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Evaluating the impact of the Eastern Academic Health Science Network Transformation Support Unit

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Preface

This report for Eastern Academic Health Science Network (Eastern AHSN) presents a preliminary evaluation of the activities of its Transformation Support Unit (TSU) and its impact on healthcare and associated innovation in the East of England. The study was conducted over 11 weeks from late October 2017 to early January 2018.

In this report, we introduce the context in which the TSU operates and the method adopted to evaluate it (Chapter 1); describe the 'logic model' of how the TSU's interventions are expected to yield impact (Chapter 2); present the findings of a survey of stakeholders' perceptions (Chapter 1) and of four case studies (Chapter 4); and reflect on what can be concluded so far about the TSU's impact and on how far its return on investment (ROI) may be estimated in future (Chapter 5).

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Table of contents

Figures

Tables

Acknowledgements

Abbreviations

AHSN	Academic Health Science Network
CP	Community pharmacist
CR	Cardiac rehabilitation
CR$^+$	Cardiac Rehabilitation Plus
COPD	Chronic obstructive pulmonary disease
dMUR	Post-discharge medicines use review
HPTP	Hospital Pharmacy Transformation Plans
HRQOL	Health-related quality of life
MOU	Memoranda of understanding
NCH&C	Norfolk Community Health and Care NHS Trust
NICE	National Institute for Health and Care Excellence
PAM	Patient Activation Measure
RCT	Randomised controlled trial
ROI	Return on investment
STP	Sustainability and Transformation Partnership
TOC	Transition of care
TSU	Transformation Support Unit
TPP	The Phoenix Partnership
WTE	Whole time equivalent

Summary

The Transformation Support Unit (TSU) of the Eastern Academic Health Science Network (Eastern AHSN) started work in November 2016 with the objective 'to find and help implement innovative solutions for the critical challenges that health and care providers face' (Eastern AHSN, 2017a). The Eastern AHSN commissioned RAND Europe in October 2017 to undertake a rapid initial evaluation of the impact of the TSU. The relatively short life of the TSU means that the assessment of its impact is necessarily preliminary and that our review has focused on identifying early signs of change that could indicate future potential for impact, as much as examining existing achievements. The mainly qualitative evaluation approach we have adopted was explicitly designed to allow for the complex nature of the system that the TSU operates within and the remit to provide findings within a rapid study timeframe. The main elements of the study were:

- A workshop with TSU staff and key stakeholders
- An online survey of stakeholder perceptions
- Case studies of four of the projects supported by the TSU to date
- A review of TSU and Eastern AHSN materials and discussions with TSU staff.

We have developed, and present in this report, a model of the overall logic of the TSU's intervention: how the inputs it provides are used in particular processes to produce outputs and, hence, desired outcomes and impacts such as benefits to patients and increases in the efficiency of care provision.

The results are favourable at this early stage. Most survey respondents believe that the TSU has a positive impact on the outcomes of their projects, especially in helping them to reach more people and speeding up the implementation of the innovation. Support for pilots, implementation and network building are considered to be particularly useful. There is room for improvement in terms of helping to identify scale-up opportunities and requirements, and creating an evidence base on impact to support shared learning and spread of good practice. Given its early stage, it is understandable that the TSU has not yet had much impact on NHS cost savings and the wider economy, and most respondents believe that these positive effects will come in the near future.

We have developed case studies of four innovations currently being supported by the TSU to assess the extent to which they may be adding value. The four case studies were:

1. Cardiac Rehabilitation in the Community
2. Mobile Working Digital Community Clinicians
3. Lea Valley Health Federation Locality Digital Engagement Officer
4. PharmOutcomes.

The TSU's support across the four case studies varies from up-front funding to support the business case to non-financial support, such as project management and network building. There is some evidence from previous literature that shows the potential positive impact of each of the four case studies on patient outcomes, clinician efficiency, patients' self-management skills and reduced use of health services. However, the impacts of interventions are dependent on contextual factors, such as the targeted population groups and the geographic areas where the intervention is implemented. Consequently, such evidence is helpful but is not conclusive in demonstrating the impacts that might be achieved in the specific context of the TSU supported project. Where progress data has been collected locally, it is informative about the impact achieved by the case study projects so far. Initial evidence from this data also appears to be positive. However, it is still too early to draw any definitive conclusions about the projects' impacts. Continued local data collection is essential, which indicates the necessity of building the data collection process into the implementation of the TSU's programmes, in order to efficiently monitor progress at different stages.

We do not have strong evidence to indicate the extent to which the TSU's inputs are necessary to achieve the potential beneficial impacts of supported interventions, or to achieve them to a greater extent or sooner than would otherwise have been the case. Such evidence should in principle be drawn from experimental or quasi-experimental studies with appropriate comparison groups that tell what would happen without support of the TSU. A weaker but more pragmatic approach would be future surveys of stakeholders to obtain their views on the additional impact (if any) brought about by the TSU's activities.

Thus, the TSU appears to be contributing to worthwhile innovations but it is not possible to know with certainty how much of the net benefits of the innovations can be attributed to the TSU's role. Such attribution will always be difficult given the interdependence of TSU's activities with those of the many other players in the health and social care system and in the commercial sector. A combination of methods, including further surveys and more cases studies, plus indicator dashboards, would be needed to provide more evidence of the scale of the TSU's contribution. This implies a larger scale evaluation that could include interviews with a broader range and greater number of stakeholders to triangulate evidence and experiences across them and covers a wider range of case studies.

We recommend that the TSU considers which types of evidence can be collected for all of the projects it supports on a case-by-case basis (considering criteria such as relevance, feasibility and resource implications for data collection) and proactively embeds this into project delivery from the outset of each project. It will also be desirable to obtain from the partner organisations participating in each project the extent to which they incur additional costs in implementing it (e.g. set-up and training costs); this information is generally lacking from the evidence we have seen so far. Such data collection will help future efforts to estimate more closely the overall return on investment (ROI) achieved by the TSU.

1. Introduction

1.1. The Transformation Support Unit, its purpose and context

The Eastern Academic Health Science Network (Eastern AHSN) has the overall objective 'to spread innovation in health and care – improving health and generating economic growth' in the East of England (Eastern AHSN, 2017a). It is part of the national network of 15 AHSNs, which together cover the whole of England. They work by connecting NHS and academic organisations, local authorities, the third sector and industry. Thus, Eastern AHSN is part of a complex ecology of healthcare, social care and life science organisations and initiatives. Eastern AHSN covers Cambridgeshire, Norfolk and Suffolk, along with large parts of Bedfordshire, Essex and Hertfordshire. The region has a total population of 6.3 million and is home to a large number of innovative life science companies (Eastern AHSN, 2017a).

The Eastern AHSN has created a Transformation Support Unit (TSU), which started work in November 2016 with the objective 'to find and help implement innovative solutions for the critical challenges that health and care providers face' (Eastern AHSN, 2018). To that end, the TSU works with the NHS Sustainability and Transformation Partnerships (STPs) in the Eastern region to help them deliver their local plans. In financial year 2017/18, the TSU had 4.9 whole time equivalent (WTE) staff, with associated total staff costs of a little under £0.5m, and contributed over £1m of other resources to the programmes it supports, representing a total input for the year of £1.5m (Eastern AHSN, 2017b). Some of the staff time is reserved for core corporate activity for Eastern AHSN, so the marginal cost in 2017/18 of the TSU and its work was £1.4m.

Eastern AHSN commissioned RAND Europe in October 2017 to undertake a rapid initial evaluation of the impact of the TSU at this early stage, and specifically to:

- Assess the TSU's approach to supporting transformation projects and the effectiveness of this.
- Assess the added value delivered by the TSU on a small number of projects, including consideration of the financial and quality impact on the health care system.
- If possible, develop a methodology for how to determine in future the return on investment (ROI) achieved by the TSU.

1.2. Overview of the evaluation

The relatively short life of the TSU means that the assessment of its impact is necessarily preliminary at this stage and that our review has focused on identifying early signs of change that could indicate future potential for impact, as much as examining existing achievements. The TSU's impact is likely to become

significantly clearer over the next few years. Furthermore, the TSU is part of a complex ecosystem influencing the uptake of innovation in order to transform health and social care in the Eastern region. This makes it challenging to distinguish the TSU's specific impact from that of other players in the system, and by implication this means that our review has considered TSU's contribution to specific outputs and impacts (rather than exclusive attribution). We were in effect attempting to answer the questions:

- What has happened that may not have happened if the TSU had not existed?
- What has the TSU contributed to happening, or helped to happen, sooner or better than would otherwise have been the case? Has it had any undesirable consequences?

These questions inevitably depend on a judgement of how the world would have been different if the TSU did not exist.

The mainly qualitative evaluation approach we have adopted was explicitly designed to allow for the complex nature of the ecosystem and the remit to provide findings within a rapid study timeframe. We have included, where data is available, quantification of the inputs to the TSU and the outputs achieved by a small number of the projects in the TSU's portfolio. The main elements of the study that were in the scope of this rapid review were:

- A workshop with TSU staff and key stakeholders
- An online survey of stakeholder perceptions
- Case studies of four of the projects supported by the TSU to date
- A review of TSU and Eastern AHSN materials and discussions with TSU staff.

In Chapter 2, we set out the intervention logic for the TSU as described and articulated by participants in TSU activities who took part in a logic model development workshop, and through discussions with TSU staff and a review of TSU/Eastern AHSN materials. The logic model describes how the TSU seeks to achieve its impacts, and what the desired outputs and impacts of its activities are expected to be. The logic model provided the foundation for designing survey and case study protocols for the evaluation, which aimed to explore TSU's delivery against its intervention logic. Chapter 1 describes and reports the findings of the perceptions survey we conducted with the TSU's numerous stakeholders in order to hear what they think the TSU is (or is not) already achieving or likely to achieve in future. In Chapter 4, we set out four case studies of particular projects supported by the TSU, identifying – from locally collected data and wider published literature – the likely impact of the selected innovations being supported and, at the same time, indicating the TSU's specific role in making a difference to the uptake of the innovations. Finally, in Chapter 5, we reflect on the key areas of progress we have seen evidence of and how the TSU might build on that, and we discuss how far it may be possible in future to determine the overall ROI achieved by the TSU.

1.3. Caveats

The rapid nature of the review reported here (conducted over a period of 11 weeks) and its timing at an early stage in the life of the TSU mean that the following limitations need to be kept in mind:

- In essence, our review falls short of a definitive evaluation, but rather we have focused on identifying early signs of change and potential.
- The stakeholder perceptions survey was sent to existing contacts of the TSU (i.e. for whom the TSU had email addresses) rather than a more elaborate and time-consuming survey attempting to reach wider audiences of potential stakeholders and the response rate was moderate (see Chapter 1).
- We included four case studies rather than reviewing the entire TSU portfolio, and undertook rapid, non-comprehensive literature reviews for them (as described in Chapter 4).
- Data is at present limited for tracking the impact of the interventions supported by the TSU. Therefore, much of our assessment depends on expectations of the interventions achieving what apparently similar interventions are reported in the literature as having achieved elsewhere.

Despite these caveats, we have sufficient information to allow preliminary conclusions to be drawn.

2. The intervention logic for the TSU

Logic modelling is a practical tool that is used to help understand the 'logic' of an organisation's or programme's approach to achieving specific aims. A logic model outlines the key building blocks of a programme (i.e. the activities and interventions it is pursuing) and links these activities to desired programme goals through articulating direct outputs and long-term impacts that the activities are expected to contribute to, given specific resources and the wider conditions of the context within which a programme functions. The logic model describes the intervention logic of a programme by highlighting:

- *Inputs* into the programme that is being implemented (e.g. financial, staff, physical and relational resources needed to pursue programme objectives).
- *Process* through which programme aims and objectives are being pursued (e.g. activities related to capacity building, supporting the uptake of innovations, building networks).
- *Expected outputs*, i.e. direct short-term achievements from the programme (e.g. numbers of patients engaged, staff trained, pilots undertaken).
- *Expected outcomes and impacts*, i.e. long-term expected consequences of the programme (e.g. improved patient outcomes, improved patient experience, NHS and social care cost savings, capacity built).

Building the logic model is the process of identifying the core ingredients of the programme in these categories and exploring how the programme's activities are expected to lead to desired outputs and outcomes (i.e. the relationships between the ingredients and the results). Logic modelling activities also often entail a consideration of the wider contextual conditions that can influence delivery on the intervention logic and of associated risks to delivery and how they might be managed.

In this review, the logic model served as an aid to organise thinking about the numerous elements of the TSU's programme of work and how they are linked together in the pursuit of overarching programme goals. The logic model served as the foundation of the evaluation framework to help establish what needs to be examined to assess the TSU's progress towards its aims and to learn from the TSU's experience to date.

