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NEUECN

Evaluation of the NEUECN Vanguard – Final Evaluation Report

May 2017

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Executive summary

Introduction

North of England Commissioning Support (NECS) has commissioned Cordis Bright, PPL and Cobic to conduct an independent three phase evaluation of the North East Urgent and Emergency Care Network (NEUECN) Vanguard programme. This report is the final evaluation report produced during Phase 3 of the evaluation.

This executive summary presents the key findings and recommendations for the future development of the NEUECN.

Context

The NEUECN Vanguard programme is one of eight Urgent and Emergency Care (UEC) Vanguards funded by the NHS England New Care Models programme. The UEC Vanguards are intended to support new approaches to improving the coordination of and reducing the pressure on UEC services.

Funding for the NEUECN Vanguard programme was received from NHS England, ending in March 2017. Following this, it is understood that the services included in the Vanguard will continue to be delivered by the North East Urgent and Emergency Care Network.

Following discussion with the evaluation steering group, it was agreed that the evaluation would focus primarily on the Clinical Hub element of the Vanguard programme, both in terms of how the Hub itself is operating, and also the impact the Hub may be having on the wider UEC system.

The evaluation, and this evaluation report, is based on the evaluation framework which was collaboratively designed and delivered in January 2017, and is provided in Appendix 5.

When reading this report, the following evaluation limitations should be considered:

- **Programme and evaluation timescales.** Due to the relatively short period of time for which the Vanguard programme has been operating, and the long-term nature of many of the system-wide changes which it is seeking to influence, demonstrating and attributing impact of the programme at this stage is challenging and as such the findings presented in this report should be treated with caution. Similarly, the evaluation is also occurring over a short time period which means that medium- and long-term impacts of the Vanguard cannot be captured.

- **Data limitations.** Furthermore, due to information governance restrictions, the Secondary Uses Service data provided to the evaluation team were pre-aggregated to various degrees. As a result, the level of analysis possible using these data has not allowed detailed inferences regarding the potential

impact of the Clinical Hub on UEC system performance to be drawn, as had originally been intended.

- **Attribution.** Similarly, the nature of the intended outcomes of the Vanguard programme make attribution of any changes observed difficult, i.e. there are a number of different potential factors which could influence these outcomes.

Process and implementation factors

- Stakeholders identified the following as positive elements of the programme's governance, management and procurement processes:
    - Facilitating networking and sharing of good practice
    - Project management support
    - Clinical input
- However, stakeholders also identified several areas of the programme's governance, management and procurement processes which could operate more effectively in the future:
    - Greater clarity regarding decision making and accountability, in particular to organisational levels below senior management
    - Delivery within short timescales
    - Improving understanding of and links with Sustainability and Transformation Plans (STPs) and other centrally promoted improvement initiatives
- Stakeholders reported largely positive views relating to whether the programme has been delivered as was originally envisaged. Stakeholders were in agreement that the Clinical Hub model has been refined over time in order to become more efficient and sustainable, although it was reported that there have been delays in the processes associated with the recruitment of appropriate staff, the extension of hub services to 24/7, and the refinement of the level of clinical input involved with the Hub.
- Other areas of the Vanguard programme which were particularly reported to have been delivered effectively include the Respond mental health training, and the GP Direct Booking project. However, it should be noted that projects aside from the Clinical Hub were not the focus on this evaluation, and so whilst these emerged from stakeholder consultations as particular highlights this should not be considered a full list of effective areas of the programme.
- Stakeholders were all in agreement that the Vanguard programme has been delivered in line with its envisaged budget, with some stakeholders reporting some underspend. This was attributed not just to good financial management, but also to delays in the delivery of some aspects of the programme, for example, delays in recruiting for full capacity in the Clinical Hub.
- Stakeholders interviewed highlighted that lessons from implementation have been incorporated into future planning, with respondents stating that the

programme has evolved and adapted throughout implementation, for example, in the staffing model of the Clinical Hub.

- There is evidence to suggest that the Vanguard programme has been implemented in-line with guidance published by NHS England on the role and establishment of Urgent and Emergency Care Networks.

The following sections summarise the impact of the Vanguard on patients, staff and the wider health and social care economy. It should be noted that due to the relatively short period of time for which the Vanguard programme has been operating, and the long-term nature of many of the system-wide changes which it is seeking to influence, demonstrating and attributing impact of the programme at this stage is difficult and as such the following findings should be treated with caution.

Impact on patients

- Stakeholders reported mixed views when asked what impact the Vanguard programme, and the Clinical Hub, in particular, has had on patient experience and satisfaction. It was reported that data on patient experiences and other clinically relevant outcomes are not currently being collected. However, stakeholders' views were positive, particularly regarding the impact of the Clinical Hub, the mental health pathway, and the GP Direct Booking project.

- Whilst stakeholders reported that assessing the impact of the Vanguard programme on patients' levels of self-care was challenging, stakeholders did report that theoretically the Clinical Hub service should lead to improved levels of self-care amongst the population, and subjectively they believed this to be the case.

- Stakeholders reported positive evidence regarding the impact of the Vanguard programme and the Clinical Hub, in particular, on patients' ability to access services. The Clinical Hub, the Enhanced Directory of Services (DoS) and the GP Direct Booking project were highlighted as having a particularly positive impact in this area.

- Stakeholders reported that it was not possible to assess the impact of the Vanguard programme on patients' level of recognition of the benefit of a single point of entry, as data on patient views has not been collected.

- However, Secondary Uses Service (SUS) data analysed shows that fewer patients with less severe conditions attended emergency departments in the region in January 2017, when the Hub was operational, than in January 2016, prior to the implementation of the Hub. These data may suggest that the Clinical Hub was effectively re-routing these patients to alternative services. However, due to the nature of these data it is not possible to attribute this change directly to the Hub.

Impact on professional staff

- Stakeholders identified the sharing and replication of ideas and learning across the North East UEC system as one of the key strengths of the Vanguard programme. Stakeholders reported that the Vanguard programme has facilitated networking and the sharing of good practice between senior stakeholders across a range of provider and commissioner organisations within the North East region in ways and to a degree that was not happening previously.

- Stakeholders reported increased levels of specialist involvement with 111 and out-of-hours services. This was primarily attributed to the Clinical Hub service.

- Stakeholders reported mixed views regarding the impact of the Vanguard programme on staff satisfaction for those staff directly involved with the Clinical Hub and its operation. For clinicians and most call handlers working in and with the Clinical Hub service, it was reported that there was increased satisfaction as the service has been refined and improved, to deliver a more effective and efficient service to patients. For 111 call handlers, it was reported that initial challenges relating to changing ways of working and IT and information governance issues may have had a negative impact on staff satisfaction, but that these issues have since been largely resolved.

Impact on the local health and social care system

- Stakeholders were largely positive regarding the impact of the Vanguard programme on sharing information relating to good practice between agencies across the UEC system in the North East. Whilst information governance issues were raised by a number of stakeholders, particularly in relation to the sharing of patient information between partners, such as 111, the Clinical Hub, out-of-hours services and GP surgeries, it was reported that these have now been largely resolved.

- Stakeholders were unclear as to the impact the Vanguard programme has had to date on increasing the use of agreed standard formats and processes for creating, updating and sharing care plans and patient notes, reporting that work regarding the establishment of common formats and processes for creating and updating care plans and patient notes is still in its initial stages.

- There was some evidence of documentation detailing standard operating procedures for a range of processes. However, these did not directly relate to care plans and patient notes.

- Whilst several stakeholders reported anecdotal evidence for a reduction in the demand on the UEC system, there was a consensus that the main evidence for this indicator would come from performance monitoring data for the UEC system in the North East.

- There was some evidence from SUS data of a reduction in emergency department activity. Data shows that compared with January 2016,

emergency department attendances in January 2017 were fewer. Furthermore, this reduction appears to have been focused on Type 1 A&E departments, and a reduced number of patients with less severe conditions. Therefore, the activities of the Clinical Hub may be contributing towards a reduction in emergency department activity.

- The majority of stakeholders did not feel able to comment on whether the Vanguard programme, and the Clinical Hub, in particular, is offering value for money for the overall health and social care system, as there is not sufficient evidence at present to attribute any changes in the level of demand on the health and social care system to the Vanguard programme. It was also reported that a number of the Vanguard's initiatives would have been occurring without Vanguard involvement, albeit at a slower pace, and as a result it is difficult to determine a baseline against which to measure the impacts of the programme.

- There are some data consistent with the Clinical Hub representing good value for money. For example, Clinical Hub performance monitoring data that, based on the operating costs of the full staffing model operational as of February 2017, the Clinical Hub may offer a monthly return on investment of £8,701. Based on the set-up and operational costs for both the pilot model and the full staffing model, and assuming it continues to operate at current levels, the Hub, from a system perspective, will break even by September 2018.

- However, if further improvements to the efficacy of the Hub are made, for example, through further refinement of the staffing model and increases in the numbers of referrals, the monthly return on investment may increase.

Learning and opportunities

Based on the analysis above, a number of key evaluation recommendations are outlined in Figure 1. This presents the recommendations, the evaluation evidence on which they are based, and provides a reference to the section or sections of the report which provide further information.

These recommendations are based on the evaluation findings, and are intended as recommendations for potential further development of the Network and the Clinical Hub. These recommendations were explored and 'sense-tested' with senior stakeholders at a workshop event in May 2017, following which they were revised to best suit the needs of the Network.

Figure 1 - Evaluation recommendations

Recommendation	Evidence base	Report section(s)
Process and implementation factors		
Recommendation 1: Governance, decision-making and accountability arrangements for the UEC system in the North East should be reviewed, and a single body with decision-making powers within the governance structure be defined. If this review process deems it necessary, the governance structure should be modified and a new body created to service this decision-making function.	Stakeholders reported that the existing governance structures did not clearly define decision-making and accountability arrangements. This was further strengthened by feedback from senior stakeholders regarding the need for a single, defined board with decision-making powers.	Sections 2.3 and 2.7.
Recommendation 2: Following the review of governance, decision making and accountability arrangements, the revised arrangements should be communicated to all stakeholders. This should be done through a formal communication and engagement strategy which will clearly identify relevant stakeholders and also include provision for new stakeholders to the network to be provided with clear information early in their involvement with the Network, as well as ensure that understanding of governance arrangements is embedded at all organisational levels.	Stakeholders reported that that the clarity of governance arrangements could be improved for the Vanguard programme regarding responsibility for decision-making and accountability.	Sections 2.3 and 2.7.
Recommendation 3: A review of implementation schedules for future projects initiated by the NEUECN should be undertaken, involving input from stakeholders, to assess whether timescales can be adjusted to better suit the needs of those involved, or if measures could be put in place to compensate for the lost time incurred for external roles.	Stakeholders reported that individuals involved with programme boards and sub-groups have had difficulties in committing time to the programme whilst continuing with their external roles, and that this was in part due to the tight timescales under which boards and sub-groups were being asked to work.	Section 2.3.

Recommendation	Evidence base	Report section(s)
Recommendation 4: The NEUECN should review its relationship with relevant STPs, firstly to ensure no duplication is occurring, and secondly to communicate to Network stakeholders the nature of the relationship between the Network and its activities, and the relevant STPs.	Stakeholders expressed some concerns regarding how the activities of the Vanguard programme, and the ongoing activities of the NEUECN link with STPs being developed in the region.	Section 2.3.
Recommendation 5: It is recommended for NHS England that the implementation and evaluation timescales associated with Vanguard funding be considered, to ensure that sufficient time is allowed for future programmes to be established and for their impacts to be measured	Stakeholders reporting that tight implementation timescales as a result of funding stipulations have hindered the development of some elements of the Vanguard programme.	Section 2.4
Recommendation 6: NHS England should consider closer working with the NEUECN in recognition of the Network's position as an innovative example of a UEC Network.	The evaluation found the Network has progressed well against NHS England's guidance on the role and establishment of UEC Networks. Senior stakeholders also reported that the Network is more established than other UEC Networks nationally, and so could offer valuable learning for other areas regarding implementation.	Section 2.7.
For patients		
Recommendation 7: Data on patient experience should be gathered, including a review of what works in collecting and analysing data relating to patient experience. It is further recommended that this monitoring activity be embedded in any future procurement exercises for the Clinical Hub service in order to ensure that the impact of	Stakeholders reported that data relating to patient experience and satisfaction of using the Clinical Hub are not currently being collected.	Section 3.3.

Recommendation	Evidence base	Report section(s)
the service on patients can be continually monitored and assessed. Thought should be given to a relevant comparison or control group and the ability to access comparable data from it. It is important that this review process considers the limitations (such as resource time and cost) of collecting such data in addition to normal service operation, and future data gathering systems be designed with this in mind.		
Recommendation 8: The NEUECN should explore the potential for agreeing an approach to collecting and analysing patient level outcomes data for the Clinical Hub service with the commissioned provider. This should involve a review of options including commonly used validated scales and approaches, and development of an agreed approach and set of tools, which also take into account the practical limitations of collecting patient level outcomes data alongside normal service operation.	Stakeholders reported that data relating to patient experience and satisfaction of using the Clinical Hub are not currently being collected.	Section 3.3.
Recommendation 9: The NEUECN should review the data required to measure patients' levels of self-care, and how this can best be collected given the nature of patients' interactions with UEC services (i.e. unpredictable, short-term). This will allow the long-term impact of Network activity on this outcome to be measured over time.	Stakeholders reported that assessing the impact of the Vanguard programme and the Clinical Hub specifically on patients' levels of self-care was challenging due to a lack of data.	Section 3.4.
For professional staff		
Recommendation 10: The Vanguard programme's impact on fostering relationships, building trust and enabling the	Stakeholders emphasised that a key strength of the Vanguard programme to date has been	Section 4.3.

Recommendation	Evidence base	Report section(s)
sharing of ideas and learning should be built on through events such as seminars and workshops through which learning can be shared, both within the North East region, and more widely. It is recommended that these events be developed through a combination of the project management expertise of the PMO, and the various subject matter expertise offered by the programme sub-groups and project boards. It is also recommended that information regarding these events be shared through a Network website. It is important that events are targeted at those professionals who would most benefit from them, in order to ensure they remain relevant and professionals continue to be enthused and engaged with these activities.	its impact on fostering relationships, building trust and enabling the sharing of ideas and learning.	
Recommendation 11: The NEUECN should develop a workforce strategy which includes recruitment and retention for the Clinical Hub in the future, as well as other UEC services such as A&E. This could include exploring partnership working with Health Education England in order to address recruitment issues, as well as exploring the potential for staffing resources to be better managed and shared across the UEC system, as the Hub is rolled out more widely.	Several stakeholders highlighted issues relating to recruitment to roles within the Clinical Hub. Senior stakeholders reported that these issues are also relevant to other areas of the UEC system such as A&E services.	Section 4.5.
Recommendation 12: Future changes to ways of working for 111 call handlers should be developed in collaboration with call handlers, and rolled out in stages in order to allow for any operational issues to be identified early on in the process and resolved.	Stakeholders reported some issues relating to IT and information governance issues for 111 call handlers in relation to the implementation of the Clinical Hub. However, senior stakeholders reported that this was largely	Section 4.5.

