



**Agenda for a meeting of the Health and Social Care Overview and Scrutiny Committee to be held on Thursday, 12 April 2018 at 4.30 pm in Committee Room 1 - City Hall, Bradford**

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**Members of the Committee – Councillors**

<b>CONSERVATIVE</b>	<b>LABOUR</b>	<b>LIBERAL DEMOCRAT AND INDEPENDENT</b>
<b>Gibbons Rickard</b>	<b>Greenwood A Ahmed Akhtar Johnson Shabbir</b>	<b>N Pollard</b>

**Alternates:**

<b>CONSERVATIVE</b>	<b>LABOUR</b>	<b>LIBERAL DEMOCRAT AND INDEPENDENT</b>
<b>Barker Poulsen</b>	<b>Berry I Hussain S Hussain Iqbal H Khan</b>	<b>Griffiths</b>

**NON VOTING CO-OPTED MEMBERS**

Susan Crowe	Strategic Disability Partnership
Trevor Ramsay	Strategic Disability Partnership
G Sam Samociuk	Former Mental Health Nursing Lecturer
Jenny Scott	Older People's Partnership

**Notes:**

- This agenda can be made available in Braille, large print or tape format on request by contacting the Agenda contact shown below.
- The taking of photographs, filming and sound recording of the meeting is allowed except if Councillors vote to exclude the public to discuss confidential matters covered by Schedule 12A of the Local Government Act 1972. Recording activity should be respectful to the conduct of the meeting and behaviour that disrupts the meeting (such as oral commentary) will not be permitted. Anyone attending the meeting who wishes to record or film the meeting's proceedings is advised to liaise with the Agenda Contact who will provide guidance and ensure that any necessary arrangements are in place. Those present who are invited to make spoken contributions to the meeting should be aware that they may be filmed or sound recorded.
- If any further information is required about any item on this agenda, please contact the officer named at the foot of that agenda item.

**From:**

Michael Bowness  
Interim City Solicitor

**To:**

Agenda Contact: Palbinder Sandhu/Claire Tomenson  
Phone: 01274 432269/432457  
E-Mail:

## **A. PROCEDURAL ITEMS**

### **1. ALTERNATE MEMBERS (Standing Order 34)**

The City Solicitor will report the names of alternate Members who are attending the meeting in place of appointed Members.

### **2. DISCLOSURES OF INTEREST**

(Members Code of Conduct - Part 4A of the Constitution)

To receive disclosures of interests from members and co-opted members on matters to be considered at the meeting. The disclosure must include the nature of the interest.

An interest must also be disclosed in the meeting when it becomes apparent to the member during the meeting.

*Notes:*

- (1) Members may remain in the meeting and take part fully in discussion and voting unless the interest is a disclosable pecuniary interest or an interest which the Member feels would call into question their compliance with the wider principles set out in the Code of Conduct. Disclosable pecuniary interests relate to the Member concerned or their spouse/partner.*
- (2) Members in arrears of Council Tax by more than two months must not vote in decisions on, or which might affect, budget calculations, and must disclose at the meeting that this restriction applies to them. A failure to comply with these requirements is a criminal offence under section 106 of the Local Government Finance Act 1992.*
- (3) Members are also welcome to disclose interests which are not disclosable pecuniary interests but which they consider should be made in the interest of clarity.*
- (4) Officers must disclose interests in accordance with Council Standing Order 44.*

### **3. MINUTES**

**Recommended –**

**That the minutes of the meetings held on 25 January 2018 and 1 March adjourned to 22 March 2018 be signed as a correct record (previously circulated).**

(Palbinder Sandhu – 01274 432269)

#### **4. INSPECTION OF REPORTS AND BACKGROUND PAPERS**

(Access to Information Procedure Rules – Part 3B of the Constitution)

Reports and background papers for agenda items may be inspected by contacting the person shown after each agenda item. Certain reports and background papers may be restricted.

Any request to remove the restriction on a report or background paper should be made to the relevant Strategic Director or Assistant Director whose name is shown on the front page of the report.

If that request is refused, there is a right of appeal to this meeting.

Please contact the officer shown below in advance of the meeting if you wish to appeal.

(Palbinder Sandhu - 01274 432269)

#### **5. REFERRALS TO THE OVERVIEW AND SCRUTINY COMMITTEE**

Any referrals that have been made to this Committee up to and including the date of publication of this agenda will be reported at the meeting.

### **B. OVERVIEW AND SCRUTINY ACTIVITIES**

**Please note that the following item was deferred from the meeting which was adjourned on 1 March 2018 and reconvened on 22 March 2018.**

#### **6. POST DIAGNOSIS SUPPORT FOR PEOPLE WITH DEMENTIA**

1 - 36

The Strategic Director, Health and Wellbeing will present a report (**Document “AD”**), as requested at the Health and Social Care Overview and Scrutiny Committee in January 2017, which provides an annual update report from the Bradford District Dementia Strategy Group focusing on the services provided in the District to support people with dementia and their carers post diagnosis.

**Recommended –**

- (1) That Members are asked to comment on the update report.**
- (2) That a further update report be provided in 2019.**

(Rose Dunlop – 01274 431915)

7. **AIREDALE AND PARTNERS ENHANCED HEALTH IN CARE  
HOMES TELEMEDICINE VANGUARD - UPDATE AND  
EVALUATION FINDINGS**

37 - 120

This report (**Document “AI”**) provides an update on the progress and changes to the Airedale and Partners Telemedicine Vanguard since 2016. The Vanguard programme has now reached its conclusion and this report also includes the findings of the evaluation of the Telemedicine part of the Vanguard Programme.

**Recommended –**

**That the findings of the evaluations be noted.**

(Rose Dunlop – 01274 431915)

8. **2016- 18 RESOLUTION TRACKING UPDATE**

The Overview and Scrutiny Lead will give a verbal update tracking the outcomes of the Committee’s resolutions over the last two municipal years.

(Caroline Coombes – 01274 432313)



## **Report of the Dementia Strategy Group to the meeting of Health and Social Care Overview and Scrutiny Committee to be held on 1 March 2018**

# **AD**

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### **Subject:**

**Post Diagnosis Support for People with Dementia**

### **Summary statement:**

**This report, as requested at Health and Social Care Overview and Scrutiny Committee in January 2017, is an annual update report from the Bradford District Dementia Strategy Group focusing on the services provided in the District to support people with dementia and their carers post diagnosis.**

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Bev Maybury  
Strategic Director Health and Wellbeing  
Report Contact: Rose Dunlop  
Phone: (01274) 431915  
E-mail: [rose.dunlop@bradford.gov.uk](mailto:rose.dunlop@bradford.gov.uk)

### **Portfolio:**

**Overview & Scrutiny Area: Health and Social Care**

## **1. SUMMARY**

The following report is an update from the Local Dementia Strategy Group on the services available in the District for people with dementia and their carers. The services described are funded by both or either the Local Authority and the NHS and are provided by a wide range of organisations including specialist acute setting support through to community based services.

## **2. BACKGROUND**

- 2.1 The realisation of the impact of dementia on society, on individual and on families has resulted in increasing Government and public pressure to improve services from health, social care, and voluntary sector and community perspectives.
- 2.2 Since the inception of the National Dementia Strategy in 2009 policy has focussed on the following issues;
  - Improve detection & diagnosis rates
  - Dementia-friendly' communities
  - Integrated health & social care
  - Reduce acute hospital admissions
  - Minimise sedative psychiatric medications
  - Improve post-diagnostic support
  - Better carer support
- 2.3 The Bradford Dementia Strategy and Action Plan 2015-20 was presented to Health and Social Care Overview and scrutiny in Autumn 2014 and was launched across the District at a launch event in June 2015.
- 2.4 The Dementia Strategy Group updated Health and Social Care Scrutiny in January 2017 on progress on the Local Strategy and Action Plan. The Committee noted the progress and asked for a further update on Post Diagnosis Support for People with Dementia and their Carers.
- 2.5 In November 2017 the Bradford Dementia Strategy and Action Plan 2015-20 was refreshed to focus local areas for action and align on-going working into The Well Pathway set out in the 2016 Challenge on Dementia 2020: implementation plan and used in the NHSE Transformation Framework. This has created a comprehensive action plan to focus the current and future work of the Dementia Strategy Group. See Appendix 1

## **3. REPORT ISSUES**

- 3.1 Locally it is estimated that there are more than 5000 people aged over 65 with dementia in the District. Approximately 4000 of those people have a diagnosis with 1000 remaining undiagnosed. Local diagnostic rates in 2017 are over 80% across the district meaning they are the highest in the region, feeding demand for post-diagnostic services. These high rates have been maintained despite pressures on Primary Care and demonstrate the local commitment to supporting Dementia. In 2016-17 there were 1400 referrals for memory assessments with approximately 700 newly diagnosed people. The number of people with dementia is likely to rise to 6000 by 2020.

- 3.2 Bradford continues to have a focus on improving diagnosis rates in harder to reach groups: a Multi-Disciplinary Team has been set up between the BTHFT and BDCFT to support the diagnosis of Dementia in patients with complex neurological disorders (e.g. Parkinson's/ Multiple Sclerosis). The DiADeM tool to support diagnosing Dementia in the Care Home setting has also been developed by local clinicians and has now been adopted nationally. Other key issues that need to be considered are that national estimates indicate that 25% of hospital beds are taken up by people with dementia, 80% of residents in care homes are people with dementia however it is estimated that 66% of people with dementia still live at home.
- 3.3 Receiving a diagnosis of dementia can be a difficult and emotional time. It can be hard to come to terms with it and know what to do next. Some people might even feel a sense of relief from knowing what is wrong and what steps to take. Support after a diagnosis is very important. A diagnosis of dementia shouldn't stop people being in control of their lives or doing many of the things they enjoy. They should be supported to remain independent, active and engaged, and fully involved in making decisions and choices for themselves, for as long as they can.
- 3.4 Post diagnosis services range from general to highly specialised support. When a person needs a diagnosis they are referred to a memory clinic. There are 14 Memory Clinics per week in 14 different GP surgeries.
- 3.5 Four key elements of post-diagnostic support include:

1) **Dementia Adviser** (2 weeks after referral)

- Providing information about diagnosis & treatment, Carers Needs, Community Support, Local Services, Benefits & Legal Advice.

The Dementia Adviser service is an assigned worker service with the Dementia Advisers and Dementia Support Workers working together from diagnosis and throughout the dementia journey. This is run by the Alzheimer's Society and funded by both the Local Authority and the CCGs and also subsidised with voluntary income. Over 50% of people estimated to have dementia in Bradford District have had now had contact with the service based on electronic records which began in 2014. This is higher than the national average, 2016/2017 there were 663 new referrals to the service. With 16/17 demonstrating a plateauing in new diagnoses and the Alzheimer's society have seen increasing numbers of people already diagnosed coming back to the service either through self-referral or contact with their other teams in the District.

2) **Nurse review** (3 months after diagnosis)

- Physical Health, Social Needs, Practical Support, Medication, Other Mental Health Issues, Sign-posting, Onward Referral

3) **GP review** (every 12-15 months)

- Physical health, changes in memory, medication, advanced care planning, Community Matron support. People with Dementia from Bradford Face it Together group have helped design the advance care planning template with clinicians in Bradford and this is now being used as a base for a regional

template and is quoted as good practice in the National Care Planning guidance.

#### 4) **Dementia Friendly** Communities / Businesses / Services

- GP surgeries, Mosques, Hospitals, WYMAS, BDMC

3.6 In addition to the post-diagnostic pathway of support above additional support is available. This includes:

##### 1) **Social Support:**

- Time Out (sitting service)
  - 1:1 individual sessions for person with dementia
- Day Care
  - Social activities and engagement in local centres for older people
  - Young-onset pathways group for people of working age
- Residential Respite
  - 24 hr care and support for 1-2 weeks at a time
- Home Care
  - Practical Support with shopping, meal preparation, washing, dressing
- Care Navigation Service
  - Facilitated sign-posting / access to range of community support Home Care/Day Centres/Sitting Service/Befriending/Memory Tree/Well-Being Cafes / Community & Voluntary Sector groups / Peer Support.
  - A key issue, particularly in regard to community based services is ensuring that there are culturally specific services. There are a number of these services in the District which include services such as Meri Yaadain and Sharing Voices, and Eastern European, South-Asian and African-Caribbean Well-Being Cafes.

##### 2) **Highly Specialised Support**

- Specialist Day Care
  - Woodward Court (Allerton), Holmewood Resource Centre (Keighley)
  - Community Hospitals
  - Westbourne Green, Westwood Park, St Luke's Hospital, Castleberg
- Local Authority Respite & Assessment Units
  - Holmeview & Woodward Court (Bradford), Holmewood (Keighley), Thompson Court (Bingley), Currergate (Steeton)
- Residential & Nursing Home Care
  - 'EMI' registered facilities
  - Care Home Liaison (Mental Health)
  - Complex Care Team / Community Matron Input
- Mental Health Hospital Unit
  - Dementia Assessment Unit (Lynfield Mount Hospital)
  - Carers;

##### 3) **Community – Based Support**

- Well-Being Café Network
  - 20+ locally-based across the district, for both carers / family / people with dementia to attend. BAME Well-Being Cafés. ([http://www.cnet.org.uk/library/downloads/Well-Being\\_Cafes\\_2011\\_12.pdf](http://www.cnet.org.uk/library/downloads/Well-Being_Cafes_2011_12.pdf) )
- Dementia Support Workers



- Alzheimer's Society (Bradford, Airedale & Wharfedale), Making Space (Craven), Befriending, Sign-posting to other services, Practical & emotional support
- Worth Connecting
  - IT project, Minimise social isolation through social networking
- BAME support
  - Meri Yaadain (out-reach support), Sharing Voices (Bradford), Roshni Ghar (Keighley), Alzheimer's Society BME workers.

#### **4) Carer focussed support**

- Carers Resource
  - Carers Welfare Assessments, Sign-posting, Support Groups
- Carers Hub (BDCFT)
  - Sign-posting, Social activities and education
- Alzheimer's Society
  - Carers Education / Family Support Programmes including emotional support and practical support e.g. developing emergency plans
- Relate
  - Relationship counselling for carers / family members
- Care Navigation Service
  - Sign-posting / access to range of community support. Carers are a key source of support to people with dementia, but it is important that they have access to support.
- Rally-round
  - *Details to be added*
- Making Space
  - *Details to be added*
- Young Onset Pathway Group
  - *Details to be added*
- Memory Tree
  - Carers support groups around the District, with parallel activity groups for people with Dementia.

#### **5) Physical and Psychological Support;**

To live well with dementia it is important that both physical and psychological needs are addressed. To support this people with dementia can access services where appropriate from the District Nurse Service/ Community Matrons/ Case Managers/MH Physios /Dental Service /Dementia Lead Nurse (BRI) / Complex Care Team/Community Mental Health Teams / Occupational Therapy / Specialist Day Care / Acute Hospital Liaison/ Caring and Sharing (Relate Counselling sessions) and the Piccadilly Project.

#### **6) Self Care**

Self care information and guidance are provided by Dementia advisors and include a range of local and nationally developed resources such as carers support guides, living well guides, fact sheets and memory tips. Locally specific and national resources include:

- Local Dementia Self-Care Pack:
  - <https://www.bradford.gov.uk/media/1774/dementiaselfcarepack.pdf>

- Dementia Services Directories:
    - [www.bdct.nhs.uk/support-for-carers](http://www.bdct.nhs.uk/support-for-carers)
  - DementiaCarer.Net
    - [www.dementiacarer.net](http://www.dementiacarer.net)
  - National Dementia Helpline:
    - Tel: 0300 222 1122
  - Dementia Connect (Alz. Society)
    - <https://www.alzheimers.org.uk/dementiaconnect>
- 3.8 A key priority in the National Dementia Strategy is dying well with dementia. Although there isn't a specific end of life service for people with dementia, there is a District wide Palliative Care teams who provide people who have progressive illnesses with help and support throughout progression of their illness.
- 3.9 Post diagnosis support is a key priority within the Local Dementia Strategy and Action Plan. The vision for people with dementia and their families or carers is to be supported to find, contact and access appropriate, meaningful and local health, social, community and / or voluntary sector support. This needs to be done in an integrated way that ensures that providers of services and people with dementia and their families or carers are aware and can access the wide range of services available at crucial times. The Dementia Strategy Group will be working to ensure that there is that range of services available and continue to support best practice with the coming years with actions shown in Appendix 1.
- 3.10 The new National Implementation Guide for Dementia advises that all patient should receive a diagnosis and care plan within 6 weeks of referral and have a named care co-coordinator and care plan. An event was recently held in Bradford District & Craven (07/02/2018) bringing together partners from all the local stakeholders, providers and Carer organisations to look at how these challenges can be achieved using the assets we already have and to look for those gaps where investment may be required to ensure a comprehensive service. The outputs from this day will be used to develop an separate targeted action plan to take the work forward.

**4. FINANCIAL & RESOURCE APPRAISAL**

None

**5. RISK MANAGEMENT AND GOVERNANCE ISSUES**

None

**6. LEGAL APPRAISAL**

None

**7. OTHER IMPLICATIONS**

**7.1 EQUALITY & DIVERSITY**

None

**7.2 SUSTAINABILITY IMPLICATIONS**

None

**7.3 GREENHOUSE GAS EMISSIONS IMPACTS**

None

**7.4 COMMUNITY SAFETY IMPLICATIONS**

None

**7.5 HUMAN RIGHTS ACT**

None

**7.6 TRADE UNION**

None

**7.7 WARD IMPLICATIONS**

None

**7.8 AREA COMMITTEE ACTION PLAN IMPLICATIONS**

None

**8. NOT FOR PUBLICATION DOCUMENTS**

None

**9. OPTIONS**

None

**10. RECOMMENDATIONS**

10.1 The Committee members are asked to comment on the update report.

10.2 That a further update report will be provided in 2019.

## 11. APPENDICES

### Appendix 1: Refreshed Dementia Strategy Group Action Plan: November 2017

<b>Preventing Well</b>				
<b>STRATEGIC ACTIONS</b>	<b>DELIVERY ACTIONS (What needs to be done)</b>	<b>OUTPUT MEASURES (i.e. evidence it has been completed)</b>	<b>RESPONSIBLE PERSONS/ ORGANISATIONS</b>	<b>WHEN WILL IT BE COMPLETED</b>
<b>Embed communications around reducing dementia risk into existing relevant health promotion, self-care and early intervention work.</b>	<ul style="list-style-type: none"> <li>• Work with Self-Care team to embed dementia prevention into the offer</li> <li>• Ensure dementia prevention approaches are embedded into Commissioning and contracting processes through the Healthy Charter.</li> </ul>	<ul style="list-style-type: none"> <li>• All new contract and commissioned services are to be Dementia Friendly by benchmarked against the Equality and Diversity checklist by 2020</li> <li>• All services will consider the needs of patients and carers of people with dementia</li> <li>• Dementia added to Self-Care Programme</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Mary Surr.</u></li> <li>• Anna Smith</li> <li>• Sasha Baht</li> </ul>	End 2020
<b>Ensure the public and professionals are aware of the link between cardiovascular risk factors, diabetes and</b>	<ul style="list-style-type: none"> <li>• Working with Bradford Healthy Hearts and Bradford Beating Diabetes to improve patient and professional knowledge</li> <li>• Develop activity to improve professionals' knowledge of</li> </ul>	<ul style="list-style-type: none"> <li>• Embedded in BHH and BDD strategic and operational activity; represented in BHH/BDD literature</li> <li>• Organise/deliver educational events for health and social care</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Andrew O'Shaughnessy</u></li> <li>• Paul Smithson</li> <li>• Strategic Clinical Network</li> </ul>	End 2018

<p><b>vascular dementia and are aware of how to use this knowledge to support risk reduction</b></p>	<p><i>the signs and symptoms of Dementia</i></p> <ul style="list-style-type: none"> <li>• <i>Embed Dementia Prevention into other campaigns for example the Healthy Charter</i></li> <li>• <i>Have a coordinated and joined up approach to using both local and National campaigns and Awareness to develop awareness and support risk reduction</i></li> </ul>	<p><i>professionals</i></p> <ul style="list-style-type: none"> <li>• <i>Embedded in Healthy Charter</i></li> <li>• <i>Maintain profile and priority of Dementia Awareness Week and co-ordination with University initiatives</i></li> </ul>		
<p><b>Have a life course approach to prevention including Care Homes and support for carers around isolation, loneliness, depression and anxiety</b></p>	<ul style="list-style-type: none"> <li>• <i>Availability of appropriate prevention for specific age ranges</i></li> <li>• <i>Work with Self Care team to embed dementia prevention into the offer</i></li> <li>• <i>Work with provider service and the CCGs to increase acceptability and accessibility of IAPT services</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Percentage of over 65s accessing IAPT services as measured by the CCG</i></li> <li>• <i>Dementia added to Self-Care Programme</i></li> <li>• <i>ASCOF Indicator 2A: Long-term support needs met by admission to residential and nursing care homes, per 100,000 population</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• <i>Paul Smithson</i></li> <li>• <i>Sara Humphrey</i></li> </ul>	<p><i>End 2018</i></p>
<p><b>Recognise the contribution of Isolation, Loneliness, Depression and</b></p>	<ul style="list-style-type: none"> <li>• <i>Work with CCGs to reduce loneliness and isolation and input into the Mental Health Strategy</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dementia included in the Mental Health Strategy</i></li> <li>• <i>JSNA MH chapter revised</i></li> <li>• <i>Adult Social Care DMT</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Mary Surr</u></b></li> <li>• <i>Sasha Baht</i></li> <li>• <i>Sara Humphrey</i></li> <li>• <i>Simon Baker</i></li> </ul>	<p><i>End 2017</i></p>

<b>Anxiety to Dementia</b>	<ul style="list-style-type: none"> <li>• <i>Reflect the relationship between Dementia and Isolation in Joint Strategic Needs Assessment</i></li> <li>• <i>Integrate with Adult Social Care loneliness agenda</i></li> <li>• <i>More emphasis on isolation in Care Homes</i></li> </ul>	<i>briefed</i> <ul style="list-style-type: none"> <li>• <i>PHOF Indicator 1.18 – Social Isolation</i></li> <li>• <i>Workgroup with Care Homes established</i></li> </ul>		
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<b>Diagnosing Well</b>				
<b>STRATEGIC ACTIONS</b>	<b>DELIVERY ACTIONS (What needs to be done)</b>	<b>OUTPUT MEASURE (i.e. evidence it has been completed)</b>	<b>RESPONSIBLE PERSONS/ ORGANISATIONS</b>	<b>WHEN WILL IT BE COMPLETED</b>
<b>Reduce inequalities between different demographic groups in diagnosis rates</b>	<ul style="list-style-type: none"> <li>• <i>Improve/ access intelligence and coding of the recording of ethnic groups in diagnosis recording data</i></li> <li>• <i>Improve recording of people in Care Homes</i></li> <li>• <i>Map diagnoses by postcode and compare diagnosis rates by age specific ward level data</i></li> <li>• <i>Raise awareness groups known to have lower diagnosis rates</i></li> <li>• <i>Quarterly Report on inequalities to be shared with DSG</i></li> <li>• <i>Ensure when ethnicity data is recorded it is shared</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Increase percentage of patient with recorded ethnicity on the dementia register</i></li> <li>• <i>Quarterly report presented at the DSG</i></li> <li>• <i>Use of at risk Data Quality tool to provide a quarterly report of those at risk of Dementia in Bradford and Airedale</i></li> <li>• <i>Lower number of outliers at 18 weeks</i></li> <li>• <i>More people being assessed by six weeks</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• <i>Public Health Analyst Team</i></li> <li>• <i>Strategic Clinical Network</i></li> </ul>	<i>End 2020</i>
<b>Develop health and social care integrated diagnosis pathways to ensure systems and</b>	<ul style="list-style-type: none"> <li>• <i>Develop pathways for those not wishing to pursue a diagnosis</i></li> <li>• <i>Develop pathways for those</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Better experience of Diagnosis</i></li> <li>• <i>Less false positive</i></li> <li>• <i>Shorter pathway to</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Sasha Baht</u></b></li> <li>• <i>Sara Humphrey</i></li> <li>• <i>Danielle Woods</i></li> <li>• <i>Simon Baker</i></li> </ul>	<i>End 2018</i>