The logic model for the TSU was developed based on information drawn from a workshop in November 2017, supported by further correspondence with TSU staff and a review of TSU materials. During the workshop, we explored the views and expectations of 11 stakeholders from a wide range of backgrounds, including staff from the TSU and wider Eastern AHSN, from STPs in the region, from NHS England and a patient representative. The workshop generated a picture of the processes, outputs, and expected outcomes and impacts of the TSU's programme of activities. It is important to highlight that the logic

model presents the views of TSU staff and stakeholders who attended the workshop and outlines their *expectations*, rather than an assessment on delivery by the TSU to date. Table 1 sets out the resulting logic model for the TSU, showing how inputs and activities are supposed to bring about changes in both the short and the long run. In addition, we also discussed the key enablers and barriers that could facilitate/compromise the achievement of the TSU's desired impacts. These enablers and barriers are described in Table 2.

The ultimate aim of the TSU as a part of the Eastern AHSN is to address critical challenges to the adoption, scale-up and diffusion of innovations in the health and social care system. A key role of the TSU is to provide support to the Eastern AHSN and wider health and care system in the region to identify promising innovations and help support their adoption for the benefit of the service and patients. These innovations span products, technologies and new ways of delivering services – all in support of health system transformation. There are four areas of transformation that the TSU currently focuses on: (i) primary care accelerator programme to support the development of new models of care; (ii) provider productivity programme to deliver efficiency gains; (iii) digitally enabled healthcare to help people access care more easily; and supported self-management to help patients and carers better self-manage their health and well-being.

These four programmes aim to address critical enablers and challenges related to building and spreading the capacities, skills, networks, incentives, information and resources needed to support an innovative health and care system, and offer support to implement novel solutions.

The core activities through which the TSU aims to support systems transformation taken together seek to impact on the entire health innovation and improvement pathway – from the identification of needs and existing or potential solutions to supporting piloting and testing, uptake and scale-up. To achieve this, the intervention logic of the TSU incorporates some core functions and associated activities. First, the TSU works together with other actors in the health and care system to jointly identify key transformation needs and priorities and to help match supply and demand. Second, it provides support for uptake of innovative solutions in a real-world setting through a diversity of mechanisms including, but not confined to, the piloting of innovations, the identification of scale-up opportunities and the provision of specialist, time-limited implementations support (Table 1 provides further detail). Central to TSU's model of operation is a focus on building and brokering relationships, and creating and sharing the evidence, information and learning that is needed to support the progression of promising transformation solutions across the pathway – from development all the way through to real-world testing, adoption, diffusion and scale-up. This entails co-production of transformation solutions and their implementation with health and care staff, patients and the public, and close working with a diverse range of health and care institutions (including other AHSNs, STPs and implementers of new models of care) as well as national bodies (e.g. NHS England) and working to align local, regional and national health and care priorities. The TSU is expected to build a network that brings together NHS, industry, academic institutions, local authorities and the voluntary and community sector, strengthening the connections of different partners and balancing their interests. These approaches are expected to speed up the uptake of innovative solutions within the health and social care systems and translate them into wider scale good practice.

Through this approach, the TSU aims to achieve a series of direct outputs from its activities as well as contribute – together with other initiatives and actors locally and nationally – to a wide range of impacts on the health and care system.

More specifically, the TSU's efforts are expected to directly support the progression of innovations and transformation initiatives (within its portfolio) across the development and adoption pathway. It is therefore expected that the TSU will be able to demonstrate that its initiatives are successfully completing specific stages of development and/or adoption (for example, through completion of pilots, contribution to the scale-up of proven good practice across the region). The TSU's efforts are also expected to directly demonstrate an impact on engagement with transformation efforts in its region of influence. As such, understanding the reach of TSU's activities – the nature and scale of engagement with different types of stakeholders and organisations – will be an important measure of success as the unit evolves.

Another key milestone that will indicate potential for impact on the receptiveness of the health and care system to transformation and innovation would be the outputs and impacts from TSU's activities on workforce skills and cultures. This is challenging to measure and is outside the scope of impact by the TSU alone. However, TSU's approach of bringing in expertise from specialists and providing programme management support and potential training is expected to contribute to developing skills and nudging attitudes and behaviours as they relate to innovation receptiveness and change and transformation cultures among the individuals and organisational units it engages with.

According to TSU staff, it is expected that TSU activities will in the long term contribute to accelerating access to innovation (through demonstrating evidence of impact and shared learning, as well as through brokering relationships conducive to adoption and spread) and help promote cultural change towards the adoption of innovative and improved practices in the health service. The TSU also hopes that its activities, through the adoption of the transformation efforts and innovations it is supporting, will have a positive impact on promoting effective patient behaviours, improving patient outcomes, experience and hence their satisfaction. Ultimately, the improvements are hoped to contribute to wider benefits, such as saving costs for NHS and contributing to local economy growth.

To enable the above interventions and impacts to happen, the TSU's investments in staff time, financial and non-financial resources are crucial. The total costs of the TSU amount to £1.5m in financial year 2017/18, including a little under £0.5m of staff costs (4.9 WTE staff), and a little under £1.1m of other resources contributed to the programmes it supports. The latter sum includes the costs of the TSU paying for a wide range of non-financial resources to support innovations, including project management and governance arrangements, events and materials, access to intellectual property from the AHSN network, and access to existing relationships with other organisations and individuals in health and social care system. Over £0.1m of the TSU's staff resources are reserved for core EAHSN corporate activities, so the TSU's additional input to supporting transformation in the Eastern region of the NHS is around £1.4m in 2017/18.

The logic model overviewing TSU's approach and expected effects from it (as perceived by TSU staff and stakeholders contributing to the development of the logic model) is displayed in full in Table 1.

Table 1: TSU overall logic of intervention

Inputs	Process	Outputs	Outcome/Impact
Staff supporting delivery on AHSN goals • Within this, TSU staff supporting TSU aims: 3.8 WTE (plus 1.1 WTE staff time supporting Eastern AHSN corporate activities Financial resources for the AHSN • Within this, financial resources for TSU: £0.3m for staff costs supporting programmes (plus £0.1m staff costs supporting Eastern AHSN corporate activities) and £1.1m for programme costs Historical relationships between organisations and individuals to facilitate Eastern AHSN's work and, within this, TSU's activities	**Identifying needs in the system and matching supply and demand** • Identifying key needs for transformation in the regional health system • Horizon scanning and scouting for innovations (in products, technologies and services) • Prioritising highest impact opportunities • Ensuring alignment between regional and national priorities in prioritisation processes for TSU initiatives **Enabling and supporting the uptake of innovations in the real-world setting** • Supporting pilots • Smooth cash flows by providing or seeking funding for implementation • Identifying scale-up opportunities and requirements • Identifying the barriers to implementation • Bringing in specialist, time-limited support for implementation **Creating the evidence base on impact to support shared learning and spread of good practice – acting as a catalyst for change** • Marshalling existing evidence about proposed innovation ('business case') • Evaluating impact of TSU-supported activities in real-world settings • Sharing learning about successes/failures and enablers and challenges to supporting the innovation pathway **Building relationships and brokering information** • Facilitating co-production of innovation with health staffs, patients and public across the innovation pathway, from development through to testing, uptake and scale-up • Supporting a whole pathway approach responding to and navigating needs and interests of different stakeholders: providers, patients and the public, commissioners, innovators, innovation and improvement networks • Engaging and building connection with different organisations in the health system and wider local transformation efforts (e.g. STPs, vanguards) as well as national bodies (e.g. NHS England) • Brokering and sharing learning across AHSNs to enable spread of good practice **Coordinating local and national priorities ('strategic brokerage')** • Identifying local needs • Informing national priorities • Responding to established national priorities **Project management support**	**Progressing innovations along the pathway** • TSU's contribution to the number and nature of innovation projects supported and implemented • Pilots completed • Evidence of contribution to scale-up across the region and nationally (e.g. number of innovation projects scaled up) **Contribution to enhanced engagement of health and care stakeholders with innovation and transformation efforts** • Number of provider organisations involved/affected • Number of healthcare professionals engaged with TSU programmes and activities • Number of patients/members of the public engaged with TSU programmes and activities **Contribution to workforce capacity building** (e.g. people trained, skills developed)	**TSU contributions to speedier access to innovation** **TSU contributes to the translation of pilots of promising innovations into wider scale adoption of good practice** (expected in future) **Impact on cultural change towards innovation and improved practice in the health service** • Primarily within region of influence but also impact on promoting change in other regions **Impact on promoting effective patient behaviours in terms of service utilisation in Eastern region** **Impact on improving patient experience with the health and care service** **Impact on strengthening collaboration and coordination with wider initiatives and stakeholders** (vanguards, STPs and others) **Impact on coordination between national policy and local practice** **Evidence of cost savings for NHS** **Impact on wider economy** • Enterprise creation in the local economy • Number and nature of jobs created • Impact on gross value added

2.1. Enablers and challenges to delivery on the TSU's intervention logic

During the workshop, we asked participants to consider some of the enablers and challenges that are currently affecting the programmes supported by the TSU. The purpose of this exercise was to understand the wider context within which the TSU is pursuing its intervention logic and to help ensure that these are reflected in our review of TSU progress (i.e. in the survey and case study streams of this review and in their interpretation).

The enablers and challenges identified are set out in Table 2. Key enablers are the commitment, skill sets and historical relationships/networks brought by the members of the TSU team. Most barriers described by workshop participants are related to the wider system, such as cultural barriers resisting change, inflexibility and limited time horizons of some staff in health and social care organisations. Some barriers cannot be easily overcome by the TSU team alone and efforts are required from different parts of the system. In discussion with the TSU team subsequent to the November workshop, prioritisation of key innovations to support was identified as a key challenge. Given the limited evidence on most of the innovative interventions, it is difficult to narrow down a list of innovation ideas 'out there' by identifying the ones that will work and the ones that, if they do, will achieve important impact on the health and social care system.

Potential risks involved in the TSU's programmes are reported through a programme risk register and a corporate risk register. At the start of each project, both the TSU and the involved partners draft out what inputs and activities are expected from each party. At each critical stage of the programme, performance is evaluated. If performance falls below an acceptable standard, the TSU will suspend its support, i.e. any following funding and activities. The extent of output and outcome risks varies across different programmes and projects. Some are in line with national priorities, and therefore the risk should be low. However, some programmes are based on assumptions drawn from external evidence in other industries and, depending on the similarity of the context, the risk involved can sometimes be high. The TSU explicitly selects some projects to support in its portfolio that are higher risk but have the prospect of achieving greater benefits, alongside less risky options with more modest expected benefits.

Table 2: Enablers and challenges

Enablers	Challenges

• An end-to-end pathway approach, from identification to adoption of innovations
 	
• A commitment to producing tangible outputs (e.g. reports) that can codify learning to enable dissemination and sharing of best practice and which enable strategic visibility for the TSU
 	
• Active commitment to networking and to a brokerage role to bridge the gaps across different partners in industry and NHS so that all the right people are talking to each other
 	
• Balance interests of different partners and set the same objectives into their plan
 	
• Relationships of trust between collaborators – organisations and individuals willing to work together to deliver
 	
• In-depth expertise and skill set of TSU team – good understanding of local situations and healthcare systems
 	
• Passion and commitment of TSU team
 	
• Flexibility in approach – no preset way of doing everything
 	
• Simplicity in procedures
 	
• Creativity of the team
 	
• Independence of the team
	• Cultural resistance to change in practice in the health system/ inertia/'not invented here' syndrome
	
	• Crowded landscape of bodies involved in bringing innovation to the NHS
	
	• Prioritisation among the many possible projects
	
	• Ensuring that the right individuals are engaged in organisations (across hierarchies, management and frontline staff)
	
	• Fast-paced projects without time to scale-up (e.g. challenges to long-term resource commitment) and 'initiative fatigue' (disbelief that projects/innovations will be sustained beyond the short term)
	
	• Challenges to innovating while firefighting in the NHS – difficult to show immediate benefit from creating capacity (e.g. genomics)
	    o Difficulty of maintaining the enthusiasm of provider staff for change
	    o Difficulty to communicate alignment of innovation priorities with strategic priorities of trusts in the short term and to enable requisite collaborations across stakeholders
	
	• Insufficient capacity in the TSU team relative to all the immediate opportunities with potential for impact
	
	• Different stakeholders have different priorities
	
	• Reluctance of suppliers to support projects with low commercial values
	
	• Need for more public health engagement – building network in areas other than health and social care
	
	• Need for more STP engagement – to identify local priorities, respond to what is offered and help to scale-up innovations
	
	• Insufficient clarity and difficulty of determining a robust business case for ROI – difficulty to measure soft outcomes
	
	• Lack of experience sharing all along the journey and credibility building
	
	• Competitiveness of AHSNs and wider healthcare system – need to gain support from other regions

3. Survey of stakeholders' perceptions

3.1. Method

We carried out an online survey of stakeholders to explore their views of the impact of the TSU. The survey comprised four sections: background of the respondents, identification of TSU-supported projects, project-specific impact questions and overall impressions of the TSU.