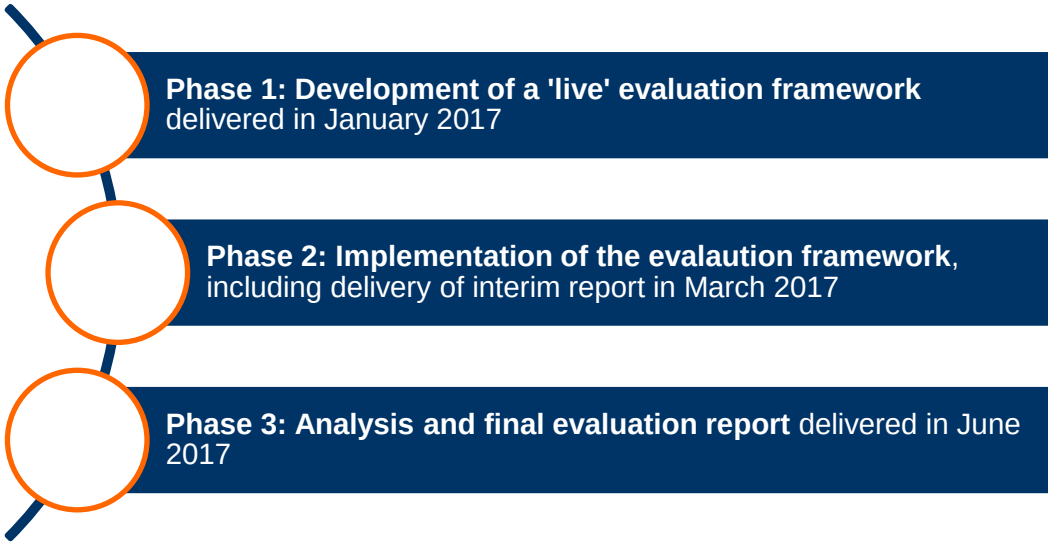
Recommendation	Evidence base	Report section(s)
	due to the timescales associated with the implementation of the Clinical Hub, and that in future processes call handlers will be fully engaged.	
For the local health and social care system		
Recommendation 13: A mechanism for identifying patients attending A&E following a referral from the Clinical Hub should be identified, in order to allow for more accurate analysis of performance data relating to the Hub. This may involve exploring using patient NHS numbers to link Clinical Hub and A&E records.	Emergency department admission data reviewed by the evaluation team did not include a unique referral code for the Clinical Hub, nor were a substantial number of attendances coded correctly (i.e. no referral source was specified).	Section 5.5.
Recommendation 14: Work regarding the establishment of common formats and processes for creating and updating care plans and patient notes should be continued, as it meets the recommendations of the NHS England guidance on the role and establishment of Urgent and Emergency Care Networks. This includes identifying any IT and information governance barriers and how these may be overcome.	Stakeholders reported the work regarding the establishment of common formats and processes for creating and updating care plans and patient notes is still in its initial stages.	Section 5.4.
Recommendation 15: The Hub's performance and return on investment should continue to be monitored, and the model refined, in order to ensure the service continues to provide value for money and a return on investment over an acceptable time period.	There is evidence to suggest that the Clinical Hub service offers value for money for the local health and social care system, and that this has increased following the refinement of the Hub's staffing model in December 2016. However, this is still at its early stages and the model should continue to be monitored and	Section 5.7.

Recommendation	Evidence base	Report section(s)
	evaluated to assess change over time.	
Recommendation 16: The Hub should continue to collect performance monitoring data relating to the impact offered by various types of professionals involved in the model. This will allow the service to identify those professional areas which are able to make the most impact, and offer the greatest return on investment.	Return on investment analysis indicates that whilst the Hub presents an overall system cost saving, this could be further increased by refinements to the staffing model based on regular reviews of performance monitoring data.	Section 5.7.

1 Introduction and methodology

1.1 Overview

North of England Commissioning Support (NECS) commissioned Cordis Bright, PPL and Cobic to conduct an independent evaluation of the North East Urgent and Emergency Care Network (NEUECN) Vanguard programme. The evaluation has taken place over three phases:



This report is the draft final evaluation report produced during Phase 3. This report, its finding and recommendations will be 'sense-tested' with senior stakeholders at a workshop on the 24th of May 2017, to further ensure ownership and agreement into the report's findings and recommendations.

1.2 About the NEUECN Vanguard programme

The NEUECN Vanguard programme is one of eight Urgent and Emergency Care (UEC) Vanguards funded by the NHS England New Care Models programme. The UEC Vanguards are intended to support new approaches to improving the coordination of and reducing the pressure on UEC services.

The NEUECN Vanguard covers a population of 2.71 million across the North East region, and intends to bring together all key physical health, mental health and care organisations in the region to provide patients with seamless urgent and emergency care, consistent across the region seven days a week.

It is understood that the Vanguard programme consists of 11 main projects:

- Clinical Hub
- Communications, including behavioural analysis

- Enhanced Directory of Services (DoS)
- Falls prevention
- Flight deck (an electronic dash board reporting the status of the urgent care system)
- GP bookings
- GP incentivisation
- Medical Interoperability Gateway (MIG)
- Mental health Respond training
- Paramedic at home service
- Payment reform

Funding for the NEUECN Vanguard programme was received from NHS England, ending in March 2017. Following this, it is understood that the services included in the Vanguard will continue to be delivered by the North East Urgent and Emergency Care Network.

1.3 Evaluation questions

Using a collaborative approach, an evaluation framework was developed based on the original evaluation specification and consultation with key programme stakeholders. This evaluation framework which was signed-off by NEUECN colleagues can be found in Appendix 5, and outlines the methods by which each evaluation question was addressed.

The key evaluation questions set in the original specification and by the evaluation steering group are outlined below:

1. What is the context (e.g. history, culture, relationships, health inequalities, local and national policies, national legislation)?
2. What key changes has the vanguard made and which providers, workforce groups and patients are being affected by them?
3. How have these changes been implemented?
4. What has been the role and benefit of patient/carer and public involvement and workforce engagement?
5. What is the change in resource use and cost for the specific interventions that encompass the vanguard programme (integrated urgent care [IUC] and other urgent and emergency care [UEC] priorities) locally?

6. What impacts is the vanguard having on patient flows, experiences and clinical outcomes?

7. What impact is the vanguard having on the wider UEC system and local health economy, including on workforce and how resources are used?

8. How does the vanguard's impact compare against a counterfactual scenario in which the vanguard intervention has not been delivered?

9. Which components of the model are really making a difference?

10. What are the 'active ingredients' of the model? Which aspects, if replicated elsewhere, can be expected to give similar results and what contextual factors are prerequisites for success?

11. What are the unintended costs and consequences (positive or negative) associated with implementing integrated urgent care (IUC) and other UEC priorities on the local health economy and beyond?

12. What conclusions can be drawn and recommendations made for this vanguard and for the wider UEC vanguard programme?

Following discussion with the evaluation steering group, it was agreed that the evaluation would focus primarily on the Clinical Hub element of the Vanguard programme, both in terms of how the Hub itself is operating, and also the impact the Hub may be having on the wider UEC system.

1.4 Aims of this report and methodology

This report is based on the evaluation framework which was collaboratively designed and delivered in January 2017, and is provided in Appendix 5. It provides a summary of the processes, impacts and outcomes of the Vanguard programme, based on the following sources of data gathered during Phase 2 of the evaluation:

In-depth qualitative interviews with key stakeholders

A total of 37 stakeholders were identified by the evaluation steering group to take part in a semi-structured telephone interview. These stakeholders were sent email invitations, and up to four follow-up emails were sent to increase the response rate. In total, responses were received from 33 stakeholders, and a total of 28 interviews were successfully conducted. Five stakeholders dropped out of the process due to last-minute changes to their availability.

Interviews were semi-structured, based on a topic guide designed by the evaluators in collaboration with the evaluation steering group. The interviews explored stakeholders' views on the effectiveness of the programme, and the Clinical Hub specifically, in terms of impacting on outcomes, what is working well at present and what could be improved, the sustainability of the programme, and

the value for money that the programme, and the Clinical Hub specifically, is offering the health and social care system in the North East.

Figure 2 gives an overview of the organisations represented by interview participants:

Figure 2 - Overview of interview participants by organisation

Organisation	Interviewees
North of England Commissioning Support (NECS)	9
North East Ambulance Service (NEAS)	8
NHS England	3
Clinical Commissioning Groups (CCGs)	2
NHS Foundation Trusts	2
Local Authority	2
Other provider organisations	2
Total	**28**

Review of programme documentation

Over 25 strategic and operational documents that were provided by the evaluation steering group were reviewed. This included reviews of the original proposal for the Clinical Hub service, urgent care dashboard data, case studies of Vanguard programme services, and performance data.

Analysis of existing programme monitoring data

The evaluation team was provided with programme monitoring data relating to the return on investment offered by the Clinical Hub service. Further detail on the methodology used in analysing thse data is provided in Appendices 1 to 4.

Analysis of Secondary Uses Service (SUS) data

The evaluation team requested SUS data relating to Emergency Department (ED) attendances for all EDs in the region for January 2016 (i.e. prior to the operation of the Clinical Hub) and January 2017 (i.e. following the implementation of the full Clinical Hub model). Due to information governance restrictions, the data provided to the evaluation team were pre-aggregated and so the level of analysis possible has therefore been limited.

The requested SUS data included information on date and time of attendances. This would have enabled analysis to be undertaken comparing ED attendances during the operating hours of the Clinical Hub, and outside of the Hub's operating hours. This level of analysis would have enabled greater confidence in attribution

of any differences observed to the Hub's activity. Instead, due to the aggregation of the data it has only been possible to make comparisons between January 2016 overall attendances, and January 2017 overall attendances. Resulting differences are therefore more difficult to directly attribute to the Hub's activity.

Workshop with senior NEUECN stakeholders

Following the production of the draft final evaluation report, a workshop with senior NEUECN stakeholders was be held in May 2017. The workshop explored their views on the findings and recommendations presented in this draft final evaluation report, and provided them with an opportunity to 'sense-test' findings and ensure recommendations resonate, are practically useful and are fit for purpose. Following this workshop, feedback was incorporated into a revised final report.

1.4.1 Limitations

When reading this report the following evaluation limitations should be considered:

- **Programme and evaluation timescales.** It is important to note that due to the relatively short period of time for which the Vanguard programme has been operating, and the long-term nature of many of the system-wide changes which it is seeking to influence, demonstrating and attributing impact of the programme at this stage is difficult and as such the findings presented in this report should be treated with caution. Similarly, the evaluation is also occurring over a short time period which means that medium- and long-term impacts of the Vanguard cannot be captured.

- **Data limitations.** Furthermore, due to information governance restrictions, the SUS data provided to the evaluation team were pre-aggregated to various degrees. As a result, the level of analysis possible using these data has not allowed detailed inferences regarding the potential impact of the Clinical Hub on UEC system performance to be drawn, as had originally been intended.

- **Attribution.** Similarly, the nature of the intended outcomes of the Vanguard programme make attribution of any changes observed difficult, i.e. there are a number of different potential factors which could influence these outcomes. Future evaluation could consider employing experimental or quasi experimental designs utilising comparator/control groups to assist in disentangling the impact of UEC innovations over and above other interventions which may be seeking to achieve the same outcomes.

- **Patient/service user involvement.** Patient and service user consultation was outside of the remit of this evaluation. As such, assessing the impact of Vanguard services like the Hub on patient and service user outcomes through direct consultation has not been possible.

1.5 Structure of the report

The structure of this report follows the form of, and directly links to, the evaluation framework, which was designed collaboratively to address the key evaluation questions set by NEUECN colleagues in the evaluation specification. The remainder of the report is structured as follows:

- **Section 2** presents the findings regarding the implementation of the Vanguard.
- **Section 3** presents evidence relating to the impacts and outcomes of the Vanguard on patients.
- **Section 4** presents evidence relating to the impacts and outcomes of the Vanguard on professional staff.
- **Section 5** presents evidence relating to the impacts and outcomes of the Vanguard on the local health and social care system in the North East.
- **Section 6** presents learning and opportunities identified by the evaluation based on the evidence presented throughout the report.

2 Process and implementation factors

2.1 Introduction

This section explores process factors relating to the implementation and operation of the Vanguard programme. It follows the structure of the evaluation framework relating to process and implementation factors.

The findings presented in this section are based on qualitative interviews with stakeholders involved in the Vanguard programme, and a review of programme documentation. Where applicable, the activities of the Vanguard programme have been compared with literature relating to best practice and other guidance for urgent and emergency care in England.

