow and required sustained efforts to engage senior managers from other local providers in the vision for the PCH to the point where they would commit staff and/or other resources to achieve it. Equally, it

was hard to obtain NHS data to monitor the impact of the PCH without any direct influence over the CCG data team.

In the two CCG-led case study sites, there was a similar need to build relationships and processes across organisational boundaries, as was seen in the 'bottom-up' PCH in St Austell, but the ability of the CCG to facilitate these meetings and to lead discussions about working in new ways seemed stronger. They were also able to harness CCG resources for data analysis, needs assessment and budget development that were beyond the sphere of influence of the executive partner in St Austell.

Despite similarities in the organisational governance arrangements in Thanet and East Grinstead, an interesting contrast existed between priority interventions in the two sites. In Thanet, the overriding PCH priority was a 'whole-system' initiative to develop and implement a frailty service that also had spin-off effects in supporting member GPs to work together to strengthen sustainability. In East Grinstead, the PCH priorities reflected both CCG priorities (creating an Enhanced Primary Care Team to reduce need for hospital admissions) and GP priorities (developing an innovative dressings service to save GP and nurse time within practices). Both had formed implementation groups that were able to allocate resources to support PCH activities (the Operational Board in East Grinstead and the Enhanced Frailty Task and Finish Group in Thanet).

Monitoring and evaluating progress and outcomes

Approaches to monitoring and evaluation: Sites took pragmatic approaches to data collection and acknowledged their plans for collecting and measuring progress and impact were still under development. Their access to data and capacity to analyse it varied slightly. Where the PCH was CCG-led or embedded (Thanet and East Grinstead), access to linked data and analysts was better than the general practice-led case study (St Austell).

Identifying priority interventions and theory of change: The frequent changes in target populations for PCH interventions limited their ability to select appropriate measures and methodologies to monitor and evaluate change. Sites all had high expectations for interventions, such as improving care for older frail populations, but were not clear which mechanisms within interventions would bring about expected outcomes (i.e. the assumptions of their theory of change were either unclear or missing). It was also not evident from our interviews how interventions were chosen – for example, whether they were based on evidence reviews or experience from the front line. Until these issues

were clarified among PCH leads, we advised that it would be difficult to assess the potential speed of progress and expected impact.

Selecting appropriate measures and attribution: Sites were using a range of process and outcome measures to assess the progress and impact of their interventions (see Tables 9, 10 and 11 from page 44). However, some measures were not necessarily fit for purpose and may not have captured the impact of the intervention in the short term. For example, there was a strong focus on hospital admissions across case study sites, but the interventions were not likely to reduce admissions for the oldest or sickest patients in the short term. Because of the time it may take to realise any improvements in outcomes, it was important that sites used a selection of both process and outcomes measures.

Table 9: Intervention measures planned for collection (The Healthy East Grinstead Partnership)

Intervention (start date)	Desired aims and expected impact	Measures	Additional measures we proposed sites explore
Adapt existing teams into new Enhanced Primary Care Team (EPCT) (10/16)	<ul style="list-style-type: none"> • Keep people in their homes • Reduce non-elective admissions • Reduce A&E attendances • Improve patient experience of primary care • Decrease patient risk scores within 3 months • Decrease LOS • MDTs working closely to remove duplication 	<ul style="list-style-type: none"> • No. of referrals into EPCT • Percentage of patients referred in risk range • No. of EPCT patients with care plans • Non-elective admissions on caseload • QIPP – HF admissions • QIPP – COPD admissions • QIPP – over 65 admissions • Clinical measures from primary care data (condition specific) • Patient satisfaction • Staff satisfaction • A&E attendance 	<ul style="list-style-type: none"> • Clinical measures from primary care data (condition specific) • Simple qualitative data from patients/survey
PC Capacity Project 1: Direct access to hospital outpatient physiotherapy (07/16)	<ul style="list-style-type: none"> • Increase access to hospital services • Decrease GP appointments for MSK problems (increasing practice capacity) • Improved patient experience of primary care • People being able to see a GP on the day, if needed 	<ul style="list-style-type: none"> • % self-referral to MSK physiotherapy vs GP referral 	<ul style="list-style-type: none"> • Patient survey + other qualitative tools • Staff survey • GP waiting times • HEE tool for GPs
PC Capacity Project 2: Direct referrals to midwifery (12/16)	Increase efficiency savings	Number of live births	
PC Capacity Project 3: Practice-based bulk purchasing of wound dressings for any registered patient (instead of GP prescriptions for individual patients) (03/17)	<ul style="list-style-type: none"> • Save GPs 30 min admin time per week • Decrease dressings waste (by not using prescriptions) by 20% • Improve GP job satisfaction • Improve recruitment and retention 	<ul style="list-style-type: none"> • Dressing prescriptions • No. of dressings ordered • Spend on dressings 	

Table 10: Intervention measures planned for collection (St Austell Healthcare)

Intervention (start date)	Desired aims and expected impact	Measures	Additional measures we proposed sites explore
Start new social prescribing service to exercise and other healthy living activities (06/16)	<ul style="list-style-type: none"> • Improve health and wellbeing of the population • Improve patient satisfaction • Demedicalise lifestyle and social problems • Decrease access barriers to improving physical health • Increase job satisfaction and increase practice sustainability • Learn what works 	<ul style="list-style-type: none"> • Weight • BMI • HbA1c • Blood pressure • Employment status • Smoking status • Warwick-Edinburgh Mental Wellbeing Score • International Physical Activity Questionnaire • No. of new patients referred 	<ul style="list-style-type: none"> • Number of new patients referred with clear criteria for referral • Proportion of patients who attend first and subsequent visits (length of time since first referral) • Dropout rates • Number of patients achieving their goals • Past and future GP attendance • Past and future hospital attendance (condition specific) • Patient experience/satisfaction with service • Track which intervention works for whom • Other people taking up exercise • More local services offered to improve health and wellbeing
Begin regular education sessions for staff (09/16)	<ul style="list-style-type: none"> • To decrease staff isolation • To improve staff relationships • To use in-house staff to upskill practice team • To ensure CPD is undertaken 	<ul style="list-style-type: none"> • Staff survey 	

Pilot a new integrated home visiting service (04/17)

- Improve integrated working – avoid duplication (streamline referrals)
 - Decrease emergency admissions
 - Improve patient satisfaction/experience
 - Decrease A&E attendance
 - Improved staff experience
 - Reduce LOS following an emergency admission
 - Decrease home visits by GPs and other professionals Improve staff satisfaction
 - Improve recruitment/retention and decrease sickness levels
- Emergency admissions
 - A&E attendance
 - Staff experience and culture
 - LOS following an emergency admission
 - Home visits by GPs and other professionals
- Patient experience/ satisfaction
 - Ambulance calls
-

Table 11: Intervention measures planned for collection (Thanet Health CIC)

Intervention (start date)	Desired aims and expected impact	Measures	Additional measures we proposed sites explore
Improve existing services for frail people in Thanet by creating new enhanced service (10/2016) and link this with the Acute Response Team (11/2016)	<ul style="list-style-type: none"> • More responsive, cost-effective and cohesive service for the 60+ • To improve patients' ability to manage their health needs • Reduce the need for emergency admissions to hospital • Remove barriers and fragmented ways of working that have previously existed between organisations • Reduce fragmentation • Increase productivity by stripping out unnecessary activity (i.e. diagnostic testing as those undertaken together with results will be readily accessible to all members of the team) 	<ul style="list-style-type: none"> • No. newly identified as frail in the past month • No. offered an initial appointment – and no. taken up • No. Edmonton Frail Scale questionnaires sent out to patients • No. medicine review undertaken • No. agencies attending MDT meetings • No. deaths in place of choice • No. contacts with health and care coordinators • Warwick-Edinburgh Mental Wellbeing Score • No. of patients with a plan of care within 24 hours of admission • A&E attendance • Non-elective hospital admissions • Patient satisfaction • Carer questionnaire • Staff satisfaction 	<ul style="list-style-type: none"> • Social care outcomes measures • Monitor progression of frailty
Create a linked data system and single patient record across Thanet (2015)	<ul style="list-style-type: none"> • Single IT system • Single patient care record 		

IT, IG and access to data: There was notable variation across sites in the nature and extent of data access and linkage (see Table 12 on page 49). The long history of ambition to integrate hospital, community and primary care patient level data in East Grinstead and Thanet (and wider Kent) meant they started their PCHs at a data advantage relative to all other RTSS. Thanet's access to the Kent Integrated Dataset (KID), a pre-existing data warehouse that had been established several years earlier to support health and social care integration in Kent, enabled CCG analysts and commissioners to build bottom-up shadow budgets for the four Thanet-based PCHs in 2017/18. Also, all practices in Thanet used EMIS Web as an electronic medical record that allowed them to undertake a common data audit to identify the frail, at-risk population in each practice to whom the frailty intervention was targeted. EMIS also allowed inputs, processes and outcomes to be monitored at practice levels.

East Grinstead also began building a data warehouse, Artemus, many years before the PCH began. The Artemus system, which linked hospital and primary care data, and aimed to also include community and social care data allowed East Grinstead to risk stratify patients for their interventions and describe individual patient journeys through services over time. Process and activity data captured in Artemus enabled discussions about the performance of the interventions, as well as engagement across practices. Artemus data can also inform budget development and is planned as being the main source of ongoing monitoring and evaluation of the PCH. St Austell was limited to GP practice data and its own data collection methods, and relied primarily on bespoke data to monitor the progress and impact of the social prescribing intervention.

Table 12: Overview for data access and use

	East Grinstead	St. Austell	Thanet
IT systems in use	<ul style="list-style-type: none"> • GPs: SystmOne and EMIS Web • Community: SystmOne • Acute provider: in-house IT system 	<ul style="list-style-type: none"> • GPs: SystmOne • Community: SystmOne 	<ul style="list-style-type: none"> • GPs: EMIS / EMIS Clinical Service / EMIS Remote Consultations • Comm. Trust: CIS • Acute Trust: Numerous
Data	<ul style="list-style-type: none"> • GP/SUS data (Social Care) linked data (Artemus) • Online urgent care data • GP Practice Pack Dashboards 	<ul style="list-style-type: none"> • Only GP data and own collection 	<ul style="list-style-type: none"> • GP/SUS data/ and KID linked data
Use of data	<ul style="list-style-type: none"> • To identify high-risk population and start a conversation with clinicians/patients but not yet for monitoring and evaluation 	<ul style="list-style-type: none"> • To monitor intervention 	<ul style="list-style-type: none"> • To identify at risk population and monitor outcomes, but no clear link with interventions
Analysis	<ul style="list-style-type: none"> • Data analysed by CCG analysts 	<ul style="list-style-type: none"> • Data collected and analysed by the social prescriber (possible partnership with evaluator) 	<ul style="list-style-type: none"> • Data collected/analysed by CCG analyst
Enablers of data integration	<ul style="list-style-type: none"> • Local history (going back approx. 10 years) of work to integrate data sources. • Data analyst employed by CCG to work on data integration and risk stratification • Joint venture with data analytic company (Docobo) to develop and test new forms of data integration 	<ul style="list-style-type: none"> • No enablers were identified to support data integration between the practice and other local services • Practice EMR has a full record for each patient. The PCH can use this data through searches and audits 	<ul style="list-style-type: none"> • Long history of data integration across the whole of Kent • Kent integrated data system up and running for many years and able to provide selected data to the PCH • CCG Data analyst dedicating part of his time to data extraction and analysis for the PCH
Barriers to data integration	<p>Information governance (IG) rules limit the ability to share data but data sharing agreements between practice and the CCG have enabled the development of data analysis to describe longitudinal patient journeys across GP, community and hospital services.</p>	<p>Very limited capacity for data extraction and analysis within the CCG so PCH leaders described 'flying blind'.</p>	<p>Similar to East Grinstead, but additional challenges with consistency across data sources making it challenging to identify intervention cohorts.</p>

Analysis: All sites were still in the process of defining their baselines and identifying the appropriate methods to monitor progress on the selected measures at the end of our evaluation. They had analytical capacity, but required our support with choosing the appropriate baselines/comparators, sample sizes, as well as ongoing monitoring and analytical methods/tools.