The background section included three questions about the role of the respondents, the STP areas they are working in and their familiarity with the TSU team. Respondents were then directed to the list of projects in their STP area and were asked to select the TSU project they were involved in and most familiar with. If they were not tied to any particular STP area or were active in multiple areas, a full list of the TSU projects was presented to them. The project-specific impact section included 16 questions (14 multiple-choice questions and 2 open questions) to explore stakeholders' views on the actual and expected impacts of the projects they are most familiar with. If they were not aware of any TSU-supported project, they would skip this section and be directed to the section on overall impressions of the TSU. All respondents (no matter whether they indicated familiarity with any TSU project or not) were asked about their overall experience with the TSU, which consisted of ten multiple-choice questions and two open questions. The full text of the survey is in the Appendix.

The survey was distributed on 8 December 2017, and a first reminder was sent on 15 December 2017 and a second on 2 January 2018. We distributed the survey to 92 people and received 31 valid responses in total; 18 of them completed the questionnaire in full. The response rate is 34 per cent (31/92) overall, down to 20 per cent (18/92) for some questions. Thus, the response rate is modest and although the survey responses provide useful additional information about the TSU, they should not be used in isolation. There may be some selection bias in that stakeholders who are the most (or potentially the least) satisfied with the TSU are more likely to respond to the survey. Therefore, the results presented in the next section may not be representative of the views of all stakeholders, but they still provide some useful external views about the impact of the TSU and its programmes.

3.2. Results

Figure 1 shows the roles of all respondents. One-third of them were people who develop services or products for the NHS but work outside of the healthcare system. Most respondents of this group should be innovators. Almost another third of them were NHS managers. We also received responses from

clinical and non-clinical staff within the NHS, people working for a charity or local authority, and patient representatives.

Figure 1: Roles of the respondents (n=31)
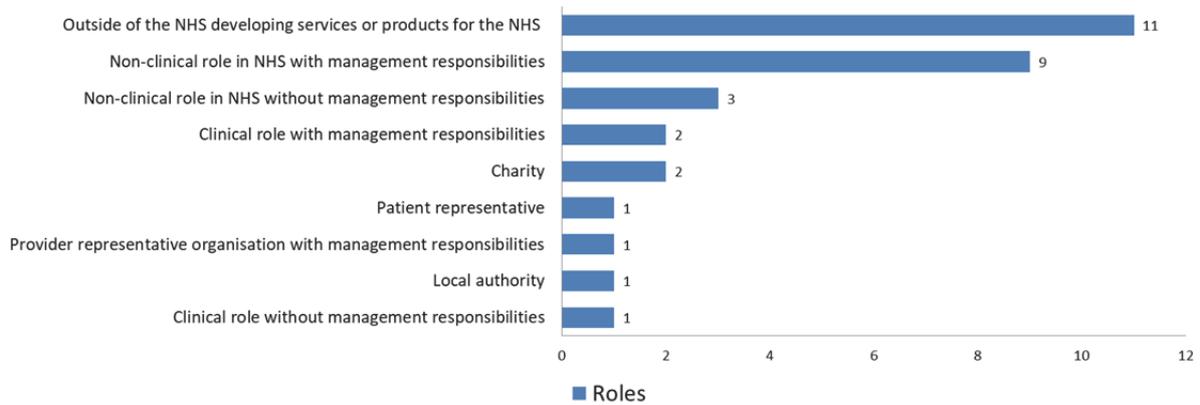
Figure 2 shows the STP areas the respondents belonged to. One-third of them were working in Cambridgeshire and Peterborough STP. Among the rest, eight of them were not tied to any particular STP area or were working in multiple areas, six from Hertfordshire and West Essex, three from Norfolk and Waveney, three from Suffolk and North East Essex and one from Mid and South Essex.

Figure 2: STP areas of respondents (n=31)
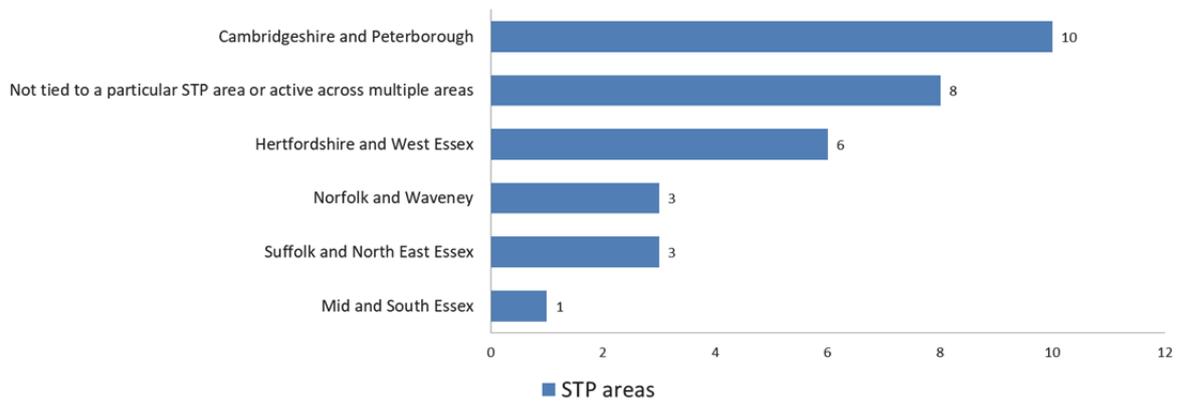
Figure 3 shows that one-third of the respondents had been involved in TSU projects before. However, there were also nearly one-third of them who had not heard of the TSU before. Among the rest, seven out of 31 respondents did not have any first-hand experience with the TSU team.

Figure 3: Familiarity with the TSU (n=31)
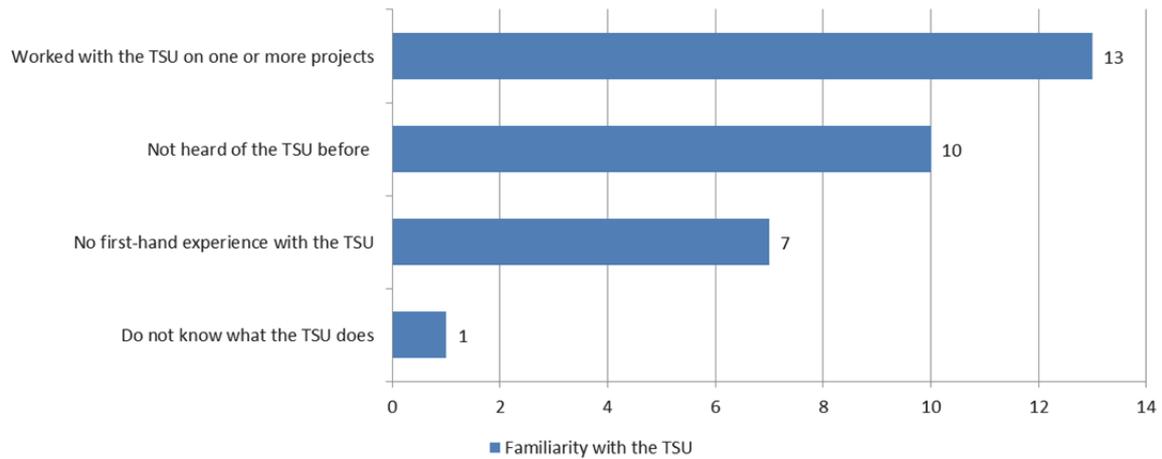
The overall impact of the TSU support is perceived to be positive (Figure 4), with almost all the respondents thinking the TSU has had a very positive or positive impact on their programmes. No one reported experiencing any negative impact from the TSU.

Figure 4: Experience with the overall TSU support (n=20)
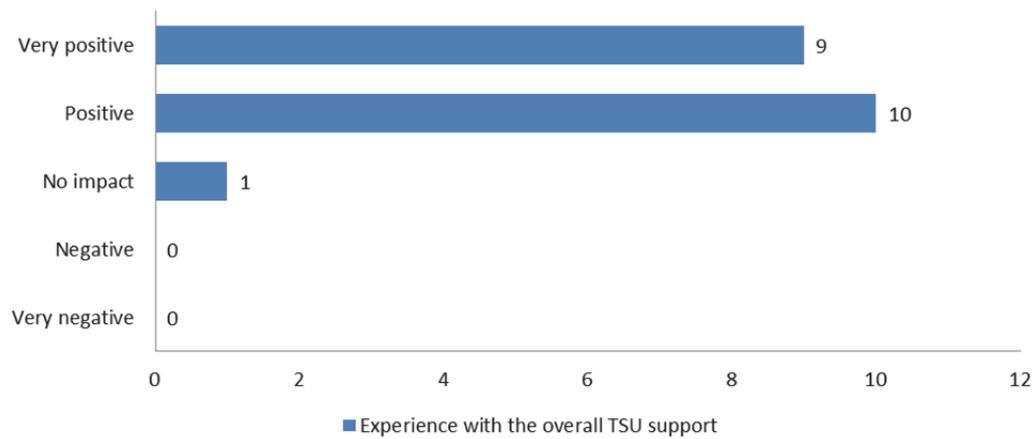
The support for pilot testing, implementation of the innovations and building connections with different organisations were identified as the top three most useful types of support provided by the TSU (Figure 5).

Figure 5: Experience with different types of TSU support (n=20)
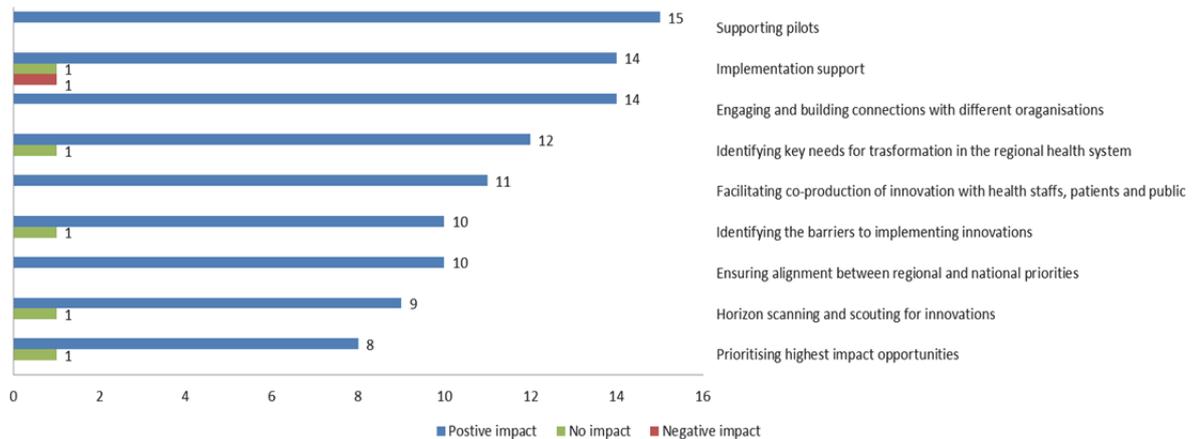
In terms of the project-specific impact, eight out of 20 respondents stated that their projects would not have been possible without the support of the TSU (Figure 6). No one thought that the TSU had made their project harder to implement.

Figure 6: Experience with the TSU support for the project (n=21)
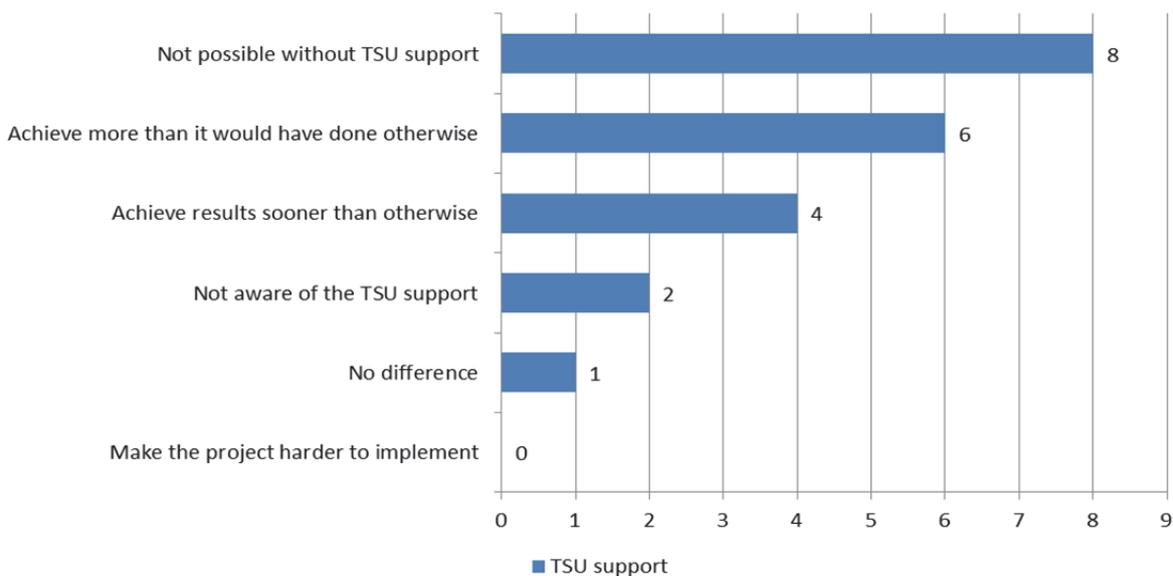
As shown in Figure 7, most respondents appreciated the TSU's support in providing funding, building relationships and brokering information. However, there is still room for improvement in areas such as identifying scale-up opportunities and requirements, providing staff other than just project management staff or creating the evidence base on impact to support shared learning and spread of good practice.