<p><b>communication are effective and appropriately inclusive to all Communities in the Bradford District</b></p>	<p><i>with additional needs such as learning difficulties or neurological conditions</i></p> <ul style="list-style-type: none"> <li>• <i>Improve awareness of Dear GP and DIADEM</i></li> <li>• <i>Raise awareness with Health Care Professionals of the importance of blood investigations as part of assessment for diagnosis</i></li> <li>• <i>Develop a well-defined pathway for anyone to be accessible (with a map for how it will work)</i></li> <li>• <i>Map and publicise all pathways including standard pathway</i></li> </ul>	<p><i>diagnosis</i></p> <ul style="list-style-type: none"> <li>• <i>Increase number of patients having bloods taken as per QoF (NICE id code: NM72)</i></li> </ul>		
<p><b>Maximise the use of data and intelligence to identify and predict those most at risk and improve the appropriateness of referrals by GP's</b></p>	<ul style="list-style-type: none"> <li>• <i>Develop data feedback between MATS false positive rates and GP referrals and use of specific screening tools</i></li> <li>• <i>Develop at risk data quality tool kit</i></li> <li>• <i>Embed targets and measures into Bradford District Care Trust contracting</i></li> <li>• <i>Develop quality measure into MATS contracting</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Improvement in quality measures</i></li> <li>• <i>Increase number people to first assessment in required timeframe</i></li> <li>• <i>Reduction of number people waiting over 18 weeks (reduce outliers)</i></li> <li>• <i>Reductions in Did not attends (DNAs)</i></li> <li>• <i>Reduction in number of people leaving memory</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Sasha Baht</u></b></li> <li>• <i>Andrew O'Shaughnessy</i></li> <li>• <i>Sara Humphrey</i></li> </ul>	<p><i>End 2018</i></p>



	<p>process</p> <ul style="list-style-type: none"> <li>• Embed partnership working between commissioners and clinical and social care providers to achieve assessment to treatment targets</li> </ul>	<p>service without a Dementia diagnosis or a MCI</p>		
<p><b>Ensure everyone diagnosed receives personalised support, advice and information within three months of receiving a diagnosis</b></p>	<ul style="list-style-type: none"> <li>• Mapping to care coordinators with consideration of need</li> <li>• Provide and promote an independent service that provides information and support for people effected by dementia through their journey or are worried about their memory</li> <li>• Maximise use of current assets</li> <li>• Map existing health and social care assets ant their capacity to deliver named coordinator role and look at capacity/needs gaps</li> </ul>	<ul style="list-style-type: none"> <li>• The percentage of patients diagnosed with dementia whose care plan has been reviewed in a face-to-face review in the preceding 12 months (as per QoF NICE id code: NM107)</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Partnership approach to development through DSG</u></b></li> </ul>	<p>End 2020</p>
<p><b>Improve awareness of signs, symptoms and benefits of diagnosis</b></p>	<ul style="list-style-type: none"> <li>• Improve knowledge of early signs and symptoms of dementia</li> <li>• Develop support resources</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of diagnoses presenting in advanced stages of disease</li> <li>• Local diagnosis rates as per</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• Paul Smithson</li> <li>• Strategic</li> </ul>	<p>End 2018</p>

<b>for people with Dementia</b>	<i>around the benefits of seeking support for memory problems and where appropriate seeing a diagnosis of dementia as positive</i>	<i>PHOF Indicator 4.16 - Estimated diagnosis rate for people with dementia</i>	<i>Network</i>	
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<b>Living and Supporting Well</b>				
<b>STRATEGIC ACTIONS</b>	<b>DELIVERY ACTIONS (What needs to be done)</b>	<b>OUTPUT MEASURE (i.e. evidence it has been completed)</b>	<b>RESPONSIBLE PERSONS/ ORGANISATIONS</b>	<b>WHEN WILL IT BE COMPLETED</b>
<b>Enhance the Dementia Friendly offer in all providers and the community</b>	<ul style="list-style-type: none"> <li>• Define Dementia Friendly provision and consider stepped provision rankings</li> <li>• Embed Dementia Friendly training across CCGs, LA and Provider Trust</li> </ul>	<ul style="list-style-type: none"> <li>• Output audit report of Dementia Friendly neighbourhoods and businesses</li> <li>• Numbers/proportion of CCG/LA/Provider staff in receipt of Dementia Friendly training</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Paul Smithson</u></li> <li>• Chris North</li> <li>• Danielle Woods</li> </ul>	End 2018
<b>Develop audience and improved resources for communicating support offers</b>	<ul style="list-style-type: none"> <li>• Develop a support pathway for carers</li> <li>• Develop a visualised map of support for people with dementia (tube map)</li> <li>• Develop activities to review/reach out to those with an existing diagnosis</li> <li>• Develop support offer for rare and young onset dementias</li> </ul>	<ul style="list-style-type: none"> <li>• Carer Support Pathway signed off by commissioners/providers</li> <li>• Tube Map published</li> <li>• Number/proportion of existing dementia patients</li> <li>• Support offer for rare/early onset dementias implemented</li> <li>• The percentage of patients with dementia with the contact details of a named</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Paul Smithson</u></li> <li>• Sasha Baht</li> <li>• Chris North</li> <li>• Danielle Woods</li> </ul>	End 2019

		<p>carer on their record as per QoF NICE id code: NM64</p> <ul style="list-style-type: none"> <li>• ASCFP Indicator 3D: The proportion of people who use services and carers who find it easy to find information about services</li> </ul>		
<p><b>Improve personalisation of care plans through application of evidence based risk assessment tools and increased consideration of carer needs.</b></p>	<ul style="list-style-type: none"> <li>• Maintain the current processes and activity for carers support</li> <li>• Recognise different types of carers and their needs to ensure support is suitable and accessible</li> <li>• Work with CCGs and Local Authority to refresh the Carers Strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of adult carers who have as much social contact as they like</li> <li>• Percentage of carers accessing IAPT</li> <li>• Monitor delivery of START</li> <li>• Increase use of Caring &amp; Sharing/Relate</li> <li>• NHSOF Indicator 2.4 Health-related quality of life for carers</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Sasha Baht</u></b></li> <li>• Sara Humphrey</li> <li>• Andrew O'Shaughnessy</li> </ul>	End 2018
<p><b>Maximise Potential of Provider Trusts / Hospitals to reduce Morbidity / Mortality</b></p>	<ul style="list-style-type: none"> <li>• Increase number of people with Care Plans in order to reduce unplanned need/demand/crises</li> <li>• Reduce length of stay in</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced unplanned admissions</li> <li>• Reduced Length of Stay in Secondary Care</li> <li>• Reduced presentation in</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Danielle Woods</u></b></li> <li>• Chris North</li> <li>• Paul Smithson</li> </ul>	End 2020

<p><b>and to help Maintain Home Based Care</b></p>	<p><i>hospitals</i></p> <ul style="list-style-type: none"> <li>• <i>Reduce presentation/admissions in crisis</i></li> <li>• <i>Explore/expand influence of John's Campaign</i></li> <li>• <i>Implementation of delirium care plans</i></li> </ul>	<p><i>crisis</i></p> <ul style="list-style-type: none"> <li>• <i>Improved recognition and diagnosis of delirium</i></li> <li>• <i>Reduced discharge to residential care</i></li> <li>• <i>Increased discharge to home</i></li> <li>• <i>ASCOF Indicator 2C: Delayed transfers of care from hospital, and those which are attributable to social care or jointly to social care and the NHS, per 100,000 population</i></li> <li>• <i>PHOF Indicator 4.11 – Emergency readmissions within 30 days of discharge from hospital</i></li> </ul>		
<p><b>Home First supporting people to live in the place of their choice</b></p>	<ul style="list-style-type: none"> <li>• <i>Deliver Home First Strategy by mapping and maximising community assets</i></li> <li>• <i>Recognition of circumstances requiring new arrangements</i></li> <li>• <i>Maximise availability of adaptations</i></li> <li>• <i>Maximise Carers support</i></li> <li>• <i>Expansion to/support of Dementia Friendly</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Number/proportion of people with dementia living at home</i></li> <li>• <i>PHOF Indicator 4.13 – Health-related quality of life for older people</i></li> <li>• <i>ASCOF Indicator 1A: Social care-related quality of life</i></li> <li>• <i>ASCOF Indicator 1H: Proportion of adults in contact with secondary</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Mary Surr</u></b></li> <li>• <b>Paul Smithson</b></li> </ul>	<p><i>End 2019</i></p>

	<p><i>Communities</i></p> <ul style="list-style-type: none"> <li>• <i>Work with LA Housing</i></li> <li>• <i>Work with Care Homes to reduce delirium</i></li> </ul>	<p><i>mental health services living independently, with or without support</i></p> <ul style="list-style-type: none"> <li>• <i>ASCOF Indicator 2B: The proportion of older people (age 65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services</i></li> <li>• <i>NHSOF Indicator 2.1 Proportion of people feeling supported to manage their condition</i></li> <li>• <i>NHSOF Indicator 3.6.i Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services</i></li> </ul>		
<b>Dementia friendly communities</b>	<p><i>Awareness training/education</i></p> <ul style="list-style-type: none"> <li>- <i>Professionals</i></li> <li>- <i>Society</i></li> <li>- <i>Care homes</i></li> <li>• <i>Grassroots development of dementia friendly awareness</i></li> <li>• <i>Identification of gaps in localities/neighbourhoods</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Number of Dementia Friendly Communities, Dementia Friends, Digital Friends and Dementia Champions in the District</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Paul Smithson</u></b></li> <li>• <i>Andrew O'Shaughnessy</i></li> </ul>	<i>End 2020</i>

<p><b>User and Carer Voice implementing and shaping the commissioning process</b></p>	<ul style="list-style-type: none"> <li>• <i>Ensure the commissioning of high quality evidence based support for people affected by dementia providing personalised information support and advice to ensure people affected by dementia can live well.</i></li> <li>• <i>Identify gaps in service and opportunities based on identified need including taking a community asset based approach.</i></li> <li>• <i>Ensure that the Bradford Carers Strategy has strong connections and outcomes relating to the Bradford Dementia Strategy</i></li> <li>• <i>Make sure as many communities across Bradford District as possible are dementia friendly in line with the national recognition standard. This will involve businesses, the health and social care sector (including care homes), local government, the voluntary sector, faith and</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Feedback is fed back into re commissioning process</i></li> <li>• <i>People effected by dementia have a voice and impact and are empowered to influence activity in the district</i></li> <li>• <i>ASCOF Indicator 1B: The proportion of people who use services who have control over their daily lives</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Partnership approach to development through DSG</u></b></li> </ul>	<p><i>End 2020</i></p>
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	<p><i>community groups and others.</i></p> <ul style="list-style-type: none"><li>• <i>Develop a series of Dementia Action Alliances across the District, ensuring that Dementia Friendly Communities and others are in receipt of evidenced learning and outcomes that can inform their practice.</i></li><li>• <i>Support the co-ordination and delivery of Dementia Friends sessions by volunteers across the Bradford District in order to ensure a better understanding of the issues that people with dementia face in their day to day lives.</i></li><li>• <i>Develop a network of user involvement groups to enable people affected by dementia shape and influence services and support they receive from providers and from within their communities</i></li><li>• <i>Use dementia friendly resources to support the</i></li></ul>			
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	<p><i>development of dementia friendly communities.</i></p> <ul style="list-style-type: none"><li>• <i>Identify assets within the community that we can build on and mobilise to improve support for people affected by dementia to live well in their chose tenure.</i></li></ul>			
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<b><i>Dying Well</i></b>				
<b>STRATEGIC ACTIONS</b>	<b>DELIVERY ACTIONS (What needs to be done)</b>	<b>OUTPUT MEASURE (i.e. evidence it has been completed)</b>	<b>RESPONSIBLE PERSONS/ ORGANISATIONS</b>	<b>WHEN WILL IT BE COMPLETED</b>
<b>Enhance and embed professionals' recognition and use of the Bradford Advanced Care Plan</b>	<ul style="list-style-type: none"> <li>• Refresh local resources with view to national guidance</li> <li>• Dementia care plan must use softer language re meeting needs now and planning for EOL need</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor use and uptake of BACP</li> <li>• Reflect EOLC in Dementia in Joint Strategic Needs Assessment</li> <li>• Hold BACP educational event for health and social care professionals</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• Sara Humphrey</li> <li>• Mary Surr</li> </ul>	End 2020
<b>Improve intelligence and data led feedback on implementation of activities defined in individual's Advanced Care Plans.</b>	<ul style="list-style-type: none"> <li>• Develop data linkage between ACPs and place of death data and use to feedback and inform ACP development with relevant teams</li> <li>• Better coding of place of death and Death and how we communicate with partnership organisations</li> <li>• Better use of data to reduce distress</li> </ul>	<ul style="list-style-type: none"> <li>• % of patients where place of death is usual place of residence</li> <li>• Reduction in number/% of patients dying at transition</li> <li>• Number/% of patients with codes of death &amp; place/time recorded in records</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• Public Health Analyst Team</li> </ul>	End 2018
<b>Improve knowledge of and awareness of</b>	<ul style="list-style-type: none"> <li>• Develop knowledge and understanding of</li> </ul>	<ul style="list-style-type: none"> <li>• Hold BACP educational event for health and social</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> </ul>	End 2018

<p><b>the last year of life and approaching last days of life</b></p>	<p><i>emotional and faith based perspectives on death</i></p> <ul style="list-style-type: none"> <li><i>Better use of available resources in the third sector within the last year of life</i></li> <li><i>Understanding community resources around end of life care and coordinating this including skilling up third sector providers and commissioned carer provision skills</i></li> <li><i>Increase use of Gold Standards Framework</i></li> </ul>	<p><i>care professionals</i></p> <ul style="list-style-type: none"> <li><i>Monitor use of 3<sup>rd</sup> sector in EOLC</i></li> <li><i>Reflect EOLC in Dementia in Joint Strategic Needs Assessment</i></li> <li><i>NHSOF Indicator 4.6 Bereaved carers' views on the quality of care in the last 3 months of life</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Sara Humphrey</i></li> <li><i>Mary Surr</i></li> </ul>	
<p><b>Improve awareness and importance of end of life care planning with partners, patients and carers</b></p>	<ul style="list-style-type: none"> <li><i>Up skilling staff to have these conversations</i></li> <li><i>Staff aware to include patients and families to have these conversations</i></li> <li></li> </ul>	<ul style="list-style-type: none"> <li><i>Record in ACP and monitor specific conversations with patients and carers</i></li> <li><i>Bereaved cares views on quality of care in last 3 months of life</i></li> <li><i>NHSOF Indicator 4.6 Bereaved carers' views on the quality of care in the last 3 months of life</i></li> </ul>	<ul style="list-style-type: none"> <li><i><u>Andrew O'Shaughnessy</u></i></li> <li><i>Sara Humphrey</i></li> <li><i>Mary Surr</i></li> </ul>	<p><i>End 2018</i></p>
<p><b>Recognising transitions of care are an opportunity to</b></p>	<ul style="list-style-type: none"> <li><i>Improving awareness of this to providers</i></li> <li><i>All new patients in care homes will have their plan</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Monitor % of transitions where care plan is reviewed</i></li> </ul>	<ul style="list-style-type: none"> <li><i><u>Andrew O'Shaughnessy</u></i></li> <li><i>Danielle Woods</i></li> <li><i>Chris North</i></li> </ul>	<p><i>End 2018</i></p>

review care plans.	<i>reviewed</i>			
<b>Improving access to Hospice care for people dying with dementia</b>	<ul style="list-style-type: none"> <li>• <i>Access to specialist palliative care</i></li> <li>• <i>Establish a way of recognising people in the last year of life improve professionals' knowledge</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>% of ACPs where it is noted that last year of life has been entered</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Andrew O'Shaughnessy</u></b></li> <li>• <i>Sara Humphrey</i></li> </ul>	<i>End 2018</i>
<b>Understanding the existing issues around end of life care for the frail elderly with dementia</b>	<ul style="list-style-type: none"> <li>• <i>Work with DSG to map what is available including third sector to support frail elderly people with dementia</i></li> <li>• <i>Link to Home First Strategy</i></li> <li>• <i>Develop tools for sharing stories with patients /carers</i></li> </ul>	<i>That mapping is completed and relevant actions taken forwards</i>	<b><u>Partnership approach to development through DSG</u></b>	<i>End 2018</i>

## Appendix 2: Record of Dementia Strategy Group Member Achievements

### Dementia - Reporting achievements to October 2016:V5

Please allocate the achievements below to the relevant Well Pathway Domain. Reminders for each of the domains are below; if you feel very strongly that your achievement fits into more than one of the five domains please rank them 1 being the strongest.

Preventing Well	Diagnosing Well	Living Well	Supporting Well	Dying Well
Risk of developing Dementia is minimised in Bradford's population	Timely ,accurate diagnosis,care plan and review in the first year	People with dementia and their carers have access to safe, high quality health and social care	People with dementia live normally, in safe and accepting communities in Bradford District	People living with dementia die with dignity in the place of their choosing
<i>"I was given information about reducing my personal risk of getting Dementia"</i>	<i>"I was diagnosed in a timely way" "I am able to make decisions and know what to do to help myself and who else can help"</i>	<i>"I am treated with dignity &amp; respect" "I get treatment and support which are best for my dementia and my life"</i>	<i>"I know that those around me are looking after me are supported" "I feel included as part of society"</i>	<i>"I am confident my end of life wishes will be respected" "I can expect a good death"</i>
STANDARDS: Prevention Risk Reduction Health Information Supporting research	STANDARDS: Diagnosis Memory Assessment Concerns Discussed Investigation Providing Information Integrated & Advanced Care Planning	STANDARDS: Choice.BPSD Liaison.Advocates Housing Hospital Treatments Technology Health & Social Services Hard to Reach Groups	STANDARDS: Integrated Services Supporting Carers Carers Respite Co-ordinated Care Promote independence Relationships Leisure Safe Communities	STANDARDS: Palliative care and pain End of Life Preferred Place of Death

PROJECTS	Lead: (Contact /Organisation)	WELL PATHWAY DOMAIN				
		Preventing Well	Diagnosing Well	Supporting Well	Living Well	Dying Well
<b>PARTNERSHIP PROJECTS</b>						
<ul style="list-style-type: none"> <li>Improving Diagnosis Rates Working Group</li> </ul>	Sara Humphrey, BC/BD CCGs		x			
<p>Quarterly network meeting of all dementia friendly community leads being held to ensure best practice in developing dementia friendly local initiatives is share</p> <ul style="list-style-type: none"> <li>Dementia Friendly Communities: <ul style="list-style-type: none"> <li>Bradford Royal Infirmary Hospital Wards</li> <li>20 Communities in Bradford District</li> <li>DAA quarterly meetings being held and supported Wards/Localities in Bradford District</li> <li>Schools in Bradford District (details of which needed)</li> <li>Bradford Metropolitan District Council</li> <li>Dementia Action Alliance (DAA) 91 members across district</li> </ul> </li> <li>Dementia Friendly GP practices ( WMC,SHC,Cowgill,Saltaire,Idle MC,The Willows,T&amp;D MC)</li> </ul>	Danni Woods, BRI Bev Fletcher,Alz Soc Bev Fletcher,Alz Soc Cathy Henwood, Alz Soc Cathy Henwood, Alz Soc Cathy Henwood, Alz Soc				x	
<ul style="list-style-type: none"> <li>Dementiacarers.net website</li> </ul>	Sara Humphrey & Mick James, BC/BD CCGs				x	
<ul style="list-style-type: none"> <li>"Join Dementia Research" recruitment programme</li> </ul>	Gregor Russell, BDCT	x				

• Delirium training & training resources for Care Homes	Chris North			X		
• DiaDem - protocol to support diagnosis of Advanced dementia in Care Homes	Sara Humphrey & the Dementia CN		X			
• Dementia End of Life Symptom Management on a Page	Sara Humphrey ,Annette Edwards and Dementia CN					X
• NHS England - Dementia in Care Homes training	Sara Humphrey	X	X	X	X	X
• Improving Access and Waiting Times to Memory clinics	Sara Humphrey/Chris North		X			
• Dementia Action Alliance, Bradford	Simon Baker & Paul Smithson, Alz Soc			X		
• PET scanning in memory clinics research study, in collaboration with Nuclear medicine department in Leeds- joint winner of the "Across the Pennines" service development award, from the DAA/SN	Gregor Russell, BDCFT		X			
• Working towards a dementia friendly organisation-ANHSFT	Em Snowdon ANHSFT				X	
• Working with carers Resource within clinical areas	Lynsey Nicholson ANHSFT/Saiuqa Raney, Carers' Resource			X		
All three locality offices of Carers' Resource (Shipley, Skipton and Harrogate) have received the Working Towards Dementia Friendly Award.	Saiuqa Raney, Carers' Resource			X	X	
Working in partnership with BDCFT attending 2 memory clinics per week to support carers ( Shipley, Eccleshill)	Saiuqa Raney, Carers' Resource				X	
<b>COMMUNITY PROJECTS:</b>						
• Caring and Sharing - relationship counselling for people with dementia &/or their partners	Sara Humphrey & Gill Croft, Relate				X	

● Memory Bank - resource for reminiscence and life story work	Yorkshire Film Archive					X
● Alcohol and Dementia-Lifeline Bradford	Faz Hafiz, Piccadilly Project			X		
● Walking Football – Lifeline Bradford	Faz Hafiz, Piccadilly Project					X
● Herbert Protocol - roll out in Care Homes (details of which needed) - Addition to GP Care Planning templates (SOne)	SY Police / Bev Gallagher Sara Humphrey					X
● Memory Clubs (Idle, Shipley, Keighley & Low Moor)	E.Milwain, Memory Tree CIC					X
● Fire Service (need details....)						X
● Dementia Friendly Swimming Group	Sharing Voices Ishtiaq Ahmed					X
● Happy Memories, weekly singing group Undercliffe	Alzheimer's Society staff					X
● Today group –monthly peer support group for people living with dementia	Alzheimer's Society Staff					X
● Westcliffe Peer support group - monthly meeting	Alzheimer's Society staff					X
● Coffee plus reminiscence group – monthly group for people living with dementia	Alzheimer's Society staff					X
● Bradford Evening Social – monthly music evening for people with dementia and carers	Alzheimer's Society staff					X
● Bradford Face it Together Group (FIT) Support and awareness raising and influencing group for people with a diagnosis of dementia , meeting monthly.	Bradford dementia friendly communities Project					X



<ul style="list-style-type: none"> <li>23 Memory cafes for vulnerable people over 55 including 4 specifically for people with Dementia.</li> </ul>	Various community groups, Alzheimer's Society (Dementia cafes)					X	
<ul style="list-style-type: none"> <li>Pathways Breaks Group-Monthly support for Younger people living with Dementia and partner/carers.</li> <li>Pathways Breaks Group - nominated for Queen's Award. Through to second stage. Successful awards due to be presented in June 2017.</li> </ul>	Clare Mason and Chris Ireson					XX	
<b>RESEARCH PROJECTS:</b>							
<ul style="list-style-type: none"> <li>Bradford University / BDCT joint research projects <ul style="list-style-type: none"> <li>South Asian service user experience of Memory Assessment Services</li> <li>BHiRCH project: preventing avoidable hospital admissions of people with dementia from care homes</li> <li>-</li> </ul> </li> </ul>	Jan O Murna Downs	X					
<ul style="list-style-type: none"> <li>Bradford &amp; Airedale Research Group ( BARG), BDCFT and Bradford Primary &amp; Secondary Care</li> </ul>	Sara Humphrey & John Hiley	X					
<ul style="list-style-type: none"> <li>Dementia Doctoral School, Bradford University</li> </ul>	Murna Downs, Jan Oyeboode	X					
<ul style="list-style-type: none"> <li>Vanguard.... (details needed)</li> </ul>							
<ul style="list-style-type: none"> <li>Culturally competent adaptation of Addenbrooke's cognitive examination – development and evaluation</li> </ul>	Chris north, Gregor Russell, Najma Siddiqi, BDCFT	X	X				
<ul style="list-style-type: none"> <li>'Consent to Contact@ - research Register in Memory Assessment Clinic, BDCFT</li> </ul>	Gregor Russell, BDCFT	X					
<ul style="list-style-type: none"> <li>Planned Joint Research Day with Dementia CN&amp; Bradford University ( Dec 7<sup>th</sup> 2016)</li> </ul>	Murna Downs/Penny Kirk/Sara Humphrey	X					