Our focus with the sites was therefore on how they were using routine data to capture progress, yet this may have been insufficient in capturing progress, and mixed methods approaches may have provided a fuller picture. At the end of the evaluation, sites were still making very limited use of qualitative data (e.g. patient stories) or any survey tools to measure impacts on patients and staff. Some advised their hesitation stemmed from fears that interventions were iterations of previous services, making it difficult to identify the distinct impact of the PCH. Yet capturing change on the ground in fast-changing contexts may require the use of a wider range of qualitative methods, in addition to the use of quantitative monitoring. Results from qualitative monitoring may provide the necessary input for deciding on what should be measured more robustly in the future.

6. Early impacts of the PCH model (in case study sites)

The PCH model has four key aims, tied to the quadruple aims of health care (Berwick et al., 2008; Bodenheimer and Sinsky, 2014), including:

- improving the health and wellbeing
- improving quality of care for patients in local communities
- improving use of local health and social care resources
- improving staff satisfaction and reducing burnout.

Across all case study sites, interventions and the development of the characteristics of the PCH model were still in their early implementation phases. Measures were being tested as the Nuffield Trust evaluation ended, hence it was not possible to quantify progress and outcomes at this stage. Our goal was to ensure that the measures selected for monitoring would be those that would best capture meaningful change over time. By the end of Phase 2, sites were in the process of refining their draft dashboards.

Due to time, the scale and scope of the interventions we examined were limited to two priorities per case study site. A challenge for the PCH programme going forward will be to support sites to scale up the scope of PCH interventions, such that they cover whole populations, increasing the opportunity for transformational change.

Using quantitative and qualitative data gathered during interviews, complemented by stories about how the PCH had had an impact on patients and staff, in this section we examine the progress case study sites made one year into the programme against the quadruple aims.

Improve health and wellbeing

Prior to the PCH programme, case study sites' partners were not collectively focusing on prevention, empowering patients and engaging communities – although smaller scale

initiatives were happening within GP practices. Once the PCH was launched, all sites worked with local partners to identify patient segments who would benefit from joint intervention.

For example, St Austell explicitly aimed to improve health and wellbeing through a risk reduction and prevention-focused intervention, which used a social prescribing officer who prescribed exercise and created links with local community groups and programmes that could facilitate exercise. Their PCH leads reported that the programme provided them “the impetus for designing services to address the needs of population subgroups and to focus on prevention”, and said “while other interventions like our education initiative could have happened without the PCH, the social prescribing programme would not have been possible”.

St Austell implemented the PCH model by bringing together local assets to develop a social prescribing intervention dedicated to preventing ill health and chronic disease for all age groups by breaking down barriers to access to exercise and other social interventions. As of January 2017, 52 patients had completed 12 weeks of the programme, for which: 94 per cent had an increase in wellbeing; 62 per cent achieved weight loss; and only 32 per cent of patients had dropped out of the programme (where most physical activity programmes without motivational interviewing have a 50 per cent dropout rate). The impact of the intervention on a patient’s life is described in the box below.

St Austell Healthcare: Health and wellbeing service user

A female patient who had poorly controlled diabetes, put on weight, given up work, and lost motivation to address her own health needs, participated in the social prescribing project and attended a healthy eating session.

Within four months of starting her personalised health programme she had lost 4.8 kg. Her HbA1c had fallen and her Warwick-Edinburgh Mental Wellbeing score had increased from 53 to 58 points.

She started also to attend weekly yoga classes, did further yoga at home and had returned to part-time work.

St Austell Healthcare hosted an engagement event at the Eden Project (one of their local PCH partners) in February 2017 to showcase the evidence behind and early results of social prescribing intervention. Over 70 GPs and local care providers attended and reported they

were enthused about trying out the model. Local councillors followed up their attendance at the event with meetings to see how they could support the intervention. While this type of impact is difficult to measure, PCH leaders reported that the audience was very receptive to rolling out similar initiatives, suggesting they saw the potential benefit of social prescribing.

Improve quality of care for patients in local communities

There are multiple definitions of quality of care, many of which are defined at the personal or population levels, and are multi-dimensional, containing dimensions such as:

- timely access to appropriate skills
- appropriately resourced or staffed services (i.e. capacity)
- effective care (i.e. rigorous science proves the effectiveness of services, or care is based on national guidance)
- care that is safely delivered
- care that is centred around the needs of the person
- equitable needs-based care (Leatherman and Sutherland, 2008).

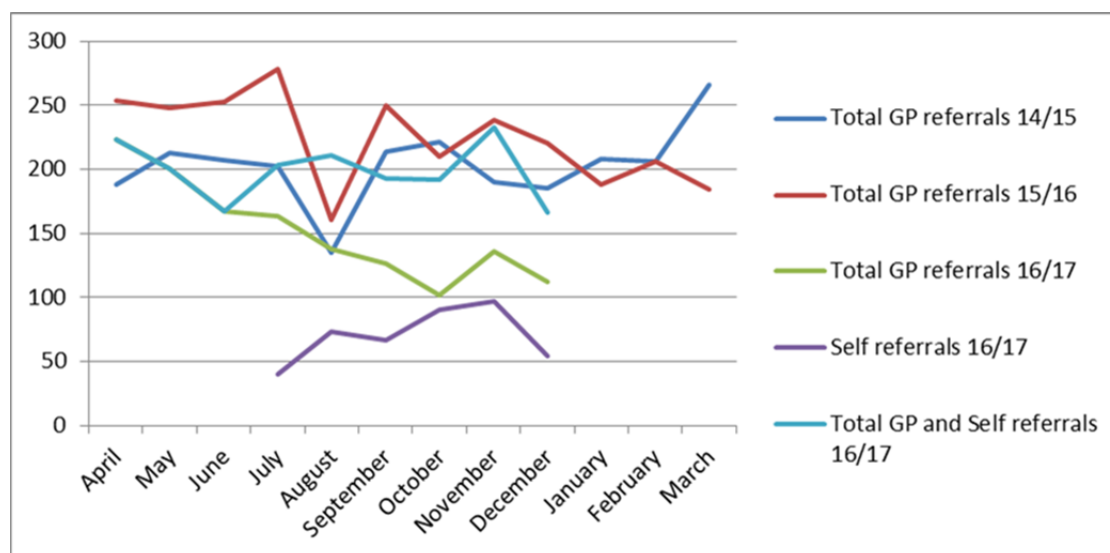
Sites did not explicitly define their interpretations of 'improved quality of care for patients'. Instead it was often implicit in interviews that staff believed that working differently (i.e. breaking down professional barriers) or addressing the needs of a specific cohort through reshaping care delivery, would improve the quality of care – and in the longer-term, health outcomes – as well. Early on in implementation, case study sites focused on process measures that they broadly linked to a high-quality service.

For example, in Thanet, as part of an early evaluation of their Enhanced Frailty Scheme, the CCG developed a range of progress measures. The service aimed to improve patients' abilities to manage their health needs and reduce the need for emergency admissions to hospital. The process measures identified by CCG analysts included: whether frail patients had been provided an initial appointment, completed an Edmonton questionnaire, had their medicines reviewed; as well as the number of agencies that had attended MDT meetings. Alongside results, CCG analysts described how five of the 13 practices had not submitted data at all, and data submissions from the remaining eight practices were nearly all incomplete and inconsistent, therefore making analysts quite cautious about evaluation results. Despite these limitations, analysts reported having evidence that between October

and December 2016, practices: provided 192 initial appointments; completed 190 Edmonton questionnaires; and undertook 268 medication reviews. They also reported that implementation of the scheme had appeared to have encouraged the use of MDT meetings (a goal of the new service) and some patients were satisfied with the introduction of a new role in the MDT – one of them reporting that “being housebound I often feel vulnerable and very isolated, and knowing that my health and social care coordinator is there at the end of a phone makes me feel much more secure”. But it was recognised that much more work was yet to come, as: approximately half of the 6,983 identified patients were not on frailty registers; almost all patients referred into the programme still needed care plans to be agreed by the MDT; the geriatrician support added to the programme still needed to be ‘fully utilised’ across the four PCHs; and not all practices were yet using the standardised data collection templates.

One of the top priorities in East Grinstead was to increase primary care capacity by freeing up GP time. This priority was implemented through several smaller projects. One of these was direct access to hospital outpatient physiotherapy with the aim of decreasing GP appointments for MSK problems (ideally by 30 per cent). Early evidence suggests success, as the proportion of GP referrals to MSK physiotherapy declined and the proportion of self-referrals increased (see Figure 3).

Figure 3: East Grinstead – Number of Self-Referral to MSK Physiotherapy vs. GP referral



Source: Horsham and Mid-Sussex CCG (Healthy East Grinstead)

East Grinstead also aimed to increase access, improve patient experience, as well as recruitment and retention, and make efficiency savings through their capacity projects. At the time of writing this report, it was only possible to conclude that this project was freeing up specific GP appointments, but the measure did not allow for an assessment of how these freed-up appointments were used and whether access for other patients had improved, whether patient experience had changed, efficiency savings had been made, or retention and recruitment of GPs had changed. However, there were plans to introduce additional measures, including staff and patient experience/satisfaction surveys, and measures of the impact of reduced waiting times.

Another method of assessing early impacts was to assess the perceptions of change among staff since the PCH was introduced during interviews. A range of views were captured. A clinician described how the team had improved relationships with their local acute trust, which had enabled improved discharge planning and encouraged them to continue building relationships: “this gave us permission to start talking to other groups...we’re moving from hub and spoke to an integrated [practice and community] team across all levels”. Community nurses described how the new Enhanced Primary Care Team was better connected with social care, primary care and occupational therapy teams, which improved response times for patients at risk of hospitalisation. They described knowing far more about each other’s roles and how each could contribute to care, and working more cohesively: “If you’re concerned about a patient, come back to the office and we can sort out a piece of equipment.” A detailed example of a doctor’s experience is in the box below.

Healthy East Grinstead: “Dr Jones”, GP

Within three months of East Grinstead’s Enhanced Primary Care MDT starting to develop and share patient-centred contingency plans for a defined cohort of people at risk of hospitalisation, Dr Jones started to experience the impact of working collaboratively with a wider group of professionals from social care, ambulance and the fire service.