Figure 7: Types of the TSU support (n=18)

Providing or seeking funding for implementation — TSU has done this: 14, TSU hasn't done this: 2
Building relationships and brokering information — TSU has done this: 13, TSU hasn't done this: 4
Providing project management support — TSU has done this: 8, TSU hasn't done this: 8
Creating the evidence based on impact — TSU has done this: 7, TSU hasn't done this: 10
Identifying scale-up opportunities and requirements — TSU has done this: 4, TSU hasn't done this: 12
Providing staff other than project management — TSU has done this: 3, TSU hasn't done this: 10

■ TSU has done this   ■ TSU hasn't done this

As shown in Figure 8, respondents reported that the TSU had contributed significantly to most of the programmes it supported, particularly in increasing the projects' reach (e.g. number of people affected), speeding up access to innovations and leading a positive culture change towards innovations. Respondents reported that, so far, the TSU had not achieved much in reducing costs for the NHS and contributing to growth of the local economy. However, since these are mainly long-term impacts, most respondents believed that they would be realised over time.

Figure 8: Impact of the TSU support for the project (n=18)

Increasing the project's reach — Happening: 11, Expect in the future: 5, Not happening now or in the future: 2
Helping to speed up access to innovation — Happening: 10, Expect in the future: 6, Not happening now or in the future: 2
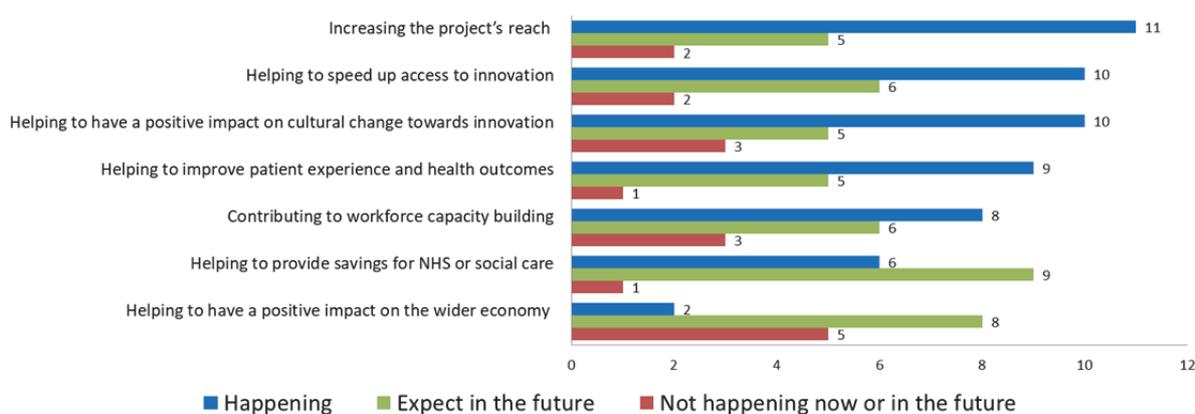**Helping to have a positive impact on cultural change towards innovation** — Happening: 10, Expect in the future: 5, Not happening now or in the future: 3
Helping to improve patient experience and health outcomes — Happening: 9, Expect in the future: 5, Not happening now or in the future: 1
Contributing to workforce capacity building — Happening: 8, Expect in the future: 6, Not happening now or in the future: 3
Helping to provide savings for NHS or social care — Happening: 6, Expect in the future: 9, Not happening now or in the future: 1
Helping to have a positive impact on the wider economy — Happening: 2, Expect in the future: 8, Not happening now or in the future: 5

■ Happening   ■ Expect in the future   ■ Not happening now or in the future

3.3. Summary

The TSU had only been running for one year at the time of evaluation, but the survey results are positive at this early stage. Most respondents believed that the TSU has had a positive impact on the outcomes of their projects, especially in helping them to reach more people and speeding up the implementation of the innovation. Support for pilots, implementation and network building are considered to be particularly useful. However, there is still room for improvement in terms of helping to identify scale-up opportunities and requirements, and creating an evidence base on impact to support shared learning and spread of good practice. Given its early stage, it is fully understandable that the TSU has not yet had much impact on NHS cost savings and the wider economy growth, and most respondents believe that these positive effects

will come in the near future. However, given the small number of responses in total, the results might not reflect the views of all stakeholders involved with the TSU.

4. Case studies

This chapter presents four case studies of projects/interventions currently being supported by the TSU and shows the extent to which they may be adding value. The TSU supports a wide variety of innovations, such that no particular subset of examples can be assumed to be representative of the whole TSU portfolio. The four case studies reported below have been selected on the basis that they: entail non-negligible levels of TSU input; are among the first to be established with TSU support and so are more advanced than other projects and some information on initial and/or expected impact is available; and because taken together they represent a spread across the TSU's range of activities and the range of potential impacts. Although they are not a comprehensive review of the work of the TSU, the case studies provide insights into the TSU's impact and how it is achieved.

A structured approach has been applied to all four case studies in an attempt to determine the expected impact of the intervention, as well as the impact the TSU had on its implementation. Firstly, relevant external evidence from previous literature was identified and reviewed. Given the time constraint for the evaluation, we conducted a reduced form of search, taking evidence mainly from the National Institute for Health and Care Excellence (NICE) and Cochrane libraries, Google Scholar and the reference list of the included studies. Secondly, locally collected data was presented and analysed in an attempt to monitor the progress of the programme so far. Finally, information from Eastern AHSN and its external partners was also collected. Some of the interventions are so new that the external evidence base is weak or almost non-existent. In these cases, we have drawn on evidence from similar interventions in different clinical settings.

Case studies

The case studies covered the following innovations:

1. Cardiac Rehabilitation in the Community
2. Mobile Working Digital Community Clinicians
3. Lea Valley Health Federation Locality Digital Engagement Officer
4. PharmOutcomes

The four case studies are presented in a common structure as follows:

- Description of the intervention and the TSU's role – the intervention under review is explained, with its objectives outlined and the role the TSU highlighted.
- Evidence on expected impact – evidence on the expected impact of the intervention is considered:

o Key messages – a summary of the most important information and insights found in the section.

o Evidence from related interventions – evidence from the wider literature on similar interventions of interest is examined.

o Progress data analysis – where provided to us, locally collected data has been analysed.

o Caveats and evidence gaps – any enablers and barriers identified, any shortcomings and areas to note in the identified evidence, as well as any lessons to be learned.

4.1. Cardiac Rehabilitation in the Community

4.1.1. Description of the intervention and the TSU's role

Active⁺ is a collaboration between Aseptika Ltd, Huntingdonshire District Council Active Lifestyles, Papworth Hospital NHS Foundation Trust, Huntingdonshire Community Cancer Network and Eastern AHSN. Since May 2017, Active⁺ has provided an enhanced cardiac rehabilitation (CR) course in the community: Cardiac Rehabilitation Plus (CR⁺). Active⁺ has been extended to people with cancer and may be extended to other disease areas as well. The case study presented here is limited to the CR⁺, which is part of the Active⁺ programme that targets patients who have experienced an acute cardiac event.

According to the CR⁺ business plan submitted to the Eastern AHSN, the programme specifically consists of eight weeks of exercise classes, with close tuition and instruction on using the latest technology for participants to record their own vital signs (e.g. blood pressure and weight) at home and participate in their own self-care. Further to this, a rest-of-life support group is provided to ensure follow-on care. The primary aims of the self-monitoring equipment and wider CR⁺ programme are to encourage patients to be more active, improve adherence to rehabilitation classes and improve patients' health outcomes (Eastern AHSN, n.d.). CR⁺ builds upon traditional CR programmes by providing an eight-week programme of exercise classes, compared to six weeks traditionally, as well as providing self-monitoring technology and rest-of-life support (Cardiac Rehabilitation Plus, n.d.).

Huntingdon District Council is mainly responsible for providing the staff and undertaking the running of the CR⁺ programme, while the TSU's role is to support the use of the high-tech self-monitoring technology within the programme. The equipment involves a blood pressure monitor, an activity and sleep tracker, smart scales, a pulse oximeter and a peak flow monitor, with the data from these devices being sent directly to health professionals. Initially, the equipment was provided to 130 people on a six-month loan, after which they could either return the equipment or purchase it at a discount. The TSU did also provide some modest upfront funding to support the business case and contribute to the costs of staff, supporting materials and communications, as well as purchase fees for the licence of the Patient Activation Measure (PAM) toll to track the progress of patients on the programme.

According to the judgement expressed in our interview with the innovator of the wider Active⁺ programme, the TSU's role has been essential to enable the implementation of the programme. Although the project was running only within Huntingdonshire, we assume that more benefits might be achievable if it could be replicated in other locations too. Based on information from that interview and documents shared by the TSU team, the activities of the Eastern AHSN TSU include:

- Providing financial support for equipment purchase and training fees.
- Seeking alternative funding mechanisms to support adoption and spread.
- Helping to ensure support from NHS, local authorities and charities.
- Project oversight, governance and assurance processes.
- Encouraging and guiding the innovator to develop a protocol/manual for the innovation and advising on collection of evidence to assess the use and impact of the programme.
- Internal/external communications to promote spread of the innovation.

Information was not publicly available on the full implementation costs of CR⁺ including the costs incurred by other organisations involved in the project.

4.1.2. Evidence on potential, expected or realised impact

Key messages
- TSU's role in the CR⁺ programme is to fund the use of the high-tech self-monitoring technology, including a blood pressure monitor, an activity and sleep tracker, smart scales, a pulse oximeter and a peak flow monitor.
- Evidence on the use of similar technology in CR programmes elsewhere is promising and indicates impacts that may be expected from the TSU's support of CR⁺ programme in Huntingdonshire. That evidence shows mostly favourable outcomes for patient health and reduced hospital activity. Use of similar technology for other conditions shows mixed results on clinical outcomes, patients' health status and the use of secondary care.
- PAM data collected by the TSU showed an increase in the patient activation level after joining the programme. However, the sample size is small (17).

Evidence on impact from related interventions

The sources of information used in this case study span documents and communications provided by the TSU, literature on the innovations including evidence of their impact, and interviews. To identify relevant literature (within the scope of this review), we searched NICE and Cochrane websites, with articles post-2000 in a UK setting eligible. The following search terms were used: 'cardiac rehabilitation', 'self-management technology', 'self-management monitoring technology' and 'digital health'. Eventually, six studies were identified as relevant to the CR intervention.

CR programmes generally include components of health education, advice on reducing cardiovascular risk, physical activity and stress management (Dalal et al., 2015). Evidence has shown CR to be a safe and effective intervention that reduces the risk of hospital admissions and improves the health-related quality of life (HRQOL) of the patient population (Anderson et al., 2017a). Exercise-based CR, as is provided in CR⁺, has also been found to reduce the risk of death due to a cardiovascular cause, and economic evaluations have found the intervention to be cost-effective (Anderson et al., 2016). However, despite the favourable evidence on the effectiveness of the CR programmes, the uptake rate in the UK and Europe is below the recommended levels (Bethell et al., 2001, Karmali et al., 2014, Kotseva et al., 2009). The use of self-monitoring equipment in the CR⁺ programme allows the provision of centre-based treatment to be continued into the patient's home. A recent systematic review compared the effectiveness of home-based CR with centre-based CR and found that both interventions had a similar impact on mortality rates and quality of life (Anderson et al., 2017b). Furthermore, Dolansky et al. (2011) found that the use of self-

monitoring techniques in CR may improve the adherence to such programmes and increase the uptake rate.

The existing evidence on the efficacy and effectiveness of monitoring technology and mobile applications in CR programmes appears to be positive. van Berkel et al. (2016) evaluated a supported self-care programme in Liverpool, which utilises similar technology to CR⁺ in a similar patient group (those with heart failure). They found that those undertaking the supported self-care programme saw significant reductions in emergency hospital admissions and secondary care costs. The majority of patients also reported greater confidence in managing their conditions. Another study evaluating the use of an online and smartphone-based CR system found significant reductions in weight, but no effect on the number of condition-related hospitalisation and emergency department visits (Widmer et al., 2017).

Evidence on the use of high-tech equipment in the self-management of other diseases appears to be more mixed compared with the CR programmes. Liu et al. (2011) found that the use of a smartphone app in the self-management of asthma led to significant improvements in clinical outcomes and a reduction in the number of visits to the hospital emergency department. However, Ryan et al. (2012) suggested that the similar smartphone app for asthma patients had no statistically significant effect on clinical outcomes or the frequency of hospital admissions. A systematic review by NICE (2017) found that the use of a 'Smartinhaler' in treating asthma only improved clinical outcomes in two of five randomised controlled trial (RCT) studies, although greater adherence to treatment was observed in all cases.