2.2 Summary of evaluation outcomes

Figure 3 outlines the evidence relating to the evaluation outcomes agreed upon in the evaluation framework, using the symbols from the key below:

Symbol	Meaning
✓	Positive change
•	Mixed evidence
X	Negative change
-	Insufficient data available

Figure 3 - Summary of evaluation outcomes for process and implementation factors

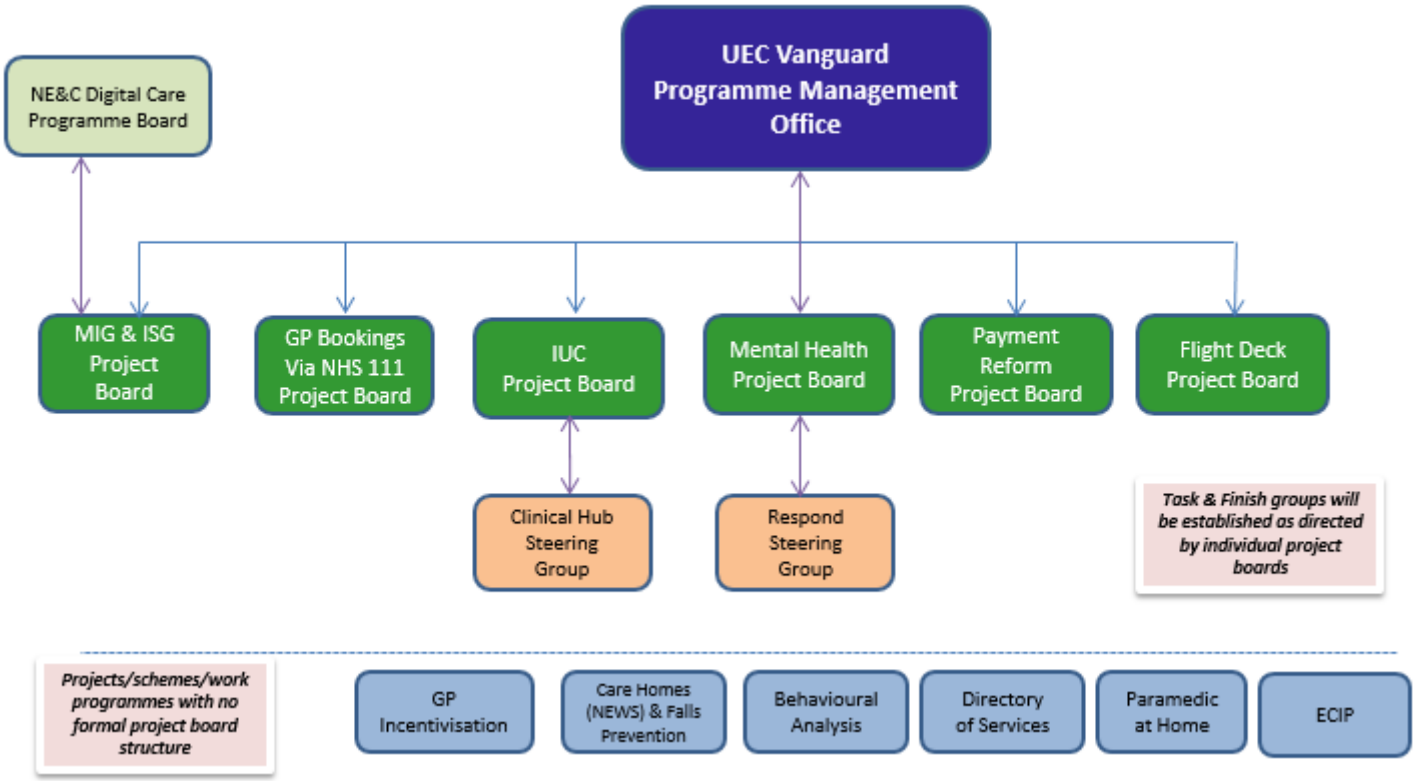
Outcomes	Indicators	NEUECN	Sources of evidence
Governance, management and procurement processes have supported successful implementation of the NEUECN, and of the Hub specifically	Staff and stakeholders reporting regarding effectiveness of governance, management and procurement processes	•	Staff and stakeholders reported mixed evidence regarding the effectiveness of governance, management and procurement processes
The NEUECN, and the Hub specifically, is being delivered as planned, with any variations to plan explained and agreed	Staff and stakeholders reporting regarding delivery of programme against the original business cases	✓	Staff and stakeholders reported largely positive views when asked if the programme has been delivered as was originally envisaged
	Comparison of planned activities against actual activities	✓	Programme documentation regarding the operation of the Clinical Hub indicates that the Hub is being delivered largely in line with the original specification, and changes to this have been explained and agreed with stakeholders.
The NEUECN, and the Hub specifically, is managed within budget	Comparison of budgeted expenditure against actual expenditure	-	Insufficient evidence was available regarding the programme's expenditure
	Staff and stakeholders reporting that the service is managed within budget	✓	Stakeholders were all in agreement that the Vanguard programme has been delivered in line with its envisaged budget
Lessons from implementation have been incorporated into future planning	Staff and stakeholder reporting that lessons from implementation have been incorporated into future planning	✓	Stakeholders interviewed reported positive evidence that lessons from implementation have been incorporated into future planning

2.3 Governance, management and procurement processes

Figure 4 shows NEUECN's governance structure, as provided to the evaluation team. Figure 5 gives a more detailed overview of the Vanguard Programme Management Office (PMO) and Project Boards.

Figure 4 - NEUECN governance structure

Figure 5 - Vanguard PMO structure



When asked how effectively the programme's governance, management and procurement processes have supported the Vanguard programme's implementation, stakeholders reported mixed views. The following positive elements of the programme's governance, management and procurement processes were highlighted by stakeholders:

- **Facilitating networking and sharing of good practice:** Stakeholders reported that a key benefit of the Vanguard programme's governance and management processes is that they have facilitated networking between senior stakeholders across a range of provider and commissioner organisations within the North East region, as demonstrated by the following quote from one stakeholder:

  "It has brought together key stakeholders including CCGs and providers to discuss a wide range of issues and develop shared strategic approaches to addressing these issues… It has created an environment to allow things to take place at a regional level"

  In particular, stakeholders highlighted how this has enabled sharing of examples of good practice occurring within UEC in the North East.

- **Project management support:** Most, but not all stakeholders were positive regarding the project management support provided by the PMO, with one stakeholder stating:

  "The project management support is good, they help the team, they help integrate different projects, they help with understanding of the whole big picture"

  In particular, it was reported that the project management support had facilitated the engagement of Foundation Trusts into the Network, as initially they were not as engaged as other partners.

  However, some stakeholders did suggest that the project management support could be improved with regard to the level of communication of Vanguard governance, processes and activity to partners.

- **Clinical input:** Stakeholders suggested that a key strength of the Vanguard programme's governance and management processes was the high level of clinical input, particularly considering the short timescales involved with establishing the programme's governance structures. This has ensured that all decisions are made with a focus on clinical safety, and stakeholders also reported that this resulted in initiatives having more buy-in from frontline staff upon implementation, as there was confidence in the checks that had been made by clinicians involved during planning and design stages. One stakeholder stated:

  "There's clinical input, any piece of work is checked and agreed, it goes up and down for input and permissions so everyone knows about it and that everything is clinically safe and all stakeholders have buy-in"

However, stakeholders also identified several areas of the programme's governance, management and procurement processes which could operate more effectively in the future:

- **Greater clarity regarding decision making and accountability:** Stakeholders reported that the governance arrangements for the Vanguard require greater clarity regarding responsibility for decision making and accountability. It was suggested that this was due to both the complex, multi-layered nature of the governance structure, and also due to a lack of communication of the governance arrangements to all stakeholders early in their involvement with the programme, in particular to organisational levels below senior management. For example, one stakeholder stated:

  "Too often it's not clear who is making decisions, and who is accountable for what and to whom"

- **Difficulties associated with short timescales:** Stakeholders reported concerns that the short timescales in which the Vanguard programme has been implemented and is operating have created difficulties with regards to how those involved with programme boards and sub-groups are able to commit time to the programme whilst continuing in their external roles. It was suggested that this was partly exacerbated by the tight timescales associated with applying for Vanguard funding. Stakeholders reported that the short timescales also created difficulties when transitioning from the Vanguard to Network delivery after March 2017, as many elements of the Vanguard programme had not had sufficient time to be fully established and their impacts assessed.

- **Anxiety around the link with STPs:** Stakeholders expressed some concerns regarding how the activities of the Vanguard programme link with Sustainability and Transformation Plans (STPs) and other centrally promoted improvement initiatives being developed in the region, and that there was a possibility that work would be duplicated. These concerns are summarised in the following quote from a stakeholder:

  "I'm also anxious about the link to the STP and the additional complexity that these other sometimes competing and contradictory planning arrangements bring"

  It is therefore important that as the Vanguard's activities have transitioned to Network delivery, their links with STPs and other centrally promoted improvement initiatives be monitored and developed.

2.4 Delivery

When asked whether the NEUECN Vanguard programme has been delivered as was originally envisaged, stakeholders reported largely positive views. However, several stakeholders also reported that the timescales for delivering the Vanguard programme, as stipulated by NHS England funding conditions, have been restrictive. It was reported that due to Vanguard funding ceasing at the end

of March 2017, initiatives have been expected to show sufficient evidence of impact by this point in order to then transition to delivery from the Network. This timescale is a challenge both to ensuring effective operational delivery and evaluation of whether delivery is achieving the desired impacts and outcomes.

In relation to the Clinical Hub, stakeholders were in agreement that the model has been refined over time in order to become more efficient, for example, through the move away from using emergency department consultants, and instead placing a greater emphasis on advanced practitioners. Stakeholders were clear that these changes had been positive, allowing the Hub to operate more efficiently and more sustainably. This demonstrates the real-time monitoring and improvement processes embedded in the Vanguard programme, led by the PMO. These changes are further evidenced in programme documentation.

There was also a consensus amongst stakeholders that the Clinical Hub provider, North East Ambulance Service (NEAS), who has been commissioned to deliver the Hub since December 2016, has been successful in delivering the Emergency Department pathway of the Hub as intended in the commissioning process. However, it was also reported that there have been delays in this process, for example, with the recruitment of appropriate staff, and with the refinement of the level of clinical input involved with the Hub.

Stakeholders suggested that the primary reason for these delays was the tight timescale associated with the commissioning and implementation of the Clinical Hub, with a desire to have the Hub operational in time to meet winter pressures meaning the service implemented by NEAS in December 2016 was not the full model:

> *"I would say that because it has been delivered so late in the day, it has been a case of making adjustments as we go along, rather than being able to deliver a model which we were confident from the get go would be fully functional"*

In relation to the wider NEUECN Vanguard programme, stakeholders reported that delivery of various initiatives within the programme had been mixed. In particular, it was emphasised by stakeholders that reductions in the expected level of Vanguard funding received by the programme had meant that a number of initiatives were scaled back, and therefore not delivered as originally intended. Several stakeholders reported that the Vanguard funding had been used to accelerate initiatives which were already being planned or established:

> *"The Vanguard helped to accelerate the process by putting project management time into it and allowing things to be driven forward"*

A particular area of success was highlighted as the mental health workstream. Stakeholders reported that the Respond mental health training initiative, which delivered multiagency training to staff across the UEC system in how to respond to individuals in mental health crises, has been delivered effectively to a wider range of practitioners. It was reported that whilst the initiative had been in a planning stage prior to Vanguard involvement, as part of Mental Health Crisis

Care Concordat work, the funding and project management provided by the Vanguard was instrumental in implementing and delivering the training:

> *"We certainly couldn't have done it without the Vanguard there to steer it. Apart from funding, we got the administrative help, drew in people with the expertise that was missing like communications and project management. We had the clinical knowledge but didn't have the project management knowledge and time to do all of that"*

Similarly, the GP Direct Booking project was also highlighted as an initiative which has been delivered largely as was originally intended, and again stakeholders reported that this success could be attributed to the project management support offered to it by the Vanguard. The project seeks to enable 111 staff to book GP appointments without going through the additional step of speaking to someone in the GP surgery. Whilst it was reported that there have been some delays in the implementation of the project as a result of technical difficulties with some GP booking systems, the project has been delivered as intended.

2.5 Budget

Stakeholders were all in agreement that the Vanguard programme has been delivered in line with its envisaged budget, with some stakeholders reporting some underspend. This was attributed to good financial management, and to delays in the delivery of some aspects of the programme, for example, delays in recruiting for full capacity in the Clinical Hub.

Budget was also frequently mentioned by stakeholders as a main challenge for the sustainability of the programme in the future, particularly as it was reported that a number of stakeholders across the region have been contributing time to the programme in addition to existing roles, drawing upon existing resources, and that this may not continue to be the case in the future.

In relation to the Clinical Hub, stakeholders reported that the current delivery model was being delivered within budget and would continue to do so due to the staffing model. It was recognised that the pilot model of the Hub, which involved Emergency Department Consultants as the main practitioners, was too expensive to be sustained and so appropriate adjustments to the model were made. As a result, the Hub is now staffed primarily by Advanced Practitioners.

2.6 Lessons and future planning

Stakeholders interviewed highlighted that lessons from implementation have been incorporated into future planning, with respondents stating that the programme has evolved and adapted throughout implementation, for example, in the staffing model of the Clinical Hub.

Stakeholders also reported that a key strength of the Vanguard programme has been its impact in terms of bringing together key stakeholders from across the UEC system in the North East, and facilitating the sharing of good practice across

the region. This has resulted in lessons learnt in one area of the system being shared across the region. For example, one stakeholder reported that discussions at an Operational Group meeting lead to the sharing of learning regarding the introduction of clinical navigators into an A&E department in the region. Another stakeholder reported that the Vanguard has *"created an environment to allow things to happen at a regional level"*.

2.7 NHS England guidance

NHS England has published guidance on the role and establishment of Urgent and Emergency Care Networks[1]. This guidance outlines five key actions that need to be undertaken by Urgent and Emergency Care Networks during their implementation. The following section positions the progress of the NEUECN Vanguard programme against these five key actions.

1. **Developing a clear membership structure and terms of reference**

As demonstrated by Figure 4, the NEUECN has a clear membership structure involving all eight A&E delivery boards in the region. Stakeholders interviewed did report that in the initial stages of the Vanguard programme's implementation, there were difficulties in engaging with Foundation Trusts. However, it was suggested that due to the effectiveness of the PMO, these partners were engaged with the Network and it has since had a strong and clear membership.

2. **Agreeing the configuration of the Network and its structural components**

Again, as demonstrated by Figure 4, the configuration of the Network is clearly defined. The exact components of the Network in terms of the project boards are reported by stakeholders to have been changed as the specific projects of the Network have altered due to changes in expected funding allocations. However, overall it appears that the NEUECN has effectively agreed its configuration and structural components.

3. **An immediate initial stocktake of UEC services within the boundary of the Network, and an assessment of access and equity of provision by indices of deprivation and rurality**

Documentation provided by the NEUECN[2] provides evidence that the Network has a clear understanding of the current spread and provision of UEC services across the region. This includes mapping of service provision, collection of data relating to demand for each service, and data on staffing and opening hours.

[1] http://www.nhs.uk/NHSEngland/keogh-review/Documents/Role-Networks-advice-RDs%201.1FV.pdf

[2] NHSI Masterclass presentation

4. **Fostering strong relationships and effective communication across the Network, and building trust**

The NEUECN Vanguard programme's impact on fostering relationships between partners was highlighted by stakeholders as a key strength of the programme, with one stakeholder commenting that:

> *"The primary impact has been to improve relationships between organisations. Previously relationships were quite adversarial, but now there is much more collaboration. There is more openness particularly amongst providers"*

Similarly, stakeholders reported that the Vanguard has encouraged and enabled partners to be more open and transparent, leading to a building of trust across the Network.