At the end of a home visit with an elderly patient who lived alone, Dr Jones asked whether the patient would like the fire service, a new member of the East Grinstead partnership, to visit to ensure her living situation was as safe as possible. The patient told Dr Jones that the fire service had already visited her house earlier in the week and fitted new smoke detectors. Within a few days the alarms went off when she left an empty pan on the heat and the fire service attended quickly, preventing serious harm befalling a vulnerable person.

As Dr Jones was leaving the woman's house, an occupational therapist who was also part of the PCH team was arriving at her house with equipment to improve mobility and prevent falls. Implementing holistic interventions across partners at this pace had been much harder to achieve before the PCH intervention started.

Improve use of local health and social care resources

It was not possible in the timeframe of this evaluation to quantify the impact of the PCH model on the use of local services, or to evaluate the overall cost effectiveness of the PCH initiatives we studied because sites were quantifying the full resources used to develop and implement the PCH – however, Thanet had estimated resource use and savings from two aspects of its PCH work.

In the first assessment, Thanet estimated cost savings from two medicines optimisation pharmacists visiting two care homes and undertaking medication reviews for 71 patients, as part of the Enhanced Frailty scheme. CCG analysts' findings suggested 163 medications were stopped (from a total of 282 interventions, e.g. medication switches), which resulted in £12,180 in estimated net savings. Furthermore, Thanet had also internally developed an acute response team that was put in place to build on the frailty work being done in PCHs. A Thanet CCG-led evaluation of a 4.5 month pilot (November 2016-March 2017) found that the cost was £0.13m, and expected savings from decreased non-elective admissions to the Queen Elizabeth The Queen Mother Hospital among patients aged 70+ (which was estimated to be between 153 and 260 admissions at an estimated rate of £1,527 per episode of care) equated to cost avoidance of between £0.23m and £0.40m. This resulted in net savings of between £0.1m and £0.27m over the 4.5 months – and, for this, gained local and national praise.

Improve staff satisfaction and reduce burnout

Interviews in all three case study sites demonstrated that integrated working across partners had improved, and the working lives of some staff had improved. This was evident as original operational board and task-and-finish group members described how the increasing numbers of staff and volunteers joining the operational board helped distribute the work of the PCH delivery team – relieving pressure on each of the founding members.

In East Grinstead, community nurses also described how their roles had changed from being task oriented to being involved in care planning and embedded in the MDT – expanding their skills and social networks. CCG staff also described how community

nurses “had never had a telephone number for practices where they could bypass the public queue, and it was also the first time that they felt sufficiently empowered and engaged within the wider MDT to ask for them”.

In an internal evaluation of the Enhanced Frailty scheme in Thanet, CCG analysts reported (based on information gathered following the practice MDT meetings) that practices that had engaged in the scheme had improved team relationships, improved coordination of services and increased integrated working. Analysts also reported that they had limited data about how the involvement of geriatricians had impacted the wider team, but cited that clinicians reported feeling more supported by other professionals, such as the hospice and geriatricians.

While each site intended to measure changes in staff satisfaction, none had yet undertaken in-house bespoke surveys with PCH staff. Furthermore, sites were unable to provide evidence to our team that the PCH initiative had impacted on recruitment or retention.

However, St Austell did undertake a regular survey that covered all staff and questions related to staff satisfaction and burnout, and provided our team with results from February 2016 (pre-PCH) and December 2016 (during PCH implementation) (see Table 13 on page 58). Although we are unable to attribute changes to the PCH because it was responded to by staff who were not necessarily involved in the PCH, the survey provides an indication of the mood at two relevant time points across the practice.

The surveys revealed large drops in nurses and doctors’ perceptions that staff were burned out between February and December. However, the percentage of doctors who ‘had their personal plans changed within the last week because of work’ had increased dramatically from 45 per cent to 75 per cent, and the percentage of nurses who ‘arrived home late from work’ had also increased from 40 to 71 per cent between February and December. Moreover, the percentage of nurses who agreed that ‘dealing with difficult colleagues was not consistently part of their job’ increased from 11 per cent to 50 per cent between February and December. This suggested that relationships for nurses had improved between the two time points, but that trend had reversed for managers. With regard to ‘staff having the same values as leaders’, it appears that the percentage of staff who agreed with these statements decreased across all staff groups except nurses between February and December – but we were unable to draw conclusions from this, other than nurse satisfaction appeared to improve.

Table 13: St Austell staff survey results (February and December 2016)

Staff group	Date (2016)	% Burn out	% Difficult colleagues	% Same values	% without breaks	% arrived home late	% plans changed
Reception/Snr Rec/Secretary	Feb	62 (21)	20 (20)	43 (21)	83 (18)	90 (20)	84 (19)
	Dec	64 (25)	33 (24)	29 (24)	70 (23)	77 (22)	85 (20)
Nurse/ANP/HCA/Matron	Feb	90 (10)	11 (9)	30 (10)	60 (10)	40 (10)	89 (9)
	Dec	50 (14)	50 (14)	43 (14)	85 (13)	71 (14)	92 (13)
Doctor/Pharmacist	Feb	55 (11)	60 (10)	36 (11)	60 (10)	40 (10)	89 (9)
	Dec	56 (9)	30 (10)	30 (10)	56 (9)	33 (9)	90 (10)
Doc proc. notes sum/pres team	Feb	82 (11)	60 (10)	90 (10)	27 (11)	18 (11)	45 (11)
	Dec	42 (12)	83 (12)	75 (12)	36 (11)	17 (12)	75 (12)
Doc proc. no sum/pres team	Feb	67 (6)	67 (6)	33 (6)	80 (5)	100 (5)	100 (4)
	Dec	50 (8)	25 (8)	25 (8)	63 (8)	88 (8)	100 (8)

Notes: Percentages represent the percentage of respondents within each staff group type who agreed with the questions. The figures in parentheses are the number of respondents to each question. ‘% Burn out’ was phrased in the survey as ‘People in this work setting are burned out from their work; ‘% Difficult colleagues’ was phrased in the survey as ‘Dealing with difficult colleagues is not consistently a challenging part of my job’; ‘% Same values’ was phrased in the survey as ‘The values of the organisations’ leadership are the same values that people in this work setting think are important’; ‘% without break’ was phrased in the survey as ‘In the past week worked through a day/shift without any breaks’; ‘% arrived home late’ was phrased in the survey as ‘In the past week arrived home late from work’; ‘% plans changed’ was phrased in the survey as ‘In the past week changed personal/family plans because of work’.

7. Reflections for RTSs and future PCH sites – lessons for implementation

With over 150 community of practice sites now participating in the PCH programme, what lessons can be taken from the RTSs to ensure this new model of primary care fulfils its potential?

This chapter presents eight lessons on developing a local vision for PCH and managing the factors that will help or hinder implementation.

Lesson 1: Be clear about your ‘theory of change’

Ensure that for every PCH initiative you introduce, there is an explicit theory of change – rooted in published evidence and local knowledge – to explain how your planned changes will contribute to/deliver the aims of a PCH.

One important area we identified as being critical to PCH sites’ development is the clear articulation of their ‘theory of change’, i.e. how sites would implement the characteristics of the PCH model across their planned interventions and how these linked to the outcomes they expected to achieve. While each site had developed a logic model for their PCH, given the tight timescales few of the sites had been able to fully identify how they would deliver their desired local outcomes. Nor had they – at this stage – been able to link their local aims and objectives to the broader, quadruple aims of a PCH. As a result, it was not easy to see yet how the huge amount of effort in each site would deliver the vision and aims of a PCH.

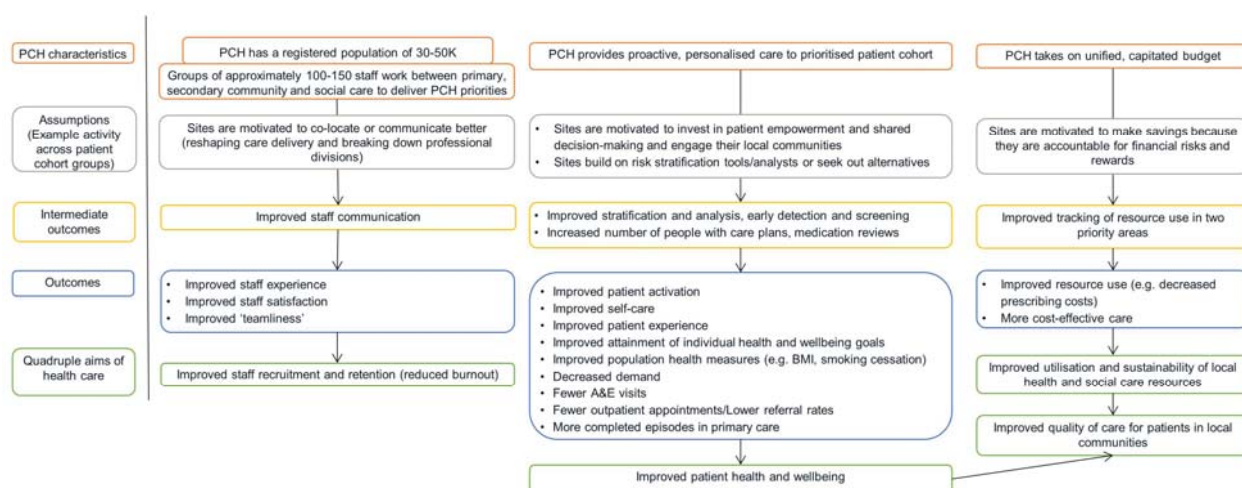
Sites can use the logic model methodology (as sites were encouraged by the NAPC to do from the start) to support this process. Like other similar project planning tools, a logic model aims to set out the relationships and assumptions between what a programme will do and what changes it expects to deliver (Hayes et al., 2011), and can be particularly

helpful in illuminating the gaps between the underlying assumptions and the anticipated outcomes (Helitzer et al., 2010).

Further guidance to address this issue is much needed and, in Figure 4 below, we suggest a potential model of an overall programme theory that can be adapted within RTSs and aspiring sites to describe their local ‘theories of change’.

We recommend that the change theory be further developed by the NAPC with input from the RTSs and aspiring PCH sites as they learn more about how to ensure their current activities contribute to forming a PCH.

Figure 4: A programme of change for further development



Lesson 2: Communicate the PCH vision

A strength of the PCH model is its simplicity: four core characteristics and four aims. Yet leaders of the RTSs reported they engaged staff and patients by describing the new services and functions they were introducing, rather than describing the PCH model itself. They were concerned that describing the structure and characteristics of the PCH would sound like “just another change NHS policy-makers were asking them to deliver”. The art of PCH leadership – demonstrated in each of the case study sites and all RTSs – was to build engagement by communicating the benefits that would arise from PCH initiatives for patients and staff and to ensure that small gains were obtained at an early stage.

But if staff and patients are to understand the working practices and relationships that underpin a PCH, it is also important to describe the model itself. RTSs need to work with NAPC nationally to create communication aids that help to ‘tell the PCH story’, and explain in a simple way how each new service reflects the PCH model in action.

Lesson 3: Ensure local initiatives are aligned to the aims of the PCH model

Each RTS and community of practice site will need, eventually, to demonstrate the application of the four core characteristics of the PCH model to care that is provided to their whole population. For the purposes of evaluation, RTSs were asked to identify two key service priorities targeted to specific patient groups, but there were few formal processes to map local service developments to the aims of the PCH. NAPC has an important role to play in guiding and supporting sites to develop the characteristics of the PCH model to pursue their local goals, in tandem with achieving improvements in the quadruple aims.