• Vanguard work project	Rachel Binks ANHSFT					
•						
<b>PRIMARY / SECONDARY CARE PROJECTS:</b>						
• Advanced Care Planning for Dementia in Primary Care – documentation and System One template	Sara Humphrey, BC/BD CCGs					x
• Acute Hospital discharge planning and System One template	Sara Humphrey, Paula Woodrow			x		
• New electronic patient record , incorporating screening for dementia, delirium and depression introduced at BRI	Danni Woods, BRI			x		
• “What Makes a Difference”- Des and QOF resources, care planning templates, reports and FAQs	Sara Humphrey, BC/BD CCGs		3	1	2	
• Daisy Hill Dementia Assessment Unit – opened August 2015 - Gold Award received from Stirling University	Allison Bingham, BDCFT			x		
• John’s campaign – a local CQUIN for 2016/17 at BTHFT and BDCFT (carers and family welcomed according to patient’s needs)	Danni Woods, BRI Mick James, CCGs			1	2	3
• New liaison model in community hospitals, roll out and evaluation	Chris North, Gregor Russell, BDCFT			x		
• Diagnosis rates in Memory Assessment Clinics – Bradford now 2 <sup>nd</sup> and 3 <sup>rd</sup> highest in the region	Chris North, BDCFT		x			
• Learning Disabilities pathway for assessment & diagnosis • LD networking group	Jackie Armatage, BDCFT		x			
• KPPI Antipsychotics for GPs –System One template and yearly audit	Sara Humphrey, Rick Dawson			x		

● New dementia friendly acute ortho geriatric ward at BRI being built – this will include overnight beds for carers and a dedicated Carer’s Room. Jan 2017 opening	Danni Woods, BRI			1	2	3
● Dementia intranet web page developed for staff Intranet at BRI	Danni Woods, BRI			1	2	3
● Dementia Champions in place at BRI, 5 at Marie Curie	Danni Woods, BRI			1	2	3
● Delirium recognition and prevention training, including bespoke training on the wards at BRI	Danni Woods, BRI			1	2	
● “Triple Screening Tool”- Development Implemented at Westbourne Green and Westwood Park Community Hospitals & now under evaluation	Gregor Russell, Chris North, Sara Humphrey		x	x		
● Dementia Quality Toolkit – to support the execution of a dementia coding exercise in primary Care	Sara Humphrey, Paula Woodrow, CN		x			
● Carer’s Passport designed	Danni Woods, BRI, Chris North, BDCFT			x		
● Carer’s bags – containing a blanket, toiletries, bed socks and ear plugs; designed for any carer who find themselves staying overnight	Danni Woods, BRI			1	2	3
● Carers training (pilot) - looking at health, communication, reducing stress, preparing for a hospital stay and managing different behaviours	Danni Woods, BRI			2	1	
● Review of the Pathway from Referral to Diagnosis in Memory clinics	Chris North & Sara Humphrey		x			
● Clinical Leads ‘Top Tips In Dementia’ developed for Primary Care	Sara Humphrey		x	x	x	x

<ul style="list-style-type: none"> <li>A level/BTEC student pilot project. Working with patients within community hospital settings, plans to roll out across trust. In partnership with 4 Bradford schools. Bingley G, Beckfoot, Laisterdyke, Carlton Bowling</li> </ul>	Danni Woods, BRI			1	2	
<ul style="list-style-type: none"> <li>New electronic patient record , incorporating screening for dementia, delirium being rolled out -ANHSFT</li> </ul>	Laura Jerwood ANHSFT			x		
<ul style="list-style-type: none"> <li>John's campaign being rolled out, this will include Carer's Passport -ANHSFT</li> </ul>	Elaine Andrews and Lynsey Nicholson ANHSFT				x	
<ul style="list-style-type: none"> <li>Dementia intranet web page (Aireshare) being developed for access by staff -ANHSFT</li> </ul>	Elaine Andrews ANHSFT			x		
<ul style="list-style-type: none"> <li>The Dignity Room provides provisions/clothes/toiletries etc. for patients and carers-we are progressing "carers bags" –a concept shared with us by Bradford Teaching Hospitals -ANHSFT</li> </ul>	Elaine Andrews and Lynsey Nicholson ANHSFT			x		
<ul style="list-style-type: none"> <li>Focussed falls work is ongoing in collaboration with the Y&amp;H Improvement Academy-our falls rates are reducing -ANHSFT</li> </ul>	Elaine Andrews ANHSFT			x		
Dementia Champions at Carers' Resource	Saiuqa Raney, Carers' Resource				x	
<b>TRAINING DEVELOPED / DELIVERED:</b>						
<ul style="list-style-type: none"> <li>Dementia Awareness training for facilities staff at BRI</li> </ul>	Danni Woods, BRI			1	2	3
<ul style="list-style-type: none"> <li>Dementia Champions training delivered to BRI and Marie Curie staff</li> </ul>	Danni Woods, BRI			1	2	3
<ul style="list-style-type: none"> <li>Dementia mentoring in Primary Care</li> </ul>	Gregor Russell		x	x	x	
<ul style="list-style-type: none"> <li>Training events on Care Planning and QOF for GPs, PNs and DNs</li> </ul>	Sara Humphrey	x	x	x	x	

<ul style="list-style-type: none"> <li>Webinars on Care Planning developed and delivered</li> </ul>	Sara Humphrey, CN		x	x	x	
<ul style="list-style-type: none"> <li>Webinar on 'The Implementation of John's Campaign at BTHFT' delivered for the Y&amp;H CN</li> </ul>	Danni Woods		x			
<ul style="list-style-type: none"> <li>Webinar on Assessment of Cardiac Status before Prescribing Acetyl Cholinesterase Inhibitors for Dementia</li> </ul>	Sara Humphrey, George Crowther, CN		x			
<ul style="list-style-type: none"> <li>'The Bradford Experience to Achieving 67% Prevalence Rates' webinar to Midlands and now available on Dementia CN Site</li> </ul>	Sara Humphrey		x			
<ul style="list-style-type: none"> <li>Live well self-care course for people with course piloted in 2015 and schedules to run again October 2016</li> </ul>	Bradford Alzheimer's Society Staff				x	
<ul style="list-style-type: none"> <li>2 Live well (self-care for people with a diagnosis sessions)</li> </ul>	Bradford Alzheimer's Society Staff				x	
<ul style="list-style-type: none"> <li>3 Carers resource information sessions (CRISP) delivered.</li> </ul>	Bradford Alzheimer's Society Staff				x	
<ul style="list-style-type: none"> <li>Dementia Friendly Practices and 'Meet the Psychiatrist Q&amp;A' to 8 practices</li> </ul>	Sara Humphrey & Gregor Russell		x	x	x	x
<ul style="list-style-type: none"> <li>Learning Disabilities &amp; dementia training package for carers</li> </ul>	Healthy Living group, Bradford People First			2	1	
<ul style="list-style-type: none"> <li>Dementia friends sessions (reporting to October 2016)</li> <li>6,728 dementia friends made</li> <li>143 Dementia Champions</li> <li>1,970 Digital Friends</li> </ul>	Alzheimer's Society Staff				x	
<ul style="list-style-type: none"> <li>Dementia Awareness training for all staff together with bespoke training to targeted areas -ANHSFT</li> </ul>	Em Snowdon ANHSFT			x		
<ul style="list-style-type: none"> <li>Fifteen of our staff attended an accredited course in the University of Bradford and those staff are now rolling out</li> </ul>	Em Snowdon and Jane McSharry ANHSFT			x		

sessions regarding patient centred care and patients who live with dementia. -ANHSFT						
Dementia Friends training delivered to all staff at Carers' Resource, included as part of the Induction process for all new staff.	Saiuqa Raney, Carers' Resource				x	
<b>AUDITS, UPDATES &amp; PUBLICATIONS:</b>						
● Dementia Health Needs Assessment and Strategy for Bradford	Andrew O'Shaughnessy, PH	x	x	x	x	x
● Review of Intermediate Care Services	Toni Williams, PH				x	
● Post Diagnostic Support - evidence review and framework	Andrew O'Shaughnessy, PH			x	x	
● Audit of Dementia in Bradford's Care Homes	Bunny McCullough, PH			x	x	
● Antipsychotic Audit 2015	Tracey Gaston, BC/BD CCGs				x	
● Patient and Carer Evaluation of GP Care Planning Template on System One	Alzheimers Soc/Sara Humphrey/Nicola Philis (Dementia CN)				x	
● BDCCG/BCCCG Formal Review of MATS and ACHL Services	Valerie Rhodes		x			
● 'What works well' BRI pilot site. Leeds Beckett and Bradford University	Dani woods, BRI Jan O, Bradford Uni	x				
● National Dementia Audit	Danni Woods, BRI	5	1	2	3	4
● Participated in the national Audit of Dementia-ANHSFT	Elaine Andrews/Lynsey Nicholson ANHSFT			x		
● Undertake Carers audits and submit an annual report to the AWC CCG -ANHSFT	Elaine Andrews/Lynsey Nicholson ANHSFT			x		

● Focussed falls work is ongoing in collaboration with the Y&H Improvement -ANHSFT Academy-our falls rates are reducing	Elaine Andrews ANHSFT					X	
<b>EVENTS:</b>							
● Living with Dementia Today and Tomorrow Event, Dementia Awareness Week	Danni Woods, BRI Chris North, BDCFT					X	
● Dementia Friendly events at 6 GP practices in Bradford	Sara Humphrey				X		
● Dementia Friendly Denholm event	Sara Humphrey & Marylyn Foster				X		
● 'Do Memory Problems Matter' Presentation to 'Rockwell Rocks-Older People Event	Sara Humphrey	1	2				
● 'How to get the most out of the NHS' Presentation to Alzheimer's Face it together Group	Sara Humphrey & Gregor Russell		1	2			
● Carers workshops , Carers support group	Danni Woods, BRI, Sarah Baker, Carers Resource			2	1	3	
● Nominated award for BMA patient information award, delirium leaflet , 12 <sup>th</sup> Sept, London	Danni Woods, BRI	1		3	2		
● Bradford Photo-booth challenge , 370 people across Bradford Met signed up to "Challenge Dementia"	Bradford Alzheimer's society staff					X	
● Living with Dementia -Dementia Awareness Week-ANHSFT	Elaine Andrews and Lynsey Nicholson ANHSFT					X	
● Working with Carers Resource -ANHSFT	Lynsey Nicholson ANHSFT and Carers Resource			X	X		

## 12. BACKGROUND DOCUMENTS

None







**Report of the Airedale and Partners Vanguard Programme to the meeting of the Health and Social Care Overview & Scrutiny Committee to be held on 12 April 2018**

**AI**

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**Subject: Airedale and Partners Enhanced Health in Care Homes  
Telemedicine Vanguard- Update and Evaluation findings**

**Summary statement:**

This report updates on the progress and changes to the Airedale and Partners Telemedicine Vanguard since 2016. The Vanguard programme has now reached its conclusion and this report also includes the findings of the evaluation of the Telemedicine part of the Vanguard Programme.

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**Portfolio: Health and Wellbeing**

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## 1. Summary

This report updates on the progress and changes to the Airedale and Partners Telemedicine Vanguard since 2016. The Vanguard programme has now reached its conclusion and this report also includes the findings of the evaluation of the Telemedicine part of the Vanguard Programme.

## 2. Background

In March 2015, Airedale & Partners was one of six 'enhanced health in care homes' (EHCH) Vanguards selected by NHS England as part of its New Care Models Programme.

Airedale Telemedicine Vanguard aimed to:

"improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for their model to be adopted throughout the country." (3).

The Airedale and Partners Vanguard was led by health and social care professionals from hospitals, CCGs, councils, community healthcare, mental health, IT partners, GP practices and federations and both local authority-run and independent care homes.

The Vanguard involved delivering 'Telemedicine', at scale, to 248 care homes, with an estimated 7,687 residents, across 4 CCG areas: Bradford City, Bradford District, Airedale, Wharfedale, Craven (AWC) and East Lancashire (EL).

The Airedale and Partners Telemedicine service involves "remote consultation and support care" for care home residents via video-link to Airedale Digital Care Hub.

## 3. Report issues

### 3.1 Update on Vanguard Programme

3.1.1. In March 2015 was one of six 'enhanced health in care homes' (EHCH) Vanguards selected by NHS England as part of its New Care Models Programme. The programme was focussed on scaling up the existing delivery of telemedicine to care homes to include approximately 100 additional across care homes in the 4 CCG areas.

3.1.2. In late 2016 NHS England requested that all Enhanced Health in Care Home Vanguards, including the Airedale & Partners Vanguard, widen their delivery scope from the specialist area of interest (this was Telemedicine in Airedale and Partners) to widen their delivery to include the full range of activity set out in the Enhanced Health in Care Homes for the final year of the Vanguard 17-18.

3.1.3. Airedale & Partners, as a hospital provider led Vanguard (Airedale NHS Foundation Trust), was only able to deliver this request to extend activity to the full Enhanced Health in Care Home Framework through shifting the leadership to one of the CCG partners. This opportunity was discussed with all CCG partners and, in agreement with all partners, the Vanguard programme leadership moved to East Lancashire CCG in April 2017.

3.1.4. East Lancashire CCG, who already had underway a significant strategic delivery programme with Care Homes were, in agreement with NHS England, felt to be best positioned to delivered the full Enhanced Health in Care Homes Framework in the remaining year of the Vanguard programme. In April 2017 the programme and funding were transferred to East Lancashire CCG however Airedale Trust retains a joint Senior Responsible Officer involved in the programme oversight until its conclusion in March 2018.

## **3.2 Evaluation**

3.2.1. NHS England required all Vanguards to undertake a local evaluation of their work and activity. For Airedale and Partners Vanguard this involved evaluation of the Telemedicine aspect of the Vanguard from the first two years of Vanguard activity and a further evaluation is underway for the East Lancashire CCG element of the Vanguard during 2017-18.

3.2.2. The 3 appendices to this report share the findings of the Airedale and Partners evaluation of the Telemedicine aspect of the Vanguard.

3.2.3 The Airedale NHS Foundation Trust telemedicine service is currently commissioned by all 3 local CCGs covering Bradford District in the majority of their care homes. The homes have the telemedicine kit installed and are able to have video contact with a nurse led hub for medical advice 24/7.

## **4. Options**

Members may wish to comment on the findings of the evaluations

## **5. Recommendations**

That the findings of the evaluations be noted.

## **6. Background documents**

Enhanced Health in Care Homes Framework (NHSE)

## **7. Not for publication documents**

None

## **8. Appendices**

8.1 Appendix 1 - Executive summary document

8.2 Appendix 2 - Evaluation report – qualitative

8.3 Appendix 3 - Evaluation report – quantitative / economic

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# Airedale & Partners Vanguard: Local Evaluation

## Executive Summary Report:

### Introduction

This report is a synthesis of qualitative local evaluation insights reported by McDonach & Mohammed, July 2017<sup>(1)</sup> and an economic analysis by the York Health Economics Consortium that aims to quantify the economic benefits generated by the telemedicine programme (YHEC February 2018)<sup>(2)</sup>. The full and more detailed text of both of these reports are available to be reviewed separately.

A few contextual points about this local evaluation are worth noting at the outset:

- It was originally conceived as a mixed-methods approach to provide qualitative insights alongside the quantitative component of the Vanguard evaluation. This relied on reliable data linkage; work which was commissioned separately by Airedale & Partners and provided by a third party.
- The Airedale Vanguard has experienced considerable challenges in establishing a reliable, linked quantitative dataset for the purpose of evaluation. Establishing data sharing agreements and successful data flow from the Vanguard relative partners proved to be a lengthy process.
- This resulted in substantial delays in firstly, accessing the quantitative dataset and then, secondly, understanding and resolving the many data quality issues.
- These delays resulted in one academic partner (SchARR) having to drop out, due to time constraints and other commitments. The quantitative economic analysis was undertaken by, York Health Economics Consortium (YHEC), joining the evaluation process at a very late stage.
- The qualitative aspect of the local evaluation (based on key stakeholders' views and experiences of the Vanguard) was completed and reported in July 2017 by Dr McDonach and Professor Mohammed.
- The quantitative component of the local evaluation was completed separately in February 2018 by York Health Economics Consortium (YHEC 2018). This document provides an executive summary of the learning that emerged from the two reports.

### Background

In March 2015, Airedale & Partners was one of six 'enhanced health in care homes' (EHCH) Vanguards selected by NHS England as part of its New Care Models Programme<sup>1</sup>. Airedale Telemedicine Vanguard aimed to:

*"improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for their model to be adopted throughout the country."* <sup>(5)</sup>

The Airedale and Partners Vanguard was led by health and social care professionals from 3 hospitals, 4 CCGs, 3 councils, community healthcare, mental health, IT partners, numerous GP practices, GP federations and both local authority-run and independent care home<sup>(6)</sup>. Notably, the Airedale Telehealth Hub was established in 2011, and predates its Vanguard status. The Airedale Vanguard

<sup>1</sup> A total of 50 Vanguards across five New Care Models made up the entire national programme at that time. NCMs emerged in response to the Keogh review of Urgent and Emergency Care.<sup>(3)</sup> and the NHS Five Year Forward View.<sup>(4)</sup>



involves delivering 'Telemedicine', at scale, to 248 care homes, with an estimated 7,687 residents, across 4 CCG areas: Bradford City, Bradford District, Airedale, Wharfedale, Craven (AWC) and East Lancashire (EL). In April 2017, this Vanguard changed to focus on delivery of the new 'Enhanced Health in Care Homes Framework'<sup>(7)</sup> in East Lancashire – subject to a separate evaluation.

### **Airedale telemedicine 'Intervention'**

The Airedale and Partners Telemedicine service involves "remote consultation and support care" for care home residents via video-link to Airedale Digital Care Hub. There is a **standard** service model with options to add **enhanced** service models individually, or in combination as described by 'Immedicare', part of the joint venture delivering it:<sup>(8)</sup>

1. **Standard:** A single point of contact (video calls) for care home staff for support from 24/7 access to telehub nurses, with an average of 4 clinical assessment calls, per home, per month, across a CCG.
2. **GP Triage:** is developed in partnership with local GPs; care home staff are encouraged to default all day time calls to the Telemedicine hub for triage, freeing up GP practice staff for more appropriate work.
3. **Goldline:** provides dedicated 24/7 phone line support to patients known to be in the last year of their lives and their careers, to support staying at home or preferred place of care, wherever possible.

The Airedale Telemedicine implementation process includes:

- Each commissioned **home** receiving information packs and installation of the technology by joint venture partner 'Involve'. This includes a laptop enabled by Wi-Fi or 4G and training in the use of the equipment delivered by both the clinical and technical teams.
- Each **resident** being added to an electronic patient record, ensuring clinical information is available at the first point of contact to guarantee a safe assessment. Consent is asked at each resident's first consultation and documented in their electronic patient record.<sup>(8)</sup>

### **A developmental evaluation approach**

NHS England adopted a three layered approach to vanguard evaluation: (1) national, (2) local and (3) independent summative, with each layer providing a different view of the programme. The Yorkshire and Humber AHSN was commissioned to provide robust, but, light touch, external local evaluation support for the Airedale & Partners Telemedicine Vanguard. The Airedale Vanguard and Telemedicine service predated evaluation involvement, therefore aspects of the evaluation are retrospective.

A theory-based, mixed-methods, developmental evaluation approach was adopted with 'embedded' evaluation support to co-produce a logic model to inform local evaluation metrics<sup>2</sup>. The original evaluation design anticipated a retrospective before-and-after design (quantitative data) with retrospective controlled comparisons (where possible), with stakeholder reflections (survey and interviews) conducted post-intervention as telemedicine was installed prior to evaluation involvement. Significant challenges experienced by Airedale in gaining access to linked quantitative data have been well documented<sup>3</sup>. The local evaluation team, where possible, has supported the ongoing data sharing, linkage and data quality issues process.

### **Qualitative Methods**

The *qualitative component* of the Airedale Vanguard Local Developmental Evaluation provided key insights for the programme. These are based on data from a range of qualitative methods, involving more than 60 key stakeholders formally:

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<sup>2</sup> The local evaluation team attended Airedale project meetings in 16/17, and had access to selected papers and minutes.

<sup>3</sup> A summary of data challenges is included in Section Two of the Qualitative Insights Report (McDonach & Mohammed, 2017). These have been reported and escalated to Airedale & Partners since August 2016.



- N = 14 semi-structured interviews: care home staff (7) and residents (4) key stakeholders (3)
- N = 3 key Vanguard stakeholders in a focus group;
- N = 42 online/paper surveys from Vanguard care home staff;
- N = 5 questionnaires from one care home staff team about potential barriers and enablers to telemedicine utilisation

The evaluation was also informed by discussions during five Evaluation Dress Rehearsals conducted with key Airedale stakeholders (July 16- Mar 17) and phone calls with 17 care home managers and 2 other Vanguard stakeholders. Framework Method<sup>(9, 10)</sup> was used to develop a common coding frame across methods to identify key themes and patterns in relation to evaluation questions and logic model, in order to develop explanatory accounts. This approach offers a systematic and robust method of thematic analysis.

### Qualitative analysis: Key findings

#### Telemedicine implementation

At the time of qualitative reporting (August 2017), the evaluation team had not been able to access Airedale Vanguard project metrics, utilisation data or outcome data. A 'look up table' was developed for the purposes of the evaluation, to summarise the implementation and spread of telemedicine across the Vanguard. This suggested that Airedale Telemedicine Vanguard had delivered its 'Telemedicine' service to 235<sup>4</sup> care homes across four CCG areas:

- 148 of the care homes were installed pre-Vanguard and 87 homes during the Vanguard period (in 2016).
- 41<sup>5</sup> care homes were de-installed; 34 in March 2017, the others before this date.
- Of the remaining 194 'live' Vanguard care homes:
  - 132 are classified as 'residential' care homes and 62 are nursing homes<sup>6</sup>.
  - 174 care homes receive the standard telemedicine service, and 20<sup>7</sup> homes the enhanced GP Triage model.
  - 50 care homes have not received Telemedicine, and may potentially act as 'control' homes.<sup>8</sup>
  - Available data does not provide information on number of residents receiving the Goldline service.

#### Telemedicine utilisation

Local evaluation access to limited data highlighted several important aspects of telemedicine utilisation across the Vanguard including:

- Substantial variation in telemedicine use across Care Homes;
- Lower uptake of telemedicine in Nursing Homes versus Residential homes;
- Variation in out-of-hours versus in-hours telemedicine use;
- High rates of non-utilisation of telemedicine; differences across the CCG localities;
- Small number of homes may responsible for large volume of calls.

#### Vanguard stakeholder views and experiences

A number of key themes emerged from evaluation participants' experience of the Airedale telemedicine Vanguard:

<sup>4</sup> Discrepancy noted between look up table (n = 235) in April 2017 and Immedicare live list Jan 2017 (n=227) reported.

<sup>5</sup> Records indicate that one care home was disputing this outcome so may not have been de-installed.

<sup>6</sup> It is not clear from the current 'look up table' (developed for Pi in April 2017) how many of the care homes are of mixed structure – nursing/ residential structure as none are classified as such. Qualitative work indicates this may be important aspect to reconcile.

<sup>7</sup> Discrepancy noted between number of GP triage homes from January 'live list' and April 'look up table'

<sup>8</sup> It is not clear why these homes have not received telemedicine. They may be atypical, therefore suitability as controls to be determined.



**The complexity of telemedicine utilisation;** it is not necessarily a level playing ground, comparing 'like with like'. This has profound implications for understanding telemedicine utilisation rates:

- **Multiple models of telemedicine are in operation across the vanguard;** some homes have a contract for the standard service (providing up to 4 calls per month), while others have the GP Triage model, which requires homes to use telemedicine prior to accessing GP services (some GPs formally mandate access via telemedicine, whilst others do not).
- **Local stakeholder support for telemedicine may vary.** Some care home staff report having been asked by their local stakeholders to only use the telemedicine service at certain times (e.g. out of hours) or within a certain number of calls per month (possibly due to service model and cost implications). Some care homes reported that only some of their residents were registered to receive telemedicine. One manager noted that some GPs had signed up to telemedicine while others hadn't, with different systems in place even within the one home, leading to added complexity.
- **Local services available to care homes may vary.** Care homes have access to different levels of local services which may influence telemedicine use. Some staff and residents report weekly GP/ District Nurse home rounds so issues can be 'saved' for then.
- **Within care homes, staff generally reported having the knowledge and skills to use the telemedicine kit,** with most receiving instruction (from the telemedicine provider or by a colleague). There were a few reports of staff (particularly older) being 'nervous' about the technology and more frequent reports by staff of technical issues such as connection, reception and waiting times for a response to the call. It is not clear the extent to which staff views and experiences influences their use of it; for example, those that are really positive may be limited in telemedicine use by their service model or residents' health profiles, and those that perceive telemedicine negatively may be required to use it to access GP services (such as a GP Triage home).

**Perceived benefits of telemedicine:** there was overlap in benefits identified by stakeholder groups in the evaluation:

- **Residents<sup>9</sup>** reported benefits including: avoiding hospital visits; friendly, quick, face-to-face.
- **Care home staff** in the online survey reported benefits including: avoiding unnecessary health care; providing support/advice; patient experience; available when needed; reassurance; and quality of the consultation.
- **Other stakeholders noted:** reduced workload of GPs, better end of life care and the potential to improve the quality of care of vulnerable older people and efficient use of resources.