Similar self-management technology has also been used in the treatment of chronic obstructive pulmonary disease (COPD). Velardo et al. (2017) found a digital self-management health intervention led to higher compliance rates with the treatments and encouraged clinicians to be more engaged with monitoring patient outcomes. Farmer et al. (2017) found that a similar intervention had no significant impact on condition-specific outcomes, but they did observe significant improvements in general health and significant reductions in the number of visits to practice nurses and general practitioners.

Progress data analysis

Data on the quality of life scores, patients' satisfaction rates and their activation levels will be collected throughout the CR⁺ programme to monitor its progress and impact on patients. Since the programme only started in May 2017, only a small amount of data was available. Early data from the TSU team on a PAM for CR⁺ participants, both before and after the programme, is reported here.

Patient activation is a measure to describe the knowledge, skills and confidence a person has in managing their own health and healthcare (Hibbard and Gilburt, 2014). The PAM is a patient self-reported questionnaire that contains 13 statements, including beliefs, confidence in the management of health-related tasks and self-assessed knowledge (Hibbard and Gilburt, 2014). Patients are asked to rate the degree to which they agree or disagree with each statement. The answers are summed up to a single score between 0 and 100, according to which patients are then divided into four groups from low activation (level 1) to high activation (level 4). Participants in the CR⁺ programme were asked to complete the baseline questionnaire before they used the remote monitoring equipment, and were then followed up at three months and six months post-graduation. As shown in Figure 9, before joining the programme, there was one person at level 1, six at level 2, eight at level 3 and two at level 4. After completing the

programme, the number of individuals in level 4 increased to seven, and fewer individuals were in level 1, 2 and 3 compared with the baseline. The results suggest an increase in the patient activation level as perceived by the patients themselves. However, the sample size is small: there were only 17 patients in total who filled in both the pre-use and post-graduation questionnaires. Therefore, the results may not be representative and generalisable.

Figure 9: Numbers of CR⁺ participants at each level of patient activation (n=17)
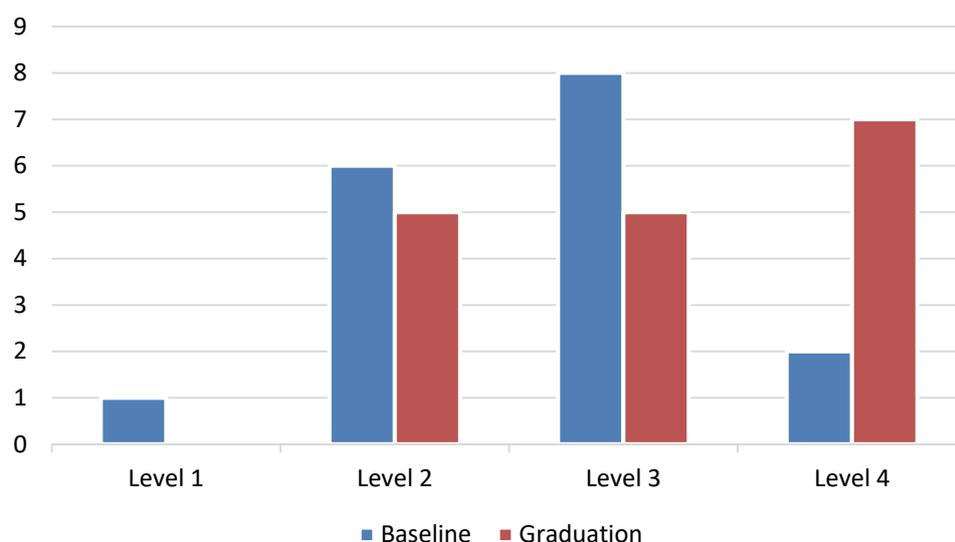
Source: CR⁺

Caveats and evidence gaps

The evidence base for the impact of high-tech, self-monitoring equipment has shown different outcomes depending on the settings within which the interventions are implemented. For example, similar CR interventions were found to reduce the use of secondary care in one setting but not the other (van Berkel et al., 2016, Widmer et al., 2017). Such variations in outcome were also observed in the use of high-tech self-monitoring equipment in the treatments of asthma and COPD. These findings highlight the importance of the contextual factors that are likely to affect the impact of CR and rehabilitation for other conditions as well.

Although there appears to be much evidence on the impact of the use of the high-tech self-monitoring equipment, only a limited amount of literature focuses on interventions that specifically treat acute cardiac events. As highlighted above, the context within which interventions are being implemented is important, and the evidence in treating other conditions may not be directly translated into the expected impact of the CR⁺ programme. Hence, there appears to be an evidence gap in the literature with respect to the use and effectiveness of self-monitoring technology in CR interventions.

4.2. Mobile Working Digital Community Clinicians

4.2.1. Description of the intervention and the TSU's role

Mobile working is defined as 'the ability to work anywhere and at any time to access and update information' (NHS, 2012). The Norfolk Community Health and Care NHS Trust (NCH&C) provides a mobile working service to community-based clinicians through The Phoenix Partnership (TPP) mobile working application. Rolled out to over 1,200 clinicians since 2012, the service is accessed through a supported mobile device, allowing community-based clinicians to update patient records in real time or near real time electronically. An important aspect of the intervention is its functionality when staff are without a mobile connection, meaning it 'eliminates the issue of having limited connectivity across the region' (NCH&C, n.d.). The business application outlines the key objectives of the mobile working programme as: (i) comply with guidelines with respect to updating patient records as soon after the delivery of care as possible; (ii) allow staff to see more patients and thereby improve productivity; and (iii) achieve cost savings through reduced travel as staffs no longer need to return to a desktop to update records.

According to the NCH&C business application, the TSU's support to the project has two aims. First, it is expected to enhance the working partnership the NCH&C has with other trusts and organisations along the process of the adoption and implementation of the technology. It is intended to help 'lessons learned' to be shared and best practice to be employed by the NCH&C. Secondly, the TSU support, including funding, facilitates the development of a training support package for up to 350 clinical and corporate staff. The training package provides information on using quantitative data alongside qualitative data to capture the impact of the mobile working service. The TSU funding includes a small training bursary to support the local projects, plus the additional cost of one-to-one coaching sessions to support individuals leading the digital programme. We do not have information on the total cost of running the programme, including the activities conducted by the NCH&C (running the training package, testing the software, following up with staff for feedback, etc.).

4.2.2. Evidence on expected, potential or realised impact

> **Key messages**
> - The TSU is helping NCH&C improve the efficiency with which electronic patient records are updated by community-based clinical staff.
> - Evidence suggests that mobile working solutions generally have positive outcomes in terms of clinician efficiency (i.e. more patients visited per day) and use of secondary care.
> - Local data is needed to determine the expected impact of the programme in Norfolk.

Evidence on impact from related interventions

To identify evidence from previous literature, we searched the NICE and Cochrane libraries but found no directly relevant literature there. We then searched Google using the term 'mobile working NHS' and found two reports on National Mobile Health Worker Project completed by the Department of Health in 2011 and 2013 (Department of Health, 2011, Department of Health, 2013). The information in the following sections is mainly drawn from these two reports.

The adoption of mobile working for community clinicians is aligned with government policy advocating the treatment of patients at home where appropriate (NHS, 2012). In 2010, the National Mobile Health Worker Project was established. In an attempt to establish quantifiable evidence around the benefits of mobile working, 11 pilot sites were provided with a mobile working service (Department of Health, 2011). However, it is worth noting that the technology utilised in this example did not have the same offline capability as the TPP mobile app implemented by the NCH&C with the support from the TSU.

The evidence gathered from the National Mobile Health Worker Project suggests that, generally, mobile working solutions delivered positive outcomes. At the national level, productivity (measured by the number of contacts clinicians had with patients) was improved across the vast majority of sites (Department of Health, 2011). There was also an improvement in efficiency since the increase in clinician activity outstripped the increase in the number of journeys made by the clinicians and the length of the journey time. Furthermore, clinicians reported significant reductions in the number of referrals and admissions as a direct result of the mobile working technology. On average, the programme led to significant cost savings across the pilot sites.

Of the two case studies that were highlighted by a factsheet on mobile working (NHS, 2012), Calderdale is of particular interest here since it has an even urban and rural split, as does Norfolk (Norfolk County Council, 2017). In Calderdale, the daily number of visits to patients increased by 17 per cent after the introduction of the mobile working project, and the amount of time spent with patients increased by 14.5 per cent. The number of hospital admissions fell by over 21 per cent, and data duplication in patient records reduced by over 68 per cent. In addition, qualitative data showed that patients reported greater peace of mind and lower anxiety when treated by mobile working clinicians. Although we cannot assume that similar effects will necessarily be observed in Norfolk, since no two sites are exactly the same, the Calderdale example provides useful insights for this case study given the similar population composition across these two counties.

The final report of the National Mobile Health Worker Project in 2013 provided a deeper and longer-term analysis of the impact of the project (Department of Health, 2013). Similarly, significant improvements in productivity were observed across the majority of the sites, and the overall time spent with patients increased. In some cases, the activity level of clinicians increased, while both the number of journeys and the travelling time reduced. Significant cost savings were also observed across the pilot sites, including six of them where the mobile working project was rolled out across the whole organisation.

In summary, there are five lessons to be learned from the pilot study: (i) clinical engagement is vital; (ii) the expected outcomes and roles of clinicians need to be well understood and communicated; (iii) the benefits of mobile working need to be measured robustly; (iv) training needs to be accessible to clinicians; and (v) ongoing support needs to be provided. According to the NCH&C Digital Pioneers Feedback Form, a number of barriers were identified in the implementation of the TPP mobile working app, including technical issues with the functioning of the app, limited staff availability for training, staff lacking technological confidence resulting in resistance to change and a lack of support being afforded from the service provider. To address these issues, various measures have already been put in place, such as continual testing and development of the software to adapt to clinical practices in different settings, and

provision of training sessions with regular and timely feedback gathered from all staff to allow appropriate changes to be made where necessary.

Progress data analysis

According to the feedback form completed on 10 January 2018 (Jackson, 2018), 203 members of staff (60 per cent of the target) had already received the training by that date, and 163 of them were frontline clinical staff. The feedback form states that assuming a case load of 40 patients per clinical staff member, there should be 6,520 patients' notes being completed in real or near time. At the same time, there had also been an increase in the number of collaborations between clinical staff and GPs. We have not seen any local data indicating the impact of the innovation on, for example, reduced travel time by the community clinicians and any consequent increases in the amount of patient contact time that may result in or increases in the numbers of patients they see.

Caveats and evidence gaps

An important caveat in the evidence from related interventions is that the outcomes of clinician mobile working 'varied significantly across the pilot sites' (Department of Health, 2011). Although evidence from a potentially similar trust (Calderdale) was positive, likely differences in local demographics mean that the comparison is indicative rather than conclusive. Locally collected evidence is required, before and after the use of the new app, on the numbers of clinician journeys, journey time, numbers of clinician contacts and consequent impact, if any, on hospital referral and attendance.

4.3. Lea Valley Health Federation Locality Digital Engagement Officer

4.3.1. Description of the intervention and the TSU's role

The Lea Valley Health Federation introduced a new digital platform, called FootFall, among its eight member GP practices in March 2017. The platform provides patients with health advice online to help them deal with health issues and find appropriate health services. The website aims to save GP consultation time by encouraging patients to self-manage minor conditions and by directing them to suitable healthcare providers. Compared with traditional face-to-face appointment and telephone consultations in primary care, FootFall aims to allow practice staff to process patients' requests through the online system and hence in a more efficient way. Given 24/7 online access, patients are also able to obtain immediate support and health information at any time of day. It is also intended that a new pathway specifically for diabetes patients will be developed and implemented through the website.

Rather than helping to develop the platform, the role of the TSU is mainly to provide funding to Lea Valley Health Federation to help them to train and employ a locality digital engagement officer, who supports the community to engage with the digital platform and will also help to develop the new specialist diabetes pathway. The TSU is also providing network support to engage the officer with others who also work on digital engagement in the community. We do not have information on the total costs across all of the involved parties of providing the digital engagement officer.

## 4.3.2. Evidence on potential, expected or realised impact

Key messages

- The TSU is funding a digital engagement officer to encourage patients to use online information instead of visiting their GP practice, where appropriate.
- Evidence from the literature suggests that interventions for enhancing people's online health literacy appear to increase the use of the internet for health information, improve people's self-efficacy for health information seeking and evaluation, and encourage them to be more active in self-management. However, the amount of evidence is quite limited and the quality is relatively low.
- Early results from the Lea Valley FootFall system suggest it may be helping to reduce patient contacts with GP practices that would otherwise have taken place. The health implications of this are not known but the potential savings to GP practices in terms of staff time saved look likely to exceed the cost of the digital engagement officer.