Our initial mapping of progress in 13 RTSs in Phase 1 revealed diverse interventions building on local history, established relationships and personal drive. Discussing the variation in approaches, participants in the final workshop emphasised the importance of letting local contexts shape the work and priorities of emerging PCHs. While building on established projects and local strengths could improve engagement and generate the energy and effort needed for change, there could be risks that among a plethora of local interventions, some will diverge from the core characteristics and/or aims of the PCH model.

This potential tension between bottom-up shaping of local activities and fidelity to the overall PCH model will need to be managed as the community of practice sites emerge. NAPC could support sites by developing a library of ‘design tools’ that help to articulate how the characteristics of the PCH model will support local initiatives to progress towards creating a PCH.

Our mapping of RTSs suggested that there was no ‘one way’ to develop a PCH. Sites typically set up initiatives that addressed local challenges and population health needs – resulting in significant variation in the activities seen in each PCH. Their early logic models – developed before launching the PCH – did match planned service developments onto PCH characteristics, but few sites carried this systematic approach forward as they

implemented local initiatives. The majority of energy and action were focused on the service under development, with less attention paid to creating the infrastructure and culture of a sustainable PCH. This may have been because the logic models were not living documents in all sites – meaning that they were used in the early stages of development, but rarely updated thereafter.

To prompt RTSs about potential links between their interventions and the desired aims of the PCH model, our personalised advice letters in Phase 1 mapped each site's local indicators against each aim of the PCH. However, as interventions often changed, it was likely that sites had moved on from their initially planned indicators. Sites therefore need to develop appropriate internal processes to ensure they are continuously reviewing the alignment of their initiatives and local outcomes to the four characteristics and aims of the PCH model.

In the US, the National Care Quality Association (NCQA) has developed a lengthy assessment pathway for practices to gain NCQA Patient-Centred Medical Home recognition status.⁴ This requires potential Patient-Centred Medical Homes to confirm they are delivering a range of standardised activities before they can be funded. The disadvantages of the recognition approach are that it risks forcing a PCH to undertake activities that are either inappropriate for its local population or do not produce the desired outcomes for certain populations (Epstein et al., 2010; Hoff, 2012). Yet the advantages appear to be that higher-scoring sites (on adherence to the PCMH model) are associated with lower use of emergency departments (Jackson et al., 2013). They are also more motivated to make systemic change, take an active role in learning about the model (by attending NCQA workshops), and report valuing the model as benefiting both their patients and staff more than lower-scoring sites (Wise et al., 2011).

We conclude that while there are merits in ensuring fidelity to the PCH model, this should not be at the risk of forcing emerging sites to undertake activities for which there is no local support, or for which the necessary skills and resources are not available. The inherent uncertainty in new programmes can be associated with the failure of innovations (Nembhard et al., 2009) and this must be seen as a risk for the PCH programme, but should not be seen as a reason to force PCHs into inappropriate activities.

⁴ www.ncqa.org/programs/recognition/practices/patient-centered-medical-home-pcmh

A process to support PCH planning and development is needed. This needs to ensure that emerging PCHs in the community of practice sites are willing to fulfil the model's characteristics and objectives, and encouraged to develop their logic models and business cases in ways that ensure consistency between locally developed plans and the overarching vision of the PCH.

Lesson 4: Support iterative development

When we met with 11 sites nearly one year into the programme at the Phase 2 workshop, they reported that they had either modified or completely changed interventions from those discussed in our mapping interviews six months earlier. There were numerous reasons for these changes, including: inadequate funding available to support change; withdrawal of CCG support for a project; lack of staff and other resources needed for implementation; lack of data to assess need and monitor progress; as well as many other factors. Yet tolerating change and challenge appeared to provide opportunities for reflection and learning, which in turn clarified aims of services and improved processes.

For example, St Austell's leaders described in interviews how it had to end its integrated visiting service pilot after only a week – having planned for a three-month trial period. The unforeseen barrier challenged the leadership team to quickly recover the programme while enthusiasm was still high. The process, despite being frustrating, resulted in a clearer job description for the coordinator role, improved process mapping for how teams would triage daily and communicate across sites, and helped the team develop a stronger business case for local commissioners.

This process of iterative learning, reflecting and refining is widely used in health care and is commonly referred to as 'plan-do-study-act' cycles, although few of the sites reported using this technique with strict methodological rigour (see Reed and Card, 2016). In practice, sites adjusted the way services were delivered in response to fast-changing local contexts and challenges (such as data deficits or recruitment difficulties) but made progress nevertheless.

Many researchers support the importance of taking chances and reflecting on positive and negative experiences. For example, Greenhalgh and colleagues (2004) emphasised the importance of a 'risk-taking climate' to the diffusion of innovations through organisations - that is, the development of a climate in which new projects are encouraged and failed ones are viewed as opportunities for reflection and learning (Greenhalgh et al., 2004). Janamian and colleagues (2014) similarly argued that a long-term and tangible commitment to

change adoption was fundamental in the US experience of implementing the Patient Centred Medical Home (Janamian et al., 2014).

Lesson 5: Ensure PCH planning and evaluation develop hand in hand

Best and others (2012) argue that good quality data that enables monitoring and evaluation is an essential component of large-scale transformation. Yet, to be able to generate this data, leaders must be committed to establishing reporting and measurement through the system and the appropriate infrastructure must be in place (Best et al., 2012). Data collection must be embedded in clinical encounters (especially where the GP record is the most consistent source of data), and information governance rules minimised to allow data sharing.

All sites had given some thought to the process and outcome areas they would track, but none had established a systematic process for tracking progress and impact. This was not surprising as sites were in the early days of their PCH journey and still in the process of defining their priorities. The main constraints we observed to undertaking monitoring and evaluation across the RTSs were:

- clarifying the expected impact of interventions and choosing the appropriate process and outcome measures
- establishing indicators that were sufficiently focused on the patients exposed to new interventions
- limited staff or appropriate skills to collect and synthesise data
- poor quality of data coding in GP practices
- limited access of GP practices to hospital data
- information governance rules preventing CCGs from accessing patient-level data
- limited access to linked data (primary, hospital, social and community) and gaps in data
- maintaining a focus on monitoring and evaluating.

Some of these constraints are important barriers to establishing the level of data integration central to success in high performing health systems in other countries (Guterman et al., 2011). Finally, linked data on activity is essential to develop accurate

capitated budgets and to track patients' service use to manage budgets effectively. One RTS (Thanet) was close to having the level of data required to develop a capitated budget. All providers in Kent had previously invested in a data warehouse to support a succession of health and social care integration projects over the years. Furthermore, in-house analysts were employed to input and clean data for their own purposes. In his analysis of factors shaping the success and failure of budget holding medical groups in the US, Casalino highlights high-quality data and the ability to closely monitor resource use as a key success factor (Casalino, 2011).

Overall, PCHs must prioritise developing the capacity to collect, synthesise and analyse data or mobilise those with the power (e.g. CSUs, CCGs or private sector) to do this. It is vital that there is a continuous process for evaluating what works and that this is well supported with adequate data and sufficient statistical input. Given the relatively small scale of the PCH this can be a particular challenge, and initiatives to enable better linkage and sharing of data at this level would be timely. Also, because of the scale, it may take a while for improvements in health outcomes to be realised. The methodological challenges of undertaking evaluations are discussed in depth in section 8 on page 68.

Lesson 6: Involve patients and the community

In our work with case study sites, we observed some progress in involving patients in shaping the PCH programme. However, patients were engaged in advising or supporting single components of the PCH programmes across sites. Those patients were sometimes part of the initial cohort to go through a PCH intervention or were advising practices more widely as part of a practice-based patient participation group. At the workshop in March 2017, many RTSs told us that the PCH label had not been used to describe the PCH, hence patients were not aware of the wider vision or rationale for transformation.

Engaging members of the local community in the work of a PCH is central to the NAPC's model. Research suggests that involving patients and families in change efforts helped 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 (see Best et al [2012] for a summary of the literature). Community engagement is also a key aspiration of the Five Year Forward View (NHS England, 2014).

To understand the patient perspective, leaders and frontline staff will need to think about the patient perspective, engage patients and wider communities in transformation, and regularly check in with patients on their experience and satisfaction with services. To make

this work, it often requires a passionate and dedicated lead within the organisation. Other helpful contexts have been identified by Best et al (2012) and include: a historical role for patients in health care system decision-making and change efforts, patients holding a positive perception of success of previous efforts in involving patients, and the existence of specific processes and methods for involving patients and their representatives in feedback and decision-making.

A growing number of GP practices are working with patients and local communities to introduce mentoring and apprenticeship schemes in practices (e.g. Harness Health⁵), create new resources in local communities to reduce risks of unhealthy lifestyles (e.g. Fylde Coast Medical Service⁶), and develop volunteering as a route back to employment (e.g. Modality Partnership⁷). Such initiatives support the PCH vision for tackling the wider determinants of health and improving wellbeing and, although only one of the three case study sites was directly involved in this kind of work, the above examples provide excellent insights into what PCHs might do in the future.

Lesson 7: Develop robust governance arrangements

For RTSs to mature to the point where the governing bodies of all participating organisations are willing to accept the financial risks (and potential gains) associated with joint working, a greater focus on developing robust governance arrangements is required. As is, a focus on planning for organisational form and function.

The case study sites were using MOU agreements to facilitate project working, but this was perhaps unsurprising as the PCHs are new and still finding their feet. We also heard in some interviews that the time required to organise formal agreements were barriers to progress.

Only Thanet had plans to do this in the short term through an Integrated Accountable Care Organisation (IACO) that merges primary and community care under a unified capitated budget. Yet it cannot instruct all partner organisations to join an IACO, and is currently

⁵ www.harnesshealthcare.com/about-us/careers/

⁶ www.bbc.co.uk/news/health-37338995

⁷ <https://modalitypartnership.nhs.uk>

working to build trust between partner organisations and create opportunities to demonstrate potential benefits of joint working. Initiatives include developing shared roles between GP practices to increase capacity and sustainability and jointly funded posts, which should gradually increase collaboration between participating organisations. The aim is for this shift to culminate in a formal agreement for a joint venture or merger, but the pace can be slow.

Lesson 8: Develop alignment between clinical and financial drivers

Drawing on two decades of research into US medical groups with budgets, Casalino (2012) described the high failure rate in such organisations, arguing that many lacked strong physician leadership, under-invested in management and infrastructure, and failed to gain physicians' cooperation. The work that has started in Thanet to prepare the ground for holding a capitated budget is an important, if time consuming, first stage to address some of the problems described by Casalino.

To succeed with risk-bearing capitated budgets, the PCHs will have to invest (or utilise those in the existing system that have the skills and capabilities) in leadership and management, IT infrastructure and data analytic capability, and in developing efficient clinical pathways. If PCHs can successfully move in that direction, there are valuable lessons to be learned about how at-risk budgets can be used to incentivise a combination of quality and efficiency in integrated services. The Alternative Quality Contract⁸ provides one such example in which the payment of financial micro-incentives to providers is adjusted to obtain the desired balance between the delivery of high-quality care and achieving financial savings.