**The divergence of care home staff views of telemedicine.**

- Some care home staff identify positive benefits and impact of telemedicine (as described above), whereas another group of staff are less positive and identify problems and disadvantages; what we have come to refer as the 'Marmite' effect. It may be useful to understand this within the context of the telemedicine service model in operation:

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<sup>9</sup> Recruitment of care home residents was both challenging and limited given the criteria of residents who had used the service, remembered using it, were willing to take part and perceived by the care home staff to have capacity to take part. NHS England commissioned separate work around quality of life using the ASCOT tool. Healthwatch also conducted some qualitative work with care home residents.





- Some staff from GP Triage homes identified disadvantages: telemedicine wasting time/ gatekeeping access to services and professional infringement, which may more accurately reflect their views on the telemedicine model in operation. The concerns were shared by both residential and nursing staff who took part, although nursing staff often thought that telemedicine could be more useful for non-qualified staff. Concerns about equity of access for residents and tensions in professional boundaries were noted in some interviews and telephone discussions.
- Some of the suggested 'improvements' reported in the online survey may reflect dissatisfaction with the telemedicine service model: 'Not for everything service'; 'stop professional infringement'; 'Nothing'; and 'Remove'.

#### **The convergence of care home staff views on telemedicine challenges and improvements:**

- Some issues were raised by staff in both Standard and GP triage homes, and even among staff who rated telemedicine positively, such as challenges with technology issues involving Wi-Fi, reception coverage, image/sound and perceived long waiting times for calls to be answered especially in 'out of hours' periods.
- Potential improvements mirrored the reported problems with improved technical issues and the need to answer calls more quickly.
- Four participants identified potential expansion of the telemedicine service; both from services offered by the Hub but also within care home, with carers doing observations to support the telemedicine consultation.

#### **Engagement and Implementation Challenges:**

- A range of stakeholders identified engagement and implementation challenges in the scale up and roll out of the telemedicine service; although there had been pockets of good practice.
- A 'disconnect' between the clinical and marketing offer was reported.
- The logic model work identified gaps in current engagement activity with key stakeholders and sectors such as primary and acute care. This has implications for the telemedicine 'theory of change' (the hypothesised mechanisms of change) which relied on engagement with these key parts of the system. The extent to which this engagement happened consistently in practice is not clear.
- Residents and many care home staff report that residents are not always made aware of telemedicine prior to using it. The same was true of relatives. Although some care home managers identified telemedicine as a selling point which they advertised to relatives as access to 24/7 clinical support.
- A focus group/workshop explored shared learning from key stakeholders to identify the key aspects of 'good' implementation for future service improvement.

#### **Programme strengths and challenges:**

Stakeholders who took part in the qualitative part of the local evaluation identify a number of strengths in the programme, particularly around the telemedicine clinical offer. However, a number of organisational challenges were identified including:

- the buy-in, effectiveness and engagement of the partnership over time;
- the changed scope & focus of the Vanguard in its final year with funding tied to the delivery of an entire enhanced health in care homes framework;
- Loss of organisational memory and internal data resource; and mechanisms for supporting continuous improvement;



- Data challenges included delays in establishing a linked, validated dataset; limitations of recording systems, identifying care home residents and those who have used telemedicine or not.

The focus of the evaluation was upon the implementation of telemedicine, and its impact upon the utilisation of healthcare resources across the urgent care pathway. However, it is acknowledged that benefits and impacts of telemedicine are likely to be seen in primary care. Numerous attempts were made to access primary care data. Difficulties in accessing and linking primary care data present limitations to current evaluation activities.

### **Health economics analysis: Key findings**

The aim of this review was to quantify the economic benefits generated by the telemedicine programme by conducting a 'before and after' review of the use of health care resources by the care homes to derive a return on investment estimate. There are limitations to this approach which is constrained by the availability and quality of the data collected.

#### **Methods:**

A large data set of more than 290,000 data points was collated for Airedale and Partners by a business intelligence organisation during 2017, covering every contact made by care home residents with some NHS services and any telemedicine calls made to the Hub. Although this dataset was large it only covered a limited period and there was no single intervention date, with telemedicine being rolled out over time. Only around 10% of care homes did not have telemedicine installed, providing a limited control group.

Data cleaning was intensive and a number of anomalies and issues with the data were discovered and rectified. Application of cut-off periods was necessary to avoid a situation where a care home had a full year of data after installation but only a partial year of data before. As a result of cleaning, the data set was reduced to around 48,000 items covering 141 care homes with telemedicine and 25 care homes without telemedicine.

The main limitations in the data set were duplicate care home names and lines of data, inclusion of non-relevant data for people under the age of 65 or with learning difficulties, and data with no identifier. These issues were rectified and the data set used was more robust following this process but interpretation of the results need to bear these limitations in mind.

The constraints of the available data, and the way in which the project was rolled out, mean that our findings are inconclusive and caution needs to be applied in interpreting the results. At face value the data analysis indicated that care homes with telemedicine had reduced use of other health care resources in the period following installation. The overview of all of the 141 care homes, in the year following installation of telemedicine, showed a reduction in emergency hospital admissions of 4%; a marginal reduction in A&E attendances; a small increase in the use of out-of-hours services (2%); and a reduction in the use of 111 calls (4%). The 25 care homes without telemedicine showed increases in emergency admissions of 7% and A&E attendances of 30%. National data collected by NHS England showed an increase in emergency admissions in areas not covered by New Care Models of 4.9%.

Analysis by type of care home showed a decrease in inpatient emergency admissions of 13% in nursing homes compared to an increase of 6% in residential homes. There were also reductions in nursing homes compared to increases in residential homes for A&E attendances (-8% versus 7%); use of out-of-hours services (-9% versus 17%) and 111 calls (-16% versus 12%).



Care homes using the standard service model, with limited numbers of calls to the Airedale telemedicine Hub, demonstrated a 2% reduction in A&E attendances compared to a 13% increase for care homes using the GP triage service model with unlimited calls. Both types of homes showed a reduction in emergency admissions. Care needs to be taken in interpreting these results as less than 10% of the care homes analysed used the GP triage service model.

Analysis of the usage of telemedicine by care homes showed wide variation in the numbers of calls made to the Hub. The data showed low usage care homes showing a 17% reduction in emergency admissions while there was a 10% increase in emergency admissions in high use care homes. High use care homes also had a 14% increase in A&E attendances in the year after installation of telemedicine compared to a reduction of 16% in low use care homes. There was a similar reduction in 111 call usage in both high and low use care homes. High use care homes showed a 3% increase in out-of-hours usage following installation of telemedicine, while low use care homes showed a 5% reduction. Scatter plots showed a very minor trend towards reduced use of 111 services but a trend towards increased use of services for A&E, emergency inpatients and out-of-hours.

At face value these results showed that care homes reduced some forms of health care resource use after the installation of telemedicine, and that there was a greater impact in specific settings and for particular service models. An inability to control for the extent of frailty in individual homes means that the analyses carried out for the Airedale Vanguard can only be seen as indicative at best. These results do not have statistical significance and, therefore, do not demonstrate a causal effect.

### Future developments:

The learning from this qualitative, developmental evaluation and health economics analysis have provided insights into key issues that would benefit from further attention

1. **Understanding telemedicine utilisation** across the Vanguard is critical to developing the service; providing access to telemedicine utilisation data at the care home level therefore *remains* an essential evaluation requirement. This conclusion was endorsed by YHEC when undertaking their health economics analysis of available data
  - Limited access to partial utilisation data indicated substantial variation for example, in-hours versus out of hours, nursing versus residential and across CCG areas. Some homes use telemedicine often, while others not at all.
  - This inconsistency in usage is borne out in the patterns of usage of telemedicine across the care homes. There appears to be no correlation between high usage of telemedicine, in terms of rate of calls made to the telemedicine Hub, and reduction in the use of health care resources. In fact the opposite is apparent, but this may simply be a case of higher levels of frailty in certain homes leading to higher use of telemedicine and higher use of health care resources.
  - Understanding the factors which enable or impede telemedicine use provides opportunities for service improvement. The COM-B model of behaviour change <sup>(11)</sup> suggests there are three key elements to effective behaviour change: ensuring people have (1) the capability, (2) the opportunity, and (3) the motivation, to do things differently. Qualitative insights suggest that utilisation is complex; it may involve skills and knowledge of care home staff (the capability), but it is not all about what goes on in the care home or indeed the telemedicine hub.
  - There are potentially multi-level barriers and enablers to telemedicine utilisation, including:
    - the service model in operation (e.g. GP triage is likely to increase utilisation),
    - local stakeholder support for telemedicine and effective engagement with care homes
    - resolution of technical issues (the opportunity).



- variation in care home access to local health care professionals (e.g. weekly GP or district nurse home rounds) as well as beliefs about telemedicine, prior experience, and resident views may also influence utilisation (the motivation).

**2. An integral measurement framework** is needed to monitor progress of implementation and to track key metrics.

- This is essential to help understand the link between telemedicine utilisation and outcomes, and establishing a valid before and after or controlled comparison design to enable attribution of change to telemedicine rather than secular trends.
- A robust measurement framework is also important for exploring 'optimal' telemedicine use; for example, no/low telemedicine use may not necessarily be 'sub-optimal', it depends on residents' needs as well as appropriate or inappropriate use of other health care services (e.g. out of hours GP, A&E etc.)

**3. Divergence in care home staff views of telemedicine** and understanding the role of the service model:

- Some care home staff are extremely positive about the service, its benefits and potential impact. A key stakeholder noted the positive impact of the GP Triage Model on reducing GP workload and improving their planning. However, some care home staff, particularly those who took part in the evaluation from GP Triage homes are less positive. Establishing if these tensions are common to all GP Triage homes is warranted and further engagement may be necessary to resolve.
- Incorporating opportunities for regular, formal feedback from care home staff and residents is recommended, perhaps using the telemedicine technology itself, similar to SMS feedback gathered by NHS services.

**4. Potential service improvements:**

- Care home staff identify a number of improvements, some of which relate specifically to the GP Triage service model. It may require further engagement to resolve identified tensions.
- Some improvements are common across both standard and GP triage models: such as the need to improve aspects of the technical service (Wi-Fi coverage throughout the home, patchy reception, visual/sound issue) and the need to answer calls quicker.

**5. Improve future engagement and implementation strategies:**

The local evaluation team facilitated a session to explore tacit and shared learning about what characterises 'good' implementation:

- Clinically-led engagement with local commissioners and a realistic offer on impact and targets was highlighted by some stakeholders, along with opportunities to build relationships with care homes prior to installation.<sup>10</sup> 'Virtual tours' of the hub and meeting the staff were suggested.
- The need to develop robust resources and protocols for staff, residents and relatives which reflect the telemedicine model offer and how they can use it was also identified.
- Staff (and residents) indicate telemedicine the need for earlier and ongoing engagement with residents and stakeholders was noted.

Established monitoring and evaluation tools such as the Stages of Implementation Completion<sup>11</sup> may help to add structure and rigour to these processes.

<sup>10</sup> This fits with NHS England's commissioned literature review by Claire Goodman et al (2017) about Vanguard care home readiness.

<sup>11</sup> Stages of Implementation Completion (SIC) was developed by Chamberlain et al. (2011) as part of randomised controlled trial as a tool to objectively measure, overcome barriers and improve the effectiveness of implementation

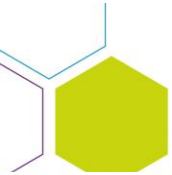


## 6. Further health economics analyses:

The YHEC report concludes that the results from their limited evaluation indicate the potential for further research and analysis:

- Airedale and Partners may want to consider exploring the possibility of carrying out more in depth analysis using statistical methods such as time-series analysis to observe some subsets of the data considered in this evaluation;
- Further investigation could focus more specifically on the key metrics and outcomes of interest. For example, the GP triage model could be seen as essentially an enhanced primary care offer, so more in-depth work could focus on the impact of care homes potentially using fewer GP resources, thus potentially improving GP access for the wider population which may impact on the use of acute care;
- Return on investment analysis relied on assumptions of the cost of avoided emergency admissions. A more detailed patient-level analysis could attempt to record exactly what types of admissions were avoided through use of telemedicine.

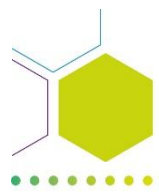
In summary, the Airedale Vanguard has been at the forefront of telemedicine delivery in care homes, at scale for years. It has the potential to offer unique insights, not only in the process and outcomes of the telemedicine intervention, but also about the complex challenges involved in attempting to embed new technology into routine practice within different health and care systems. The learning from this evaluation adds further insights into implementing telemedicine, the impact of different service models upon adoption and, finally, the challenges around accessing, linking and analysing data should not be underestimated.



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# **Airedale & Partners Enhanced Health in Care Homes (EHCH) Telemedicine Vanguard Local Evaluation**

## **Qualitative Insights from an External Developmental Evaluation Final Report August 2017**

Prepared by: Dr Eileen McDonach and Professor Mohammed A. Mohammed  
for Airedale & Partners EHCH Telemedicine Vanguard  
on behalf of Dr Stephen Stericker, YHAHSN  
Date: 16 August 2017 update

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The local evaluation team would like to acknowledge and thank all the care home residents and staff, and the Airedale and partners Vanguard stakeholders who participated in and/ or helped to facilitate the local evaluation of the Airedale TM Service.

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The advice and input of Dr Stephen Stericker at the Yorkshire and Humber AHSN is also gratefully acknowledged, as is the funding and support from NHS England.

## Executive Summary: Airedale & Partners Vanguard Local Evaluation: Qualitative Insights

### Context of Report

This report focuses on the qualitative component of the Airedale and partners Vanguard local evaluation. It is important to note the context of this report at the outset:

- 1) This work was intended to be part of a mixed-methods approach to provide qualitative insights alongside the quantitative component of the Vanguard evaluation. This was not intended to be a stand-alone report and taken in isolation will not provide the reader with the broader findings of the Vanguard programme.
- 2) Purposive sampling reflects an attempt to include a range of key stakeholders to generate themes from their perspectives (rather than statistically representative sampling).
- 3) Feedback from a key Airedale stakeholder, following soundings, recommended that further insights may be gained from GPs and other primary care clinicians and options of further evaluation support are currently being explored by them.

The Airedale Vanguard has experienced considerable challenges in establishing a linked quantitative dataset for the purpose of evaluation. This report therefore provides qualitative insights from the local Developmental Evaluation of the Airedale & Partners Vanguard based on key stakeholders' views and experience.

### Background

In March 2015, Airedale & Partners was one of six 'enhanced health in care homes' (EHCH) Vanguards selected by NHS England as part of its New Care Models Programme<sup>1</sup>. Airedale Telemedicine Vanguard aimed to:

*"improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for their model to be adopted throughout the country." (3).*

The Airedale and Partners Vanguard was led by health and social care professionals from 3 hospitals, 4 CCGs, 3 councils, community healthcare, mental health, IT partners, numerous GP practices, GP federations and both local authority-run and independent care home (4). Notably, the Airedale Telehealth Hub was established in 2011, and predates its Vanguard status. The Airedale Vanguard involves delivering 'Telemedicine', at scale, to 248 care homes, with an estimated 7,687 residents, across 4 CCG areas: Bradford City, Bradford District, Airedale, Wharfedale, Craven (AWC) and East Lancashire (EL). In April 2017, this Vanguard changed to focus on delivery of the new 'EHCH Framework' (5) in one CCG area, East Lancashire, which is being evaluated separately.

### Airedale Telemedicine 'Intervention'

The Airedale and Partners Telemedicine service involves "remote consultation and support care" for care home residents via video-link to Airedale Digital Care Hub. There is a **standard** service model with options to add **enhanced** service models individually, or in combination as described by 'Immedicare', part of the joint venture delivering it (6):

1. **Standard:** A single point of contact (video calls) for care home staff for support from 24/7 access to telehub nurses, with an average of 4 clinical assessment calls, per home, per month, across a CCG.
2. **GP Triage:** is developed in partnership with local GPs; care home staff are encouraged to default all day time calls to the Telemedicine hub for triage, freeing up GP practice staff for more appropriate work.
3. **Goldline:** provides dedicated 24/7 phone line support to patients known to be in the last year of their lives and their careers, to support staying at home or preferred place of care, wherever possible.

The Airedale Telemedicine implementation process includes:

- o Each commissioned **home** receiving information packs and installation of the technology by joint venture partner 'Involve'. This includes a laptop enabled by Wi-Fi or 4G and training in the use of the equipment delivered by both the clinical and technical teams.
- o Each **resident** being added to a systemOne caseload ensuring clinical information is available at the first point of contact to guarantee a safe assessment. Consent is asked at each resident's first consultation and documented in their electronic patient record (6).

### Developmental Evaluation Approach

NHS England adopted a three layered approach to vanguard evaluation: (1) national, (2) local and (3) independent summative, with each layer providing a different view of the programme. The Yorkshire and Humber AHSN was commissioned to provide robust, but, light touch, external local evaluation support for the Airedale & Partners Telemedicine Vanguard. The Airedale Vanguard and Telemedicine service predated evaluation involvement, therefore

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<sup>1</sup> A total of 50 Vanguards across five New Care Models made up the entire national programme at that time. NCMs emerged in response to the Keogh review of Urgent and Emergency Care (1) and the NHS Five Year Forward View (2).

aspects of the evaluation are retrospective. A theory-based, mixed-methods, developmental evaluation approach was adopted with 'embedded' evaluation support to co-produce a logic model to inform local evaluation metrics<sup>2</sup>. A retrospective before-and-after design (quantitative data) with retrospective controlled comparisons (where possible) was anticipated, with stakeholder reflections (survey and interviews) conducted post-intervention as TM was installed prior to evaluation involvement. A separate health economic evaluation and third-party data linkage partner were also commissioned. Significant challenges experienced by Airedale in gaining access to linked quantitative data have been well documented<sup>3</sup>. This report, therefore focuses on the *qualitative component* of the Airedale Vanguard Local Developmental Evaluation and key insights for the programme. These are based on data from a range of qualitative methods, involving more than 60 key stakeholders formally:

- N = 14 semi-structured interviews: care home staff (7) and residents (4) key stakeholders (3)
- N = 3 key stakeholders in a focus group;
- N = 42 online/paper surveys from Vanguard care home staff;
- N = 5 questionnaires from one care home staff team about potential barriers and enablers to utilization

The evaluation is also informed from phone calls with 17 care home managers and 2 other Vanguard stakeholders.

### Key Findings

The local evaluation team have not, to date, been able to access Airedale Vanguard project metrics, utilisation data or outcome data. Summary briefings since August 2016 have documented ongoing challenges. The evaluation team has supported the ongoing data sharing and linkage process.

### Implementation

Using a recently developed 'look up table' for the purposes of the evaluation, it appears the Airedale Telemedicine Vanguard has delivered its 'Telemedicine' service to 235<sup>4</sup> care homes across four CCG areas:

- 148 of these care homes were installed pre-Vanguard and 87 homes during the Vanguard period (in 2016).
  - 41<sup>5</sup> care homes were de-installed; 34 in March 2017, the others before this date.
- Of the remaining 194 'live' Vanguard care homes:
  - 132 are classified as 'residential' care homes and 62 are nursing homes<sup>6</sup>.
  - 174 care homes receive the standard TM service, and 20<sup>7</sup> homes the enhanced GP Triage model.
  - 50 care homes have not received Telemedicine, and may potentially act as 'control' homes.<sup>8</sup>
  - Available data does not provide information on number of residents receiving the Goldline service.

### Utilisation

Local evaluation access to limited data (presented by Dr McDonach at Jan 2017 Evaluation Dress Rehearsal) highlighted several important aspects of TM utilisation across the Vanguard including:

- Substantial variation in TM use across Care Homes;
- Lower uptake of TM in Nursing Homes versus Residential homes;
- Variation in out-of-hours versus in-hours TM use;
- High rates of non-utilisation of TM; differences across the CCG localities;
- Small number of homes may responsible for large volume of calls.

### Stakeholder views and experiences

A number of key themes emerged from evaluation participants' experience of the Airedale TM Vanguard:

- **The complexity of TM utilisation;** it is not necessarily a level playing ground, comparing 'like with like'. This has profound implications for understanding TM utilisation rates:
  - Multiple models of TM are in operation across the vanguard; some homes have the standard service (which includes 4 calls per month), while others have the GP Triage model, which requires homes to use TM to access GP services (with some GPs formally mandating access via TM, others do not).

<sup>2</sup> The local evaluation team also attended Airedale project meetings in 16/17, and had access to selected papers and minutes. Five evaluation dress rehearsals to review progress, emergent data/learning and challenges were held between July 16 and Mar 17 (Appendix 2).

<sup>3</sup> A summary of data challenges is included in Section Two. These have been reported and escalated since August 2016.

<sup>4</sup> Discrepancy noted between look up table (n = 235) in April 2017 and Immedicare live list Jan 2017 (n=227) and being explored.

<sup>5</sup> Records indicate that one care home was disputing this outcome so may not have been de-installed.

<sup>6</sup> It is not clear from the current 'look up table' (developed for Pi in April 2017) how many of the care homes are of mixed structure – nursing/residential structure as none are classified as such. Qualitative work indicates this may be important aspect to reconcile.

<sup>7</sup> Discrepancy noted between number of GP triage homes from January 'live list' (19) and April 'look up table' (20)

<sup>8</sup> It is not clear why these homes have not received telemedicine. They may be atypical, therefore suitability as controls to be determined.

- Local stakeholder support for TM may vary. Some care home staff have been asked by their local stakeholders to only use the TM service at certain times (e.g. out of hours) or within a certain number of calls per month (possibly due to service model and cost implications). Some care homes reported that only some of their residents were registered to receive TM. One manager noted that some GPs had signed up to TM while others hadn't, with different systems in place within the one home, leading to added complexity.
- Local services available to care homes may vary. Care homes have access to different levels of local services which may influence TM use. Some staff and residents report weekly GP/ District Nurse home rounds so issues can be 'saved' for then.
- Within care homes, staff generally reported having the knowledge and skills to use the TM kit, with most receiving instruction (from the TM provider or by a colleague). There were a few reports of staff (particularly older) being 'nervous' about the technology and more frequent reports by staff of technical issues such as connection, reception and waiting time. It is not clear the extent to which staff' views and experiences of TM influences their use of it; those that are really positive may be limited in TM use by their service model or residents' health profiles, and those that perceive TM negatively may be required to use it to access GP services (such as a GP Triage home).
- **Perceived benefits of TM:** there was overlap in the benefits identified by stakeholder groups in the evaluation:
  - **Residents** reported benefits including avoiding hospital visits and friendly, quick, face-to-face.
  - **Care home staff** in the online survey reported benefits including: Avoiding unnecessary health care; providing support/advice; patient experience; available when needed; reassurance; and quality of the consultation.
  - **Other stakeholders noted:** reduced workload of GPs, better end of life care and the potential to improve the quality of care of vulnerable older people and efficient use of resources.
- **The divergence of care home staff views of TM.**
  - Some care home staff identify positive benefits and impact of TM (as described above), whereas another group of staff are less positive and identify problems and disadvantages; what we have come to refer as the 'Marmite' effect. It may be useful to understand this within the context of the TM service model:
    - Some staff from GP Triage homes identified disadvantages of: wasting time/ gatekeeping access to services and professional infringement which may reflect views on the TM model in operation. The concerns were shared by both residential and nursing staff, although nursing staff often thought that TM may be more useful for non-qualified staff. Concerns about equity of access for residents and tensions in professional boundaries were noted in some interviews and telephone discussions.
    - Some of the improvements reported in the online survey may reflect dissatisfaction with TM service model: 'Not for everything service'; 'stop professional infringement'; 'Nothing'; and 'Remove'.
- **The convergence of care home staff views on TM:**
  - However, some issues were raised by staff in both Standard and GP triage homes, and even among staff who rated TM positively, such as technology issues involving Wi-Fi, reception coverage, image/sound and perceived long waiting times for calls to be answered especially in out of hours periods.
  - Potential improvements mirrored the reported problems with improved technical issues and the need to answer calls quicker.
  - Four participants identified potential expansion of the TM service; both from services offered by the Hub but also within care home, with carers doing observations to support the TM consultation.
- **Engagement and Implementation Challenges:**
  - A range of stakeholders identified engagement and implementation challenges in the scale up and roll out of the TM service; although there had been pockets of good practice.
  - A 'disconnect' between the clinical and marketing offer was reported.
  - The logic model work identified gaps in current engagement activity which had implications for the TM 'theory of change'.
  - Residents and many care home staff report that residents are not always made aware of TM prior to using it. The same was true of relatives. Although some care home managers identified TM as a selling point which they advertised to relatives as access to 24/7 clinical support.
  - A focus group/workshop explored shared learning from key stakeholders to identify the key aspects of 'good' implementation for future service improvement.
- **Programme challenges:**
  - Stakeholders who took part in the evaluation identify a number of strengths in the programme, particularly around the TM clinical offer.
  - However, a number of organisational challenges were identified including: the buy-in, effectiveness and engagement of the partnership over time; the changed focus of the Vanguard in its final year with

funding tied to the delivery of an entire framework; loss of organisational memory and internal data resource; and mechanisms for initiating continuous improvement.