Evidence on impact from related interventions

According to Pal et al. (2013), internet-based interventions might work through improving cognitive, behavioural and biological outcomes. In Figure 10, we illustrate the mechanism to impact, developed from Pal et al. (2013) and Car et al. (2011). The interventions need first to improve people's knowledge and understanding of health information, which could then contribute to better illness self-management and use of appropriate health services. Ultimately, patients would be expected to have better experience of healthcare and better health outcomes, and avoid unnecessary use of health and social care. However, before these processes take place, online health literacy is needed to enable and encourage people to access health information online and the starting point of the whole mechanism.

Figure 10: A mechanism to impact for internet-based interventions
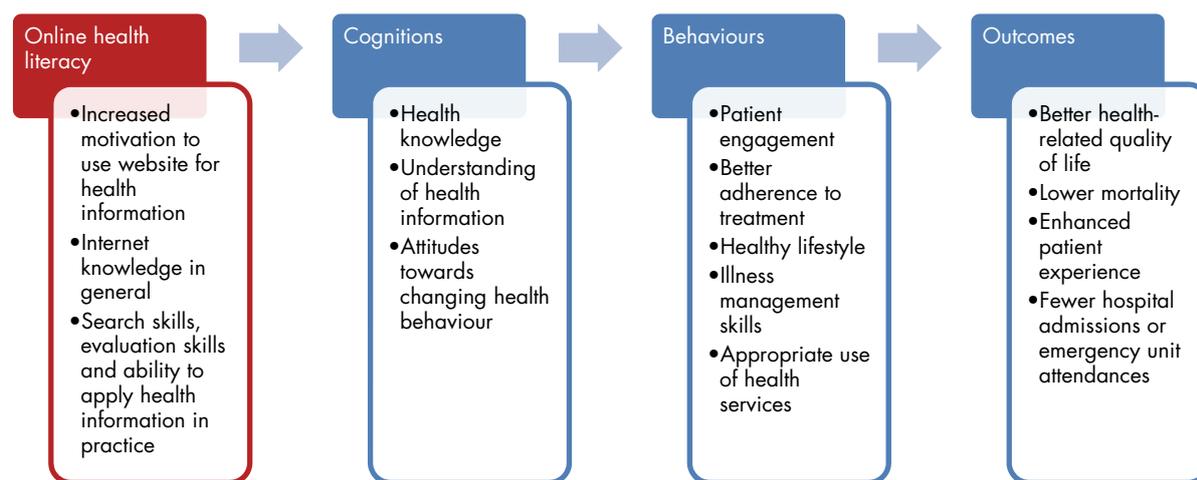
Note: The illustrated mechanism is adapted and developed from Car et al. (2011) and Pal et al. (2013).

According to Car et al. (2011), there are a number of barriers for people to access and use online health information effectively. For instance, people may not perceive online health information to be useful or

they may lack the cognitive skills to locate, evaluate and apply online health information (Benotsch et al., 2004, Gray et al., 2005). These skills are usually referred to as health literacy, which is defined as 'knowledge, motivation and competences to access, understand, appraise and apply health information' (Sørensen et al., 2012). Lower levels of health literacy are associated with poor health knowledge, health service use, illness management and health outcomes (Muller et al., 2017). In addition, computer literacy and information literacy are also necessary to enable people's use of online information. Thus, taking all these abilities together, 'online health literacy' includes the motivation and ability to locate, evaluate and apply health information online.

Two relevant US studies identified in Car et al. (2011) evaluated interventions for enhancing people's online health literacy. Kalichman et al. (2006) designed a RCT that included 448 HIV patients who had no previous experience with computers or the internet. The training provided motivation, introductions to computers and the internet, effective search skills and evaluation of online information. The interventions were found to enhance people's self-efficacy for health information seeking and evaluation, and to encourage them to be more active in self-management. However, there appeared to be no impact on people's health behaviour or health status in the nine-month follow-up survey. In addition, Cortner (2006) found that participants had a greater readiness to adopt the internet as a tool for healthcare after a four-week internet training course (90 minutes per week). However, the evidence is quite weak since this is an unpublished study that used a before and after research design based on a very small sample of 22 healthy adults aged 50 and over. The evidence is therefore indicative of positive outcomes but is not conclusive. Although the study by Kalichman et al. (2006) appeared to be less prone to the risk of bias, since it was based on an RCT design, the study population was limited to people with HIV. Therefore, it may not be generalisable to wider populations to inform the TSU case study.

In terms of the benefits of different features provided by the FootFall digital platform, there is a range of evidence on the use of internet for health information, lifestyle advice and online appointment booking, summarised by Castle-Clarke and Imison (2016). The evidence they report is inconclusive in terms of the impact on managing demand on professional time, patient experience and health outcomes. Diagnosis apps are found to be not always accurate and interactive symptom checkers may recommend professional care unnecessarily (Semigran et al., 2015, Bierbrier et al., 2014). However, online information appeared to help patients to manage their conditions and have more productive conversations with their GPs. Booking appointments and ordering repeat prescriptions online also seem to increase convenience for patients (Wyatt, 2015, Neville et al., 2004).

The development of a specialist diabetes pathway responds to the increasing burden of diabetes in the UK. According to Wanless (2002), the majority of the cost related to diabetes arises from the complications that can be avoided if the condition is managed properly. There is a growing body of evidence that explores the potential for using new technology to improve diabetes self-management, and the results seem to be quite mixed. Muller et al. (2017) found that web-based materials significantly improved diabetes patients' attitudes and intentions to engage in physical activity. Participants also reported high levels of website satisfaction and would recommend the website to others. Pal et al. (2013) evaluated a wide range of computer-based self-management interventions for diabetes patients, including clinic-based computers, internet-based interventions that can be used from home and mobile phone-based interventions. They found that computer-based interventions in general have positive effects on

improving people's knowledge and self-efficacy; however, the benefits do not seem to turn into behavioural change such as physical activity. Mobile phone-based interventions, in particular, were associated with a larger improvement in blood pressure and HbA1c compared with other types of interventions. The extension of the use of FootFall to mobile devices might therefore be a potential opportunity for future development.

Progress data analysis

According to the baseline data from the Primary Care Demand and Capacity Audit report for Lower Lea Valley Locality, more than half of patients indicated a general willingness to use either the practice or NHS websites for health information (PCPA, 2017). However, when it came to managing their own conditions, 79 per cent of them did not seek self-help or advice prior to their GP visits. Online health information was the most common source for patients who seek support for self-help or advice, but more than half of the patients surveyed obtained information from other websites rather than the official sources such as surgery websites and NHS Choices. Therefore, appropriate education/marketing programmes are essential to inform patients of official online sources of health advice and have the potential to direct those patients who did not seek self-help or those who obtained information from other sources to use the FootFall digital platform. Improving patients' self-management through the FootFall digital platform should, in principle, reduce pressure on clinical staff and allow them more time to deal with more complex issues.

The Lea Valley Health Federation data provided by the TSU team offer further information about the progress made from January 2017 to November 2017. The digital platform was rolled out in eight general practices, which together have more than 75,000 registered patients. The website has been in place since January 2017 but was formally launched in May 2017. Since then, average monthly visits to the website have been 10,928, with a monthly average of over 35,000 page views. The average monthly visits account for around 14 per cent of the total list size. In total, by the end of November 2017 nearly 47,000 people had visited the website at least once and some of them multiple times. However, since there is no comparison group involved (i.e. who had access to FootFall but were not supported by the digital engagement officer), we cannot infer how many extra visitors to the site and visits to the site may be due to the encouragement and help from the digital engagement officer.

In terms of the types of requests for which the FootFall digital platform is being used, more than half of the requests are related to administrative-type activities: new patient registration, registration for particular services at the practices, repeat prescription requests, sick note requests, changes of personal details and cancellation of appointments. Other activities through the website include asking a doctor or other practice staff a question (but not diagnosis), obtaining travel risk assessments, requests for test results and medical reports.

Potential cost savings related with the use of the website can be estimated based on the survey question for patients: 'If you were not able to make this request online, what would you have done?' The question was answered by 2,513 patients up to the end of November 2017. More than half of them responded that they would otherwise have called the practice/GP for information, nearly one-quarter would have visited the practice in person and nearly one in ten would have booked an appointment. Assuming that the unit cost is on average £36 per patient contact and £14.40 per telephone consultation for general practitioners

(Curtis and Bruns, 2016), the total costs saved from 4,146 online requests to the end of November 2017 would be over £47,000.

Caveats and evidence gaps

The impact of the FootFall digital platform depends on the type of digital services involved and the population of interest. There is mixed evidence for a number of digital technologies, such as the use of diagnosis apps, online appointment booking and other transactional services. It is difficult in practice to isolate the impact of different services provided by the FootFall and differentiate the more effective tools from the less effective ones. In addition, since the FootFall digital platform targets a wide population, we should be cautious about generalising the evidence from previous literature since most studies are usually limited to specific population groups.

It is difficult to be conclusive overall about the impact of the digital engagement officer supporting the use of FootFall. Good-quality evidence on the effectiveness of the interventions for enhancing people's abilities to locate, evaluate and apply online health information is scarce. Relevant studies in this area are either based on small sample size or limited to specific population groups. In addition, we are also lacking evidence on the impact of the specific elements that are provided by the FootFall platform. The early results from the survey are encouraging, however.

4.4. PharmOutcomes

4.4.1. Description of the intervention and the TSU's role

PharmOutcomes is web-based software that facilitates the electronic transfer of patients' medical records from acute secondary care providers to community pharmacies when the patient is discharged from hospital. Further to this, hospital pharmacy staff identify patients who they judge would benefit from a follow-up consultation with a community pharmacist (CP) (Nazar et al., 2016). The intervention allows individual commissioners to tailor the service to meet the needs of community pharmacies in their geographical area. PharmOutcomes aims to reduce the number of hospital readmissions that could be avoided by better medicine management, and reduce the length of hospital stays of those who are admitted, in order to improve patient experience and health and to reduce costs (Eastern AHSN, 2017a). Additionally, the collection of data on pharmacy services in a central system enables local and national level analysis to be undertaken to examine the effectiveness of commissioned services and improve the evidence base for community pharmacies (PSNC, n.d.).

The PharmOutcomes programme was suggested by Chief Pharmacists across the East of England as one of five areas to address the needs of individual organisations in completing their Hospital Pharmacy Transformation Plans (HPTP) and follow national NHS efficiency improvement recommendations. The TSU has supported the rollout of PharmOutcomes by partnering with hospital trusts and local pharmacies in the eastern region (Eastern AHSN, 2017b). The TSU provided modest upfront funding to support the adoption of the tool across 15 providers, including paying for the licence fee (paid to the software supplier) for each organisation for the first year. In addition, the TSU also provided further support in 2017 for regional/local communications, project management, training and education events for CPs, and help to explore the opportunity to scale up with other AHSNs (Eastern AHSN, 2017a). We

have no information about the total implementation costs, including those incurred by the 15 providers or the CPs they are communicating with.

4.4.2. Evidence on potential, expected or realised impact

Key messages

- The TSU has pump primed the roll-out of PharmOutcomes in the East of England.
- An evaluation of the implementation of PharmOutcomes in Newcastle-upon-Tyne shows it as leading to fewer hospital readmissions and shorter lengths of hospital stay for those who were readmitted, although the quality of the evidence is not high.
- Informing CPs of the discharge medication information is important, but the benefits do not appear to be limited to the use specifically of an electronic system.
- Additional services such as further prompts to encourage CPs to book consultations with discharged patients might improve the effectiveness of the PharmOutcomes.

Evidence on impact from related interventions

CPs can play an important role in the transition of care (TOC) from healthcare settings to community settings or the patient's own home (Zeleznikar et al., 2017). Improved discharge medical information has the potential to reduce unintended medication changes, patient harm and hospital readmissions (Ramsbottom et al., 2016). Nazar et al. (2016) studied 2,029 hospital patients in Newcastle-upon-Tyne who received electronic referrals to CPs for a consultation following discharge from hospital over a one-year period in 2014/15. Almost half of the requests were rejected by the CPs, usually because the patient was uncontactable. 619 patients (30.5 per cent) received a completed follow-up consultation with a CP, and over one-third of them provided positive feedback on the usefulness of the CP contact. According to this specific study, the follow-up consultation reduced the hospital 30-day re-admission rates from 16 per cent in the control group to 5.8 per cent in the intervention group (odds ratio: 3.1; 95 per cent confidence interval: 2.1–4.7), and hospital stays for readmission patients from 13.1 days to 7.2 days (mean difference 5.8; 95 per cent confidence interval: 1–12.7). However, the research design was not based on an RCT and the control group included patients' requests that were rejected by the CPs. Therefore, baseline heterogeneity may exist between the patients in the intervention and control groups, and we cannot rule out the possibility that the results are driven by the unobserved baseline differences.

Getting the medicines right is a very important starting point and CPs are particularly well placed to help reduce drug-related problems. Additional benefits of involving CPs in the discharge process have been found in a more recent study that showed that sending patients' hospital discharge letters to CPs could reduce post-discharge discrepancies between the medications prescribed in their discharge letter and those prescribed by their GPs (Hockly et al., 2017). The study randomised 33 patients discharged from hospitals into two groups and followed them up over four months: one group with the discharge letter sent to the GP only and one group with the discharge letter sent to both the GP and a nominated community pharmacy. The incidence of medication discrepancies is significantly lower in the latter (intervention) group compared with the control group. However, the intervention is slightly different from PharmOutcomes since it does not involve any electronic transfer of medical information, which indicates that the benefits may not be limited to the use of the web-based system. A larger-scale study with a longer follow-up period would be needed to better understand how the intervention works.