⁸ www.kingsfund.org.uk/audio-video/dana-safran-what-can-nhs-learn-alternative-quality-contract

8. Reflections for RTSs and future PCH sites – evaluation lessons

The success of ongoing evaluation of PCH interventions and the model as a whole relies on having the right underlying structures in place, but also a mature approach to the use of data and information. It is important when setting up evaluations that:

- the right things are being measured
- appropriate methods are being used so that when a change in outcomes is happening, it has a good chance of being picked up
- when a change has not occurred, the likelihood of a false positive is low.

Here are seven lessons to apply to evaluation of future PCH sites.

Lesson 1: Link local indicators to the characteristics and aims of the PCH model

As described in the implementation lessons, indicators of PCH interventions need to be linked to the aims and characteristics of the PCH model to be able to support each intervention's theory of change. Indicators need to cover enough breadth to be able to measure impact sufficiently, but not be so unfocused that other factors in the system obscure what could be valuable findings.

As an example of a need to improve breadth of measurement to measure the impact of several initiatives to enhance primary care capacity, East Grinstead developed indicators measuring the involvement of GPs in prescribing dressings, in referring patients to physiotherapy and in referring expectant mothers to midwifery. Small reductions in GP activity were seen, but GPs felt these indicators were not sufficient to capture the overall impact of their initiatives. They wanted indicators that actually measured the benefits of freed-up capacity. One such indicator might be the volume of minor A&E attendances at

the local hospital during GP opening hours. Some studies have looked at measures of appointment waiting times, such as the average number of days to the third available appointment – another more precise alternative indicator.⁹

Population-based measures can have the opposite problem of being too under-focused. For example, if an initiative aims to reduce hospital admissions but is only delivered to a small percentage of the local population, measures of admissions across the whole population are very likely to miss any positive benefits the initiative may have. Likewise, if the initiatives are likely to mostly affect admissions for certain conditions (COPD or heart failure in older patients, for example) then it makes sense to build indicators that focus on these.

Because of the sizes of populations covered by PCHs, there may be a long time before changes will be seen in measures that monitor improved health. This may include changes in hospital admission rates or population prevalence of particular conditions. For this reason, it is important to evaluate against a mix of shorter and longer-term measures. Depending on the intervention, appropriate shorter to medium-term measures might include patient wellbeing, biometric markers such as weight or HbA1c measures in diabetics. They might also include indicators that a process is working according to plan, particularly where there is evidence that such a process can lead to improved outcomes. We recommend that all PCHs should measure patient and staff experience and satisfaction at regular intervals (e.g. annually).

Another approach for evaluating long-term impacts might be to forecast expected short-term outcomes – using published research where available – or from what is seen in the shorter term. There is some evidence about the longer-term impact of certain processes or health benefits, and using these to project longer-term findings, although full of uncertainty, might be better for evaluating cost effectiveness than waiting, particularly in an environment that is constantly changing, where any actual long-term impact is going to be confounded by other new interventions that have sprung up in the meantime. One example surrounds the evidence associated with HbA1c levels in diabetics that suggests that a reduction of 11 mmol/mol reduces the risk of cataracts by 19 per cent, heart failure by 16 per cent and amputation by 43 per cent (Stratton et al., 2000).

⁹ www.ihl.org/resources/Pages/Measures/ThirdNextAvailableAppointment.aspx

Lesson 2: Identify the appropriate data for capturing progress

The availability of appropriate data can be a major challenge. With PCH interventions affecting relatively small populations, the ideal data set would be at the patient level linked across all care sectors. Some of the rapid test sites, such as at East Grinstead or Thanet, have access to linked data between primary and secondary care, but similar links to social care are rare. Where linked data are not available, one solution might be to explore picking up secondary care data (for example episodes of care) more consistently within primary care data systems, although this will not help with retrospective analyses. Where the best secondary care data is aggregated at the population level (and therefore is not available at the individual patient level), attempts should be made to make the aggregated data fit the population being targeted by the intervention as closely as possible. If a close fit is not possible, then it throws into doubt the value of using the indicator.

Data quality can impact on measured outcomes, but the quality of data is a challenge that is frequently overlooked in evaluation. To improve the rigour of analyses, there are standard quality checks that can be done, such as investigating the amount of missing data among the fields that are being used or eliminating duplicate records. Lack of consistency in coding across care providers can also be a problem. In Thanet, for example, different GP practices had different approaches for classifying degrees of frailty among their patients.

Lesson 3: Choose appropriate baselines

Baselines that are chosen for local evaluations often reflect the situation before the intervention has happened. In several cases this is appropriate, but there are many situations where it would be better to use a moving baseline that is continually updated over time. This could be when monitoring population-based outcomes that are expected to change anyway without any intervention, e.g. increasing hospital admissions for long-term conditions. Before-and-after comparisons are most appropriate when they represent the past histories of the actual patients who are exposed to the intervention. Methods for addressing this are described as follows.

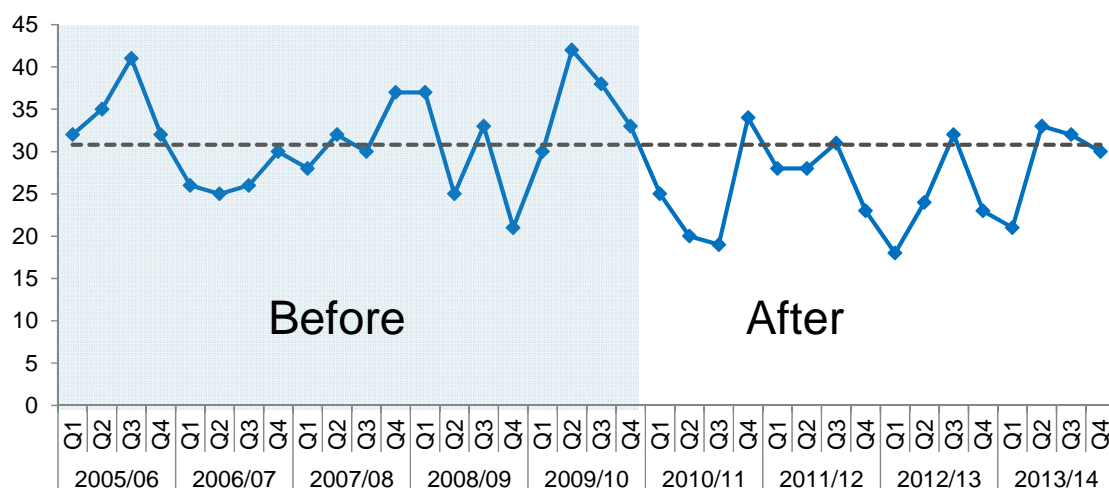
With patient-level data, a common scenario in research studies is to use matched controls. However, in many cases this would not be possible as it requires complex matching software, so it may be possible to adopt more pragmatic solutions such as using a comparator group to establish a trend against which to monitor outcomes.

Table 14: Methods to develop comparator groups

	Less good	Better	Best
Before and after comparisons	General area-level population	More focused group	Cohort exposed to the intervention
Monitoring against trends	National trends	Trends within the wider local area	Matched controls

Figure 5 shows quarterly hospital admissions for fracture neck of femur for residents of an English local authority area. An intervention to improve outcomes started in 2010. The dotted line is the baseline, which is calculated as the average quarterly volume before the intervention. After the intervention, there does appear to have been a fall in admissions as they are more below the baseline than above.

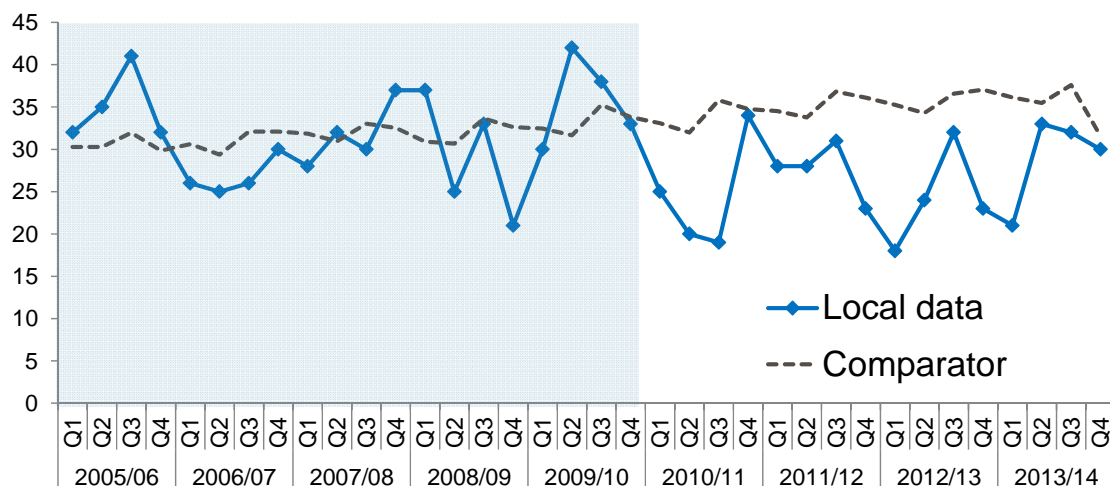
Figure 5: Quarterly hospital admissions for fracture neck of femur for residents of an English local authority, age 75+. Baseline representing average before intervention



Source: Hospital Episode Statistics

However, if we change the baseline so that its trend matches that of the national population (standardised for the local population), the impact is more marked (see Figure 6 on page 72).

Figure 6: Quarterly hospital admissions for fracture neck of femur for residents of an English local authority, age 75+. Baseline representing national trend



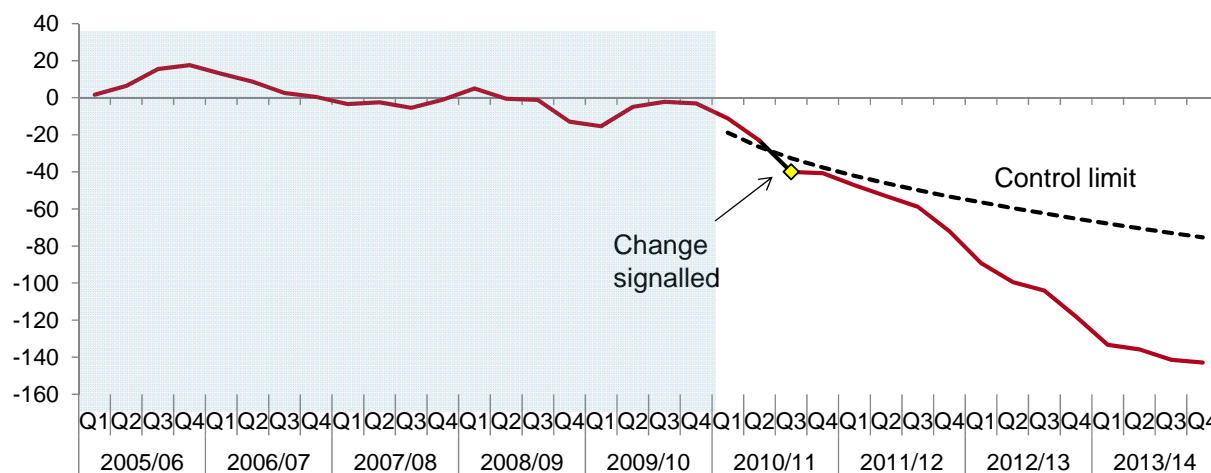
Source: Hospital Episode Statistics

Lesson 4: Ensure that observed changes are not due to chance

It is crucial that change is monitored with the appropriate methods. In neither of the two previous examples (see Figures 5 and 6) has any assessment been made of the extent to which the observed changes are anything more than a chance occurrence. There are a range of methods that fall under the umbrella term “statistical process control” or SPC, that evaluate time series data and will flag when there is sufficient evidence of a change (Sherlaw-Johnson and Bardsley, 2016).