- Data challenges included delays in establishing a linked, validated dataset; limitations of recording systems and identifying care home residents and those who have used TM or not; and continued difficulties in accessing primary care data where benefits and impacts of TM may be seen.

### Future Development

Qualitative insights from this external, developmental evaluation of the Airedale Telemedicine Vanguard have identified some key issues which need to be addressed:

1. **Understanding TM utilisation** across the Vanguard is critical to developing the service; providing access to TM utilisation data at the care home level therefore *remains* an essential evaluation requirement.
  - Limited access to partial utilisation data indicated substantial variation for example, in-hours versus out of hours, nursing versus residential and across CCG areas. Some homes use TM often, while others not at all.
  - Understanding the factors which enable or impede TM use provides opportunities for service improvement. The COM-B model<sup>9</sup> of behaviour change suggests there are three key elements to effective behaviour change: ensuring people have (1) the capability, (2) the opportunity, and (3) the motivation, to do things differently. Qualitative insights suggest that utilisation is complex; it may involve skills and knowledge of care home staff (the capability), but it is not all about what goes on in the care home or indeed the hub.
  - There are potentially multi-level barriers and enablers to TM utilisation, including the service model in operation (e.g. GP triage is likely to increase utilisation), local stakeholder support for TM and effective engagement with care homes, as well as resolution of technical issues (the opportunity). Variation in care home access to local health care professionals (e.g. weekly GP or district nurse home rounds) as well as beliefs about TM, prior experience, and resident views may also influence utilisation (the motivation).
2. **An integral measurement framework** is needed to monitor progress of implementation and to track key metrics.
  - This is essential to help understand the link between TM utilisation and outcomes, and establishing a before and after or controlled comparison design to enable attribution of change to TM rather than secular trends.
  - A robust measurement framework is also important for exploring 'optimal' TM use; for example, no/low TM use may not necessarily be 'sub-optimal', it depends on residents' needs as well as appropriate or inappropriate use of other health care services (e.g. out of hours GP, A&E etc.)
3. **Divergence in care home staff views of TM** and understanding the role of the TM service model:
  - Some care home staff are extremely positive about the TM service, its benefits and potential impact. A key stakeholder noted the positive impact of the GP Triage Model on reducing GP workload and improving their planning. However, some care home staff, particularly those who took part in the evaluation from GP Triage homes are less positive. Establishing if these tensions are common to all GP Triage homes is warranted and further engagement may be necessary to resolve. This is particularly important, given the potential scale up of the GP Triage model within the East Lancashire EHCH Vanguard.
  - Incorporating opportunities for regular, formal feedback from care home staff and residents is recommended, perhaps using the TM technology itself, similar to SMS feedback gathered by NHS services.
4. **Potential Service Improvements:**
  - Care home staff identify a number of improvements, some of which relate to the GP Triage service model. It may require further engagement to resolve identified tensions.
  - However, others improvements are common across both standard and GP triage models: such as the need to improve aspects of the technical service (Wi-Fi coverage throughout the home, patchy reception, visual/sound issue) and the need to answer calls quicker.
5. **Shared learning to improve future Engagement and Implementation:**
  - The local evaluation team facilitated a session to explore tacit and shared learning about what characterises 'good' implementation. This was intended to inform future engagement/ implementation strategies and address the gaps identified by stakeholders. Established monitoring and evaluation tools such as the Stages of Implementation Completion<sup>10</sup> may help to add structure and rigour to these processes.

<sup>9</sup> The COM-B model proposes three essential conditions for behaviour change: capability, opportunity and motivation (Michie et al, 2011)

<sup>10</sup> Stages of Implementation Completion (SIC) was developed by Chamberlain et al. (2011) as part of randomised controlled trial as a tool to objectively measure, overcome barriers and improve the effectiveness of implementation

- Clinically-led engagement with local commissioners and a realistic offer on impact and targets was highlighted by some stakeholders, along with opportunities to build relationships with care homes prior to installation.<sup>11</sup> The need to develop resources and protocols for staff, residents and relatives which reflect the TM model offer and how they can use it was also identified.
- Staff (and residents) indicate that residents and relatives may not always be aware of TM. The need for earlier and ongoing engagement with all the key stakeholders was noted.

**6. Shared learning from Programme Challenges:**

- Airedale TM Vanguard has been at the forefront of TM delivery in care homes, at scale for years. It has the potential to offer unique insights, not only in the process and outcomes of the TM intervention, but also about the complex challenges involved in attempting to embed new technology into routine practice within different health and social care systems.

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<sup>11</sup> This fits with NHS England's commissioned literature review by Claire Goodman et al about Vanguard care home readiness

## Introduction to the Airedale & Partners Telemedicine Vanguard Evaluation Report

This document provides a summary of the YHASN supported evaluation of Airedale & Partners Telemedicine Vanguard. It focuses on the qualitative

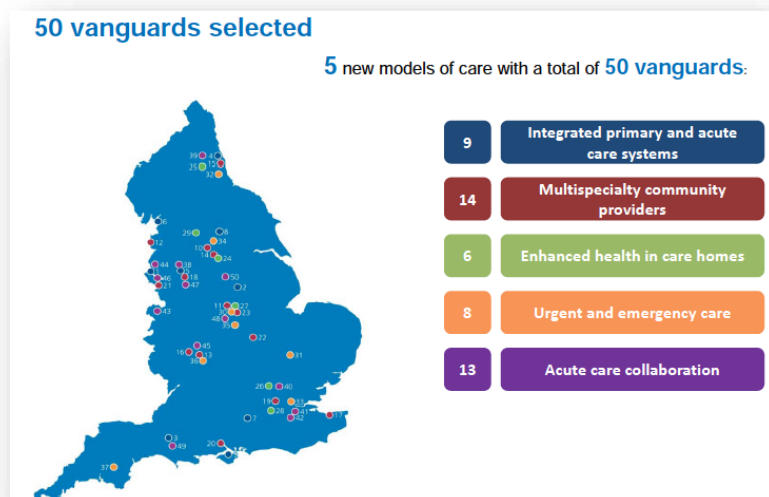
- Section 1 describes the **background** to the Airedale TM Vanguard
- Section 2 outlines the **evaluation approach**, key questions, and methods
- Section 3 provides a **summary of the key qualitative findings**
- Section 4 discusses **key learning points and recommendations**

### Section 1: Background

#### Airedale Enhanced Health in Care Homes Vanguard

In March 2015, Airedale & Partners was one of six 'enhanced health in care homes' vanguards selected by NHS England as part of their New Care Model (NCM) programme. A total of 50 Vanguards across five New Care Models made up the entire national programme at that time as shown in Figure 1.

Figure 1: New Care Models Vanguard map: Source NHS England: Kings Fund, 7 June 2017



The NCM initiative was established in response to the Keogh UEC review (1) and the NHS Five Year Forward View (2). Each vanguard was intended to take a lead in developing one of five new care models. Vanguards were, therefore, the delivery mechanism for the new care models programme which aimed to catalyse widespread adoption and evaluation of new models of care that improve:

1. the health and wellbeing of patients;
2. the quality of care that patients receive; and
3. the efficiency of the overall system.

The Airedale & Partners Vanguard aimed to scale up the delivery of Telemedicine in care homes to:

*“improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for the model to be adopted throughout the country.” (3)*

This involved a wider implementation footprint than the other five EHCH Vanguards as the Telemedicine service model(s) were to be delivered at scale to 248 care homes across four CCG areas with a diverse range of partners including: three acute trusts, three local authorities, two community and mental health

providers, more than 130 GP practices, a number of third-sector organisations, universities and colleges and more (7).

### Defining 'Telemedicine'

The promise of 'new technology' in delivering alternative to face-to-face consultations, improving efficiencies, clinical effectiveness and relieving pressure on the NHS has been long recognised (8). A range of new technologies have been introduced in recent years (9) including video, telephone, email, online text, telemedicine (linking between two services, often primary and secondary care), telehealth (which involves biometric data such as blood pressure collected, sent and evaluated later by a health professional) and telecare (which involves sensors carried by person or installed in home for remote monitoring, such as falls) or combinations of the above. It is important to note the established taxonomy and definitions of new technologies; telehealth and telecare generally refer to 'assisted living technologies' which have been the subject of ongoing debate about their efficacy and cost-effectiveness within the NHS. (9) Airedale Vanguard refers to 'Telemedicine' which involves, 24/7, remote access for care homes to trained nurses via video or telephone consultations, rather than the other telehealth and telecare technologies.

### Care Home Sector

The care home sector is an integral part of the health and social care system and is reported to be under pressure. The need to enhance care in care homes is borne out of a number of imperatives including demographic changes, multi-morbidities and frailty, pressure on urgent and emergency care, inequality of care, quality and safety concerns, and patient experience, as well as economic drivers (5,10). A brief summary of some of these points is included below.

### Demographic Changes: Older Population Growth

Work conducted by Quality Watch (10) estimates that 325,000 older people live in care homes in England; approximately four per cent of the total population aged 65 and over (11). Projected population figures suggest the number of older people in the UK will double in the next 20 years with implications for the care home sector, health care providers, commissioners and policy makers.

### Quality of Care

It has been suggested that patterns of use of hospital services by care home residents may raise questions about the quality of their care and the need for improvement (12). Smith and colleagues (2015) note that *"care home residents are among the frailest in society and depend on good integration between health and social care services. This means they are particularly at risk of emergency hospital admissions."* These authors translated the use of hospital admissions as markers for potentially avoidable harms (from the health sector) to the care home sector, and used de-identified person-level data to analyse hospital admission rates among people aged 75 and over, for small geographical areas, from April 2011 to March 2012. Key findings from this work included:

- Older people living in a care home postcode had 40-50 per cent more emergency admissions and A&E attendances than the general population of the same age, but significantly fewer planned admissions and outpatient appointments.
- Patterns of hospital admissions from areas containing care homes were often linked with people who were in the last few months of their life. However, care homes appear to help prevent emergency admissions in the final two months of life.
- Certain conditions were over three times more common in areas that had more care home residents. These include: pneumonia, pneumonitis, Alzheimer's disease, dementia and epilepsy. Care home patients were also less likely to be admitted for heart disease and circulatory system problems.
- Areas containing a care home showed significant variation in hospital admission rates.



This suggests that intelligent monitoring of hospital activity could provide a useful measure of care home quality.

- Information about the quality of care provided in residential and nursing homes is not always easy to access.
- Many of the datasets that would be required for external monitoring of care homes may take some time to establish, and indicators relating to hospital admissions will need careful handling in terms of both validation and interpretation. However, monitoring by individual providers could be made much easier to implement with the appropriate statistical tools and supporting software.

### Airedale Digital Care Hub

Notably, the Digital Care Hub at Airedale NHS Foundation Trust was established in 2011, and predates the vanguard and this local evaluation. It delivers 'telemedicine' to care homes as part of a partnership with a company called 'Involve' under the joint venture company 'Immedicare'. Its remit is broader than the vanguard care homes programme, with services being delivered to care homes and prisons around the country. Literature from Involve suggests that telemedicine for care homes offers the potential to address a number of key challenges for health services:

*"The UK elderly population is growing and the complexity of health requirements, particularly for residents in the care home sector is increasing. The drive to avoid risks within some homes can lead to the inappropriate use of health services which can result in capacity issues, and pressure points within local systems. Developing new ways to ease this situation is clearly a priority for clinical commissioning groups (CCGs) across the country." (13)*

The following features of the Airedale Digital Care Hub and telemedicine service were noted by 'Involve' (13):

- "It provides a secure telemedicine link to care homes across the country.
- The hub is staffed 24 hours a day, 365 days a year by a multidisciplinary team of doctors, nurses and therapists.
- Care home residents are assessed by the clinical team who are able to advise and suggest treatment for a variety of complex health needs. The aim is to provide early intervention, which can often prevent the need for escalation. When escalation is required, the hub clinical assessor ensures the resident is referred to the correct local service for action.
- The telemedicine service is particularly useful in care homes, as their staff are not usually medically trained, and the clinical team are able to provide extra support which benefits the residents. Care home residents are assessed and if necessary, treatment is arranged without the need for a hospital admission or ED attendance.
- The use of technology enables the delivery of services such as telemedicine, which also supports GP triage for vulnerable, frail, elderly people, many of whom suffer with multiple long term conditions. Immedicare provides a valuable service to residential homes as carers are able to access expert acute care advice and support out of hours.
- Keeping care home residents within surroundings that are familiar, reduces anxiety, and the Immedicare service is designed to help these residents to live well. The service has been positively evaluated by care home staff, residents and the families of those in this care setting."

### Airedale 'Telemedicine' Intervention

The Airedale and Partners Telemedicine service involves "remote consultation and support care" for care home residents (6) either by video link or telephone. There is a **standard** Telemedicine Service model, with options to add **enhanced** service models which may include GP Triage or Goldline services individually, or in combination. A description of each of the service models based on the Immedicare Service description (June 2016) is provided.

#### Standard Telemedicine Service Model

The Airedale Vanguard standard Telemedicine service model is described as providing:

- "A single point of contact for care home staff for help and advice, 24-hours-a-day, seven-days-a-week.

- Across a CCG, an average of 4 clinical assessment calls, per home, per month is supported in the pricing model. Advice calls and follow up from the clinical team in the hub will not be charged.
- Video calls are answered by a team of experienced nurses, therapist and paramedics as soon as they are available to take a call.
- The clinical team carry out an A-E assessment using their experience and a standard proforma in order to assess the needs of the resident. Staff in the Digital Care Hub at Airedale are supported by a multi-disciplinary team in the hospital and are linked to the local community-based services that can visit patients if necessary.
- The hub nurses refer to the resident's electronic health care records (this is mainly through TPP SystemOne but work is underway to expand and improve with other systems such as EMIS) and try to avoid GP call outs, trips to the Emergency Department (ED) and admission to hospital if this can be safely avoided.
- If required, Hospital admissions can also be arranged.
- Advice and support from the registered nurses, paramedics and therapists is provided 24/7 and the resident's own GP can view all consultations that take place between them and the hub at any time.
- This service is not expected to replace the use of the GP and other community health care facilities but aims to deflect inappropriate use of such services where they can be safely dealt with by the trained staff in the telemedicine hub." (6).

### *GP Triage Service Model*

The GP Triage Service model can be added to the standard Telemedicine service.

- It is described as "a model developed in partnership with local GP practices and federations where care home staff are encouraged to default all day time calls to the Telemedicine hub for triage, freeing up GP practice staff for more appropriate work."
- "The clinical assessor in the hub carries out a remote consultation utilising the video and electronic patient record in order to decide whether a GP is required to visit or whether this can be dealt with by the hub remotely, or the community team locally." (6)

### *Goldline Service Model*

The Goldline service provides a single point of access, 24/7 dedicated phone line support to patients known to be in the last year of their lives, and their carers aimed at supporting people to stay at home or preferred place of care, wherever possible. It does not replace patients' use of their GP and other community health care services, during normal working hours, but aims to enhance and co-ordinate their care, especially when daytime services have closed.

- "Calls are answered by a team of experienced nurses in the Digital Care Hub at Airedale Hospital linked to community-based teams, who can visit patients if necessary. The hub nurses can refer to the patients' full health care records. Hospital or hospice admissions can also be arranged if required.
- Some patients are given an iPad so they can access the service through telemedicine – a secure video connection – and speak to nurses face-to-face." (6).

### *Previous Research/ Evaluation on Telemedicine*

In 2015, Hex and colleagues at the York Health Economics Consortium (YHEC) highlighted the "*dearth of evidence to support the effective and cost-effective use of telemedicine, particularly in care homes*" (14). They conducted a retrospective, uncontrolled, 'before and after' review of patient data in relation to care homes with telemedicine in Airedale, Wharfedale and Craven. Significant methodological limitations due to poor quality of data were identified at that time. However, they concluded that the use of telemedicine in these care homes was cost-effective after controlling the data (as much as possible), and adopting a more cautious approach to interpretation.

A number of other projects have been undertaken in relation to Airedale Telemedicine. A list of these is provided in Appendix 4. We are not aware of any, to date, that have been able to link the TM process and health outcome/ service use data to establish impact. The current local evaluation has attempted to explore the potential for including retrospective controlled comparisons; this continues to be challenging, not least due to issues around data access discussed earlier and in more detail in Section 2.

A recently published qualitative study protocol on remote video consultation by Trisha Greenhaugh and colleagues (2016), also noted the scarcity of both robust qualitative research and adequately powered randomised trials and few controlled, before-and-after studies (9). The authors note that the few studies available have shown the potential of this technology but have generally focused on the outcomes of the technology intervention (e.g. clinical indicators, service utilisation) but do not inform our understanding of:

*“the complex and inter-related challenges that teams will face—at both local and national level—when attempting to embed the technology within healthcare organisations.”*

A review conducted by Armfield and colleagues in 2015 on the use of Skype in clinical care, identified 27 published studies, with reported positive benefits reported in 26 of them (15). However, the majority of these were descriptive, small pilot projects (with some only involving five patients) (9). This issue highlights the potential value for Airedale Telemedicine in developing a linked dataset which offers opportunities, at scale, for before-after or controlled comparison study designs, using a robust measurement framework.

Bridget Fletcher, CEO at Airedale NHS Trust suggested in May 2016 (7) that Airedale and Partners Telemedicine Vanguard offers an important opportunity to demonstrate that Telemedicine:

- Can work at scale;
- Can fit with and support local primary/ community services undergoing significant transformation;
- Is transferable, not bound by the limitations of buildings and can be used to support different patient cohorts, different age groups and disease cohorts;
- Can link with other digital and technical applications to keep people safe and well, and in control of their own health.

#### *NHS England Enhanced Health in Care Homes*

In September 2016, NHS England outlined its ambitions for spread of the Enhanced Health in Care Homes framework aimed at achieving:

*“a deliverable, credible and affordable plan for adoption of the EHCH model across England in 2017-18 – recognising not everything is new, and some areas will already be implementing parts of the model” (16)*

NHS England notes that this is a series of smaller, ‘low or no cost’ ideas and actions which individually may not make a significant impact, but, aggregated make a series of marginal gains which can significantly improve quality, sustainability and outcomes. The EHCH care model contains some elements which require entire system working and commissioner action to ensure delivery as well as components that providers can adopt without commissioner action. It also notes that it is neither possible or desirable to mandate everything; some adoption will be organic, and some elements necessitate longer-term collaboration between providers and commissioners. The EHCH framework was also predicted to be most effective when “used together as a suite of interventions” rather than in isolation (which may have some limited impact). A 5-year R.O.I of 84% was calculated from early costings based on a savings analysis from 2016-17 value propositions of the six existing EHCH vanguards. This comprised both local contribution and national transformation funding. Local savings were expected to vary, however initial analysis by the NCM Finance team suggested expected cash releasing savings and demand moderation arising from:

- (1) Reductions in ambulance call outs;
- (2) A&E admission and non-elective admissions;
- (3) Improved nutrition and hydration; and
- (4) Reduced drugs costs.

In April 2017, the Airedale Vanguard changed to focus on delivery of the new ‘EHCH Framework’ (5) in one of the CCG areas, East Lancashire which is being evaluated separately.

## Section 2: Evaluation Approach

NHS England adopted a three layered approach to the New Care Model (NCM) Vanguard programme evaluation with: (1) national, (2) local and (3) independent summative components. Each layer was intended to provide a different view of the NCM programme<sup>12</sup>. The Yorkshire and Humber AHSN was commissioned to provide robust, but light-touch, external **local** evaluation support to the Airedale Vanguard. The Airedale Vanguard programme, including the evaluation was initially funded by NHS England until March 2017. The programme changed focus in April 2017 and moved to East Lancashire for the delivery of the new EHCH framework; this evaluation is being delivered separately. The local evaluation of Airedale Vanguard was extended to July 2017. Airedale NHS Foundation Trust commissioned a separate health economics evaluation and separate data linkage, visualization, and analytics tool from a third party provider.

A theory-based, mixed-methods, local developmental evaluation approach was agreed with the leadership and Programme Advisory Group to locally evaluate the Airedale Telemedicine Vanguard which aimed to:

*“improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for the model to be adopted throughout the country.” (3)*

Developmental Evaluation has been proposed as an alternative to traditional formative/summative approaches to evaluation (17,18). It acknowledges the complexity, uncertainty, and non-linearity of complex initiatives in dynamic contexts (such as healthcare settings) and the real-world limitations of randomised controlled trials and experimental designs, which may not be feasible, or indeed, desirable in these settings. Local evaluation support was provided by Dr McDonach, Professor Mohammed and Dr Stephen Stericker on behalf of the Yorkshire and Humber AHSN. Our approach (Figure 2) aimed to combine frontline expertise and knowledge, with academic/evaluation insights in key areas, which have traditionally been neglected in complex, quality improvement initiatives and their evaluation (19).

Figure 2: Key components of our Developmental Evaluation approach

- Describing the **intervention in sufficient detail** to inform fidelity and potential scale up or replication
- Co-producing **logic models** to develop **robust evaluation measurement framework** (Appendix 1) which were subsequently approved by the Airedale Vanguard leadership team. The local evaluation team noted the challenges of using such a ‘linear’ static tool within a complex intervention, in an evidently dynamic, complex adaptive system with multiple uncertainties. However, reported benefits of using ‘programme theory’ in evaluation include: better designed interventions which articulate: (1) what is the intervention and its key components or ‘active ingredients’; (2) how the intervention is implemented and delivered with fidelity; and (3) as a tool for planning, monitoring, evaluating and communication.
- Co-producing **programme theory/ theory of change** to understand and test hypothesized ‘active ingredients’ and key ‘mechanisms’ by which change may (or may not) take place.
- Strengthening **project design** and exploring opportunities for **controlled comparisons**.
- Monitoring the **fidelity of the intervention and its implementation**.
- Using quality improvement **small scale testing and measurement of change**.
- Applying **theoretical approaches to behaviour change** (where appropriate).
- Obtaining **views/ experiences** of those closely connected to initiative over time (positive and negative).
- Instilling a culture of openness and **opportunity for learning** within ‘Evaluation Dress Rehearsals’ where emergent data and learning can be reviewed and appropriate action agreed.

<sup>12</sup> NHS England Central Evaluation team have developed a Dashboard on key national metrics and efficiencies for the EHCH Vanguard  
McDonach & Mohammed Airedale TM Vanguard Local Evaluation: Qualitative Insights

## Set up Phase

Early scoping work in Airedale by the internal team defined the local evaluation as the digital hub telemedicine offer to care homes. This worked noted that the Vanguard was characterised by a variety of incremental development, with multiple pilots and initiatives underway; these were being evaluated separately. The local evaluation team provided embedded support to facilitate co-production of a logic model for the digital hub telemedicine offer (v7, Sept 2016 Appendix 1). This formed the basis of the evaluation metrics and detailed the rationale, contextual inputs, proposed key activities, short and medium-term outcomes and longer-term impacts of Airedale Telemedicine vanguard. It was also used to identify the range of key stakeholders to be included in the qualitative component of the evaluation. Primary outcomes included, resident<sup>13</sup> and staff experience, system outcomes and associated efficiencies:

- CH Residents find TM acceptable way of receiving care
- CH Residents perceive their needs met effectively by TM
- CH Staff find TM acceptable way of supporting residents
- CH Staff perceive residents' health needs met effectively by TM
- Reduced A&E attendances
- Reduced hospital admissions
- Reduced Non-elective admissions
- Reduced inappropriate GP appointments/call outs
- Reduced ambulance conveyance?
- Reduction of NHS 111?
- Reduced associated healthcare system costs

Later work with the Airedale project team during Evaluation Dress Rehearsals attempted to test and refine the 'theory of change' for Airedale Telemedicine based on emergent learning and identifying aspects of potential implementation failure (Appendix 5). The local evaluation team were also invited to several Airedale Telemedicine Vanguard project meetings and an honorary contract provided. In addition, our evaluation approach required commitment to Evaluation Dress Rehearsals which aims to:

- Enable key people to engage and actively participate in the evaluation process;
- Review project progress and sense-check emergent findings and learning;
- Identify potential project/ evaluation challenges and co-produce solutions in an open and constructive way;
- Provide rapid two-way feedback and double-loop learning i.e. both within and between the project and evaluation;
- Review and update logic models and theory of change in response to greater understanding and changing circumstances;
- Provide opportunities to build a culture of learning that is not threatening and a place for open dialogue of real world challenges of project implementation and evaluation.