Ramsbottom et al. (2016) evaluated the impact of a post-discharge medicines use review (dMUR) service by CPs for older patients by randomising 30 participants to receive either a dMUR or standard discharge care (Ramsbottom et al., 2016). The dMUR service involves a face-to-face consultation between the patients and CPs, which provides information on medications and side effects, offers compliance aid and lifestyle advice, etc. Ramsbottom and colleagues found that two thirds of the participants had received a completed dMUR consultation, more than twice the proportion who had received completed consultations in Nazar et al. (2016). The reason of the higher completion rate may be because the researchers prompted all CPs four weeks after hospital referral. The programme seems to show a four-fold ROI and represents substantial cost savings to the NHS. However, there were only 30 patients in total involved in this trial, so the findings may not indicate what will happen in a wider setting.

Earlier evidence from Holland et al. (2005) showed very different results: patients with home-based medication reviews by CPs showed significantly higher rates of hospital admissions and no improvement in their quality of life. The study population was different though, since the sample was limited to patients aged 80 and over, while Ramsbottom et al. (2016) included all patients aged 65 and above. There might be heterogeneous effects across different subgroups of patients. Despite the opposing results from these two studies, Ramsbottom et al. (2016) does provide some useful insights about how to improve the role played by the CPs during the discharging process. Some revisions of the interventions such as a prompt to CPs built into the e-referral system or the follow-up discharge medicines use review might help to increase the effectiveness of the PharmOutcomes programme.

Zeleznikar et al. (2017) conducted a survey among 7,236 CPs about their involvement and perceptions of 'transfer of care (TOC)' services in general. Although most pharmacists agreed that receiving discharge medication lists reduces medical errors and improves patients' health, only 6 per cent of them actually participated in TOC services at the time of the survey. The main barriers for local pharmacies to participate included the lack of electronic integration and time constraints. PharmOutcomes works by overcoming the first of these problems, which indicates that it should at least be expected to have a beneficial impact on CP participation in transfer of care activities.

In summary, CPs can play an important role in the discharge process. However, the benefits do not appear to be limited to the web-based system for electronic transfer of medical records. Written discharge letters are also shown to be effective. CPs' responsiveness to PharmOutcomes can be expected to vary from location to location.

Progress data analysis

There were no local progress data available – the project had just recently started to roll out across the East of England from August 2017. However, such data should become available in due course. According to the memoranda of understanding (MOU) signed between Eastern AHSN and all the participating NHS trusts (see, for example, Eastern AHSN, 2017b), the trusts are required to collect data on the number of patients referred to community pharmacies via PharmOutcomes, 28-day acute readmission activity among the referred patients, and any other relevant data. This data will help to monitor the progress of the project and explore the impact of PharmOutcomes on clinical outcomes.

We estimated the number of bed days that might be expected to be saved from PharmOutcomes based on the findings of Nazar et al. (2016). The calculations were conducted for 17 hospital trusts across the East of England. In total, the potential number of bed days saved from PharmOutcomes would be 15,589 days p.a. across the 17 trusts.[1] If we use a conservative estimate of the cost saved per extra bed day saved as £300 per day (Curtis and Bruns, 2016), PharmOutcomes would then save over £4.5m per year. However, we do not have information about the implementation costs incurred by hospital trusts and CPs to implement the platform, which might add a significant amount of extra cost.

Caveats and evidence gaps

The evidence on the impact of PharmOutcomes that we have found is not based on an RCT design, and individuals in the control group appear to be heterogeneous. There exists an evidence gap for studies with more robust research design, larger/more representative sample size and a longer follow-up period in order to gain a better understanding about how the intervention works.

4.5. Summary

The TSU's support across the four case studies highlighted here ranges across a spectrum from upfront funding to support the business case to non-financial support, such as project management and network building. In summary, there is some evidence from previous literature that shows the potential positive impact of each of the four case studies on patient outcomes, clinician efficiency, patients' self-management skills and reduced use of health services. However, evidence gaps remain for the following two reasons. First, the impacts of interventions are dependent on contextual factors, such as the targeted population groups and the geographic areas the intervention is implemented. Therefore, more relevant evidence from similar interventions implemented in similar settings is required. Second, the quality of evidence for some programmes is relatively weak, as it comes from studies with small sample sizes, short follow-up periods and non-experimental research designs.

The progress data collected locally is informative about the impact achieved by the case study projects so far. Early evidence from this data also appears to be positive; however, it is still too early to draw any definitive conclusions about their impacts. Continued local data collection is essential, which indicates the necessity of building the data collection process into the implementation of the TSU's programmes in order to efficiently monitor progress at different stages.

However, we do not have strong evidence about the extent to which the TSU's inputs are necessary to achieve the potential beneficial impacts of supported interventions, or to achieve them to a greater extent or sooner than would otherwise have been the case. Such evidence should in principle be drawn from experimental or quasi-experimental studies with appropriate comparison groups that tell what would happen without support of the TSU. A weaker but more pragmatic approach would be future surveys of stakeholders to obtain their views on the additional impact (if any) brought about by the TSU's activities.

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[1] Saved bed days = Total number of patients who will receive electronic referrals * rate of those referred who did get a pharmacist consultation * [(Average readmission rate for the control pathway * Number bed days for the control pathway) - (Average readmission rate for the intervention pathway * Number of bed days for the intervention pathway)]

5. Reflecting on progress and implications for the future

5.1. Key achievements

A little over a year since the TSU started its work, signs are emerging about key areas of progress achieved. The perceptions survey, within its limitations, has shown a positive experience of the TSU and its activities among important stakeholders in the health and care system and among innovators in the East of England. Most respondents who offered a view reported either that the TSU had enabled an innovation to be introduced at all, or that the impact seen or expected was greater or achieved sooner as a result. All four of the case studies indicate from the literature the potential for patient gains and/or cost savings. Locally collected data from the CR^+ project imply that patients are gaining from the innovation. However, it is important to bear in mind that the information we could obtain often drew from comparable innovations rather than directly from the TSU-supported project and that it will take more time and further data collection to permit more confident deductions to be made.

Thus, the TSU appears to be contributing to worthwhile innovations. But it is not possible to know how much of the net benefits of the innovations can be attributed to the TSU's role. Such attribution will always be difficult given the interdependence of the TSU's activities with those of the many other players in the health and social care system and in the commercial sector. A combination of methods, including further surveys and more cases studies, plus indicator dashboards, would be needed to provide more evidence of the scale of the TSU's contribution. This implies a larger-scale evaluation that can include interviews with a broader range and greater number of stakeholders to triangulate evidence and experiences across them and covers a wider range of case studies.

However, even with further evaluation of that kind, it would not be possible to quantify the TSU's total ROI overall. No single overall ROI number is calculable, both because in the absence of controlled trials the contribution of the TSU will only be susceptible to qualitative analysis (e.g. views expressed in perception surveys) and because many of the potential gains from the innovations the TSU supports will be non-financial (e.g. improved patient experiences).

5.2. Looking to the future

Our review has indicated some areas which the TSU may wish to consider further going forward, to build on successes to date and maximise the ROI they achieve. We discuss these below.

5.2.1. Reflecting on prioritisation of activities

There are challenges to the future development of the TSU. One such challenge refers to prioritisation of effort and prioritisation of projects: there is so much the TSU could do but it has limited resources to input. A reflection by TSU staff on explicit prioritisation criteria could help inform future activity. These criteria may span issues such as degree of need, cost considerations, degree of neglect, likelihood of implementation, existing evidence base and other factors. The prioritisation process may entail a focus on ranking or consensus methods (or a mix). These decisions would need to be reached by the TSU, in collaboration with their wider stakeholders, but could be informed by existing resources in the system and the wider evidence base on approaches to prioritisation (e.g. James Lind Alliance prioritisation principles (Barnieh et al., 2015) and others). A shared understanding and alignment of expectations between TSU and its stakeholders about what the TSU can or cannot deliver is essential.

As part of the prioritisation process, it is helpful to identify which of the desired activities, outputs and impacts identified in the intervention logic are more, and which are less, within the TSU's control or influence. This may include considering which types of outputs the TSU is seen as directly responsible and accountable for and which types of support those who engage with the TSU find most meaningful. For example, impacts on patient experience may be something the TSU could contribute to through its efforts but which will depend on a much broader range of factors such as staff engagement with intervention delivery, funding for delivery in the health and care system, incentives for participation with an intervention and other factors. In which case, the TSU may wish to channel effort into the related factors (outside direct support for a specific project) that could influence these impacts (e.g. though relationship brokering efforts, information and evidence dissemination, mobilising the support of leadership for delivering an intervention) or work with others who could do so. This might be particularly important in stimulating scale-up across the region of innovations, such as CR$^+$ and the digital engagement officer, to encourage patients to access online information rather than contacting GP practices directly.

5.2.2. Awareness raising

The TSU already interacts with a broad range of actors but may wish to reflect on strategies for ensuring wider-scale engagement across the STP footprint. The TSU could consider whether it wishes to strengthen awareness of the 'TSU brand' while being explicit that the support it provides is linked to broader Eastern ASHN activity. At the moment, there is evidently some awareness of the TSU but (as would be expected) some stakeholders may be aware of programmes but not their link to the TSU or Eastern AHSN, and we have not surveyed stakeholders beyond those who have already been in contact with TSU staff. To some extent this may not matter, as long as positive impacts are being delivered. But if the TSU builds a reputation of success, building a brand may help to increase buy-in and achieve wider-scale influence and engagement.

5.2.3. Implication for evaluation-related activity going forward

This initial review has developed evaluation tools which the TSU may wish to use, and adapt as necessary:

- The intervention logic model could inform the development of an indicator dashboard of priority qualitative and quantitative indicators against which to measure success. The core categories within processes, outputs and impacts (shown in bold in Table 1 in Chapter 2) could form the structure of the dashboard, with a set of qualitative and quantitative indicators established considering criteria such as relevance and feasibility of data collection.
- The online perceptions survey conducted in this rapid review resulted in a modest response rate, but the TSU may wish to consider an annual survey and whether providing TSU support could be linked to a condition on recipients of TSU help that they respond to an annual feedback survey (by different stakeholders). This would be easier to achieve with those who are more closely involved with the TSU than by the wider system.

Given the intervention logic that has been specified for this evaluation, and the evidence from the case studies collected, we recommend that the TSU considers for all of the projects it supports, on a case-by-case basis, which types of evidence can be collected (considering criteria such as relevance, feasibility and resource implications for data collection) and proactively embeds this into project delivery from the outset of each project. The studies from the wider literature of comparable interventions that we refer to in the case studies in Chapter 4 are a good starting point for identifying the most relevant data. For example, for the PharmOutcomes intervention, it would be desirable to collect from the participating hospitals and CPs data comparable to those used in the Nazar et al. (2016) study, on the numbers of patients referred to and have consultations with CPs. It will also be desirable to obtain from the partner organisations participating in each project the extent to which they incur additional costs in implementing it (e.g. set-up and training costs); this information is generally lacking from the evidence we have seen so far. Such data collection will help future efforts to estimate more closely the overall ROI achieved by the TSU.

Whereas the actual measures and indicators may be project specific, they should collectively across projects inform the overarching common categories of desired outputs and impacts presented in the logic model (Table 1) and provide the evidence base needed to communicate future returns/consequences from TSU activities and investments. While a comprehensive ROI figure will not be calculable, a clearer indication of the benefits and costs of the TSU's activities is achievable.

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Appendix: Survey instrument

Eastern Academic Health Science Network (EAHSN) Stakeholder Perceptions Survey

Introduction

RAND Europe, a not-for-profit public policy research institute, has been commissioned by the Eastern Academic Health Science Network (EAHSN) to undertake an evaluation of the impact of its Transformation Support Unit (TSU) across its work.

As part of the evaluation, this survey aims to explore how different stakeholders have experienced the programme and projects within it, and actual or potential impacts. The survey is divided into three parts: background information, project-specific information and overall impressions of the TSU. It should take you about 10 minutes to complete the survey. *If you are unable to answer a question, please just move on to the next question.*

Confidentiality and anonymity will be respected throughout. The evaluation team at RAND Europe is independent from the EAHSN and data collected will be stored on RAND servers in the UK and in the USA. This survey is anonymous, so it will not be possible to identify individuals in the findings that will be presented from the survey. Only the members of the RAND Europe evaluation team will see any individual responses. All answers will be aggregated into a database for further analysis, and summary findings will be shared and will be published as part of evaluation reports.

If you have any questions about the contents of this survey or the wider evaluation, please do not hesitate to contact Jon Sussex, Chief Economist at RAND Europe, by emailing TSUeval@rand.org or phoning 01223 353 329.