One such chart is shown in Figure 7 on page 73. This is a plot of the differences between the observed values against the baseline of Figure 6 accumulated over time. So, for the second quarter, the plotted value is the sum of the difference in the first quarter and the difference in the second quarter. The result is that, if observed values become consistently below the baseline, the plot will start to move downwards, which is what can be seen from 2010/11. We can add to this chart a “control limit”, such that if the plot crosses this limit then there is evidence a change has occurred.

Figure 7: Quarterly hospital admissions for fracture neck of femur for residents of an English local authority, age 75+. Accumulated differences between baseline and observed outcomes.



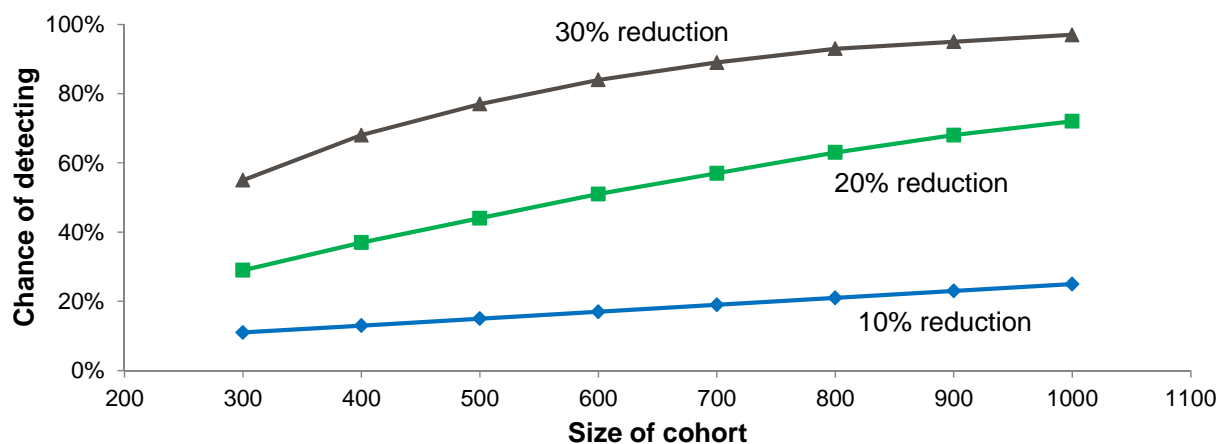
Source: Hospital Episode Statistics

Lesson 5: Use statistical power calculations to spot a change that has occurred

In the context of the PCH, the numbers of patients being followed up may be too small to detect if the intervention is truly having a benefit, particularly when measuring against less frequent outcomes such as hospital admissions. This is because with small numbers of ‘cases’ there is a high possibility that the observed change in an outcome measure has occurred due to chance. With larger sample sizes, the likelihood of an observed difference being due to a change reduces. Since many of the early PCH initiatives were delivered to relatively small patient groups, it is important to include power calculations (the probability to detect a difference) and confidence intervals for the observed measures to help readers to understand more about observed outcomes.

An example of the power of different scale studies to detect a difference where one exists is shown in Figure 8 on page 74. Here, the study cohort is of older people with several co-morbidities attending an integrated care hub, and the desired outcome is a reduction in non-elective admissions to hospital.

Figure 8: Chance of detecting reduction non-elective admissions to hospital based on size of cohort



Source: Secondary Users Service (SUS)

If the reduction in admissions is around 10 per cent, then with 1,000 patients in the cohort, there is only about a 20 per cent chance of detecting a change within a year. If reductions are higher, then chances of detection are higher. The chances also increase if the cohort is followed up for longer.

In these cases we would recommend:

- Performing a power calculation to find out the minimum sample size required, so that it is reasonably likely that an effect can be detected in the data (i.e. whether it is viable to measure the outcome).¹⁰
- Increasing the chances of detecting real changes (i.e. the statistical power) by increasing the number of measures of outcomes that are being examined (which will help support findings of your primary outcomes) or following up your primary (and secondary, tertiary and so on) outcomes for a longer period of time.

¹⁰ Power calculation tools can help with this, see for example:

www.dssresearch.com/knowledgecenter/toolkitcalculators/statisticalpowercalculators.aspx

Lesson 6: Carefully consider whether you can attribute changes in the outcomes to the intervention

Some registered patients will be exposed to more than one intervention, some which may be outside the context of the PCH. The longer a programme runs this becomes an increasingly likely problem in knowing which interventions, if any, are having an impact. A similar problem occurs when a PCH itself is implementing several interventions, or when PCH interventions are changing over time (which can sometimes happen in response to changes in funding or plan-do-study-act cycles).

Possible solutions:

- Where possible, identify individuals who only receive one intervention and analyse these separately.
- Be mindful of other interventions in the PCH area that may have an impact on your selected outcomes measures, and choose varied process measures that are closely linked to your intervention and the outcomes under examination. These may be processes where there is some external evidence of having an effect, but where the actual effect is obscured by everything else that is going on, such as improved waiting times for diagnoses.
- Create indicators that are only relevant to particular interventions. For example, social prescribing interventions could focus on measures that concentrate on changes in clinical markers or obesity rather than trying to monitor hospital use.
- Always consider looking further ahead by projecting shorter-term observations into the longer term in order to mitigate the influence of future interventions.

Lesson 7: Ensure you have the appropriate analytical resources

There are several analytical challenges involved with evaluating the data, so we recommend that PCH sites aim to identify, access and actively involve analytical resource in their PCH teams when deciding about shaping and monitoring the PCH interventions. Sites should also consider having evaluation partners to help them with using the appropriate methods as well as statistical advisors.

The new models of care programme are facing similar issues, and so forging links with relevant vanguards would be beneficial.

9. Reflections for the NAPC

Becoming a PCH has triggered a diverse range of initiatives to address the quadruple aims of the programme. The RTSs' plans are challenging, and in the first year of the programme they have begun to establish new and reaffirm older relationships between general practice, community and social care services, selected acute specialities and voluntary sector organisations.

Some RTSs have started to build links with their local communities, but it is still too early for sites to be able to demonstrate measurable impact. The RTSs are at the start of a long journey, which will shift the focus of primary care away from individual GP practices and towards integrated multi-professional provider organisations that seek to improve population health; promote health and wellbeing; manage illness; and work with local communities to ensure that scarce health and care resources effectively address population health needs.

For the RTSs and future PCHs, this report provides several lessons to guide future development and ongoing evaluation, summarised in chapters 7 and 8.

For the NAPC, the evaluation raises a number of questions, which include:

- How to stay focused on delivering the characteristics and aims of the PCH model while encouraging locally-driven initiatives to 'kick-start' its formation?
- How to communicate the concept of a PCH in a way that persuades people to move from their current way of working towards integrated multi-professional primary care teams?
- How to work with patients and communities to ensure their views shape service developments and their energy and ideas shape new initiatives to stay well and live well with long-term conditions?
- How to develop an understanding of the relationship between the PCH programme and the many local developments that appear to have similar objectives across the system?

Some of the most important roles that the NAPC could plan in supporting the future development of PCHs include:

- Providing advice to sites on the development of strategic plans for PCHs to ensure they fit with their local STPs. This may include, for example, exploring with NHS England, STP leads and sites whether the PCH is a stepping stone to a vanguard-style new model of care or is the end goal in itself.
- Supporting aspirant PCH sites to identify initiatives that address local needs, supported by patients and professionals as well as the characteristics and aims of the PCH model. This may require expert advice and planning tools (such as logic models) to support a plan for achieving the four characteristics of a PCH.
- Identifying interventions that are of large enough scope and scale to make a significant contribution to the formation of a PCH and developing communications resources (e.g. case studies) that explain the causal links between such interventions (such as those described in this report) and the overall aims and characteristics of the PCH. These resources need to give sites confidence that by adopting the characteristics and behaviour changes of the PCH, the context and mechanisms are likely to lead to the quadruple aims of the programme.
- Supporting PCH sites in their development of financial and general management and data analytic capability to levels that are needed to manage a capitated budget, and working with RTSs and aspiring PCHs to develop these skills and capacities at pace.
- Monitoring the resources used to develop PCH interventions to understand the cost effectiveness of each intervention.
- Advising sites on how to develop governance arrangements to support the formation and development of PCHs.
- Developing a 'reference library' of PCH development tools, including logic models, case studies learning about the key enablers from successful PCH projects to support aspiring PCH sites to link proposed service developments to the formation of a PCH.
- Creating opportunities to link PCH sites with each other, new care models programme vanguards or integrated care pioneers, to share learning.

10. Reflections for the NHS

For national policy-makers and the wider NHS, it is essential to recognise that this new model of care requires organisational development (OD) support. Reflections from this evaluation and wider initiatives suggest:

- As with other forms of large-scale general practice, acknowledge the elapsed time that needs to pass to build the relationships and characteristics that underpin a PCH, across the whole population. The RTSs demonstrated stronger multi-professional working and new pathways and services, but it should not be expected that they deliver significant changes in the use of wider services within the first few years.
- Recognise that the external context in which PCHs are emerging (particularly STPs and CCG mergers) may help or hinder their formation and such tensions need to be managed carefully.
- Developing a PCH requires significant investment in the interventions described above and throughout this report. As funds are allocated to primary care, a balance is needed between funding for individual practices and resources to support the types of multidisciplinary work at scale described in this report.
- The level of OD support needed for emerging PCHs (and similar large-scale primary care organisations working under different names) is significant and beyond just the sole responsibility of the current NAPC programme. An OD support function is needed in each local health and care economy to help develop the skills and processes for large-scale primary care initiatives and the development of the PCH model to emerge.
- There remain significant problems with accessing data and developing integrated IT to: support integrated services; undertake needs assessments and financial planning; and monitor progress against objectives. It is essential to ensure a viable integrated IT infrastructure can be developed if organisations, such as PCHs, are to become the bedrock of new models of care.

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Appendix A

The tables in this appendix highlight data and instruments that RTSs and aspiring PCHs can use to report the impacts of their interventions and wider PCH on patients and staff.

All data and instruments can be linked to one of the four goals of the PCH programme. Goals include improving:

- whole-population health and wellbeing
- quality and experience of care for patients
- utilisation and sustainability of local health and social care resources
- staff experience and engagement (and reducing burnout).

The tables reference three different types of data (see list below). The quality and ease of access/collection of this data may influence approaches to evaluation. However, it is important to choose measures relevant to local interventions and sensitive to the cohort experiencing the intervention being evaluated.

- GP data (e.g. audits and searches in SystemOne, EMIS, Vision)
- routinely collected data (e.g. SUS, Rio)
- specially collected data (e.g. Validated instruments [PAM], Non-validated instruments [FFT]).