5. **Beginning to define the consistent pathways of care and equitable access to diagnostics and services across large geographies, for both physical and mental health, that will lead to longer term transformational service change**

Through initiatives such as the Clinical Hub, the Enhanced Directory of Services (DoS), and the Respond mental health training, the Vanguard programme has begun to establish consistent pathways of care and access to services across the North East region. However, stakeholders reported that the Network is still in its infancy, and has been operating under very tight timescales associated with the Vanguard funding. As a result many initiatives have either not had the time to become fully implemented and embedded, or for their impacts to be realised. As a result, it is important to treat the findings of this evaluation relating to the impacts of the Vanguard programme with caution, and for ongoing evaluation of the Network's activities to be undertaken in order to further develop evidence regarding impacts on longer term transformational service change.

3 Impact on patients

3.1 Introduction

This section explores the impact of the Vanguard programme on patients. It follows the structure of the evaluation framework relating to impact on patients.

3.2 Summary of evaluation outcomes

Figure 6 outlines the evidence relating to the evaluation outcomes agreed upon in the evaluation framework using the symbols from the key below:

Symbol	Meaning
✓	Positive change
•	Mixed evidence
X	Negative change
-	Insufficient data available

Figure 6 - Summary of evaluation outcomes for patients

Outcomes	Indicators	NEUECN	Sources of evidence
Improved patient experience & satisfaction (including a focus on the Clinical Hub)	Perceptions of staff on improved patient experience and satisfaction	•	Stakeholders reported mixed opinions when asked what the impact of the Vanguard programme, and the Clinical Hub, in particular, has been on patient experience and satisfaction
Improved levels of self-care	Staff reported levels of patient self-care	-	Whilst the majority of stakeholders reported that there is insufficient data relating to patients' levels of self-care, several stakeholders did report anecdotal evidence that the Clinical Hub may be resulting in improved levels of self-care
Improved ability to access services (including a focus on the Clinical Hub)	Evidence of communications from NEUECN to patients providing information on access to services, advice and information, including the Clinical Hub	•	For example, the enhanced DoS provides 111 call handlers with appropriate service information for patients, and documentation shows that the NHS Child Health app, developed as part of the Vanguard programme, which has been nominated for two national awards[3]. However, it should be noted that it has not been possible to fully assess the effectiveness of these initiatives at this point in time
	Staff reported level of patient ability to access services, including the Clinical Hub	✓	Stakeholders reported positive evidence regarding the impact of the Vanguard programme and the Clinical Hub, in particular, on patients' ability to access services
Improved clinical	Staff reported level of clinical	-	Stakeholders were in agreement that it was not possible to comment on

[3] Source: http://www.necsu.nhs.uk/necs-news/child-health-app-shortlisted-two-awards-2826

Outcomes	Indicators	NEUECN	Sources of evidence
outcomes	outcomes		the impact of the Vanguard programme on clinical outcomes for patients
Increased patient recognition of the benefit of single point of entry (Clinical Hub)	Clinical Hub attendances	-	It has not been possible to use Clinical Hub attendance data to assess patient recognition of the benefit of single point of entry. This is because over the period for which Clinical Hub data has been available, the staffing model for the Hub has been changing and therefore its capacity has been variable
	Staff reported level of patient recognition of the benefit of single point of entry	-	Stakeholders reported that it was not possible to assess the impact of the Vanguard programme on patients' level of recognition of the benefit of a single point of entry
	A&E attendance severity levels	✓	Analysis of SUS data indicates that fewer patients with less severe conditions are attending A&E than before the Clinical Hub was operational

3.3 Patient experience and satisfaction

Stakeholders reported mixed opinions when asked what the impact of the Vanguard programme, and the Clinical Hub, in particular, has been on patient experience and satisfaction.

Most stakeholders reported that it has not been possible to accurately assess the impact of the Vanguard programme and the Clinical Hub on patient experience and satisfaction, as the nature of accessing urgent and emergency care means follow-up contact with patients is not always required, and therefore it has been difficult to collect data relating to experience and satisfaction.

However, stakeholders did offer subjective views on the impact of various elements of the Vanguard programme on patient experience and satisfaction:

- **Clinical Hub:** Staff involved in the delivery of the Hub reported anecdotal evidence of patients accessing the Hub remarking on their satisfaction with the service they have received, and how their experience of accessing the Hub was *"simpler"* than previous experiences of using urgent and emergency care. It was also suggested by stakeholders that it would be reasonable to assume that patients receiving a clinical service over the phone results in a better experience of care than attending an A&E department, as may have happened previously prior to the establishment of the Hub. However, as mentioned above stakeholders had not seen evidence for this.

- **Mental health pathway:** The mental health pathway went live in December 2016, and refers patients who call 111 in relation to a local mental health crisis directly to a 24 hour local mental health crisis team. Stakeholders suggested that whilst evidence was not available for the impact of this service, it would be reasonable to assume that having immediate access to this service where in the past patients would have been referred to an A&E department should have a positive impact on patient experience.

- **GP booking:** Again, stakeholders involved in the delivery of this project reported that whilst first-hand evidence of patient experience was not available, the service has enabled patients to have appointments with their GPs booked directly through 111, rather than being passed on to their GP surgeries or being asked to book directly themselves. Stakeholders suggested that it would be reasonable to assume that this would have resulted in a positive impact on patient experience and satisfaction of accessing urgent and emergency care. This was identified as an expensive initiative by one of the interviewees who was very unsure whether the benefits were worth the costs.

3.4 Levels of self-care

Stakeholders were asked whether the Vanguard programme was having an impact on patients' levels of self-care. Again, stakeholders reported that assessing the impact of the Vanguard programme and the Clinical Hub specifically on patients' levels of self-care was challenging for two primary

reasons. First, data relating to patients' levels of self-care has not been being collected, and the nature of patients' interactions with UEC services (i.e. unpredictable, short-term) makes such data difficult to collect. Secondly, in order to impact on patients' levels of self-care, stakeholders reported that large-scale changes in public attitudes towards urgent and emergency care, and the health service more widely, are required, and that such large-scale changes require a long period of time for the impact to be realised.

However, several stakeholders did report anecdotal evidence that the involvement of clinicians in the Clinical Hub was resulting in improved levels of self-care, as demonstrated by the following quote from a stakeholder:

> *"With clinicians telling them [patients] something they are more likely to do it and be more reassured, less likely to go against the advice. It's both that patients are now receiving better advice, but also that they are receiving it from someone they trust better"*

3.5 Ability to access services

Stakeholders reported positive evidence regarding the impact of the Vanguard programme and the Clinical Hub, in particular, on patients' ability to access services.

In terms of the Clinical Hub, stakeholders highlighted that this is having an impact both in terms of making patients more likely to be referred to the appropriate service for their needs, and also in terms of reducing avoidable attendances at A&E departments, which would then positively impact on the ability of other patients to access these services when they require them. Whether this happened at sufficient scale to have a meaningful impact on staff, patients or system was unknown.

The following other elements of the Vanguard programme were also reported by stakeholders as having a positive impact on patients' ability to access services:

- **Enhanced DoS:** The Enhanced Directory of Services project was reported to have a positive impact on patients' ability to access services by providing 111 call handlers with more appropriate referral pathways.

- **GP booking:** The GP booking project was reported to have a positive impact on patients' ability to access services by removing a barrier to them accessing appointments at their GP surgery. In addition to streamlining the booking process, it was also reported by stakeholders that GP surgeries were offering an increased number of appointments specifically for patients referred via 111, thereby improving their access to this service.

Programme documentation also suggested that the NHS Child Health app, developed by the Vanguard programme, has had an impact on patients' ability to

access services. The app has been downloaded over 7,000 times and has been nominated for two national awards[4]. However, it has not been possible for the evaluation to further assess the impact of this initiative.

3.6 Clinical outcomes

Stakeholders were in agreement that it was not possible to comment on the impact of the Vanguard programme on clinical outcomes for patients.

However, one stakeholder did suggest that the nature of the UEC system means that the programme is unlikely to have an impact on clinical outcomes. They suggested that patients with serious conditions are provided with the appropriate care as soon as they come into contact with the UEC system, and that this was the case prior to the programme and would continue to be so. Those patients with less serious conditions, it was suggested, would still have received the same level of care prior to the Vanguard programme. However, it may take more time for them to receive this care, it may have been in a location less convenient to them, and their satisfaction with their experience may have been lower. They emphasised that the UEC system is inherently a safe system with patient safety at its forefront, and that the Vanguard programme is therefore aiming to impact on other outcomes, such as patient experience and satisfaction.

Conversely, the evaluation has found some evidence to suggest that Vanguard activities aiming to reduce A&E attendances (such as the Clinical Hub and the enhanced DoS) do appear to be redirecting patients into primary care (as shown in sections 5.5 and 5.6). This could theoretically have potential positive impacts on clinical standards:

- Reducing pressure on A&E departments, resulting in a potential higher quality of care for patients presenting with major ailments
- Increasing the likelihood that patients with minor ailments receive primary care, which is likely to be holistic and proactive, rather than acute secondary care, which is likely to be reactive and high intensity
- Ensuring patients are directed to the right service, first time. This reduces the time delay between patients developing symptoms and receiving the appropriate care

3.7 Patient recognition of the benefit of single point of entry

Stakeholders did not feel able to assess the impact of the Vanguard programme on patients' level of recognition of the benefit of a single point of entry, as data on patient views have not been collected.

[4] Source: http://www.necsu.nhs.uk/necs-news/child-health-app-shortlisted-two-awards-2826

However, analysis of SUS data (shown in section 5.5.2) shows that between January 2016 (prior to the implementation of the Clinical Hub) and January 2017 (when the Hub was operational), there were fewer patients with less severe conditions[5] attending emergency departments in the region (as shown in Figure 12 and Figure 13). Whilst it is not possible to attribute this difference directly to the Clinical Hub service, this change does indicate that the Clinical Hub may be being used by patients with less severe conditions as a point of entry into the urgent care system in place of attending a more traditional emergency department.

[5] Severity of condition was assessed using a combination of HRG4 codes, and mode of referral.

4 Impact on professional staff

4.1 Introduction

This section explores the impact of the Vanguard programme on professional staff across the UEC system in the North East. It follows the structure of the evaluation framework relating to impact on professional staff.

4.2 Summary of evaluation outcomes

Figure 7 outlines the evidence relating to the evaluation outcomes agreed upon in the evaluation framework using the symbols from the key below:

Symbol	Meaning
✓	Positive change
•	Mixed evidence
X	Negative change
-	Insufficient data available

Figure 7 - Summary of evaluation outcomes for professional staff

Outcomes	Indicators	NEUECN	Sources of evidence
Increased sharing and replication of ideas and learning (with a focus on the Clinical Hub)	Staff reported levels of sharing and replication of ideas and learning	✓	Stakeholders reported positive evidence regarding the sharing and replication of ideas and learning across the North East UEC system
Increased specialist involvement with 111 and out of hours services	Staff reported levels of specialist involvement with 111 and out of hours services	✓	Stakeholders reported increased levels of specialist involvement with 111 and out-of-hours services
Increased staff satisfaction (with a focus on the Clinical Hub)	Self-reported staff satisfaction	•	Stakeholders reported mixed opinions regarding the impact of the Vanguard programme on staff satisfaction for those directly involved with the Clinical Hub and its operation

4.3 Sharing and replication of ideas and learning

Stakeholders identified the sharing and replication of ideas and learning across the North East UEC system as one of the key strengths of the Vanguard programme. As mentioned in Section 2.2, stakeholders reported that the Vanguard has facilitated networking and the sharing of good practice between senior stakeholders across a range of provider and commissioner organisations within the North East region. As mentioned in the previous section, one stakeholder reported that the Vanguard has *"created an environment to allow things to happen at a regional level"*, suggesting that a new and enhanced culture of collaboration is being developed between providers and commissioners across the region, which will have positive implications beyond the Vanguard period as the Network continues to develop.

Specifically within the Clinical Hub, stakeholders were also positive about the sharing and replication of ideas and learning. One stakeholder involved in the delivery of the Clinical Hub reported that enabling close working between clinicians and call handlers had been a key positive, potentially resulting in a permanent upskilling of call handlers:

> *"Bringing 111 staff and clinicians together has really helped the call handlers. They enjoy the interaction and feel more confident when handling calls"*

The Enhanced Directory of Services (DoS) was also mentioned by stakeholders as a specific example of a positive impact that the Vanguard programme has had on the sharing and replication of ideas and learning. It was reported that the activities of the project group in refining the DoS through working with a range of clinicians across the healthcare system in the North East have enabled learning to be shared with 111 call handlers.

4.4 Specialist involvement with 111 and out-of-hours services

Stakeholders reported increased levels of specialist involvement with 111 and out-of-hours services.

In the case of the Clinical Hub, stakeholders were clear that the implementation of the services has enabled the 111 service to refer more calls to a clinician for further assessment. One stakeholder did express concerns regarding the recent announcement by NHS England of targets for 30% of 111 calls to be routed to a clinician. It was reported that previously, calls routed to the Clinical Hub had not been counted as a call routed to a clinician. However, it was reported that guidance has recently been issued for these calls to be counted towards the 30%, and therefore it was suggested that measuring the impact of the Vanguard using this metric must be treated with caution due to changes in the reporting methodology.

However, it was also suggested that these is still scope for further increasing the level of specialist involvement in the Hub, with stakeholders reporting paramedics

and pharmacists will be integrated into the Hub model in the future, along with increased numbers of GPs and nurses.

4.5 Staff satisfaction

Stakeholders reported mixed opinions regarding the impact of the Vanguard programme on staff satisfaction for those staff directly involved with the Clinical Hub and its operation.

For those clinicians working in the Clinical Hub service, it was reported that there was increased satisfaction as the service has been refined and improved, to deliver a more effective and efficient service to patients. However, several stakeholders also emphasised that there was a need for transparency regarding the nature of working in the Clinical Hub when recruiting staff. It was felt that the non-face-to-face nature of the clinical work for Hub staff may not be amenable to all clinicians, and that it was important for this to be made clear during the recruitment process to ensure that staff retention levels are acceptable.

For 111 call handlers, stakeholders reported mixed impacts on staff satisfaction. Stakeholders reported that initially the implementation of the Hub meant call handlers were being asked to change their way of working, which caused some initial frictions whilst staff became accustomed to the new systems and processes. This is demonstrated by the following stakeholder quote:

> *"Initially, they [call handlers] had to run with a process that was a little bit convoluted. It involved the call handlers having to change things on their system that they previously didn't have to think about or do. It felt like a pressured situation due to timescales"*

It was also reported that these changes were exacerbated by IT and information governance issues, which have resulted in call handers being asked to use inefficient and unyielding systems for implementing certain processes, such as transferring patient notes to Clinical Hub clinicians. It was suggested that this issue had largely arisen as a result of the tight implementation timescales which the Hub was required to meet, which did not allow for sufficient problem-solving and testing with call handlers prior to implementation.