Five evaluation dress rehearsals were held in Airedale between August 2016 and March 2017 (Appendix 2). Members of the project team, Vanguard leadership and wider Vanguard partners were invited. Other engagement has included attendance and presentation at the Airedale & Partners Vanguard PAG, Data Management meetings and regular Pi WebEx's.

The evaluation team adhered to appropriate ethical standards with confirmation of service evaluation sought, and information governance and data sharing arrangements established at the outset.

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<sup>13</sup> NHS England planned to implement patient experience tool 'ASCOT' in all six Vanguards. This has been delayed and will now be implemented in 3 care homes within this Vanguard.

## Evaluation Questions

The Airedale Vanguard local evaluation was focused on NHS England's requirements of understanding key areas of: context in which the service is being delivered; the nature of the intervention(s), fidelity and implementation, outcomes, stakeholder's views and experiences; and emergent learning for improvement, replication or scale up. Specific evaluation questions have focused on the following three key questions.

This report focuses on the third question:

1. How does the model of TM impact on care home utilisation?
  - Which care homes use TM and why?
  - Which care homes don't use TM and why?
  - What role does TM model in place play - e.g. standard contract, GP triage, CCG area?
2. What impact does TM utilisation have on key outcomes of healthcare utilisation?
  - A&E attendances, Non-elective admissions, conveyance, GP call outs...
  - sub-group analyses/ retrospective controlled comparisons if possible
  - and associated costs (University of Sheffield)
3. Is TM perceived by those closest to it as an appropriate, acceptable, effective healthcare delivery method? (Stakeholder Experience)
  - what difference does the model of TM make?
  - what are the key benefits, challenges of TM?
  - how can TM in care homes be improved?

## Evaluation Methods

It was anticipated that the mixed-methods evaluation would involve collating and validating routine quantitative project metrics and generating additional qualitative data, using semi-structured qualitative individual interviews, focus group interviews and online or paper surveys. This *'light touch'* approach was designed to reduce burden on the organisation and optimise value for money.

## Quantitative Data Analyses

An early Evaluation Dress Rehearsal (August 2016) identified a number of data challenges for the Airedale Vanguard programme which were fed back to the wider team and PAG. These included:

- Lack of robust measurement framework to establish impact:
  - Sub-optimal data collection/reporting system: New system April 2016 – still limitations
  - Key data items missing:
    - No live list of care home residents or tracking system of care home/ non care home patient flow.
    - No visibility of healthcare use which does not flow through hub (e.g. ambulance called but no hub call)
    - No call duration – record when call opens but not call closure (e.g. resource input/cost per call).
    - Numerator (no of calls) easier to establish/ denominator more challenging (max no. of beds)
  - Data linkage problems: unable to establish link between process (using the hub) and outcomes (e.g. reduced A&E attendances)
- Potential risk of loss of internal analytic support
- Challenge/ limitations of retrospective data analyses and lack of controlled comparisons – difficulties in attributing change to TM

Some potential solutions to improve the process at installation were discussed:

- Consider building in update of care home residents every quarter.

- Possibility of tracking ‘tracer set’ (those on list at care home install) – over time – number of admissions post-install via hub and not via hub.

The local evaluation team have not, to date, been able to access Airedale Vanguard project metrics, utilisation data or outcome data. This has been documented and reported over time and summarised recently by the internal evaluation lead. At an early phase of the evaluation, the project team also had to delete a dataset in line with new changes to Information Governance procedures. Monthly reports on TM utilisation by care homes are produced for CCG purposes, however, the local evaluation team have not been able to access this data directly. Instead it should flow through Pi Analytics, Airedale’s third party provider when all data is available and linked through pseudo-anonymisation processes. As well as delays in receiving data flows, some issues around data quality and validity require further scrutiny.

The local evaluation team have supported the Airedale Data Sharing process and DARS application to NHS Digital as well as the development of the data visualisation and analytics tool by Pi Analytics. A Data Access Request Service (DARS) application for each CCG area to obtain routine data (e.g. HES and SUS data) which can then be linked with Airedale Telemedicine Hub data using NHS numbers was submitted in August 2016 by NHS Airedale Trust to NHS Digital (which replaces HSCIC).

### Qualitative Data Collection

Advice was sought from key stakeholders about a pragmatic approach to involving those close to the Airedale Telemedicine in the evaluation. We often refer to this as developing a ‘human sensor network’ of people who are close to an intervention which gives them ‘privileged’ insights. The local evaluation has included direct input from more than 60 key informants with direct knowledge of the Airedale Telemedicine Vanguard, either as care home staff or resident, project team or part of wider partnership. Sampling for diversity was attempted to obtain care home participants from high, medium and low TM utilisation homes as well as a range of stakeholder groups and professional roles.

This involved qualitative semi-structured interviews, face-to-face in several care homes, as well as telephone interviews and online surveys. The interviews (Appendix 3) and online survey were conducted independently by the evaluation team to help preserve impartiality, and participants’ confidence in reporting their experiences of the pilot (both positive and negative) anonymously. The method of participation was preference based, where possible, with options for face-to face, telephone or online survey. Recruitment took place between January and July 2017; interviews took between 20-60 minutes and the online survey a few minutes. Several care homes did not have access to online facilities and requested paper copies. These were either posted or hand delivered and collected.

Recruitment of care home residents was particularly challenging as it involved people who met the specific criteria of (1) having used TM in the past six months and (2) remembering using it. This specific inclusion strategy was selected in response to the limitations of a previous project which involved residents who could not remember using the TM service. The issue of capacity to consent and take part was also an issue, with many of the care home managers reporting residents not having such capacity. Initial plans to develop and implement a nested behavior change study using a validated Theoretical Domains Framework Implementation approach (20) did not prove possible due to lack of: engagement from care homes and the wider mechanisms required for developing, implementing, monitoring and revising potential interventions. This process did, however, prove useful in surfacing some of the nuances of the TM utilisation issue. One staff team and their manager (n= 5) from a ‘low-utilisation’ care home did complete the ‘barriers and enablers’ questionnaire. Low use was due to residents’ needs rather than perception of TM, which was reported to be good, despite infrequent use.

In addition, the local evaluation is informed by field-notes from phone calls with n =17 care home managers about their experience and views of TM compiled during the recruitment phase and field-notes from telephone discussions with two other Vanguard stakeholders.

Interviews were audio taped and transcribed. Framework Method (21,22) was used to develop a common coding frame across methods to identify key themes and patterns in relation to evaluation questions and logic model, in order to develop explanatory accounts. This approach offers a systematic and robust method of thematic analysis. Framework method is often used in applied health research and is a potentially useful approach when working with interdisciplinary teams (23). Framework method moves through various stages from familiarising and indexing the data to charting and developing matrices to identify patterns and key themes. Essentially, this helps to explain the data, rather than simply describing it. This method was also useful in presenting formative information to the team. It may also provide important narrative to understand quantitative findings and assist in the data quality and validation process. In order to preserve the anonymity of participants in the evaluation, specific identifiers have been removed from illustrative quotations.

### Section 3: Key Findings

#### Quantitative Data

##### Implementation

The local evaluation team have not, to date, been able to access Airedale Vanguard project metrics, utilisation data or outcome data. A recently developed 'look up table' suggests that the Airedale and partners Vanguard delivered its 'Telemedicine' service to 235<sup>14</sup> care homes across the four CCG areas:

- 148 of these care homes were installed pre-Vanguard and 87 care homes during the Vanguard period in 2016.
  - 41<sup>15</sup> care homes were de-installed; 34 in March 2017, the others before this date.
- Of the remaining 194 'live' care homes:
  - 132 are classified as residential homes and 62 are designated nursing homes<sup>16</sup>
  - 174 care homes received the standard TM service and 20<sup>17</sup> care homes received the enhanced GP Triage service model.
  - 50 care homes have not received Telemedicine, and may potentially act as 'control' homes, although they may be 'atypical' and their suitability as 'controls needs to be explored further.
  - Available data does not indicate the number of residents receiving Goldline service.

An earlier snapshot in January 2017, using Immedicare's live list, indicated a total of 227 'live' care homes (Table 1); 52 homes were in Airedale, Craven, Wharfedale CCG; 81 in Bradford CCGs and 94 in East Lancashire CCG, of which 19 at that point received the enhanced GP Triage Service.

Table 1: Airedale & Partners Vanguard 'live' care homes (Source: Immedicare live list, Jan 2017)

CCG Area	Airedale Craven Wharfedale	Bradford	East Lancs	Totals
No. of Nursing Homes	16	37	28	81
No. of Residential Homes	36	44	66	146
<b>Total No. of Care Homes</b>	<b>52</b>	<b>81</b>	<b>94</b>	<b>227</b>
Of which GP Triage	0	0	19	19

<sup>14</sup> Discrepancy noted between look up table (n = 235) in April 2017 and Immedicare live list Jan 2017 (n=227) being explored.

<sup>15</sup> Records indicate that one care home was disputing this outcome so may not have been 'de-installed'.

<sup>16</sup> It is not clear from the current 'look up table' (developed for Pi in April 2017) how many of the care homes are of mixed structure i.e. nursing/residential as none are classified as such. Qualitative work indicates this may be an important aspect to reconcile.

<sup>17</sup> Discrepancy noted between number of GP triage homes from January 'live list' (19) and April 'look up table' (20)



## Utilisation

Access to a limited dataset highlighted several important aspects of TM utilisation across the Airedale and partners Vanguard<sup>18</sup> which included:

- Substantial variation in TM use across Care Homes;
- Lower uptake of TM in Nursing Homes versus Residential homes;
- Variation in out-of-hours versus in-hours TM use;
- High rates of non-utilisation of TM; differences across the CCG localities;
- Small number of homes were potentially responsible for larger volume of calls.

The following challenges of care home utilisation were identified during the set up phase of the local evaluation, using information from the Vanguard Programme Update in August 2016:

- Hub data from August 2016 indicated that a large percentage of Vanguard care homes did not make any telemedicine calls in that month: 56% of nursing homes and 43% of residential homes;
- The number of Vanguard nursing homes calling the hub decreased 12% in three months, from 56% in April 2016 to 44% in August 2016. The Airedale Vanguard Programme team speculated that this is due to low utilisation by newly installed homes (n=8). It is not currently known, if there is an average period for care homes to embed hub use following installation.
- Some care homes have also never used the hub since it was installed in their home. Reasons why this might be the case are not well understood. The external local evaluation team sought data on patterns of care home telemedicine utilisation from the total vanguard sample (n=248). However, in a subsample of 76 Bradford CCG care homes, 10 (13%) had never used the hub; nine out of these ten of these care homes were within 7 months' post-installation.
- It is also difficult to know what is 'optimal' or 'suboptimal' vanguard care home usage of Airedale telemedicine service. No use of the service is obviously zero calls, but what can be defined as 'low use'? Current levels of care home usage of the telemedicine service may be appropriate based on their resident's needs or it may be suboptimal if care homes are accessing other health care services inappropriately (in-hours, out of hours and urgent and emergency care). It is not currently known whether care homes which do not use or have low use of the hub telemedicine service, have higher levels of inappropriate health care use (e.g. ambulance conveyance and A&E attendance) than those care homes who do use the hub/ have higher number of calls. This is a key question for the wider vanguard evaluation and requires linked datasets to answer it.
- Care homes not using the hub telemedicine service has cost implications, not just in unrealised potential benefits, but in kit installation and monthly service contracts.

## Qualitative Data

This report focuses on the *qualitative component* of the Airedale Vanguard Local Developmental Evaluation and provides key insights for the programme. These are based on data from a range of qualitative methods involving more than 60 individuals from the following key stakeholder groups:

- N = 14 semi-structured interviews: care home staff (7) and residents (4) key stakeholders (3)
- N = 3 key stakeholders in focus group;
- N = 42 online/paper surveys from Vanguard care home staff;
- N = 5 questionnaires from one care home staff team about potential barriers and enablers to utilization.

Additional field-notes from telephone conversations with 17 care home managers and 2 stakeholder partners also helped to inform the local evaluation.

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<sup>18</sup> Presented at January 2017 Evaluation Dress Rehearsal.

An attempt was made to group care home respondents by the level of TM utilisation within their care home (Table 2). As well as recruiting a diverse sample of different stakeholders, CCG areas, home types, the local evaluation wanted to include a range of TM use.

Table 2: Qualitative sample categorisation based on frequency of reported TM use in care home

	High Utilisation	Medium Utilisation	Low Utilisation
Care Home Residents <sup>5</sup>	3	1	/
Care Home Staff Interviews	4	2	1
Care Home Staff Survey*	28	9	1

<sup>5</sup> Care home residents were recruited from care homes stratified by TM utilisation.

\* 38/42 online survey respondents reported their frequency of TM utilisation. A crude classification system was developed with: daily, weekly monthly usage defined as 'high'; and 'every 3 months' use as 'medium'; and 'once a year' use as 'low'.

### Care Home Resident Experience

Care home resident recruitment was challenging, not least because of the specific criteria of finding residents who had (1) used TM, and (2) remembered doing so, and (3) were interested and/able to take part in the evaluation. This meant that residents were more likely to be recruited from higher TM utilising homes. Many care home managers reported their residents were unable to take part due to cognitive or physical frailty. Future work would benefit from other methods of resident engagement, including perhaps more observation type methods.

A total of four residents took part in face-to-face interviews in their care homes. All had used TM at least once, some many times. The following key themes emerged in relation to lack of pre-engagement about TM, perceived benefits of the service, and potential limitations. The local context of the care home was also important as some residents could access district nurse or GP services easily during weekly home rounds.

### Lack of TM Engagement

All four residents who took part, reported that they did not receive any TM information prior to first use.

### Perceived Benefits of TM

Three of the four residents interviewed were extremely positive about the TM service, noting various benefits, including avoiding hospital visits, and the friendly, quick nature of service received:

*"I think it is good...Because it saves you going to the hospital for instance, you see there are always something, bits of things [health issues]" (Care Home Resident, High TM use home)*

*"Oh it was, they were excellent. They were really helpful, really helpful. And they went and got, and they said they needed advice from a doctor and they did that and they came back to me. As it happened, I ended up having to go into hospital anyway, but they were very helpful.... I thought it was a really good idea." (Care Home Resident, Medium TM use home)*

*"It's very good. Very friendly and you get seen to straightaway so..." (Care home resident, High TM use home).*

Although the fourth resident was less positive, noting limitations, they did see benefits of TM in their care home in potentially avoiding unnecessary hospital visits for things like falls:

R: *"... I mean we often hear so and so has had a fall you know and she has either ... they have either gone to hospital or perhaps seen the telemed but we don't hear it all.*

I: **From your point of view if the telemedicine could save you a visit to the hospital would that be a good thing?**

R: *Oh that is a good thing, well it saves you a journey as it is [long] journey and then you have to wait around for the ambulance to come and for it to come back...I mean it is a big thing to go to the hospital from here if you don't need to." (Care home resident, High TM use home).*

One of these residents also noted the benefits of the face-to-face video link:

*“Nice to see a face rather than just speak to somebody on the phone” (Care home resident, Medium TM use home).*

The use of new technology was not an issue for three of the residents as the following quotation illustrates:

*“It doesn’t bother me, no. It makes a change having somebody to talk to.” (Care home resident, High TM use home).*

Although the fourth would have preferred an ‘in person’ consultation, they did report that getting the ‘right treatment’ was the important thing:

*“Well no if they give the right answers to that they give the right treatment I mean that is all that matters whether you go to the doctors or that you know.” (Care home resident, High TM use home).*

One resident also suggested that prior experience of computers may be important for some older people:

*“Well it depends whether you’re used to that sort of scenario or not, doesn’t it? ... It might be an issue with people who are not used ... some of the older people in here don’t know anything at all about technology, but not for me.” (Care home resident, Medium TM use home).*

Three of the residents reported having a clear picture when using TM, although one noted ‘people walking about in the background’. It is not clear what this meant, and is worthy of follow-up by the TM team.

#### The importance of physical examination

The fourth resident reported limitations with the virtual aspect of TM, preferring the one to one consultation and opportunity for physical examination, noting a ‘waste of time’ aspect in some TM encounters:

*“Well I have had it once or twice, but I mean it is very clever, but I don’t consider it a one to one. It is a ... well let me put it this way, I am an old fashioned person, you go to the doctor and they examine you and he does what he wants and I think that is better because what you see on a slide could be a bit fuzzy, it is not to the touch. When a doctor feels you, you go perhaps with a pain in your tummy or something but they won’t only feel there they will feel all around to see if it is appertaining to anywhere else. Well you can’t do that on a picture.” (Care home resident, High TM use home).*

The importance of physical examination was also noted by another resident who had a recurring medical issue where examination was necessary to confirm diagnoses:

*“So I’ve got to say that being able to be examined is better in my situation.” (Care home resident, Medium TM use home).*

#### Care home staff time

The issue of care home staff’s time in setting up and supporting the telemedicine was also a concern for a resident (and was an issue noted by some staff in the survey and during interview):

*R: “Well for what the amount of time it takes the team leader to do it and to wait while the other end is ready and all the rest of it, it can be quite a time consuming thing.*

**I: Does it take a while to get set up?**

*R: Well I don’t ... they have got the machine set up there, it is just setting from one place to another and getting the person you need. I suppose not a while. But if you have a doctor you go straight into him and he deals with you straight away and I don’t ... I don’t know.” (Care home resident, High TM use home).*

#### TM Consultation location

Most residents reported the telemedicine kit being brought to their bedroom, and were positive about this aspect, for example:

*“Yes. I think it is wonderful. One time I was in bed ill and they brought it ... to me.” (Care home resident, High TM use home).*

However, one resident commented that having TM kit brought to their bedroom was not always the case and would prefer if it was:

*“Well I think anybody would, it is more homely. I mean I know you go to a doctor’s surgery and that sort of thing but ...” (Care home resident, High TM use home).*

It is not clear if this alternative location, rather than the resident’s bedroom for telemedicine consultation was due to wi-fi coverage etc. as staff from this care home had noted technology issues.

#### Importance of local context

The local health services available to care home residents and the staff may impact on their use of TM. Two residents noted that they could easily access a nurse or GP during their regular (often weekly) home round:

*“it’s different when you’re in a nursing home, isn’t it, because you, we have a practice, a nurse practitioner that comes in every week so you can always ask to see her. So you’ve got the opportunity once a week of seeing her. And then, you know, the GP’s available to come in if need be...So really it would only, to my way of thinking, be an issue at the weekend when you were ...Because it’s, you know, it’s difficult for the staff, isn’t it, to decide whether you were a priority at the weekend or not.” (Care home resident, Medium TM use home).*

Another resident noted that district nurses came into their home and felt that they would rather see that nurse in person if their health concern required taking clothes off:

*“I wouldn’t want to be nude on the screen or anything like that... I don’t think I’d like it though. It’s not clothes on. Like a district nurse comes around for anything like that.” (Care home resident, High TM use home).*

#### Care Home Manager/Staff Experience

In addition to care home residents’ interviews, an online survey was conducted to generate qualitative insights from a wider group of care home staff, as part of the developmental evaluation approach. A summary slide deck about this piece of work is available (McDonach, July 2016).

42 care home staff responded, with a range of experience, from different types of homes, and with different levels of TM use:

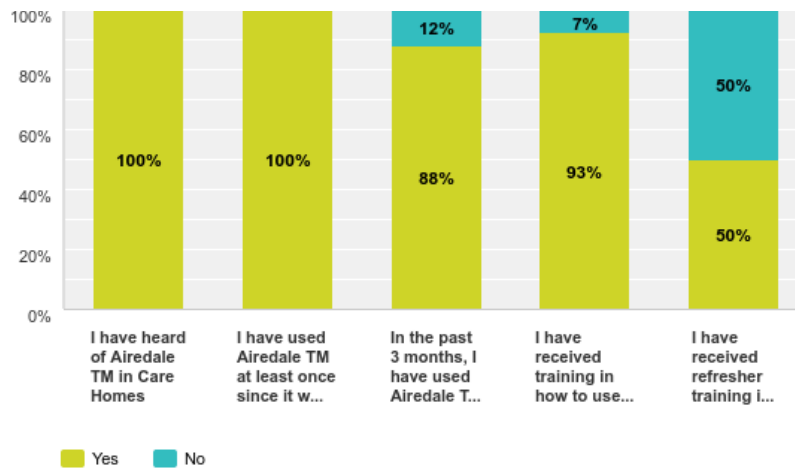
- Range of staff:
  - 16 Managers/ Deputy, 7 Nurses, 3 Senior/ 2 Care Assistants (of those who reported);
  - 1-2 years to 25+ years’ experience.
- Range of Homes/ characteristics:
  - 20+ different care homes represented (of those reported);
  - Residential (18), Nursing (3) and Mixed (11) Care Homes (of those who reported);
  - Both Standard model and GP Triage Homes;
  - Homes in each CCG: Bradford, Airedale, Wharfedale and Craven and East Lancashire;
  - Homes in urban and rural contexts.
- Range of reported TM use:
  - From ‘daily’ to ‘once a year’

#### Capability to use TM: Knowledge, Skills, Training

Having the knowledge, skills and confidence or ‘capability’ to use TM is an important aspect of behaviour change. Care home staff who took part in the local evaluation generally reported being able to use the kit, with a few notable exceptions. In separate telephone discussions of interviews with care home managers, the majority of care home managers reported that just the senior team would typically use the TM service.

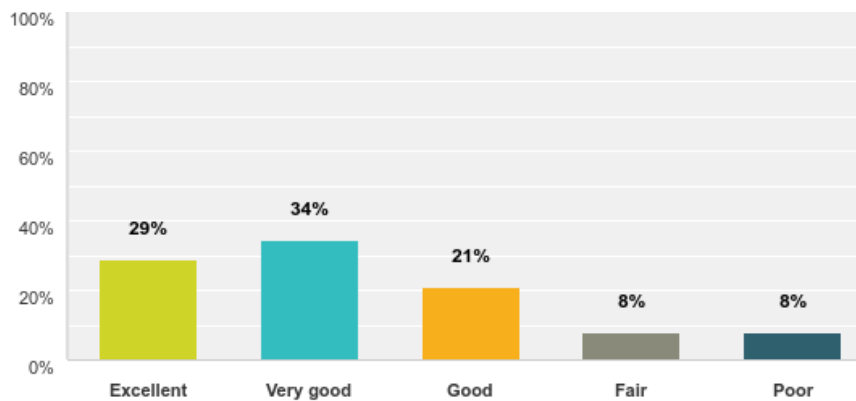
The vast majority of survey respondents (Figure 3) had heard of TM (n =38), used it at least once in last year (n = 37), and had used it in the last 3 months (n = 38). In separate discussions with key stakeholders, it had been reported that ‘refresher’ training was offered to care homes who had low or no TM use within a certain time period. In this online survey, of the nineteen care home staff that reported refresher training, eighteen rated the telemedicine service positively as: ‘good’ (3), ‘very good’ (4) or ‘excellent’ (11). One respondent left blank.

Figure 3: Online Care Home Survey: TM use and training



Of the 38 staff who answered the question, the majority (84%, n =32) rated the training received positively (Figure 4).

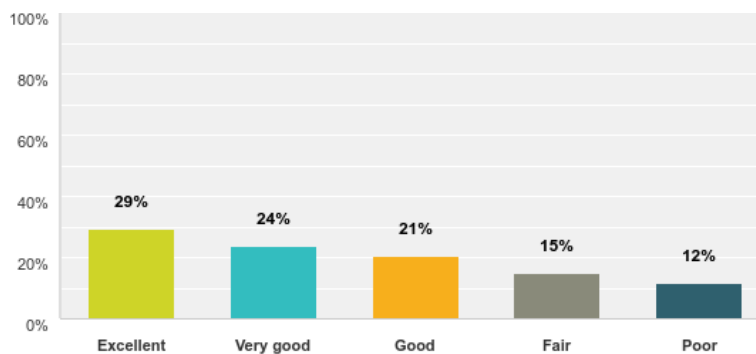
Figure 4: Online Care Home Staff Survey: Rating of Training



### Perceived TM 'Experience'

The majority of care home staff respondents 84% (n=25) rated their experience of using TM positively (Figure 5).