Do you consent for us to use the information you provide in the ways we have described?*

◻ Yes

◻ No

About you

Which of the following best describes you?*

☐ I am a patient representative

☐ I work in a clinical role with management responsibilities

☐ I work in a clinical role without management responsibilities

☐ I work in the NHS in a non-clinical role with management responsibilities

☐ I work in the NHS in a non-clinical role without management responsibilities

☐ I work outside the NHS in a care delivery role (e.g. social care)

☐ I work outside the NHS developing services or products for the NHS (e.g. innovator)

☐ I am an academic

☐ Other – please specify:

Which of these best describes how much you know about the Eastern AHSN's Transformation Support Unit (TSU)?*

☐ I had not heard of the TSU before starting this survey

☐ I had heard of the TSU but do not know what it does

☐ I know what the TSU does but do not have first-hand experience of it

☐ I've worked with the TSU on one or more projects
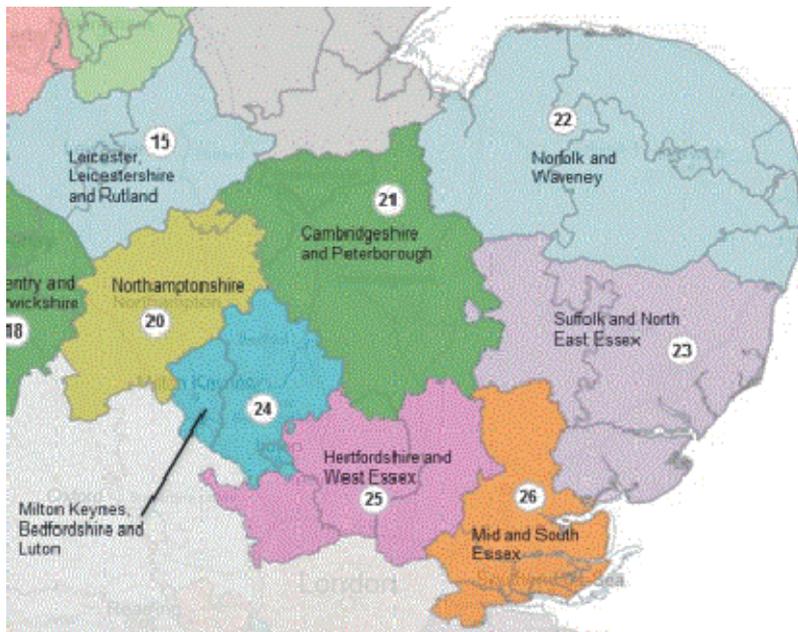
Which of the following NHS Sustainability and Transformation Partnership (STP) areas do you work in or are you active in? If you don't know, please answer to the best of your ability.*
Notes: For more information about what Sustainability and Transformation Partnership (STP) area, please visit the website: https://www.england.nhs.uk/stps/

☐ I am not tied to a particular STP area or active across multiple STP areas

☐ Cambridgeshire and Peterborough

☐ Hertfordshire and West Essex

☐ Mid and South Essex

☐ Milton Keynes, Bedfordshire and Luton

☐ Norfolk and Waveney

☐ Suffolk and North East Essex

TSU-supported projects across STP areas

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

☐ Yes ☐ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
Creation of Suffolk Primary Care through provision of financial process mapping and project management	☐	☐
Digital engagement officer to implement Lea Valley Footfall programme	☐	☐
Digital pioneer in Herts Partnership	☐	☐
Digital pioneer in Norfolk and Norwich developing plans for a new Electronic Patient Record system	☐	☐
Digital pioneer in Norfolk Community rolling out mobile working	☐	☐
Digital pioneer in Suffolk focused on children's and young people's care	☐	☐
Digital pioneer to roll out stroke telemedicine in Ipswich	☐	☐
E consult review for Greater Peterborough	☐	☐
Evidence review for acute hospital reconfiguration in Mid and South Essex	☐	☐
Facilitated an innovation exchange for the digital workstream in Cambridgeshire and Peterborough	☐	☐
Implementation of Active$^+$ for the Hunts Community Cancer Network	☐	☐
Implementation of Active$^+$ in Huntingdonshire for cardiac rehab citizens	☐	☐
Implementation of MyCOPD	☐	☐
Implementation of PharmOutcomes	☐	☐
Implementation of remote monitoring for care home and house bound patients in Cambridgeshire and Peterborough	☐	☐
Implementation of team coaching in Hertfordshire Partnership Trust	☐	☐
Implementation of uMotif in three primary care practices in Suffolk	☐	☐
Multispecialty community provider (MCP) self-assessment for Greater Peterborough	☐	☐
Multispecialty community provider (MCP) self-assessment for	☐	☐

One Norwich		
Organisation development and board development work for the refreshed STP governance board in Cambridgeshire and Peterborough	☐	☐
Process mapping for multispecialty community provider (MCP) clinical pathways in Norfolk and Waveney	☐	☐
Provided simulation licences and training for Simul8 for Great Yarmouth CCG	☐	☐
Provided simulation licences and training for Simul8 for Hinchingbrooke NHS Trust	☐	☐
Use of artificial intelligence tool for Buurtzorg model recruitment	☐	☐
Other – please specify:	☐	☐

TSU-supported projects in Cambridgeshire and Peterborough

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

☐ Yes   ☐ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
E consult review for Greater Peterborough	☐	☐
Facilitated an innovation exchange for the digital workstream	☐	☐
Implementation of Active$^+$ for the Hunts Community Cancer Network	☐	☐
Implementation of Active$^+$ in Huntingdonshire for cardiac rehab citizens	☐	☐
Implementation of remote monitoring for care home and house bound patients	☐	☐
Multispecialty community provider (MCP) self-assessment for Greater Peterborough	☐	☐
Organisation development and board development work for the refreshed STP governance board	☐	☐
Provided simulation licences and training for Simul8 for Hinchingbrooke NHS Trust	☐	☐
Other – please specify:	☐	☐

[   ]

TSU-supported projects in Hertfordshire and West Essex

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

⬚ Yes   ⬚ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	**Select the ONE project that you are MOST familiar with**
Digital engagement officer to implement Lea Valley Footfall programme	☐	☐
Digital pioneer in Herts Partnership	☐	☐
Implementation of MyCOPD	☐	☐
Implementation of PharmOutcomes	☐	☐
Implementation of team coaching in Hertfordshire Partnership Trust	☐	☐
Other – please specify:	☐	☐

[   ]

TSU-supported projects in Mid and South Essex

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

⊙ Yes   ⊙ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
Evidence review for acute hospital reconfiguration	☐	☐
Implementation of MyCOPD	☐	☐
Implementation of PharmOutcomes	☐	☐
Other – please specify:	☐	☐

TSU-supported projects in Milton Keynes, Bedfordshire and Luton

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

☐ Yes   ☐ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
Implementation of PharmOutcomes	☐	☐
Other – please specify:	☐	☐

TSU-supported projects in Norfolk and Waveney

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

☐ Yes   ☐ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
Digital pioneer in Norfolk and Norwich developing plans for a new Electronic Patient Record system	☐	☐
Digital pioneer in Norfolk Community rolling out mobile working	☐	☐
Implementation of PharmOutcomes	☐	☐
Multispecialty community provider (MCP) self-assessment for One Norwich	☐	☐
Process mapping for multispecialty community provider (MCP) clinical pathways	☐	☐
Provided simulation licences and training for Simul8 for Great Yarmouth CCG	☐	☐
Other – please specify:	☐	☐

[   ]

TSU-supported projects in Suffolk and North East Essex

Are you familiar with any TSU-supported projects? Please see the list below for examples.*

☐ Yes   ☐ No

If you answered 'yes' to the previous question, please answer the following question. If you answered 'no', please skip to the bottom of the page and click 'next'.

Which of the following TSU-supported projects are you familiar with?

In the second column, please also select the **one** that you are **most** familiar with. If you are equally familiar with more than one, please just pick one of them. On the next page we will ask some project-focused questions and want to know which project you are answering them for.

	Familiar with this project	Select the ONE project that you are MOST familiar with
Creation of Suffolk Primary Care through provision of financial process mapping and project management	☐	☐
Digital pioneer in Suffolk focused on children's and young people's care	☐	☐
Digital pioneer to roll out stroke telemedicine in Ipswich	☐	☐
Implementation of MyCOPD	☐	☐
Implementation of PharmOutcomes	☐	☐
Implementation of uMotif in three primary care practices in Suffolk	☐	☐
Use of artificial intelligence tool for Buurtzorg model recruitment	☐	☐
Other – please specify:	☐	☐

[   ]

Project-specific questions

Please answer the questions on this page in relation to the project that you said you were most familiar with on the previous page.

Overall, which of the following best describes your experience of the TSU's support for the project?*

☐ The project would not have been possible without the support of the TSU

☐ The support of the TSU meant that the project could aim to achieve more than it would have done otherwise (e.g. increased scope, greater scale)

☐ The support of the TSU meant that the project will achieve results sooner than it would otherwise have done

☐ The support of the TSU made no difference to the project

☐ The support of the TSU made the project harder to implement or less successful

☐ I was not aware that the TSU supported the project

Which of the following types of support has the TSU provided for the project or do you expect it to in the future, if any?

	The TSU has done this	The TSU hasn't done this yet but I expect it to in the future	The TSU hasn't done this and I don't expect it to in the future
Providing or seeking funding for implementation	☐	☐	☐
Building relationships and brokering information	☐	☐	☐
Creating the evidence base on impact to support shared learning and spread of good practice	☐	☐	☐
Providing project management support	☐	☐	☐
Providing staff other than project management	☐	☐	☐
Identifying scale-up opportunities and requirements	☐	☐	☐

Please describe any other support that the TSU has provided or that you expect to be provided that is not listed above.

Has the TSU's support for the project contributed to any of the following outputs or impacts or do you expect it to in the future?

	This is happening	This isn't happening yet but I expect it to in the future	This isn't happening and I don't expect it to in the future
Increasing the project's reach (e.g. number of people affected)	☐	☐	☐
Helping to speed up access to innovation	☐	☐	☐
Contributing to workforce capacity building (e.g. people trained, skills developed)	☐	☐	☐
Helping to have a positive impact on cultural change towards innovation	☐	☐	☐
Helping to improve patient experience and patient health outcomes	☐	☐	☐
Helping to provide savings for NHS or social care	☐	☐	☐
Helping to have a positive impact on the wider economy (e.g. jobs, investment)	☐	☐	☐

Please provide any further reflections on your experience with the TSU on this project, in particular examples of the types of interactions, support or challenges encountered, and on how the support of the TSU has contributed to the project's actual or expected impact, including concrete examples.
If you do not have anything to add, then please move on to the next question.

Overall impressions

We will now ask you questions about the TSU as a whole, not just in relation to one specific project.

In your experience, how effectively has the TSU done each of the following?

|	Positive impact	Negative impact	No impact	I'm not aware of the TSU doing this
Identifying key needs for transformation in the regional health system	◌	◌	◌	◌
Horizon scanning and scouting for innovations (in products, technologies and services)	◌	◌	◌	◌
Prioritising highest impact opportunities	◌	◌	◌	◌
Ensuring alignment between regional and national priorities	◌	◌	◌	◌
Supporting pilots	◌	◌	◌	◌
Identifying the barriers to implementing innovations	◌	◌	◌	◌
Implementation support	◌	◌	◌	◌
Facilitating co-production of innovation with health staffs, patients and public across the innovation pathway – from development through to testing, uptake and scale-up	◌	◌	◌	◌
Engaging and building connection with different organisations in the health system and wider local transformation efforts (e.g. STPs, vanguards) as well as national bodies (e.g. NHS England)	◌	◌	◌	◌

Which of the following best describes your view of the overall support that the TSU provides?

◌ The support of the TSU has a very positive impact

◌ The support of the TSU has a positive impact

◌ The support of the TSU does not have any impact

◌ The support of the TSU has a negative impact

◌ The support of the TSU has a very negative impact

Please provide any further information about your views of the support from the TSU team, including concrete examples.

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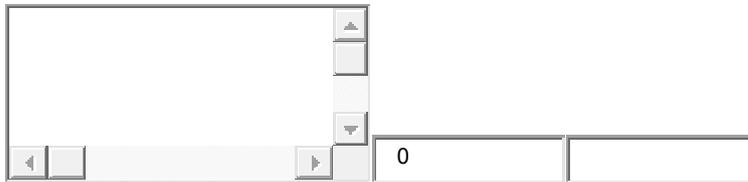
Is there anything else that you would like the TSU to do?

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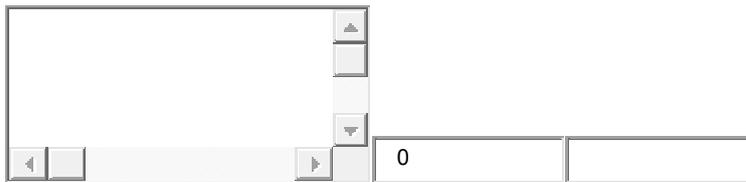
Please click 'Done' below so that your responses are saved.