Improve whole population health and wellbeing

Area of measurement	Examples of common generic measures/instruments and routine data that could be analysed with your PCH population cohort (Validated quantitative tools should only be used in multi-year evaluations, where implementation has settled down)
Health status	EQ-5D (specially collected): Applicable to a wide range of health conditions and treatments, the 2-page survey and visual analogue scale provide a simple descriptive profile and a single index value for health status combining scores across five domains (mobility, self-care, usual activities, pain/discomfort and anxiety/depression). Data analysts will need to create utility scores, and can be used in economic evaluation. A licence must be purchased to use the tool. More information: www.euroqol.org/home.html and www.ohe.org/news/5-things-you-should-do-eq-5d-data
Functional status	Activities of daily living (ADL) (specially collected): The index ranks adequacy of performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding. Clients are scored yes/no for independence in each of the six functions. A score of 6 indicates full function, 4 indicates moderate impairment, and 2 or less indicates severe functional impairment. The instrument is most effectively used among older adults in a variety of care settings (and when baseline measurements are taken when the older person is well, and scores are compared to periodic or subsequent measures). Instrumental activities of daily living scale (IADL) (specially collected): Similar to the ADL scale, but covering a wider range of functions, the instrument is most useful for identifying how a person is functioning at the present time, and to identify improvement or deterioration over time. It is intended to be used among older adults, and can be used in community or hospital settings. The instrument is not useful for institutionalised older adults. It can be used as a baseline assessment tool and to compare baseline function to periodic assessments. Administration time is 10-15 minutes. More information: https://clas.uiowa.edu/socialwork/sites/clas.uiowa.edu.socialwork/files/NursingHomeResource/documents/Katz%20ADL_LawtonIADL.pdf ; http://research.omicsgroup.org/index.php/Activities_of_daily_living ; Katz, S., Down, T.D., Cash, H.R., & Grotz, R.C. (1970) Progress in the development of the index of ADL. The Gerontologist, 10(1), 20-30.; and Katz, S. (1983). Assessing self-maintenance: Activities of daily living, mobility and instrumental activities of daily living. JAGS, 31(12), 721-726.
Health -related quality of life	SF-36 (specially collected): A 36 item questionnaire which measures Quality of Life (QoL) across eight domains, which are both physically and emotionally based. The eight domains that the SF36 measures are as follows: physical functioning; role limitations due to physical health; role limitations due to emotional problems; energy/fatigue; emotional wellbeing; social functioning; pain; general health. A single item is also included that identifies perceived change in health, making the SF-36 a useful indicator for change in QoL over time and treatment. It is free to use. It has been widely validated for numerous professions and patient groups and can be administered by clinicians or by the patient at home (taking about 30 min). Shorter versions are available (e.g., the SF-12 or the SF-8) where time is a real issue. www.rand.org/health/surveys_tools/mos/36-item-short-form.html Long- Term Conditions Questionnaire (under development) (specially collected): a 20-item self-report measure, currently being validated to enable comparison of health-related quality of life across a number of LTCs www.pssru.ac.uk/archive/pdf/5184.pdf
Social care-related quality of life	Adult Social Care Outcomes Toolkit (specially collected): is designed to capture information about an individual's social care-related quality of life (SCRQoL). The aim is for the measure to be applicable across as wide a range of user groups and care and support settings as possible (including community settings and care homes). It is available as a self-report survey or interview. The surveys and data analysis tool are both free to use www.pssru.ac.uk/ascot/index.php
Mental wellbeing	Warwick-Edinburgh Mental Wellbeing Scale (specially collected): The scale was developed to enable the monitoring of mental wellbeing in the general population and the evaluation of projects, programmes and policies which aim to improve mental wellbeing. The full WEMWBS is a self-administered 14 item scale with 5 response categories, summed to provide a single score ranging from 14-70. The items cover both feeling and functioning aspects of mental wellbeing. A shortened version is available. The tool is free to use. www2.warwick.ac.uk/fac/med/research/platform/wemwbs It has also been recommended that the tool be combined with other measures such as the ONS subjective wellbeing and social trust score: www.uknswp.org/wp-content/uploads/Measuring_well-being_handbook_FINAL.pdf
Equity	To measure equity it is necessary to look at variation in outcomes across deprivation levels (using the index of multiple deprivation mapped by post code).

Intervention
specific
measures

- **Biometric measures (GP data):** Change in blood pressure or HbA1C
- **Falls prevention** (e.g. Timed up and go test, Berg balance test, Tinetti scale, functional reach and dynamic gait test), number of falls, fall rates
- Disease-specific QoL tools

Improve quality and experience of care for patients

Area of measurement	Examples of common generic measures/instruments and routine data that could be analysed with your PCH population cohort (Validated quantitative tools should only be used in multi-year evaluations, where implementation has settled down)
Patient experience	<p>Qualitative data: In early phases, specially collected qualitative methods are advised to be the best way to understand patient experience. This can include telephone or face-to-face interviews, focus groups, observations, and collection of patient stories. Alternative approaches can additionally include analysis of compliments and complaints. Advice on approaches are available here: www.health.org.uk/sites/health/files/MeasuringPatientExperience.pdf and www.kingsfund.org.uk/node/4623</p> <p>The Friends and Family Test (routinely collected) measures patient experience with your targeted PCH cohort (or whole population if applicable to your PCH intervention), but its intention is to improve practice not performance manage www.england.nhs.uk/ourwork/pe/fft</p>
Patient activation	<p>Patient activation measure (PAM) (specially collected): Helps to measure the spectrum of skills, knowledge and confidence in patients and captures the extent to which people feel engaged and confident in taking care of their condition. Individuals are asked to complete a short survey and based on their responses, they receive a PAM score (between 0 and 100). The resulting score places the individual at one of four levels of activation, each of which reveals insight into a range of health-related characteristics, including behaviours and outcomes. Licence fees apply, but NHS England may have a limited number of free licences from Spring 2017 (after having given away many to the NHS in 2016). www.england.nhs.uk/ourwork/patient-participation/self-care/patient-activation</p>
Patient satisfaction/ experience/ access/ involvement in decision making	<p>General Practice Patient Survey (GPPS) (routinely collected): the GP Patient Survey assesses patients' experience of health care services provided by GP surgeries, including experience of access to GP surgeries, making appointments, the quality of care received from GPs and practice nurses, satisfaction with opening hours and experience of out-of-hours NHS services. Results are searchable by practice and retrospective analysis is possible. It is also possible to borrow questions from the survey to develop a bespoke survey for your PCH. www.england.nhs.uk/statistics/statistical-work-areas/gp-patient-survey and https://gp-patient.co.uk</p>
Involvement in decision-making	<p>CollaboRATE (specially collected): A three question survey designed to be used in any health care encounter among any patient group, measuring the level of shared decision-making in the clinical encounter from the patient's perspective. The tool is free to use, but no changes can be made. www.collaboratescore.org</p>
Patient experience of coordination Patient experience of integration	<p>Aetna-Picker-Nuffield tool (specially collected): The 46 item postal survey provides a self-reported score on "relational", "informational" and "management" elements of care coordination. The survey has been tested with people aged 65 and over with one or more chronic conditions, and works best as a diagnostic device to allow providers to interrogate their own processes and assumptions. The tool is still undergoing development, but is free to use by request from The Picker Institute.</p> <p>Patient experiences at the interfaces between NHS services (specially collected): The Department of Health pulled together data sources already available that could help NHS organisations assess experience of integrated care locally. While analysis tools may be slightly out of date, the tool may still be of value to people developing in-house tools. www.gov.uk/government/publications/measuring-patient-experience-of-integration-in-the-nhs</p>

Access to primary care	<p>Where relevant to the PCH initiative, it may be desirable to measure access or activity in general practice within GP systems as a measure of quality. Data could include:</p> <ul style="list-style-type: none"> •The number of appointments available in general practice •Number of same day visits
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Improve utilisation and sustainability of local health and social care resources

Area of measurement	Examples of common generic measures/instruments and routine data that could be analysed with your PCH population cohort <i>(Validated quantitative tools should only be used in multi-year evaluations, where implementation has settled down)</i>
Activity (using GP data)	<ul style="list-style-type: none"> •Prescribing rates/Number of prescriptions issued •Primary care visits •Resource use
Costs (using GP data)	<ul style="list-style-type: none"> •Prescribing costs •Resources used to deliver interventions (via a costing template) •Secondary care costs •Unit costs www.pssru.ac.uk/project-pages/unit-costs/2016/index.php
Unplanned hospital admission	<p>Much of this data is routinely collected, which should make it easily accessible. However, it will be important to select measures on which you think your intervention would have an impact. It may also be some time before an impact is seen against these measures. It is also important to simultaneously monitor background rates of these measures as trends could be affected by external influences as much as any intervention.</p> <ul style="list-style-type: none"> •Hospital non-elective admissions •Hospital non-elective readmissions within 30 days •Hospital bed days following non-elective admission •Non-elective admissions /bed days for ambulatory-sensitive conditions •Non-elective admissions /bed days for specific conditions that are relevant to the particular rapid test site initiative

Improve staff experience and engagement

Area of measurement	Examples of common generic measures/instruments and routine data that could be analysed with your PCH population cohort (Validated quantitative tools should only be used in multi-year evaluations, where implementation has settled down)
Culture	<p>SCORE survey (specially collected): An anonymous, online tool that teams can use to assess their culture. It provides an overview but also detail in specific focus areas such as communication and staff burn out. Once the survey has been completed, the results are provided to that team alone for them to use to start conversations internally about what and how they would like to improve culture. The results are not shared with anyone else and will never be used for bench marking or performance management. www.swscn.org.uk/wp/wp-content/uploads/2015/07/Safety-Culture-information_final_10Feb16.pdf</p> <p>Practice Culture Questionnaire (specially collected): Attitudes to and engagement with quality improvement (clinical governance) and resistance to change. 25 items using 5-point scale. It has been pilot-tested in 110 primary care practices in the UK. Test-retest and split-half reliability. Examines superficial manifestations of culture only. Development is ongoing. www.omicsonline.org/open-access/investigating-organisational-culture-in-primary-care-1479-1064.1000246.pdf</p>
Job satisfaction	<p>Warr-Cook-Wall (specially collected): Measures scale ratings across eight domains related to work attitudes (job motivation, work involvement) and aspects of psychological wellbeing. Appropriate for clinical and non-clinical staff in general practice settings. Warr PJ, Cook J, Wall T. Scales for the measurement of some work attitudes and aspects of psychological wellbeing. Journal of Occupational Psychology.1979;52:129–48.</p> <p>GP Worklife Survey (specially and routinely collected): Includes questions on job stressors, extent of job control, the nature of job design and work pressure, and job satisfaction. It would be possible to request access to survey and crudely compare your PCH score with national averages. www.populationhealth.manchester.ac.uk/healthconomics/research/Reports/EighthNationalGPWorklifeSurveyreport/EighthNationalGPWorklifeSurveyreport.pdf</p> <p>Recruitment and retention (routinely collected): NHS Digital collects data on joiners and leavers every six months at practice and CCG levels.</p>
Team working	<p>Team working assessment tool (specially collected): Part of a wider guide on setting up culture and leadership in an organisation, developed by NHS Improvement Culture and Leadership programme. Survey includes 28 questions on 5pt response scale. Results will help you diagnose your current culture using existing data, board, staff and stakeholder perceptions, and workforce analysis. https://improvement.nhs.uk/resources/culture-and-leadership/</p> <p>Staff stories (specially collected): In early phases specially collected qualitative methods, like sharing staff stories, may be helpful to understand staff experience and team working. This can include telephone or face-to-face interviews, focus groups, observations, and collection of patient stories.</p>
Staff engagement	<p>Staff friends & family (specially collected): A feedback tool for staff, predominantly for local improvement work; consisting of 2 questions (with options to give free text feedback for each) through which organisations can take a temperature check of how staff are feeling. It is a quicker feedback mechanism than the existing NHS annual staff survey, and at its best will enable staff to voice their concerns (on a regular basis if they wish to) and for organisations to respond. www.england.nhs.uk/ourwork/pe/fft/staff-fft</p>

Nuffield Trust cost analysis tool for Primary Care Homes (PCH)

Introduction

Establishing new services and developing new ways of working requires considerable resources – both in terms of professional time and other resources. Few of the PCH rapid test sites reported tracking their costs during our preliminary interviews. Without information about the costs and resources needed to set up and run them, it will be hard to inform other sites about the resources they will need to develop their own primary care homes, and about how the costs of establishing and running a service or initiative relate to any savings made.