Figure 5: Online Care Home Survey: Rating of TM experience



### Perceived Benefits of TM

Eight key benefits emerged from the free text comments provided by 29 online staff survey respondents. Many of the respondents identified multiple benefits. Illustrative quotations are provided below:

### 1. Avoiding unnecessary GP visits, OOH GP, A&E attendance, admissions (n = 13)

Seven survey respondents reported thirteen benefits of TM around avoiding a range of unnecessary health care use; five of these respondents were from standard contract home. Illustrative quotations are provided:

*"The amount of residents admitted into hospital has reduced." (Care Home Staff, Medium TM use home)*

*"Less visits to A&E, less out of hours GP Visits" (Care Home Staff, Medium TM use home)*

*"Supports staff, saves ringing doctors/ambulance out of hours reassures both resident and staff." (Care Home Staff, Medium TM use home)*

*"Prevent hospital admissions or unnecessary out of hours GP visits, to avoid GP appointments for simple queries - i.e. using a cream in a different area of the body." (Care Home Staff, High TM use home)"*

*"Responsive reduces inappropriate hospital admissions." (Care Home Staff, High TM use home)*

### 2. Supporting Care Home staff (n = 13)

Eleven care home staff in the survey report the benefit of TM as 'supportive' and 'helpful'. Five of these staff were based in GP Triage homes. The following free text comments illustrate the 'support' theme identified by staff:

*"...And talking to someone face to face on the lap is very good the staff are very supportive and patient when we are talking to them via lap top. This also helps because the consultation is done in the presence of the resident." (Care Home Staff, Medium TM use home)*

*"Quick advice and support." (Care Home Staff, High TM use home)*

*"To enable staff to get support and necessary assistance when needed." (Care Home Staff, High TM use home)*

Two of these staff identify the support for non-qualified staff and another two staff in providing clinical support for nursing staff:

*"Additional clinical support for Registered Nurses." (Care Home Staff, High TM use home)*

*"Assisting nurses to make decisions about sending someone to hospital or not." (Care Home Staff, TM frequency not reported)*

*"Good support/ advisory service for non-qualified staff." (Care Home Staff, High TM use home)*

*"as a senior carer it offers support and advice in regards to residents" (Care Home Staff, High TM use home)*

### 3. Patient experience (n = 5)

Four staff identified five benefits around improved patient experience; three of these staff were based in a standard contract home:

*"Out of hours advice and support, Unrequired hospital admission via 999 to A&E. Improved customer care and advice immediately at hand." (Care Home Staff, High TM use home)*

*"...Quicker response to resident concerns. Ensuring appropriate support for residents." (Care Home Staff, High TM use home)*

*“Colleagues available to discuss proposed treatment for the benefit of our residents.” (Care Home Staff, Medium TM use home)*

*“And talking to someone face to face on the lap is very good the staff are very supportive and patient when we are talking to them via lap top. This also helps because the consultation is done in the presence of the resident.” (Care Home Staff, Medium TM use home)*

#### 4. Available when needed/ out of hours (n = 8)

Five staff identified benefits relating to support when needed, particularly out of hours. Three of these staff were based in Standard contract homes:

*“Knowing there is someone on the end of the line that can help you is important. If we can’t get through to GP then we can use Telemedicine. we can ring just for advice. for night staff who are lone working its invaluable.” (Care Home Staff, High TM use home)*

*“Out of hours advice and support, Unrequired hospital admission via 999 to A&E. Improved customer care and advice immediately at hand.” (Care Home Staff, High TM use home)*

*“Immediate response, out hours response.” (Care Home Staff, Medium TM use home)*

*“Quick access to help when needed.” (Care Home Staff, Medium TM use home)*

*“Responsive reduces inappropriate hospital admissions.” (Care Home Staff, Medium TM use home)*

The following four additional benefits were also identified by care home staff in the online survey.

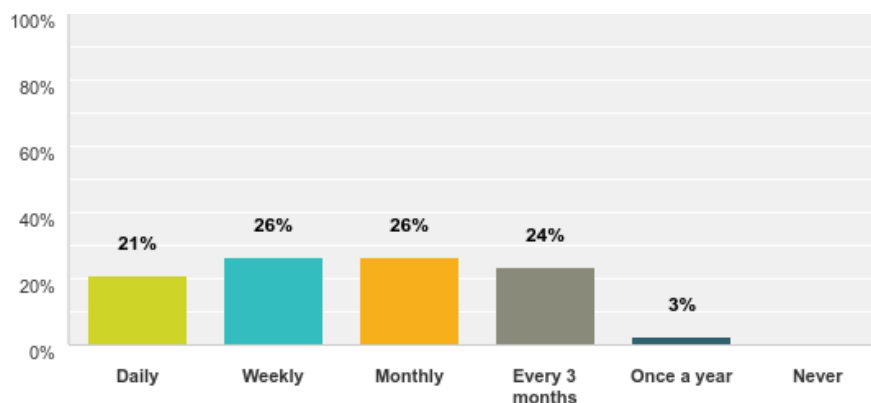
5. **Quick** (n = 5)
6. **Advice** (n = 4)
7. **Reassurance** (n = 3)
8. **Quality** (n = 3)

Three staff did note that TM was more appropriate for minor conditions rather than more serious ones.

#### TM Utilisation

Of the 34 care home staff who reported frequency of TM usage in the online survey, almost three quarters (73%, n = 28) used it at least monthly (Figure 6).

Figure 6: Online Care Home Staff Survey: Frequency of TM use



It is important to note, the issue of TM utilisation in Vanguard care homes is complicated; it does not appear to be a simple *‘like it-use it’* transaction. Other factors influence TM use, and importantly, it is not all about what goes on in the care home or in the digital hub. The following points from the online survey

taken together, may help to illustrate this important point; respondent's ratings of telemedicine were not neatly associated with frequency of utilisation.

- For example, survey respondents who rated their experience of TM as 'excellent' (n = 10) ranged from self-reported TM use daily to every three months, the same was true of those who rated TM experience 'very good' or 'good' (n = 15).
- The four respondents who rated TM experience poor were all self-reported 'frequent' TM users (daily, weekly, monthly). They were also staff from GP Triage care homes.

Another way of looking at this utilisation issue is:

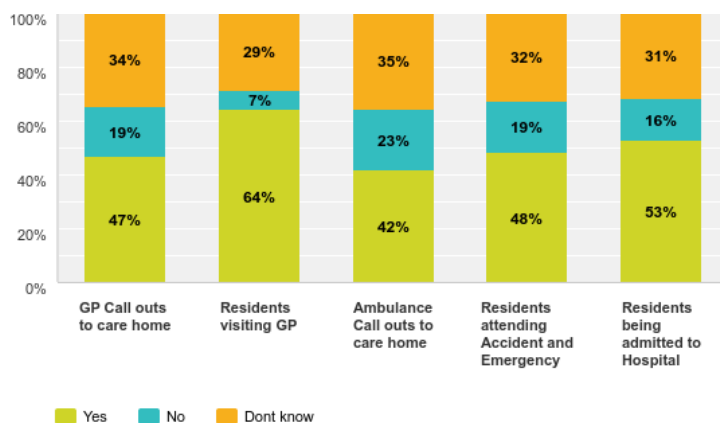
- Of the eighteen respondents who reported daily or weekly use: n = 8 rated their experience as 'good', 'very good' or 'excellent', n = 3 rated their experience 'fair' and n = 3 as 'poor' - all of which were GP Triage homes.
- Of the nine respondents who reported TM use 'every three months' or 'once a year', n = 8 rated it as 'good' 'very good' or 'excellent', n = 1 rated it 'fair' and one left blank.

This suggests that the model(s) of TM in operation may be a bigger predictor of utilisation than staff views and experience of using it; for some staff there may be no choice in the matter, if for example they work in a GP Triage home, where GP services are accessed through the Telemedicine service. On the other hand, those who have lower utilisation may actually rate TM very positively; their low use be more due to the model of TM available in their care home (which might only be OOH access), or the particular needs of their resident group.

### Perceived Impacts of TM

Online survey respondents perceived a range of impacts from their use of TM (Figure 7) with 15 identifying reduced GP call outs; 9 reduced residents visiting the GP; 13 reduced ambulance call outs; 15 reduced A&E attendances and; 17 reduced hospital admissions.

Figure 7: Online Care Home Survey: Perceived Impact



### Perceived Aspect of TM that Works Well

Six key aspects of the TM service were reported to be 'working well' by 28 survey respondents providing free text comments; some participants identified multiple aspects.

1. Quick (n = 6) – two said this was variable with some longer waiting
2. Support Residential Staff (n = 5)
3. Clinical Support (n = 4)
4. Available when needed (n = 4)
5. Patient Experience (n = 3)
6. Avoids unnecessary visits, attendance, admissions (n = 1)

Three participants reported that 'nothing' in relation to their TM experience was working well.



## Perceived Disadvantages of TM

Eight key disadvantages of TM were generated from 29 respondents' free text comments; some respondents identified multiple issues. Six respondents noted that there were no disadvantages to TM.

### 1. **Technical Issues** (n = 8) (Wi-Fi connection, sound/video quality, coverage across home)

Six of the online survey participants noted eight aspects of the technical service as a disadvantage of TM. Three of these were in standard contracts and three in GP Triage homes:

*"Sometimes the video link does not work." (Care Home Staff, Medium TM use home)*

*"Poor reception." (Care Home Staff, High TM use home)*

*"Unable to always have good vision of resident and doesn't work in parts of the home." (Care Home Staff, High TM use home)*

*"Connection Issues - Sound Quality" (Care Home Staff, High TM use home)*

*"Laptop / Wi-Fi and reception not always great" (Care Home Staff, High TM use home)*

*"Wireless in old building can be difficult" (Care Home Staff, High TM use home)*

### 2. **Long waiting times to be answered** (n = 5)

Four of the five respondents who identified waiting times to get call answered as a disadvantage of TM were based in homes with standard TM model service:

*"Not always able to get through on the telephone." (Care Home Staff, Medium TM use home)*

*"Not being answered quickly enough." (Care Home Staff, High TM use home)*

*"Sometimes the system is busy and there are long waits to access assistance and advice, this can be distressing if a [resident] has fallen." (Care Home Staff, High TM use home)*

*"Slow contact. Often long waiting time." (Care Home Staff, High TM use home)*

The fifth respondent identifying waiting times to get TM call answered was based in a GP triage home:

*"Cannot get through at times, lengthens the time of access to the GP." (Care Home Staff, High TM use home)*

### 3. **Wastes time/ lengthens time to access services** (n = 5)

All five respondents who identified the issue of time to access services were from GP Triage homes. The following quotation illustrates the point:

*"Wasting time getting through when already know what my residents need!" (Care Home Staff, High TM use home)*

### 4. **Gatekeeping access to services** (n = 4)

Perhaps not surprisingly, survey respondents who identified 'gatekeeping access to other services' were also all from GP triage care homes, illustrative quotes are provided:

*"Having to use it to book a routine GP appointment. When you know what you need for S.U but telemedicine make you repeat all observations etc. then get same outcomes takes too long. When a nurse contacts telemedicine can be undermining for them as they are qualified." (Care Home Staff, High TM use home)*

*"Can sometimes be frustrating- i.e. meeting a criteria for a GP visit sometimes residents end up hospital bed as prompt action needed & process too long." (Care Home Staff, High TM use home)*

During a separate face-to-face interview, a staff member from a GP triage home articulated the perceived role of TM in 'gatekeeping', 'increasing time' and 'professional infringement', where they twice described their experience as 'demeaning':

*"The problem with the telemed system is that it is time consuming from a nurse's point of view. It is quite demeaning and I can categorically say that we all agree with that. It is not that, it is nothing against the nurses at the hub at all we are all professional nurses but we do feel that we need... if we are asking to speak to a doctor it is because we need to speak to a doctor or if we are asking for a GP visit it is because it is justified." (Care Home Staff, High TM use home)*

*"So I don't feel that I need to go through anybody else to say well have you done their observations, have you tested her urine, have you done this, have you done that, because I have already done it, because I actually know what I am doing. That is what I mean about being demeaning really. It is kind of questioning our knowledge and our experience." (Care Home Staff, High TM use home)*

This same respondent did, however, report that they had experienced professional support from the telemedicine service at times, although felt that this could have also have been received from other out of hours services:

*"...and there have been times, when and I have had this myself, where there has been support from the telemed service in that I mean sometimes you just need to verify with a fellow professional that you are doing the right thing and I have had that, I have experienced that. I rang one weekend; I forget what it was about but I felt supported in that because the nurse I spoke to said yes I would have done exactly the same. So that was fine are you with me, so from a professional support point of view, it is good to have somebody there but at the same time I could have rung the surgery or the out of hours and got the same support there as well." (Care Home Staff, High TM use home)*

The issue of 'choice' and lack of choice when GP Triage service model mandates use of TM was raised by several respondents in the online survey and during telephone discussions during the local evaluation recruitment phase. Two managers raised questions of fairness and equity of access for their residents to primary care services, by virtue of being in a care home.

#### **5. Professional infringement (n = 3)**

Three survey respondents identified professional tensions with TM, mostly to do with trained nursing staff but sometimes for residential care home staff too:

*"I prefer to discuss my patients myself not through a third party" (Care Home Staff, High TM use home)*

*"Ineffective for qualified staff." (Care Home Staff, High TM use home)*

*"Tel-med staff need to be aware of care home staff's knowledge and insight into customers concerns." (Care Home Staff, High TM use home)*

#### **6. Getting staff to use (n = 2)**

Two respondents (both from standard contract homes) noted staff habit and nervousness as possible barrier:

*"Getting staff in to the habit of using it." (Care Home Staff, High TM use home)*

*"Some staff remain nervous about using it." (Care Home Staff, High TM use home)*

#### **7. For minor issues/ Not for serious conditions (n = 2)**

#### **8. Residents prefer face to face (n = 1)**

### Suggested TM Improvements

Twenty-eight participants provided free text comments about improvements to the TM service. Some respondents identified multiple improvements. The suggested improvements were categorised into the following eight areas; some illustrative quotations are provided:

**1. Improved technical issues (n = 7)**

*"The home is large and the service only works in certain parts of the building, unable to get Wi-Fi signal throughout, it would be great if we could"* (Care Home Staff, High TM use home)

*"Better WI FI connection to the hub."* (Care Home Staff, Medium TM use home)

**2. Answer calls quicker (n= 3)**

*"No waiting times of 30-40 minutes- don't have that time to sit and wait."* (Care Home Staff, High TM use home)

*"Quicker access/ answer calls."* (Care Home Staff, High TM use home)

*"If they answered it quicker"* (Care Home Staff, High TM use home)

**3. Expansion of TM services in care homes (n = 2)**

*"More services being available like physio referrals. SALTS referrals, more online training."* (Care Home Staff, High TM use home)

*"Training sessions for staff. OT and speech and language therapist contact. patient reviews. extend to local GP to reduce need for physical visits."* (Care Home Staff, High TM use home)

**4. Expansion of carer role in TM (n = 2)**

*"Being able to carry out obs (this is a home training issue not teemed)"* (Care Home Staff, High TM use home)

*"Observations should be allowed to help us."* (Care Home Staff, High TM use home)

**5. Professional infringement (n = 2)**

*"Not having 'know-it-all' nurses on when we know our residents."* (Care Home Staff, High TM use home)

*"Being able to contact GP for review, referrals rather than going through telemed."* (Care Home Staff, High TM use home)

The remaining three improvements to TM service were suggested by staff in the online survey:

**6. Not for everything service (n = 2)**

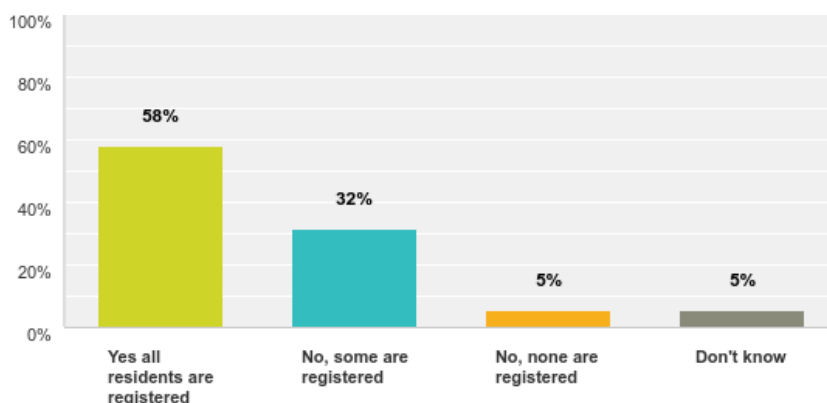
**7. Nothing (n = 2)**

**8. Remove (n = 1)**

### Registration of Care Home residents

Early set up work highlighted issue of lack of 'live list' of care home residents. In this online survey, six of the nineteen respondents who answered the question, reported that only some of their residents were registered (Figure 8). This echoes the report from a care home staff member that some of home's GPs had not signed up to TM. Therefore, some of the residents in the home used TM and others did not. The staff knew which was which and acted accordingly. This adds further complexity to challenge of identifying individual residents who have used TM as part of any evaluation.

Figure 8: Online Care Home Survey: Residents Registered to receive TM



### Vanguard Stakeholder Insights

#### Benefits and Impact of Airedale and Partners Vanguard

Stakeholders who took part in the evaluation identified a number of strengths in the Vanguard programme, particularly around the TM clinical offer including quality of care and efficient use of resources, and competency of the TM nurses in the hub:

*“The aim has been to improve the quality of care for people who are very vulnerable in care homes, whilst at the same time, trying to make the best use, the best efficient use of resources in the hard pressed health and social care system.” (Vanguard Key Stakeholder)*

*“I will admit to being very dubious about this initially. Because we’re used to working with district nurses who work very well within their competency levels and they know far more about things like ulcers and so on and wound infection than we do but if it’s anything outside that they would invariably ring us and we were a little bit worried that this could actually result in more calls but the competency levels of the telehub nurses are just totally different from the district nurses, they deal with all the sort of things that a nurse practitioner in a GP practice would deal with and they do it very safely and effectively.” (Vanguard Key Stakeholder)*

*“I think what’s worked very well has been the reliability of the technical service and the quality of the care of the assessment. I think that although we do have some feedback, the technology doesn’t always work, I think there’s, a lot of that is about user error and I think that there’s very little poor feedback on the quality of care from the nurses, and much less per unit of care delivered than many other settings, and that’s a very good sign of quality.” (Vanguard Key Stakeholder)*

Although it is difficult to establish empirical data on impact in primary care, a GP noted considerable differences in their workload, particularly using the GP Triage model:

*“Just off the top of my head, from our biggest home we used to get I would say around twelve visits a week and now it’s down to maybe three or four.” (Vanguard Key Stakeholder)*

However, they also noted some of the challenges of engagement and overcoming resistance to this new way of working, particularly in homes with nursing staff. The need to formally ‘switch off’ GP access in order to optimise the workload benefits of GP Triage TM, was also identified:

*“Well, there needs to be some sort of liaison and event with the care homes and that was done, that was arranged by the CCG. And then the telehub, [named person] from the telehub went in and talked to the staff and then the IT people from the telehub went in and sometimes they had to do bits of IT upgrades before it would work. And then obviously a bit later the GP practice said right, we’re stopping all requests from the home now because we tried just asking them to ring telehub first and they didn’t. So that actually came a little bit later. And some practices, I think, in other areas, you know, the other 19 homes, haven’t done this and actually aren’t fully utilising this because they haven’t done it which is a pity because it makes a huge difference in GP workload.” (Vanguard Key Stakeholder)*

Potential challenges in care home staff perception of the GP Triage service model and the need to engage effectively with these homes was also noted by another participant:

*"I've only seen a few pieces of feedback that suggested that when it has been used, it hasn't been considered valuable and that could actually be in relation to homes that have had the GP triage service whereby they are required to phone the hub in working hours, rather than contact the GP direct and they say well actually, we knew we needed a GP and if that's what the hub says was required, well it didn't add any value. There's definitely something around the GP triage so-called service which requires a different approach and I think that that's an area to develop in terms of call it marketing, but it's actually engaging effectively in homes to make sure they can make the best of that." (Vanguard Key Stakeholder)*

The impact of Airedale Telemedicine on improving end of life care was also noted:

*"Possibly I think it's probably improved the end of life pathway because historically end of life patients often ended up in hospitals, there's an increasing push to keep them at home. And I think the telehub are very good at recognising when a patient is approaching the end of life and rather than saying this patient's ill they need admission, they will actually spend the time ringing the district nurse to arrange them to come and also ringing us or out of hours to say, you know, I think we need to get there just in case medication is in place and try and keep this patient at home rather than admitting." (Vanguard Key Stakeholder)*

### Programme Challenges

Key stakeholders who took part in the evaluation also identify a number of challenges in relation to the structure and organisation of the Vanguard partnership, changes in key personnel and ongoing challenges with data access. Two vanguard stakeholders question the effectiveness and buy-in from the Vanguard partnership over time. Reasons for this include: potential lack of clarity about roles and expectations, change in key personnel and leadership, lack of outcome data impacting on motivation as well as local issues:

*"People were engaged and then were invited to join the steering group or the board, but I think that the aims and objectives were probably not well articulated and having got people to the table, perhaps there wasn't enough resource to focus on keeping them engaged. In part that's because the initial long period of programme, the first year and a bit was actually rolling out another 100 and something care homes across a very wide footprint, rolling out the delivery of technology in the service and scaling up the service. So actually what you have to show for that is well, it's just activity data and even that I think was pretty limited until [named person] came into post" (Vanguard Key Stakeholder)*

*"Finding people who were involved at the start of the partnership is virtually impossible. All the senior leadership has changed and even notwithstanding I think there was the documentation at the start of the programme was light/non-existent apart from the original application." (Vanguard Key Stakeholder)*

The issue of utilisation variability and its impact on commissioning decisions was also noted by a key stakeholder:

*"The variability in utilisation was something which I was interested in right from the outset, and that's really because in most of these settings, in most of the delivery of services, actually the variability of utilisation is something to consider from a focused commissioning point of view because it can value things around acceptability of the service, its reliability and its effectiveness and ultimately access issues and it will cover judgement in the informed decisions about re-commissioning. So it's a very important area. Nobody is going to re-commission a service which is underused." (Vanguard Key Stakeholder)*

The pace of change and perceived lack of early engagement with Airedale were identified as challenges, by a key stakeholder, in relation to difficulties in maintaining CCG engagement. The changing Vanguard focus for 2017/18 on delivering the entire EHCH Framework, with the same pot of money across four CCG areas proved difficult. Vanguard delivery changed to including East Lancashire only.

### Data Challenges

The ongoing challenge in accessing data has been discussed earlier in this report. The Vanguard project team initiated data sharing applications back in August 2016. Frustration at the pace and bureaucracy of the process was frequently noted:

*“A critical challenge has been one you'll be very familiar with, which is obtaining the data to enable the evaluation to be undertaken in a timely way. That's been an enormous challenge because the principle operators and decision makers around releasing that data are really outside of the influence of the partnerships, or indeed even the most senior individuals in any of the organisations, NHS digital operate as part of the NHS, but are an arms' length organisation and clearly that suffers from lots of changes in the way they operate and have a bureaucratic approach, partly resulting from care.data and some of the other concerns which have led to public and political outcry about the use of data. So the effect has been to control data release so tightly to make it almost impossible to access data. Finally, now the data is starting to flow but how much better it would've been had we had this three/four months ago, we'd be well on with the evaluation. We'd have real clarity about where things were working, where things weren't working so well, rather than using, you know, the crude data we've managed to source to make those decisions, because they had to be made, as it were.”*

Another Vanguard stakeholder notes frustration with the lack of data flow and structures in place within the Vanguard to feedback learning and capitalise on the developmental aspect of the commissioned evaluation. The potential role and benefits of evaluation in shaping the delivery of the programme was also identified by the following stakeholder:

*“I think it forms part of the broader message which is you need to think about the evaluation the day after you thought about you might have an idea of a programme or a project. The evaluation needs to be in place before the programme starts, or at the start out of the programme. Where I've seen in that in other places, it's pretty rare, but where I have seen it, actually what the evaluation has done is shaped the delivery of the programme because it's made the actors ask questions about well, or answer questions around well what is it you're trying to achieve and how are you going to evidence that or why might become conflicting and complicating factors. I think that's the value of evaluation which is you know, almost more important than the evaluation report because if you structure your work correctly, then the outcome won't be a surprise to everyone and it will be that much more reliable and people will have thought of really what they're doing in a more effective way and that helps business cases and articulating outcomes and benefits.” (Vanguard Key Stakeholder).*

The lack of access to primary care data was also highlighted as a limitation, especially as hub counterfactual data points to saved GP visits as one of the key benefits of the service.

### Engagement and Implementation challenges

Several key stakeholders identified engagement and implementation challenges in the scale up and roll out of the TM service across the Vanguard; although there had been pockets of good practice. Lack of involvement in this process was clearly indicated by the following stakeholder:

*“We don't have any, and I mean any involvement in implementation and engagement. So that to me is the biggest flaw.” (Vanguard Key Stakeholder)*

A 'disconnect' between the clinical and marketing offer was reported, with 'marketing collateral' that was at times, unrealistic, with unachievable targets which had implications for contracts. Few opportunities for clinical input into marketing material was reported.