5 Impact on the local health and social care system

5.1 Introduction

This section explores the impact of the Vanguard programme on the local health and social care system. It follows the structure of the evaluation framework relating to impact on the local health and social care system.

5.2 Summary of evaluation outcomes

Figure 8 outlines the evidence relating to the evaluation outcomes agreed upon in the evaluation framework using the symbols from the key below:

Symbol	Meaning
✓	Positive change
•	Mixed evidence
X	Negative change
-	Insufficient data available

Figure 8 - Summary of evaluation outcomes for the local health and social care system

Outcomes	Indicators	NEUECN	Sources of evidence
Improved information sharing between agencies across the region	Staff reported levels of information sharing between agencies across the region	✓	Stakeholders were largely positive regarding the impact of the Vanguard programme on sharing information between agencies
Use of agreed standard format and processes for creating, updating and sharing care plans and patient notes between providers	Evidence of a standard format and processes for creating, updating and sharing care plans and patient notes between providers	•	There was some evidence of documentation detailing standard operating procedures for a range of processes. However, these did not directly relate to care plans and patient notes
	Staff reported use of standard format and processes for creating, updating and sharing care plans and patient notes between providers	•	Stakeholders were unclear as to the impact the Vanguard programme has had to date on increasing the use of agreed standard formats and processes for care plans and patient notes
Reduction in acute referrals and emergency department activity	Number of emergency admissions	•	SUS data shows no notable change in total emergency department admissions between January 2016 and January 2017
	Number of A&E attendances	✓	SUS data shows a reduction in Type 1 A&E attendances between January 2016 and January 2017
	Clinical Hub pathway data	-	Clinical Hub pathway data for the pilot model indicated that the Hub reduced the number of patients attending emergency departments. However, data for the full operating model was unavailable
Reduction in green ambulance dispositions	Staff reported impact on green ambulance dispositions	-	Stakeholders reported that there was insufficient evidence to comment on this indicator

Outcomes	Indicators	NEUECN	Sources of evidence
Reduction in unnecessary demand on the urgent care system	Clinical Hub pathway data	•	Clinical Hub pathway data for the pilot model indicated that the Hub reduced the number of patients attending emergency departments. Clinical Hub ROI data indicates that there may be some evidence of the Clinical Hub leading to patients being directed on to alternative services whereas previously they would have been advised to attend A&E.
Reduced demand on primary care	Clinical Hub pathway data	•	Clinical Hub pathway data for the pilot model indicates that the Hub may be diverting patients away from the urgent care system in primary care, for example GP surgeries. Clinical Hub ROI data indicates that there may be some evidence of the Clinical Hub providing patients with self-care advice and reducing the likelihood of subsequent primary care service use
	Staff perceptions of demand on primary care	-	Stakeholders reported that there was insufficient evidence to comment on this indicator
The Hub is a cost effective service, where savings generating through reduced demand for health and social care services, at a minimum, cover the costs of implementation	Clinical Hub pathway data	✓	Clinical Hub data shows that based on the current Hub staffing model and levels of operation, the Hub offers savings to A&E and ambulance services of approximately £8,701 per month of operation
	Staff and stakeholders reporting cost effectiveness of the service	-	Most stakeholders did not feel able to comment on the cost effectiveness of the service

5.3 Information sharing

As mentioned in Sections 2.3 and 4.3, stakeholders were largely positive about the impact of the Vanguard programme on sharing information relating to good practice between agencies across the UEC system in the North East.

However, information governance issues were raised by a number of stakeholders, particularly in relation to the sharing of patient information between partners, such as 111, the Clinical Hub, out-of-hours services and GP surgeries. Whilst issues relating to information governance appear to have been prevalent during the initial stages of implementation, it was reported that these have now largely been addressed. For example, one stakeholder reported that over 90% of GP records for patients in the North East region can now be shared with Clinical Hub clinicians.

At the sense-testing workshop, senior stakeholders reported that in addition to positive evidence of effective information sharing within the Vanguard programme itself, there was also evidence that the programme has positively impacted on information sharing across the North East UEC system, between the NEUECN and other components of the urgent care system.

5.4 Processes for creating, updating and sharing care plans and patient notes

Stakeholders were unclear about the impact the Vanguard programme has had to date on increasing the use of agreed standard formats and processes for creating, updating and sharing care plans and patient notes.

Whilst, as mentioned above, the sharing of patient notes is reported to be largely successful following some initial issues relating to information governance, stakeholders reported that work regarding the establishment of common formats and processes for creating and updating care plans and patient notes is still in its initial stages. It was also reported that IT and information governance issues have hindered progress, and that it is imperative these barriers be identified and addressed in order for this work to continue to progress.

A review of programme documentation showed a number of standard operating procedures for a range of processes. However, these did not directly link to care plans and patient notes, their creation, and their sharing between stakeholders.

5.5 Demand on the UEC system

5.5.1 Stakeholder interviews

Stakeholders were asked how well the Vanguard programme is reducing demand on the UEC system.

Whilst several stakeholders reported anecdotal evidence for a reduction in the demand on the UEC system, there was a consensus that it was not possible for stakeholders to accurately comment on the Vanguard's impact in this area due to a lack of available data.

Several stakeholders also reported concerns that the scale of impact attributable to the Vanguard programme would not be significant at a system-level. It is important to note that the Clinical Hub element of the programme, which aims to reduce referrals to Emergency Department services, has only been in operation in its current model since December 2016, and that it is intended for the size and scope of the Hub to increase in the future, which would impact on the scale of impact it is able to have on the UEC system in the North East.

Several stakeholders also emphasised that caution should be taken when assessing progress against these measures. The UEC system in the North East, as with elsewhere in England, is experiencing increasing pressures from a combination of an aging population, and reductions in spending on adult social care. As a result, key measures of UEC system demand have been increasing nation-wide. In addition, UEC system pressures experience a high degree of seasonality, and so it is difficult to identify and attribute changes in these measures for a service such as the Clinical Hub which has only been operating in its current model for four months, at various levels of staffing capacity.

5.5.2 SUS data

SUS data provided to the evaluation team related to Emergency Department (ED) attendance for January 2016 and January 2017, to allow for analysis of the differences between attendance prior to the Clinical Hub becoming operational, and following implementation of the current Hub model.

It should be noted that, due to information governance restrictions, the data provided to the evaluation team was pre-aggregated and so the level of analysis possible has therefore been limited. It is also important to note that, whilst data for the same month in consecutive years has been used to provide a retrospective comparator, it is not possible to attribute any differences observed directly to the operation of the Clinical Hub, i.e. there are a number of other potential factors, services and interventions which may have caused differences between the two points in time.

SUS data divides Emergency Departments into four types, according to the activity performed[6]:

Type 1 – Full A&E departments that are consultant led, 24 hour services with full resuscitation facilities and designated accommodation for the reception of patients.

Type 2 – Consultant led single speciality A&E services (e.g. ophthalmology, dental, etc.) with designated accommodation for the reception of patients.

[6] Source: NHS Data Dictionary, available http://www.datadictionary.nhs.uk/data_dictionary/attributes/a/acc/accident_and_emergency_department_type_de.asp

Type 3 – Minor Injury Units (MIUs) or Urgent Care Centres (UCCs) with designated accommodation for the reception of patients. These may be doctor or nurse led, treat at least minor injuries and illnesses, and can be routinely accessed without an appointment.

Type 4 – NHS walk-in centres.

Overall system impact

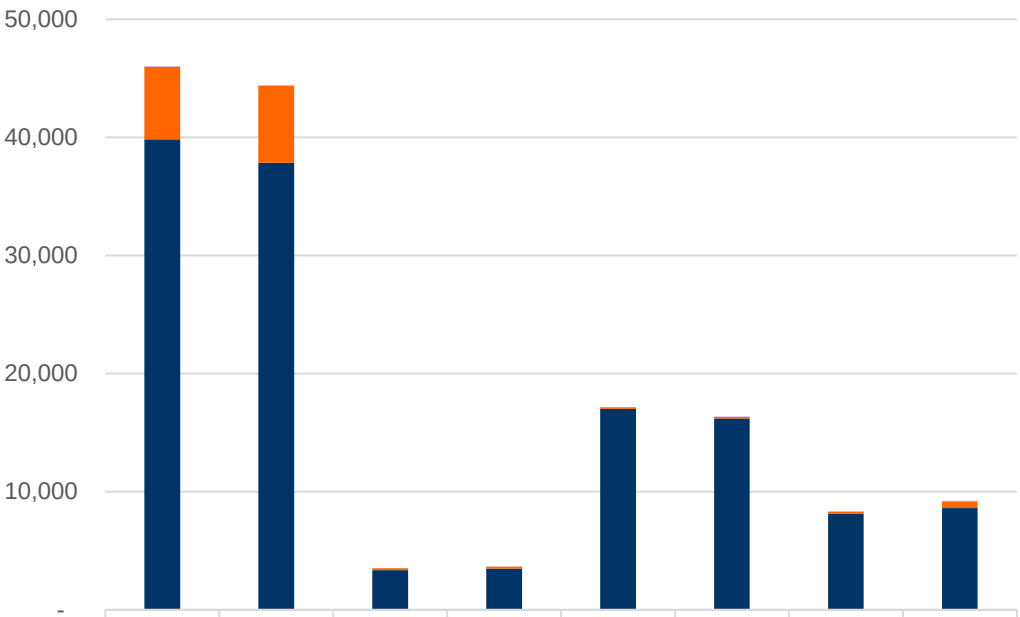
Using a comparison of Emergency Department (ED) attendance from before the Clinical Hub was operational (January 2016) with a full month of current operational staffing (January 2017) it can be observed that there has been a 5% reduction in the number of A&E and Urgent Care Centre (UCC) attendances for minor ailments. In parallel, the volume of A&E attendances for major ailments has increased across the region by 5%, as shown in Figure 9.

The fact that the number of A&E attendances for major ailments has continued to grow in line with the national trend is telling. Unless, for reasons unknown, the overall ratio of major to minor incidents in the North East has changed over the past year, it is reasonable to assume that, under a 'do nothing' scenario, the number of A&E attendances for minor ailments would have increased in line with the number of A&E attendances for major ailments. The drop in frequency of A&E attendances for minor ailments therefore strongly implies that the approaches to A&E demand management implemented in the North East are proving to be effective. Not only has a 5% real terms reduction in minor A&E attendances been observed, the reduction against the projected baseline (5% year-on-year growth) appears to be closer to 10%.

Based on the available data, it is not possible to determine whether this impact is attributable to the Clinical Hub or other demand management interventions (for example, better access to General Practice).

A full explanation of the methodology can be found in Appendices 1 to 3.

Figure 9 – Number of ED attendances, by type of ED and by grouped HRG severity



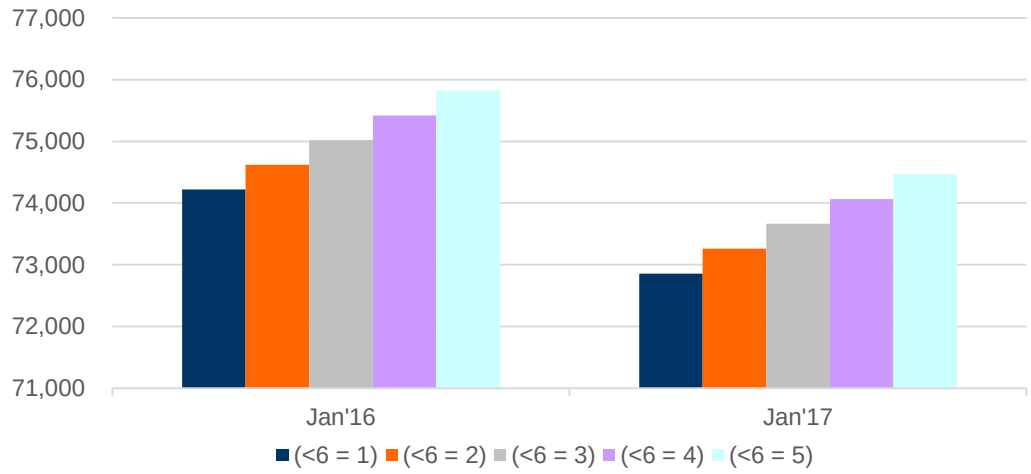
	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17
	A&E (1)		OTH (2)		UCC (3)		WIC (4)	
Resus	27	60				6		3
None	15	30					18	48
Major	6157	6494	156	151	144	134	154	568
Minor	39,839	37,865	3,354	3,495	16,999	16,204	8,157	8,600

Sensitivity analysis

Information Governance requirements meant that it was not possible to undertake a patient-level analysis of A&E data. Any unique combination of A&E SUS fields describing less than six patients was aggregated to prevent the identification of specific individuals in the raw data. This impacted the evaluation team's ability to explore changes in A&E activity as a number of cohorts in the data could potentially represent anything between one and six patients, skewing the results. To address this, we undertook a sensitivity analysis to identify the range of total A&E activity potentially represented in the data shown in Figure 10. Information on the methodology for this analysis is in the appendix.

A range of possible scenarios were generated: a 0.7% to 2.9% reduction in ED attendance between January 2016 and January 2017 using realistic max and min values and a range of -0.3% to 3.9% using the most extreme max and min values, against a 1.8% reduction using the same average estimate. As a result, the sensitivity test broadly corroborates the finding that the reduction in 'minor' A&E attendances is real. Only under the 'extreme minimum' scenario would the reduction in 'minor' A&E attendances be eliminated.