Costs that should be included in your approach

This cost analysis tool is intentionally simple, focusing only on the direct costs incurred in:

- 1) Setting up a primary care home (for example, research on need for the service, planning and service design meetings, and one off purchases)
- 2) Running new services established for the PCH or running existing services that have been altered for the PCH

Direct costs are those which can be linked to ‘cost objects’. A cost object is something for which a cost is compiled, such as a product, service, customer, project, or activity. For the purposes of a PCH, direct costs could include:

- Staff costs**
- Clinical staff time involved in developing the concept of the PCH (independent work and meetings), creating operational plans for the PCH, and delivering PCH clinical services
 - Managerial and administrative staff time spent on supporting the design and delivery of PCH activities including meetings, operational management and providing reception support to services delivered in primary care

Non-staff costs

Capital costs

- Set up costs of infrastructure such as IT hardware, telephony or other equipment purchased to implement the PCH

Office and admin costs

- Offices or clinical rooms used to organise or deliver PCH services

External service providers

- Training/education or a communications agency

Running costs

- Drugs
- Disposable equipment
- Individual indemnity
- Software licenses
- Depreciation of equipment purchased to deliver PCH services

Costs that should be excluded from your approach

Overheads such as utilities have not been included as they are likely to cost so little that the effort involved in costing them will be disproportionate.

Indirect costs should also not be included (e.g. supervision salaries, quality control costs).

How to use the costing analysis tables to follow

We have provided two approaches and tools for you to choose from:

- 1) The first approach is an **estimation-based tool** that requires you to reflect on the time and costs you have spent developing and delivering the PCH.
- 2) The second approach is a **bottom-up tool** that requires you to monitor, for a period of 1-2 weeks, the proportion of full-time work or full use of equipment that is associated with developing and delivering PCH activities, and calculate the cost of these inputs based on the unit costs data presented below.

Both approaches ultimately end up with the same output – a summary table that records financial costs by year and also by ‘set up’ and ‘delivery’. However, please adapt these tables to best suit the needs of your PCH by adding or removing rows/columns. We have also created versions of the summative tables in MS Excel to allow for automatic summation.

Approach 1: An estimation-based costing tool

How to use this table: Estimate the quantities of time staff have contributed to the PCH as a percentage of their FTE, or the number of items purchased for the purposes of the PCH. Use payroll or receipts to gather information about salaries and equipment purchases. Calculate the total cost by multiplying the quantity by the unit cost. It may be very helpful to distinguish between your set up and delivery costs, as delivery costs will be ongoing, but set-up costs will be one-off purchases/expenses.

Note: If you do not have an in-house estimate of the cost of your office space, it may be helpful to use the unit costs cited in Approach 2. See table 2b.

Approach 1: Summary Table

Cost category	Set up						Delivery					
	Year 1 (Apr 2015-Mar 2016)			Year 2 (Apr 2016-Mar 2017)			Year 1 (Apr 2015-Mar 2016)			Year 2 (Apr 2016-Mar 2017)		
	Quantity (e.g. %FTE or no. of items)	Unit cost (e.g. annual salary or cost of item)	Total cost (quantity*unit cost)	Quantity (e.g. %FTE or no. of items)	Unit cost (e.g. annual salary or cost of item)	Total cost (quantity*unit cost)	Quantity (e.g. %FTE or no. of items)	Unit cost (e.g. annual salary or cost of item)	Total cost (quantity*unit cost)	Quantity (e.g. %FTE or no. of items)	Unit cost (e.g. annual salary or cost of item)	Total cost (quantity*unit cost)
STAFF COSTS												
<i>Clinical staff pay</i>												
Clinical lead												
Speciality lead												
Other clinical												
<i>Non-clinical staff pay</i>												
Lead director												
Other managerial												
Administrative/reception support for new services												

NON STAFF COSTS												
Capital costs												
IT hardware												
Telephony												
Other												
Office and admin costs												
Office space for service development/delivery												
External service providers												
<i>Eg comms agency</i>												
<i>Eg Training/education</i>												
Other												
Running costs												
Disposable equipment												
Drugs												
Indemnity costs												
Software licenses												
OTHER COSTS												
<i>Eg meeting costs</i>												
Other												

Approach 2: A bottom-up costing tool

This approach requires tracking costs over a period of 1-2 weeks using Tables 2a, 2b and 2c – and then transferring these figures into the Approach 2 summary table (on page 95).

Methods for quantifying and costing staff time

Staff costs are allocated pro-rata based on the proportion of a full working week that is dedicated to PCH work. Table 2a below provides a method for quantifying and costing the amount of work undertaken. First, identify all who are involved in the PCH – clinical and non-clinical - and distinguish between those who contribute regular or fixed session and those who work on an *ad hoc* basis. These *ad hoc* staff will need to record how much time they spend each day on PCH activities and then calculate the cost of this work, on a pro-rata basis, from their full annual employment costs. These can be calculated as follows:

Table 2a: Calculating staff costs

Staff position	Annual salary including on-costs	Cost per day (assume 260 working days /yr)	Number of working hours per day	Cost per hour (column 3/column 4)	Number of hours spent on PCH work	Cost per week of PCH work	Comments

Ad hoc staff will need to either keep a diary/computer record of time spend on PCH work or log in and out of their PCH role each time they work on it.

Methods for quantifying reception and administrative support for services delivered in general practices

Unlike managerial and clinical leadership, where a whole session may be spent on PCH work, reception and administrative support is more likely to be intertwined with usual duties and may be difficult to quantify. A period of 'time and motion' observation may be required. This will take time and resource to complete so you may decide to estimate the amount of time spent each day or week, rather than in more detail.

If you do decide to cost reception and admin support, you could either observe periods when the support is provided or ask these staff to keep a log of time they spend on PCH work during two or three time periods when the PCH service is delivered, and from this, calculate the average time spent and the average resources used (such as phone calls made) for one 'unit' of the service (i.e. a single clinic or a single MDT review session in a care home). These figures can be multiplied by the total number of clinics/services delivered in a week and then multiplied by 52 to calculate a cost per year. Estimated staff costs can be calculated pro-rata based on annual salary costs or PSSRU unit costs.¹¹

Methods for quantifying room costs to deliver a PCH service

We suggest that the cost of rooms used to deliver PCH services (and associated administrative support costs see below) should be included in your cost calculations even if the PCH service provider does not pay for the room (for example, rooms in a GP practice for which rent is already paid). The inclusion of a 'notional' cost will allow like-for-like comparison with similar services for which rooms are not available and will quantify the opportunity costs of running a PCH.

¹¹ PSSRU Unit costs of Health and Social Care 2016 (Curtis and Burns) www.pssru.ac.uk/project-pages/unit-costs/2016

To include the cost of room use, you should log the amount of time a room or facility is used for a PCH service and calculate this as a proportion of full time.

NHS unit cost for GP expenses allocate £15,463 per year for premises costs (2016 unit costs, page 144)

NHS unit cost for practice nurse premises are £3,862 per year (2016 unit costs, page 143)

NHS unit cost for non-clinical rooms are £3,858 per year – based on telephone triage capital costs (ie without clinical equipment. 2016 unit costs, page 147)

The reference cost you use will depend on whether a clinical or non-clinical service is being costed. For non-clinical services and planning meetings, use the non-clinical room rate. For clinical services, attribute costs of GP services to GP clinical rooms. For nursing or other professional group services, attribute costs to nurse-clinical rooms.

Table 2b: Calculating room use costs

Type of room used	Annual cost of the room (see ref costs)	Daily cost of room based on (@ 260 days/yr or 365/yr)	No of working hrs per day	Number of hours per day for PCH work	Cost per hour spent on PCH work	Comments

Methods for quantifying IT, telephone and other ‘infrastructure’ costs

If equipment is purchased specifically for a PCH activity and is not used for any other services then the whole cost should be included as a set up cost – even though it may only be used occasionally.

Costs for the equipment associated with routine GP practice are included in the room rate for GPs. If a PCH service is delivered within a GP consulting room then those clinical room charges can apply with no extra costs.

Table 2c: Calculating equipment costs

Equipment cost	Number of years over which it will depreciate	Annual depreciation cost	Daily depreciation (@260 day/yr or 352/yr)	Number of hrs per day that the equipment is used for PCH activity	Number of hours spent on PCH work	Cost per hour of PCH use	Comments

Costs of external suppliers of services

The cost of externally supplied services is the total amount paid to them if all of their services were allocated to set up and deliver the PCH service or an estimated proportion of their services if they had input into other projects and services.

Running costs for clinical services

The full costs of drugs and disposable equipment used to deliver PCH services should be included.

Indemnity costs for PCH clinical services should include any costs paid by the PCH host organisation for staff who work in a PCH service.

IT and software licenses should only be included if they were taken on specifically to deliver a PCH service and were not already in place for other services.


If newly purchased equipment is used for all or part of a week, allocate all or a proportion of the annual depreciation cost assuming straight line depreciation over either a 5-year or 10-year lifespan.¹²

¹² See guidance on depreciation of capital equipment in: <http://www.info.doh.gov.uk/doh/finman.nsf/0/7b18dbc08d15a30a80256a5c004d6ddd?OpenDocument>

Approach 2: Summary Table

	Set up		Delivery	
	Total cost Year 1	Total cost Year 2	Total cost Year 1	Total cost Year 2
STAFF COSTS				
<i>Clinical staff pay</i>				
Clinical lead				
Speciality lead				
Other clinical				
<i>Non-clinical staff pay</i>				
Lead director				
Other managerial				
Administrative/reception support for new services				
NON STAFF COSTS				
<i>Capital costs</i>				
IT hardware				
Telephony				
Other				
<i>Office and admin costs</i>				
Office space for service development/delivery				
<i>External service providers</i>				
<i>Eg</i> comms agency				
<i>Eg</i> Training/education				
Other				
<i>Running costs</i>				
Disposable equipment				
Drugs				
Indemnity costs				
Software licenses				
Depreciation of equipment				
OTHER COSTS				
<i>Eg</i> meeting costs				
Other				

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