Figure 10 - Sensitivity analysis of total ED attendances, for suppressed values <6



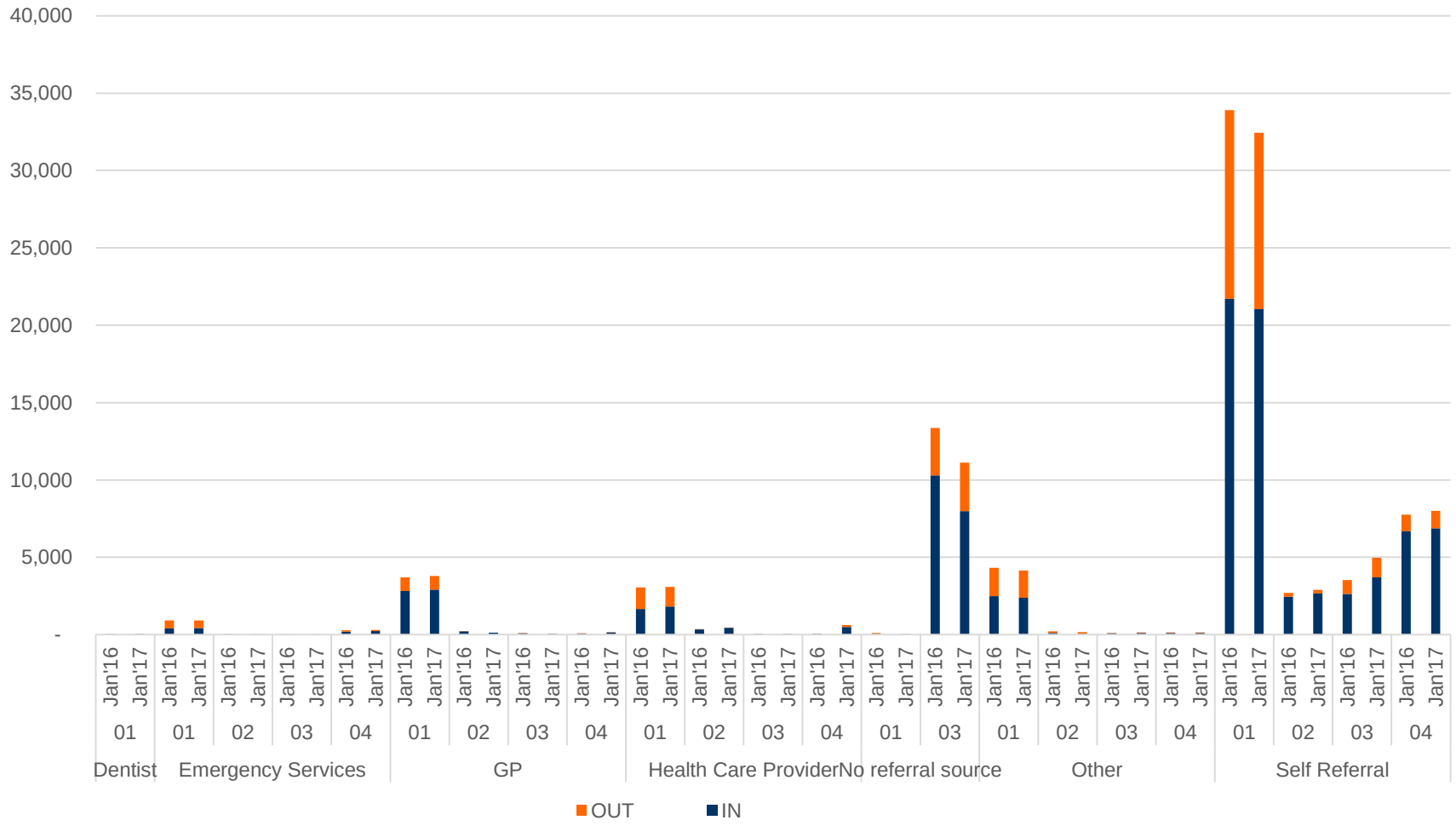
Out of Hours impact

Unfortunately, the Out of Hours (OOH) and in hours groupings that were applied to the raw data provided do not match the actual opening hours of the Clinical Hub. For that reason, it is impossible to make confident assertions about the OOH impact of the Clinical Hub on ED attendances. Figure 11[7] below shows some indication that self-referrals into A&E (and to a lesser extent those with No Referral Source recorded in UCCs) have seen a reduction in the number of OOH attendances.

This would indicate that the coding of referral source within UCCs (particularly during in hours periods) may be in need of improvement, and if the referrals codes as No Referral Source were to be split between other referral sources in the same proportion as currently observed, the same overall reduction of Self Referrals would be observed in UCCs as it currently is in A&E, i.e. based on the assumption that attendances missing referral codes follow the same trends as the remaining data, then the data shows a reduction in self-referrals between January 2016 and January 2017 in both UCCs and A&Es.

[7] Numbers 01 to 04 on the x-axis refer to ED department type.

Figure 11 – Number of ED attendances by referral source, and in or out of hours (OOH)

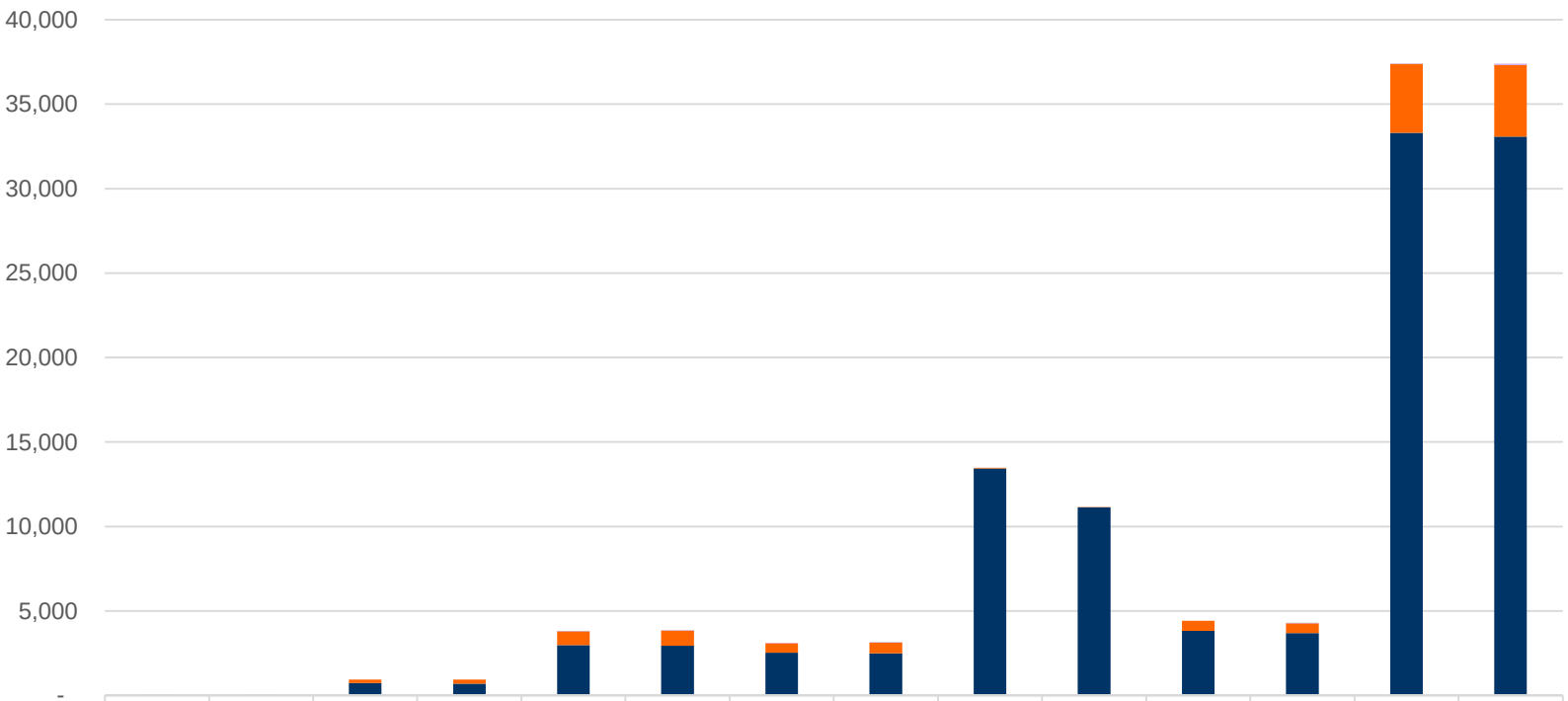


Impact on severity of conditions attended with

By comparing groups of patients attending (only A&E and UCC locations) by their severity and referral source, as shown in Figure 12, it can be observed that there has been a 17% reduction in the number of minor conditions without a recorded referral source. Each of the other referral sources shows a small reduction in the number of attendances for minor ailments, but they each also show a slightly larger increase in attendances for major injuries.

The detail of groupings of similar HRG codes can be found in Appendix 2.

Figure 12 – Number of ED attendances by referral source and severity of condition (using grouped HRG codes)



	Dentist		Emergency Services		GP		Health Care Provider		No referral source		Other		Self Referral	
	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17
None					3	6		3				3	12	18
Resus					3	6	3	6				15	21	39
Major	9	9	204	241	833	898	555	630	24	15	598	575	4078	4260
Minor	24	27	732	691	2,971	2,949	2,529	2,500	13,445	11,135	3,827	3,692	33,310	33,075

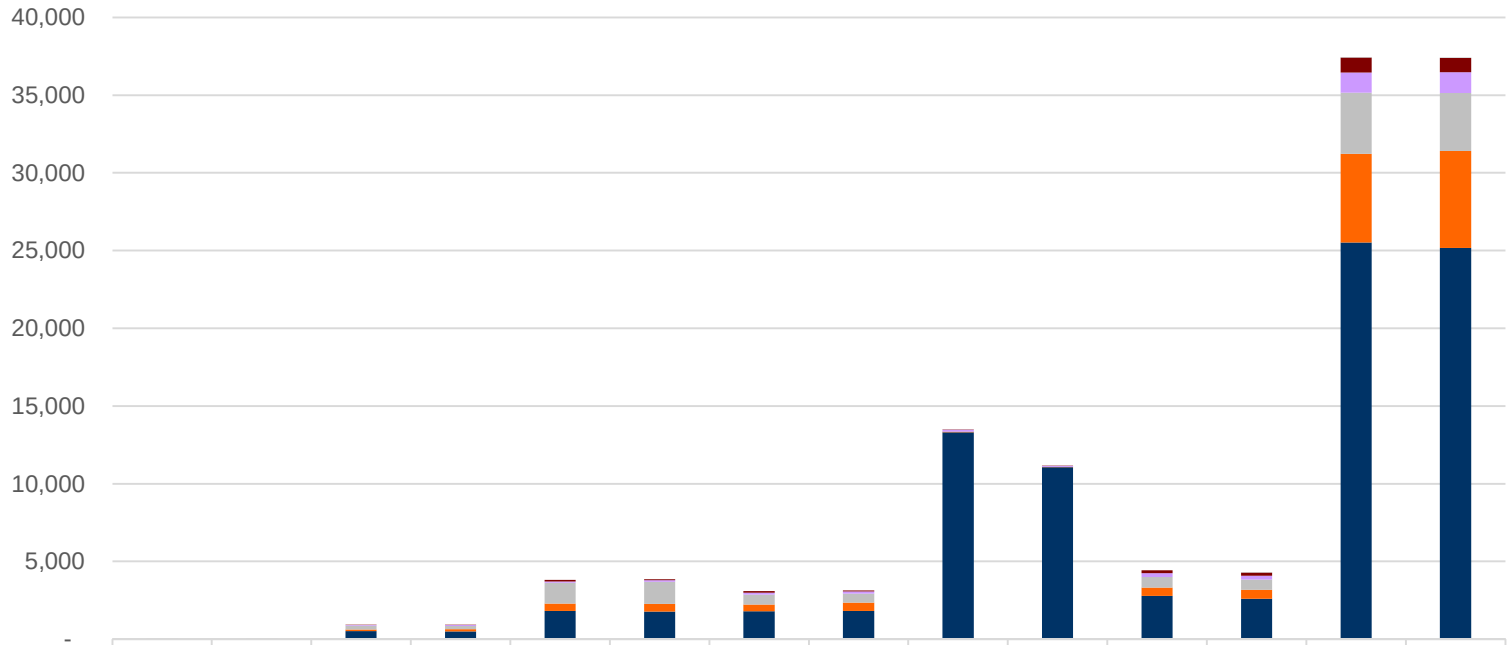
Impact on Disposal Method (Outcome)

Similar to Figure 12, Figure 13 below shows that there was a 17% reduction in patients with no referral source between January 2016 and January 2017 – in this case they have all been discharged. Regarding the largest volume of patients, those who self-refer, there has been an approximately 5% reduction of those being admitted but an approximately 10% increase in the number being onwards referred. There is a similar increase in the numbers being referred to other services who came from healthcare and other community organisations, with the only increase in patients admitted coming from the GP.

This indicates that the severity of conditions with which patients presented may have increased between January 2016 and January 2017, as a smaller proportion of patients were being discharged following attendance and a larger proportion of patients were referred, suggesting their condition warrants further care.

However, it is also possible that this represents improved discharge pathways between January 2016 and January 2017. Whilst this would present a positive change for the overall system, it cannot at present be attributed solely to the Vanguard programme. This exemplifies the difficulties surrounding attribution of observed differences to the activities of the Vanguard programme or the Clinical Hub specifically.

Figure 13 – Number of ED attendances by referral sources and disposal method (outcome)



	Dentist		Emergency Services		GP		Health Care Provider		No referral source		Other		Self Referral	
	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17	Jan'16	Jan'17
Died												3	6	3
Other/no code		3	15	15	90	75	102	67	6	3	182	194	963	927
Left department	3	3	49	61	93	91	114	133	105	60	235	252	1293	1339
Admitted	15	12	251	207	1336	1427	650	592	18	6	688	659	3933	3714
Referred	6	6	94	146	477	497	425	526	36	15	536	589	5713	6249
Discharged	9	12	527	503	1,814	1,769	1,796	1,821	13,304	11,066	2,784	2,591	25,513	25,163

5.6 Demand on primary care

As with previous indicators, stakeholders felt that it was too early to assess the impact of the Vanguard programme and the Clinical Hub on the level of demand on primary care in the North East.

One stakeholder stressed that whilst some impact could be expected from the giving of clinical advice to patients through the Hub which may have reduced the need or appetite amongst patients for further interactions with primary care services, a large element of the intended reduction of demand would eventually have to come from public behaviour changes in relation to their levels of self-care and use of primary care services. As mentioned elsewhere, these behavioural changes will be long-term impacts which are difficult to achieve and measure in a service such as the Clinical Hub which has been operational for four months.

5.7 Value for money for the health and social care system

5.7.1 Stakeholder interviews

The majority of stakeholders did not feel able to comment on whether the Vanguard programme, and the Clinical Hub, in particular, is offering value for money for the overall health and social care system. It was reported that there is not sufficient evidence at present to attribute any changes in the level of demand on the health and social care system to the Vanguard programme. It was also reported that a number of the Vanguard's initiatives would have been occurring without Vanguard involvement, albeit more slowly due to the benefits provided by the PMO and the additional external funding. As a result, it is difficult to determine a baseline against which to measure the impacts of the Vanguard programme.

In relation to the Clinical Hub, stakeholders suggested that due to the short period of time for which the Hub had been operational, and the fact that the model in terms of clinician involvement is still developing, it is not possible to assess the impact the Hub has had on the UEC system, and more widely.

However, several stakeholders did feel that the Hub would be offering value for money:

> *"I think it does offer value for money, yes. There isn't hard data, but you can see the impact that it is having"*

Several stakeholders also highlighted the enhanced DoS as a project which may be saving money elsewhere in the health and social care system:

> *"You can see evidence of return on investment from the DoS. You can see it being used to point people to more relevant often lower cost services"*

5.7.2 Clinical Hub return on investment data

The evaluation team was provided with cost and activity data which was collected and analysed by the Vanguard programme. The data outlines the set up and operational costs of the Clinical Hub, and the dispositions given to patients who attended the Hub, i.e. whether they were referred on to another service such as GP out of hours, pharmacy or dental services, provided with self-care advice, advised to attend A&E (either by ambulance or by their own transport), or another disposition. A full list of potential dispositions is provided in Appendix 4.

The data covered the period from July 2016 to November 2016 (Phase 1), and December 2016 to February 2017 (Phase 2):

- During Phase 1 the Hub was operating a pilot staffing model, led by Emergency Department Clinicians.
- During Phase 2, the Hub was operating the full staffing model delivered by the contracted provider, NEAS. This model involved GP, Advanced Practitioner (AP), Nurse and clerical admin staff

By using a series of assumptions, the ROI data can be used to estimate the ROI provided by the Hub.

Firstly, the analysis uses patient identifiable Clinical Hub tracking data to give estimates of the percentage of patients who comply with their disposition[8]; in this instance, the percentage of patients who do or do not subsequently attend A&E. These patient compliance rates are provided in Appendix 4.

These compliance rates are then applied to the data on patient attendances and dispositions, to produce estimates of the numbers of patients attending the Hub who go on to receive various services. Using a series of cost tariffs for these various services, estimates of the costs associated with dispositions can be produced. This is shown in Figure 14 under disposition costs. A full list of the cost tariffs used is provided in Appendix 4.

Together with the set-up and operational costs of the Hub, this information is used to estimate the overall system costs of the Hub's operation, i.e. the costs of establishing and operating the Hub, combined with the costs of the services received by Hub patients following their attendance at the Hub.

The ROI analysis then estimates potential system savings as a result of patients using the Hub. This is calculated using 111 call analysis which shows the following:

[8] A disposition refers to a recommended course of action, such as to attend a pharmacy or dentist, book a routine GP appointment, or to adhere to self-care advice. A disposition is not a clinical diagnosis, but rather a first assessment of a patient's medical condition.

- An estimated 72% of Hub patients do not subsequently attend A&E, but would have without the presence of the Hub. Therefore it is assumed that the Hub leads to a 72% reduction in A&E attendances for Hub patients.

- Prior to the Hub's establishment, as estimated 2.4% more patients advised to go to A&E were subsequently admitted. Therefore it is assumed that the Hub leads to a 2.4% decrease in admissions for Hub patients.

By applying these assumptions to cost tariffs for A&E attendances and admissions, an estimated system cost saving offered by the Hub can be calculated.

Using these assumptions for the duration of the Clinical Hub to date shows that the Phase 1 operation was not financially beneficial, but the Phase 2 operation is currently estimated to be saving approximately **£8,701 per month of operation**.

Based on these figures it is estimated that it would take another **19 months of operation** at these levels to break even (i.e. produce a return on the setup costs and the losses of Phase 1) around **September 2018.**

The detail of these assumptions, and those for different disposition and resource costs can be found in Appendix 4.

Figure 14 - Return on investment summary

	Phase 1	Phase 2
Operation	**Jul-Nov**	**Dec-Feb**
# of months	5	3
System costs		
Setup costs	£24,714	£110,000
Resource costs	£115,080	£29,319
Disposition costs	£89,733	£52,122
Total system costs (excluding setup costs)	£204,813	£81,441
Monthly system costs	**£40,963**	**£27,147**
Estimated System savings		
A&E savings	-£112,176	-£86,544
Admissions savings	-£37,392	-£21,000
Total system savings	-£149,568	-£107,544
Monthly system savings	**-£29,914**	**-£35,848**
Estimated ROI		

	Phase 1	Phase 2
Monthly ROI (excluding setup costs)	£11,049	-£8,701
Annual ROI (excluding setup costs)	£132,588	-£104,412
Annual ROI (including setup costs)	£157,302	£5,588
Actual ROI to February 2017	£79,959	£83,897
Total ROI to February 2017 – Phase 1 & 2	£163,856[9]	
Breakeven months	19 – September 2018[10]	

Figure 15 - Breakdown of Phase 2 Clinical Hub staffing costs

Phase 2	GP	AP	Nurse	Admin
Resource costs	£1,900	£17,600	£3,480	£6,339
Disposition costs	£2,357	£40,373	£9,392	-
A&E savings	-£4,536	-£71,064	-£10,944	-
NEA savings	-£1,000	-£17,000	-£3,000	-

[9] i.e. based on setup and operational costs for Phases 1 and 2, as of February 2017 the Hub represents an overall system cost across the course of its operation of £163,586.

[10] i.e. it is estimated that based on current levels of operation, the Hub was break even including all setup costs for Phases 1 and 2 in September 2018.

6 Evaluation recommendations

Based on the analysis above, a number of key evaluation recommendations are outlined in Figure 16. This presents the recommendations, the evaluation evidence on which they are based, and provides a reference to the section or sections of the report which provide further information.

These recommendations are based on the evaluation findings, and are intended as recommendations for potential further development of the Network and the Clinical Hub. These recommendations were explored and 'sense-tested' with senior stakeholders at a workshop event in May 2017, following which they were revised to best suit the needs of the Network.

Figure 16 - Evaluation recommendations

Recommendation	Evidence base	Report section(s)
Process and implementation factors		
Recommendation 1: Governance, decision-making and accountability arrangements for the UEC system in the North East should be reviewed, and a single body with decision-making powers within the governance structure be defined. If this review process deems it necessary, the governance structure should be modified and a new body created to service this decision-making function.	Stakeholders reported that the existing governance structures did not clearly define decision-making and accountability arrangements. This was further strengthened by feedback from senior stakeholders regarding the need for a single, defined board with decision-making powers.	Sections 2.3 and 2.7.
Recommendation 2: Following the review of governance, decision making and accountability arrangements, the revised arrangements should be communicated to all stakeholders. This should be done through a formal communication and engagement strategy which will clearly identify relevant stakeholders and also include provision for new stakeholders to the network to be provided with clear information early in their involvement with the Network, as well as ensure that understanding of governance arrangements is embedded at all organisational levels.	Stakeholders reported that that the clarity of governance arrangements could be improved for the Vanguard programme regarding responsibility for decision-making and accountability.	Sections 2.3 and 2.7.
Recommendation 3: A review of implementation schedules for future projects initiated by the NEUECN should be undertaken, involving input from stakeholders, to assess whether timescales can be adjusted to better suit the needs of those involved, or if measures could be put in place to compensate for the lost time incurred for external roles.	Stakeholders reported that individuals involved with programme boards and sub-groups have had difficulties in committing time to the programme whilst continuing with their external roles, and that this was in part due to the tight timescales under which boards and sub-groups were being asked to work.	Section 2.3.

Recommendation	Evidence base	Report section(s)
Recommendation 4: The NEUECN should review its relationship with relevant STPs, firstly to ensure no duplication is occurring, and secondly to communicate to Network stakeholders the nature of the relationship between the Network and its activities, and the relevant STPs.	Stakeholders expressed some concerns regarding how the activities of the Vanguard programme, and the ongoing activities of the NEUECN link with STPs being developed in the region.	Section 2.3.
Recommendation 5: It is recommended for NHS England that the implementation and evaluation timescales associated with Vanguard funding be considered, to ensure that sufficient time is allowed for future programmes to be established and for their impacts to be measured	Stakeholders reporting that tight implementation timescales as a result of funding stipulations have hindered the development of some elements of the Vanguard programme.	Section 2.4
Recommendation 6: NHS England should consider closer working with the NEUECN in recognition of the Network's position as an innovative example of a UEC Network.	The evaluation found the Network has progressed well against NHS England's guidance on the role and establishment of UEC Networks. Senior stakeholders also reported that the Network is more established than other UEC Networks nationally, and so could offer valuable learning for other areas regarding implementation.	Section 2.7.
For patients		
Recommendation 7: Data on patient experience should be gathered, including a review of what works in collecting and analysing data relating to patient experience. It is further recommended that this monitoring activity be embedded in any future procurement exercises for the Clinical Hub service in order to ensure that the impact of	Stakeholders reported that data relating to patient experience and satisfaction of using the Clinical Hub are not currently being collected.	Section 3.3.

Recommendation	Evidence base	Report section(s)
the service on patients can be continually monitored and assessed. Thought should be given to a relevant comparison or control group and the ability to access comparable data from it. It is important that this review process considers the limitations (such as resource time and cost) of collecting such data in addition to normal service operation, and future data gathering systems be designed with this in mind.		
Recommendation 8: The NEUECN should explore the potential for agreeing an approach to collecting and analysing patient level outcomes data for the Clinical Hub service with the commissioned provider. This should involve a review of options including commonly used validated scales and approaches, and development of an agreed approach and set of tools, which also take into account the practical limitations of collecting patient level outcomes data alongside normal service operation.	Stakeholders reported that data relating to patient experience and satisfaction of using the Clinical Hub are not currently being collected.	Section 3.3.
Recommendation 9: The NEUECN should review the data required to measure patients' levels of self-care, and how this can best be collected given the nature of patients' interactions with UEC services (i.e. unpredictable, short-term). This will allow the long-term impact of Network activity on this outcome to be measured over time.	Stakeholders reported that assessing the impact of the Vanguard programme and the Clinical Hub specifically on patients' levels of self-care was challenging due to a lack of data.	Section 3.4.
For professional staff		
Recommendation 10: The Vanguard programme's impact on fostering relationships, building trust and enabling the	Stakeholders emphasised that a key strength of the Vanguard programme to date has been	Section 4.3.

Recommendation	Evidence base	Report section(s)
sharing of ideas and learning should be built on through events such as seminars and workshops through which learning can be shared, both within the North East region, and more widely. It is recommended that these events be developed through a combination of the project management expertise of the PMO, and the various subject matter expertise offered by the programme sub-groups and project boards. It is also recommended that information regarding these events be shared through a Network website. It is important that events are targeted at those professionals who would most benefit from them, in order to ensure they remain relevant and professionals continue to be enthused and engaged with these activities.	its impact on fostering relationships, building trust and enabling the sharing of ideas and learning.	
Recommendation 11: The NEUECN should develop a workforce strategy which includes recruitment and retention for the Clinical Hub in the future, as well as other UEC services such as A&E. This could include exploring partnership working with Health Education England in order to address recruitment issues, as well as exploring the potential for staffing resources to be better managed and shared across the UEC system, as the Hub is rolled out more widely.	Several stakeholders highlighted issues relating to recruitment to roles within the Clinical Hub. Senior stakeholders reported that these issues are also relevant to other areas of the UEC system such as A&E services.	Section 4.5.
Recommendation 12: Future changes to ways of working for 111 call handlers should be developed in collaboration with call handlers, and rolled out in stages in order to allow for any operational issues to be identified early on in the process and resolved.	Stakeholders reported some issues relating to IT and information governance issues for 111 call handlers in relation to the implementation of the Clinical Hub. However, senior stakeholders reported that this was largely	Section 4.5.

Recommendation	Evidence base	Report section(s)
	due to the timescales associated with the implementation of the Clinical Hub, and that in future processes call handlers will be fully engaged.	
For the local health and social care system		
Recommendation 13: A mechanism for identifying patients attending A&E following a referral from the Clinical Hub should be identified, in order to allow for more accurate analysis of performance data relating to the Hub. This may involve exploring using patient NHS numbers to link Clinical Hub and A&E records.	Emergency department admission data reviewed by the evaluation team did not include a unique referral code for the Clinical Hub, nor were a substantial number of attendances coded correctly (i.e. no referral source was specified).	Section 5.5.
Recommendation 14: Work regarding the establishment of common formats and processes for creating and updating care plans and patient notes should be continued, as it meets the recommendations of the NHS England guidance on the role and establishment of Urgent and Emergency Care Networks. This includes identifying any IT and information governance barriers and how these may be overcome.	Stakeholders reported the work regarding the establishment of common formats and processes for creating and updating care plans and patient notes is still in its initial stages.	Section 5.4.
Recommendation 15: The Hub's performance and return on investment should continue to be monitored, and the model refined, in order to ensure the service continues to provide value for money and a return on investment over an acceptable time period.	There is evidence to suggest that the Clinical Hub service offers value for money for the local health and social care system, and that this has increased following the refinement of the Hub's staffing model in December 2016. However, this is still at its early stages and the model should continue to be monitored and	Section 5.7.

Recommendation	Evidence base	Report section(s)
	evaluated to assess change over time.	
Recommendation 16: The Hub should continue to collect performance monitoring data relating to the impact offered by various types of professionals involved in the model. This will allow the service to identify those professional areas which are able to make the most impact, and offer the greatest return on investment.	Return on investment analysis indicates that whilst the Hub presents an overall system cost saving, this could be further increased by refinements to the staffing model based on regular reviews of performance monitoring data.	Section 5.7.

Appendix 1: System impact analysis – raw data extract

The following table describes the raw data upon which the system impact analysis was conducted.

Figure 17 - Table describing the raw system impact analysis

Geography:	All North East Providers as RLN-CITY HOSPITALS SUNDERLAND NHS FOUNDATION TRUST RNL-NORTH CUMBRIA UNIVERSITY HOSPITALS NHS TRUST RR7-GATESHEAD HEALTH NHS FOUNDATION TRUST RTD-THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION TRUST RTF-NORTHUMBRIA HEALTHCARE NHS FOUNDATION TRUST RTR-SOUTH TEES HOSPITALS NHS FOUNDATION TRUST RVW-NORTH TEES AND HARTLEPOOL NHS FOUNDATION TRUST RXP-COUNTY DURHAM AND DARLINGTON NHS FOUNDATION TRUST RE9-SOUTH TYNESIDE NHS FOUNDATION TRUST
Period:	January 2016 / January 2017 as stated
Data Sources:	NECS SUS A&E data
Data Description:	Extract comprising of the following fields - Date_Category > Either January 2016 or January 2017 (based on the A&E arrival date). - A&E department type > See NHS Data Dictionary link in Notes below. - Provider Code > The Provider Code of the A&E attendance. - Provider Description > The Provider description (based on the Provider Code). - Grouped Mode of Arrival > The groupings are in the "Groupings applied" worksheet - Based on original Mode of Arrival. - Grouped Mode of Disposal > The groupings are in the "Groupings applied" worksheet - Based on original Mode of Disposal. - HRG_Acuity > The groupings are in the "Groupings applied" worksheet - Based on original HRG code of the A&E attendance. - IN_OOH_HOUR_STATUS > This is based on the Arrival Date between 08:00 and 17:59 / 18:00 and 07:59. - Grouped A+E Referral > The groupings are in the "Groupings applied" worksheet - Based on original A+E Referral code. - Grouped A+E Attendance Category > The groupings are in the "Groupings applied" worksheet - Based on original A+E Attendance Category. - Total (<6 suppressed) > The total number of A&E attendances. Any numbers less than 6 are suppressed to <6 accordingly.
Criteria:	1. Arrival date between 01/01/2016 and 31/01/2016 OR between 01/01/2017 and 31/01/2017. 2. Providers as per Geography above.

Appendix 2: System impact analysis – data groupings

The following tables describe the groupings and suppression applied to the raw data, as described in Appendix 1, upon which the system impact analysis was conducted.

To address the suppression of data fields describing less than six patients as a result of Information Governance requirements, a sensitivity analysis was undertaken to identify the range of total A&E activity potentially represented by the data. This analysis examined potential combinations of suppressed data, ranging from an average for suppressed values of one, to an average for suppressed values of five. This produces a range of possible scenarios. This is shown in section 5.5.2.

Referral source

A+E Referral Source	Source of Referral for A and E Description	Grouped A+E Referral
01	Self referral	Self Referral
00	General medical practitioner	GP
07	Health care provider: same or other	Health Care Provider
08	Other	Other
03	Emergency services	Emergency Services
05	Educational establishment	Other
06	Police	Other
04	Work	Other
02	Local authority social services	Other
92	General dental practitioner	Dentist
93	Community dental service	Dentist
No referral source	No referral source	No referral source

Attendance Category

Attendance Category	Grouped A+E Attendance Category
1	First
2	Follow Up
3	Follow Up

Mode of disposal

Mode of disposal	Mode of disposal Description	Grouped Mode of Disposal
02	Discharged - follow up treatment to be provided by general practitioner	Discharged
01	Admitted to a hospital bed /became a lodged patient of the same health care provider	Admitted
03	Discharged - did not require any follow up treatment	Discharged
13	Left department having refused treatment	Left department
04	Referred to A&E clinic	Referred
12	Left department before being treated	Left department
06	Referred to other out-patient clinic	Referred
05	Referred to fracture clinic	Referred
11	Referred to other health care professional	Referred
10	Died in department	Died
07	Transferred to other health care provider	Other / no disposal code
14	Other	Other / no disposal code
No	No disposal code	Other / no disposal code

Mode of Arrival

Mode of Arrival code	Grouped Mode of Arrival
1	Ambulance
2	Other / No Arrival Mode
N	Other / No Arrival Mode

HRG Acuity

HRG	Severity
VB01Z	Resus
VB02Z	Major
VB03Z	Major
VB04Z	Major
VB05Z	Major
VB06Z	Major
VB07Z	Minor
VB08Z	Minor
VB09Z	Minor
VB10Z	Minor
VB11Z	Minor
Type 3	Minor
UZ01Z	None

Appendix 3: System impact analysis – methodology

The raw data as described above was filtered to remove Ambulance conveyances from the Mode of Arrival and Follow-up appointments were removed from Attendance category. All other fields were used in the overall analysis and individual filters applied have been described in each area.

To overcome the suppression of values less than 6 in number, the suppressed values were replaced with a variable, which was set to the average value of 3 for the core analysis, and whole number values ranging from 1 to 5 for the sensitivity analysis.

For the sensitivity analysis, the average value of 3 was used for both years to give the original estimate, then the values of 4 and 2 (in 16/17 and 17/16 for realistic max and min values respectively) and values of 5 and 1 (in 16/17 and 17/16 for the most extreme max and min values respectively).

The only field that has not been used in the analysis is the individual provider field which due to the virtual nature of the service and the lack of confidence in the most granular of data is the least valuable attribute to investigate further.

The only point worthy of note from that analysis is that all of the entries that are not recorded with a referral source come from one provider – RXP County Durham and Darlington NHS Foundation Trust.

Appendix 4: ROI cost and savings

Current patient behaviour from 111 Calls analysis

% patients through hub who did not attend ED	72.00%	Using PID Data (from PID Clinical Hub Analysis)
Variation in % patients advised to go to A&E who attend, and are admitted	2.40%	6 weeks prior to Hub and 6 weeks after implementation - comparison of admission rates

Set up costs		
NEAS Set up as per costing schedule		
Operating costs		
Phase 1 Pilot	£ 153.85	Includes overheads
GP	£ 95.00	Sat-Sun Pre 4pm
Advance Practitioner	£ 40.00	Includes overheads
Nurse	£ 29.00	Includes overheads
Clerical	£ 14.15	Includes overheads
Disposition Costings		
A&E	£ 100	Based on regional A&E attendance - should this be lower - circa £60?
Self Care Advice	£ -	
Refer to: Walk in Centre/MIU	£ 57	Type 3 PbR
Pharmacy	£ 6	
Advised to make Routine GP Appt	£ -	NHSE Contract
GP OOH	£ 25	
Community Service	£ 25	GP OOH or community response (block contracts)
Dental	£ 15	As per Pharmacy
Failed Contact	£ -	
Other	£ 25	Multiple costs
Social Services	£ -	
Refer back to 111	£ 10	
Advised to go to A&E -Amb Transport	£ 190	999 charge
Advised to go to A&E – own transport	£ -	
Admission	£ 1,000	Admission estimate
Admitted - Ambulance Transport	£ 1,190	Admission plus ambulance
People who attend after being advised not to	£ 100	

assumptions

Appendix 5: Live evaluation framework

The framework outlines outcomes, evaluation questions, key indicators, evidence gathering methods and tools, and timescales. It presents this in relation to:

- Patients
- Professional staff
- The local health and social care system
- Process (or implementation) factors, i.e. how well the programme itself is operating

It aims to provide a clear structure which will address the following key evaluation questions set by NEUECN colleagues in the evaluation specification:

1. What is the context (e.g. history, culture, relationships, health inequalities, local and national policies, national legislation)?
2. What key changes has the vanguard made and which providers, workforce groups and patients are being affected by them?
3. How have these changes been implemented?
4. What has been the role and benefit of patient/carer and public involvement and workforce engagement?
5. What is the change in resource use and cost for the specific interventions that encompass the vanguard programme (integrated urgent care [IUC] and other urgent and emergency care [UEC] priorities) locally?
6. What impacts is the vanguard having on patient flows, experiences and clinical outcomes?
7. What impact is the vanguard having on the wider UEC system and local health economy, including on workforce and how resources are used?
8. How does the vanguard's impact compare against a counterfactual scenario in which the vanguard intervention has not been delivered?
9. Which components of the model are really making a difference?
10. What are the 'active ingredients' of the model? Which aspects, if replicated elsewhere, can be expected to give similar results and what contextual factors are prerequisites for success?

11. What are the unintended costs and consequences (positive or negative) associated with implementing integrated urgent care (IUC) and other UEC priorities on the local health economy and beyond?

12. What conclusions can be drawn and recommendations made for this vanguard and for the wider UEC vanguard programme?

It should be recognised that demonstrating the impact of the NEUECN vanguard within the evaluation timescale is challenging. However, the framework below should be viewed in terms of activity that informs the evaluation period, but also which can be continued post the initial evaluation period.

It should also be noted that we see the development of the evaluation framework as a collaborative process and as such would welcome consolidated feedback and improvement suggestions from the NEUECN.

In addition to the evaluation questions outlined above, we will produce a cost benefit analysis of the Hub service. This will require the receipt of monitoring data relating to individual Hub users' service usage for a set period of time prior to and following engagement with the Clinical Hub. We understand that this data has been collected in the past.

We also intend to use 111 call handler data relating to the appropriateness of referrals, which we also understand is now being collated. This will allow for assessment of whether changes to the Directory of Services (DoS) have had an impact on the number of patients being referred to the Hub, and therefore whether there can be further changes expected in the future. This will impact on the assessment of the ongoing cost benefit and sustainability of the Hub.

Figure 18 summarises the proposed evidence gathering methods for each outcome area.

Figure 18 – Outcomes and evidence sources

Outcome area	Evidence gathering methods
Patients	• UEC Dashboard data • Stakeholder interviews with both Hub staff, and stakeholders from the wider system e.g. 111, 999 and Ambulance services, DoS stakeholders, etc. • Sense-testing workshops • Review of programme documentation • Existing programme monitoring data • Secondary Uses Service (SUS) data (including HRG4 code, mode

Outcome area	Evidence gathering methods
	of arrival, mode of disposal)
Professional staff	• UEC Dashboard data • Stakeholder interviews • Delivery board workshops
The local health and social care system	• Stakeholder interviews • Sense-testing workshops • Review of programme documentation • Existing programme monitoring data • SUS data
Process factors	• Stakeholder interviews • Sense-testing workshops • Review of programme documentation • Existing programme monitoring data

The evaluation framework and evidence gathering methods have been designed in order to address the evaluation questions outlined above through the collection and analysis of a range of qualitative and quantitative data.

We have proposed this approach in order to allow for any trends in quantitative data to be analysed alongside qualitative data from interviews and workshops, in order to allow them to be attributed or otherwise to the NEUECN. In addition, this approach ensures trends can be presented alongside explanatory data explaining why any positive or negative impacts of the NEUECN may be being seen, and what any barriers or enablers to the progress of the programme may be.

Figure 19 – Proposed live evaluation framework

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
1	**For patients**				
1.1	Improved patient experience & satisfaction (including a focus on the Clinical Hub)	2, 6, 8	• Perceptions of staff on improved patient experience & satisfaction	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017
1.2	Improved levels of self-care	2, 6, 8	• Staff reported levels of patient self-care	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017
1.3	Improved ability to access services, (including a focus on the Clinical Hub)	2, 6, 8	• Evidence of communications from NEUECN to patients providing information on access to services, advice and information, including the Clinical Hub • Staff reported level of patient ability to access services, including the Clinical Hub	• Review of programme documentation • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
1.4	Improved clinical outcomes	2, 6, 8	• Mortality rates for serious emergency conditions[11] • Staff reported level of clinical outcomes	• UEC Dashboard data • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
1.5	Increased patient recognition of the benefit of single point of entry (Clinical Hub)	2, 4, 6, 8	• Clinical Hub attendances • Number of unnecessary attenders at ED[12] • Percentage of attendances at ED that self-referred[13] • Staff reported level of patient recognition of the benefit of single point of entry • A&E attendance acuity levels	• Existing programme monitoring data • UEC Dashboard data • Stakeholder interviews • Sense-testing workshops • SUS data	• April 2017 • April 2017 • February – March 2017 • April – May 2017 • April 2017

[11] If available during the stated timescale.

[12] If available during the stated timescale.

[13] If available during the stated timescale.

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
2	**For professional staff**				
2.1	Increased sharing and replication of ideas and learning (with a focus on the Clinical Hub)	4, 7	• Staff reported levels of sharing and replication of ideas and learning	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017
2.2	Increased specialist involvement with 111 and out of hours services	2, 4, 7	• Staff reported levels of specialist involvement with 111 and out of hours services	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017
2.3	Increased staff satisfaction (with a focus on the Clinical Hub)	2, 7	• Self-reported staff satisfaction • Staff turnover rate[14]	• UEC Dashboard data • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
3	**For the local health and social care system**				
3.1	Improved information sharing between agencies across the region	1, 2, 7	• Staff reported levels of information sharing	• Stakeholder interviews • Sense-testing workshops	• February – March 2017

[14] If available during the stated timescale.

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
			between agencies across the region		• April – May 2017
3.2	Use of agreed standard format and processes for creating, updating and sharing care plans and patient notes between providers	1, 2, 7	• Evidence of a standard format and processes for creating, updating and sharing care plans and patient notes between providers • Staff reported use of standard format and processes for creating, updating and sharing care plans and patient notes between providers	• Review of programme documentation • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
3.3	Reduction in acute referrals and emergency department activity	1, 2, 5, 7, 8	• Number of emergency admissions • Number of A&E attendances • Clinical Hub pathway data • 111 call handler referral data	• Existing programme monitoring data • SUS data	• April 2017 • April 2017
3.4	Reduction in green ambulance dispositions	1, 2, 5, 7, 8	• Ambulance handover delays data • Staff reported impact on green ambulance	• Existing programme monitoring data • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
			dispositions		• April – May 2017
3.5	Reduction in unnecessary demand on the urgent care system	1, 2, 5, 7, 8	• Clinical Hub pathway data	• Existing programme monitoring data	• April 2017
3.6	Reduced demand on primary care	1, 2, 5, 7, 8	• Clinical Hub pathway data • Staff perceptions of demand on primary care	• Existing programme monitoring data • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
3.7	The Hub is a cost effective service, where savings generating through reduced demand for health and social care services, at a minimum, cover the costs of implementation	5, 7, 8, 9	• Clinical Hub pathway data • Staff and stakeholders reporting cost effectiveness of the service	• Existing programme monitoring data • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
4	**Process and implementation factors**				
4.1	Governance, management and procurement processes have supported successful implementation of the NEUECN, and of the Hub specifically	1, 3, 10, 12	• Staff and stakeholders reporting regarding effectiveness of governance, management and procurement processes	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017

	Outcomes	Evaluation questions	Indicators	Evidence gathering methods and tools	Timescale
4.2	The NEUECN, and the Hub specifically, is being delivered as planned, with any variations to plan explained and agreed	1, 3, 10, 11	• Staff and stakeholders reporting regarding delivery of programme against the original business cases • Comparison of planned activities against actual activities	• Review of programme documentation • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
4.3	The NEUECN, and the Hub specifically, is managed within budget	1, 3, 10, 11	• Comparison of budgeted expenditure against actual expenditure • Staff and stakeholders reporting that the service is managed within budget	• Review of programme documentation • Stakeholder interviews • Sense-testing workshops	• April 2017 • February – March 2017 • April – May 2017
4.4	Lessons from implementation have been incorporated into future planning	1, 3, 9, 10, 11, 12	• Staff and stakeholder reporting that lessons from implementation have been incorporated into future planning	• Stakeholder interviews • Sense-testing workshops	• February – March 2017 • April – May 2017

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