The logic model work also identified gaps in current engagement activity which had implications for the TM 'theory of change'. Residents and many care home staff also reported that residents are not always made aware of TM prior to using it. The same was true of relatives. Although it is important to note that some care home managers identified TM as a selling point which they advertised to relatives as access to 24/7 clinical support.

A focus group/workshop was conducted to explore the tacit knowledge of key stakeholders and identify aspects of 'good' implementation from their experience, for future service improvement. The Stages of Implementation Completion (SIC)<sup>19</sup> was used as a conceptual tool to think about the key phases and stages of engagement and implementation. This tool was developed as part of a randomised controlled trial in response to common barriers in monitoring effective implementation. Table 3 provides a summary of the

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<sup>19</sup> Chamberlain et al (2011) Implementation Science

key activities identified by participants in the focus group, which they felt needed to be conducted before implementation takes place (and the first call to the hub is even made). Clinical leadership and local engagement were seen as key, along with a 'realistic' offer, and targets which could be achieved. Further work on this may framework may help to inform future engagement and implementation strategies.

Table 3: Key Activities in 'good' Pre-Implementation Phase Source: Focus Group workshop

Phase	Stage	Proposed Airedale Activities before first call to hub is even made
1. Pre-implementation	Engagement	<ul style="list-style-type: none"> <li>Clinically led, direct relationships with commissioners</li> <li>Clinical involvement in fora where key stakeholders/system come together: commissioners, lead GPs, nurse manager, care homes, community teams</li> <li>Commissioners have realistic offer on impact, targets which are deliverable</li> <li>Opportunity and time to build relationship with CH prior to installation - hub visits, virtual tours</li> <li>Local intelligence on CH and its needs and wider system - contract which fits</li> <li>Role for Clinical Band continuous engagement to identify/address barriers - using data and clinical knowledge</li> </ul>
	Feasibility considerations	<ul style="list-style-type: none"> <li>Technical discussions: Access to SCR, Live lists, IP 11 DoS, Wi-fi requirements</li> <li>Call Management System</li> <li>Monitoring &amp; Evaluation Framework</li> </ul>
	Readiness Planning	<ul style="list-style-type: none"> <li>Staff training/understanding when to use hub - protocol reflects TM model</li> <li>Process for agency staff in care home</li> <li>Commitment to maintaining updated resident lists with the hub</li> <li>Residents/Relatives aware of hub offer and how they can use it - protocols</li> </ul>

### Wealth of learning in relation to New Models of Care

Airedale Telemedicine has been around since 2009. The Airedale Digital Hub was established in 2011. It predates its Vanguard status. A lot of the key personnel with tacit knowledge of Telemedicine as a new care model are still in place. Shared learning from Airedale, such as lessons in good practice in engagement and implementation, and scaling up illustrated in Figure 3 above, are important for other areas attempting to embed new technologies within their health and social care system.

## Section 4: Learning and Recommendations

Qualitative insights from this external, developmental evaluation of the Airedale Telemedicine Vanguard have identified some key issues which need to be addressed:

1. **Understanding TM utilisation** across the Vanguard is critical to developing the service; providing access to TM utilisation data at the care home level therefore *remains* an essential evaluation requirement.
  - Limited access to partial utilisation data indicated substantial variation for example, in-hours versus out of hours, nursing versus residential and across CCG areas. Some homes use TM often, while others do not use it at all.
  - Understanding the factors which enable or impede TM use provides opportunities for service improvement. The COM-B model<sup>20</sup> of behaviour change suggests there are three key elements to effective behaviour change: ensuring people have (1) the capability, (2) the opportunity, and (3) the motivation, to do things differently. Qualitative insights suggest that utilisation is complex; it may involve skills and knowledge of care home staff (the capability), but it is not all about what goes on in the care home or indeed the hub.
  - There are potentially multi-level barriers and enablers to TM utilisation, including the service model in operation (e.g. GP triage is likely to increase utilisation), local stakeholder support for TM and effective engagement with care homes, as well as resolution of technical issues (the opportunity). Variation in care home access to local health care professionals (e.g. weekly GP or district nurse home rounds) as well as beliefs about TM, prior experience, and resident views may also influence utilisation (the motivation).
2. **An integral measurement framework** is needed to monitor progress of implementation and to track key metrics.
  - This is essential to help understand the link between TM utilisation and outcomes, and establishing a before and after or controlled comparison design to enable attribution of change to TM rather than secular trends.
  - A robust measurement framework is also important for exploring 'optimal' TM use; for example, no/low TM use may not necessarily be 'sub-optimal', it depends on residents' needs as well as appropriate or inappropriate use of other health care services (e.g. ooh GP, A&E etc.).
3. **Divergence in care home staff views of TM** and understanding the role of the TM service model:
  - Some care home staff are extremely positive about the TM service, its benefits and potential impact. While others, particularly those who took part in the evaluation from GP Triage homes are less positive. Establishing if these tensions are common to all GP Triage homes is warranted and further engagement to resolve. This is particularly important, given the potential scale up of the GP Triage model within the East Lancashire EHCH Vanguard. Incorporating opportunities for regular feedback from care home staff and residents, perhaps using the TM technology itself, as used by NHS services, is recommended.
4. **Potential Service Improvements:**
  - Care home staff identify a number of improvements, some of which relate to the GP Triage service model. It may require further engagement to resolve identified tensions.
  - However, others improvements are common across both standard and GP triage models: such as the need to improve aspects of the technical service (Wi-Fi coverage throughout the home, patchy reception, visual/sound issue) and the need to answer calls quicker.

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<sup>20</sup> The COM-B model proposes three essential conditions for behaviour change: capability, opportunity and motivation (Michie et al, 2011)



#### 5. **Shared learning to improve future Engagement and Implementation:**

- The local evaluation team facilitated a session to explore shared learning about what characterises 'good' implementation. This was intended to inform future engagement/ implementation strategies and address the gaps identified by stakeholders. Established monitoring and evaluation tools such as the Stages of Implementation Completion<sup>21</sup> may help to add structure and rigour to these processes.
- Clinically-led engagement with local commissioners and a realistic offer on impact and targets was highlighted, along with opportunities to build relationships with care homes prior to installation.<sup>22</sup> The need to develop resources and protocols for staff, residents and relatives which reflect the TM model offer and how they can use it was also identified.
- Staff (and residents) indicate that residents and relatives may not always be aware of TM. The need for earlier and ongoing engagement with all the key stakeholders was noted.

#### 6. **Shared learning from Programme Challenges:**

- Airedale TM Vanguard has been at the forefront of TM delivery in care homes, at scale for a number of years.
- It has the potential to offer unique insights, not only in the process and outcomes of the TM intervention, but also about the complex challenges involved in attempting to embed new technology into routine practice within different health and social care systems.

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<sup>21</sup> Stages of Implementation Completion (SIC) was developed by Chamberlain et al. (2011) as part of randomised controlled trial as a tool to objectively measure, overcome barriers and improve the effectiveness of implementation

<sup>22</sup> This fits with NHS England's commissioned literature review by Claire Goodman et al about Vanguard care home readiness

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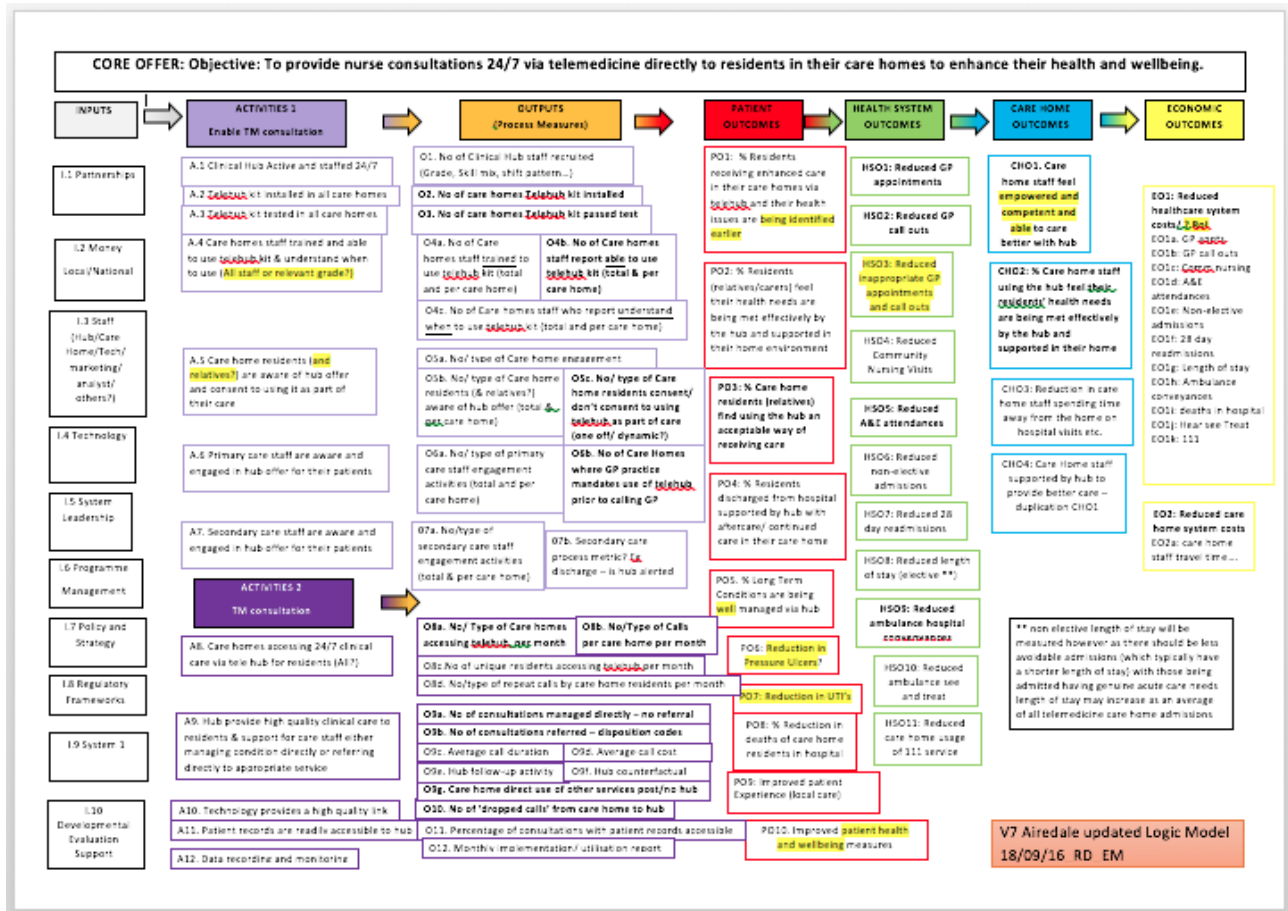
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# Appendices:

## Appendix 1: Co-produced Logic Model v7 September 2016

Involvement from Airedale Vanguard Project team and sign off from leadership and PAG.



Appendix 2: Local Evaluation Engagement

Date	Evaluation Dress Rehearsal	Project Advisory Group	Additional updates	Pi Webex	Airedale Data Management Meeting
July 2016	Introductory Meeting	Airedale PAG update			
July 2016	Airedale EDR 1				
Aug 2016			Briefing: Vanguard Challenges		
Sept 2016	Airedale EDR 2	Airedale PAG update			
Oct 2016					Attend ADM
Nov 2016	Airedale EDR 3	Airedale PAG update	Briefing: Evaluation Update		Attend ADM
Nov 2016					
Jan 2017	Airedale EDR 4				Attend ADM
Mar 2017	Airedale EDR 5	Airedale PAG update		Attend Pi	
Apr 2017				Attend Pi	
May 2017				Attend Pi	
Jun 2017			Briefing: Evaluation Update	Attend Pi x2	
Jul 2017				Attend Pi	

## Appendix 3: Qualitative Interview Schedule

PROMPTS AT START:

INTERVIEW SCHEDULE:

### **A. Participant Details:**

1. What is your job role?
2. What is your role within the Airedale Telemedicine Vanguard?
3. How long have you been involved in the Airedale Telemedicine Vanguard?

### **B. Project Details:**

4. Can you briefly describe the **main aims** of the Airedale Telemedicine Vanguard?
5. What is the **current status** of the Airedale Telemedicine Vanguard?

### **C. Views, Experience & Learning – Process**

6. Overall, how would you **describe your experience** of being involved in the Airedale Telemedicine Vanguard?
7. From your experience, what has **worked well** with the Airedale Telemedicine Vanguard?
8. From your experience, what have been the main **benefits** of the Airedale Telemedicine Vanguard?
9. From your experience, what have been the main **challenges** of the Airedale Telemedicine Vanguard?
10. What would you **do differently** if you were doing it again?
11. What are the **key aspects** of the Airedale Telemedicine Vanguard which need to be in place if it was being rolled out wider?

### **D. View, Experience & Learning Potential Impact**

12. Do you think the Airedale Telemedicine Vanguard have achieved what it set out to do? If not, why not?
13. What do you think the main impact of the Airedale Telemedicine Vanguard has been? Prompts:
  - On your service/ Patient experience and outcomes/ Staff experience and outcomes/ On the system
14. Any additional comments.....

## Appendix 4: Summary of recent Telemedicine Research and Audit publications and presentations

Presented at the November 2016 PAG

Author	Organisation	Date	Title	Type
Rebecca Hewitt	Healthwatch	2016	Telemedicine in Care Homes: A Qualitative Evaluation	Report
Oliver Jackson	NHS England	2016	Top 100 Care Homes Ambulance Conveyance	Excel File
Pete Chamberlain	South Sefton CCG	2016	Care Home Innovation Programme (CHIP)	Powerpoint
Farha Abbas	Lancashire County Council	2016	Analysis of NWAS call outs to care homes – older people service user category	Report
?	East Lancashire District North West Ambulance Service	2015	NWAS Cost savings per care home data	Excel File
Fran Duxbury	Airedale Digital Hub	2016	Audit of 30 GP referrals for Pendle Care Homes	Zip file
Bain & Co	Bain & Co	2016	Airedale & Partners Detail to support development of Vanguard Hypothesis Generation	Word file
Airedale & Partners	Airedale EHCH Vanguard	2016	Value Proposition	Word File
?	?	?	A&E attendance by age Pendle	Excel file
Tuggey et al	AWC CCG/ANHSFT	2015	AWC Review of case notes to assess effectiveness of TM	Report
Rachel Binks	Airedale Digital Hub	2016	Telehealth Jan 2016 current awareness	Word File
Airedale NHS Trust	Airedale	2016	Bringing Healthcare Home. Final Report. Health Foundation. Shared Purpose	Report
Nick Hex et al	YHEC	2015 2015 2016	Telemedicine Service Evaluation and Economic Modelling Telemedicine in care homes in AWC. Clinical Governance Evaluation of a Pilot project for the implementation of TM in CH in Bradford	Report Journal Report

Presented at March 2017 Evaluation Dress Rehearsal



## Airedale Telemedicine Vanguard: Using ‘Apple a Day’ Approach (McDonach, 2017)

‘Apples Delivered’ TM implemented	Apples Eaten TM Used	Vitamin levels Raised Mechanism of Change	Improved outcomes & efficiencies	Interpretation
<p>TM Hub staffed 24/7</p> <p>TM kit installed, tested and working</p> <p>CH Residents/ Relatives aware of TM and consent</p> <p>CH managers and staff engaged and able to use TM and know when to use</p> <p>Primary Care Staff engaged and signed up for their patients</p> <p>Secondary Care Staff engaged and signed up</p> <p>Local Commissioners engaged and support</p> <p>28/06/2017</p>	<p>All CareHomes access TM Hub 24/7 (or as per contract)</p> <p>Hub provides high quality clinical care to residents &amp; support for care staff (enhanced services) (managing condition directly or referring directly to appropriate service)</p> <p>CH local context supports use of TM</p> <p>Technology works and provides high quality link</p> <p>Patient records are readily accessible to hub</p> <p>Data recording and monitoring</p>	<p>Increasing number of CH Residents receiving EHC through TM</p> <p>Increasing number of staff being supported to manage CH residents needs through TM</p> <p>Identification and support of CH residents with health care needs that can be appropriately supported at home (avoiding unnecessary healthcare use)</p> <p>Care home adherence</p> <p>Identification and referral of appropriate residents who require further health care</p>	<p><b>Patient Experience &amp; Outcomes</b> CH Residents find TM acceptable way of receiving care CH Residents perceive their needs met effectively by TM</p> <p><b>Staff/ Stakeholder Experience</b> CH Staff find TM acceptable way of supporting residents CH Staff perceive residents health needs met effectively by TM</p> <p><b>System outcomes/costs</b> Reduced A&amp;E attendances Reduced hospital admissions Reduced NEL admissions Reduced inappropriate GP appointments/call outs Reduced ambulance conveyance? Reduction of NHS 111? Reduced healthcare system costs</p>	<p>21</p>





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# AIREDALE AND PARTNERS TELEMEDICINE VANGUARD

## Economic Analysis of Care Homes New Models of Care Vanguard

### Final Report

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19 March 2018

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# Executive Summary

## 1. INTRODUCTION

Airedale and Partners was selected by NHS England in 2015 to become a Vanguard site under the New Care Models programme for 'enhanced health in care homes'. Building on an already established model, the Vanguard rolled out a telemedicine service model covering 248 care homes across four CCG areas in the north of England. The service provides remote consultation and support care for care home residents through video link or telephone to the Digital Care Hub at Airedale Foundation NHS Trust. The service includes a standard model and a GP Triage model.

The aim of this review was to quantify the economic benefits generated by the telemedicine programme by conducting a 'before and after' review of the use of health care resources by the care homes to derive a return on investment estimate. There are limitations to this approach which is constrained by the availability and quality of the data collected.

The report needs to be considered alongside the report by the Yorkshire and Humber Academic Health Science Network's report on the qualitative aspects of the Vanguard, which summarises the findings in relation to the developmental evaluation of the programme.

## 2. METHODS

A large data set of more than 290,000 data points was collated for Airedale and Partners by a business intelligence organisation during 2017, covering every contact made by care home residents with some NHS services and any telemedicine calls made to the Hub. Although this data set was large it only covered a limited period and there was no single intervention date, with telemedicine being rolled out over time. Only around 10% of care homes did not have telemedicine installed, providing a limited control group.

Data cleaning was intensive and a number of anomalies and issues with the data were discovered and rectified. Application of cut-off periods was necessary to avoid a situation where a care home had a full year of data after installation but only a partial year of data before. As a result of cleaning, the data set was reduced to around 48,000 items covering 141 care homes with telemedicine and 25 care homes without telemedicine.

The main limitations in the data set were duplicate care home names and lines of data, inclusion of non-relevant data for people under the age of 65 or with learning difficulties, and data with no identifier. These issues were rectified and the data set used was more robust following this process but interpretation of the results need to bear these limitations in mind.

### **3. RESULTS**

The constraints of the available data, and the way in which the project was rolled out, mean that our findings are inconclusive and caution needs to be applied in interpreting the results. At face value the data analysis indicated that care homes with telemedicine had reduced use of other health care resources in the period following installation. The overview of all of the 141 care homes, in the year following installation of telemedicine, showed a reduction in emergency hospital admissions of 4%; a marginal reduction in A&E attendances; a small increase in the use of out-of-hours services (2%); and a reduction in the use of 111 calls (4%). The 25 care homes without telemedicine showed increases in emergency admissions of 7% and A&E attendances of 30%. National data collected by NHS England showed an increase in emergency admissions in areas not covered by New Care Models of 4.9%.

Analysis by type of care home showed a decrease in inpatient emergency admissions of 13% in nursing homes compared to an increase of 6% in residential homes. There were also reductions in nursing homes compared to increases in residential homes for A&E attendances (-8% versus 7%); use of out-of-hours services (-9% versus 17%) and 111 calls (-16% versus 12%).

Care homes using the standard service model, with limited numbers of calls to the Airedale telemedicine Hub, demonstrated a 2% reduction in A&E attendances compared to a 13% increase for care homes using the GP triage service model with unlimited calls. Both types of homes showed a reduction in emergency admissions. Care needs to be taken in interpreting these results as less than 10% of the care homes analysed used the GP triage service model.

Analysis of the usage of telemedicine by care homes showed wide variation in the numbers of calls made to the Hub. The data showed low usage care homes showing a 17% reduction in emergency admissions while there was a 10% increase in emergency admissions in high use care homes. High use care homes also had a 14% increase in A&E attendances in the year after installation of telemedicine compared to a reduction of 16% in low use care homes. There was a similar reduction in 111 call usage in both high and low use care homes. High use care homes showed a 3% increase in out-of-hours usage following installation of telemedicine, while low use care homes showed a 5% reduction. Scatter plots showed a very minor trend towards reduced use of 111 services but a trend towards increased use of services for A&E, emergency inpatients and out-of-hours.

### **4. DISCUSSION**

At face value these results showed that care homes reduced some forms of health care resource use after the installation of telemedicine, and that there was a greater impact in specific settings and for particular service models. However, these results do not have statistical significance and, therefore, do not demonstrate a causal effect.

The literature on telehealth and telecare in general has very mixed findings so, given that we were unable to control for the extent of frailty in individual homes, the analyses carried out for the Airedale Vanguard can only be seen as indicative at best. The AHSN report highlighted a number of inconsistencies in the implementation of telemedicine across the three areas. While some of this is to be expected as telemedicine has been rolled out over a number of years, there are different service models and local issues which affect the way in which telemedicine is used. These factors include the influence of local GPs, different configurations of local services providing support to care homes alongside telemedicine and different knowledge and skills of care home staff in using telemedicine.

This inconsistency in usage is borne out in the patterns of usage of telemedicine described in this report. Interestingly, there appears to be no correlation between high usage of telemedicine, in terms of rate of calls made to the Hub, and reduction in the use of health care resources. In fact the opposite is apparent but this may simply be a case of higher levels of frailty in certain homes leading to higher use of telemedicine and higher use of health care resources.

The results demonstrated in this limited economic evaluation show interesting results with potential for further research and analysis:

- Airedale and Partners may want to consider exploring the possibility of carrying out more in depth analysis using statistical methods such as time-series analysis to observe some sub-sets of the data considered in this evaluation;
- Further investigation could focus more specifically on the key metrics and outcomes of interest. For example, the GP triage model could be seen as essentially an enhanced primary care offer, so more in-depth work could focus on the impact of care homes potentially using fewer GP resources, thus potentially improving GP access for the wider population which may impact on the use of acute care;
- Return on investment analysis relied on assumptions of the cost of avoided emergency admissions. A more detailed patient-level analysis could attempt to record exactly what types of admissions were avoided through use of telemedicine.

# Acknowledgements

We would like to thank Rose Dunlop (Airedale Evaluation Lead) and Mark Hawker (Information Analyst) from Airedale NHS Foundation Trust for providing the data and advising on data fields. We would also like to thank Eileen McDonach and Steve Stericker for their advice and input to the analysis.

# Section 1: Introduction

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## 1.1 BACKGROUND TO THE VANGUARD

In March 2015, Airedale and Partners was one of six 'enhanced health in care homes' Vanguards selected by NHS England as part of their New Care Models (NCM) programme. The Vanguard aimed to scale up the delivery of Telemedicine in care homes to:

*"improve the quality of life and end of life experience of thousands of nursing and care home residents living in Bradford, Airedale, Wharfedale, Craven and East Lancashire – and ultimately for the model to be adopted throughout the country."*

This involved a wider implementation footprint than the other five Enhanced Health in Care Homes (EHCH) Vanguards as the Telemedicine service model(s) were to be delivered at scale to 248 care homes across four CCG areas with a diverse range of partners including: three acute trusts, three local authorities, two community and mental health providers, more than 130 GP practices, a number of third-sector organisations, universities and colleges and more.

The Digital Care Hub at Airedale NHS Foundation Trust was established in 2011, and predates the Vanguard and this local evaluation. It delivers 'telemedicine' to care homes as part of a partnership with a company called 'Involve' under the joint venture company 'Immedicare'. Its remit is broader than the Vanguard care homes programme, with services being delivered to care homes and prisons around the country.

The Airedale and Partners Telemedicine service involves "remote consultation and support care" for care home residents either by video link or telephone. There is a standard Telemedicine Service model, with options to add enhanced service models which may include GP Triage or Goldline services individually, or in combination.

## 1.2 EVALUATION OF VANGUARD

Vanguard sites are required to appoint evaluators to report on the implementation and impact of the innovations. Airedale and Partners appointed the Yorkshire and Humber Academic Health Science Network (AHSN) to conduct the evaluation.

The AHSN's report on the developmental evaluation was prepared in August 2017 and focused on the qualitative aspects of the Vanguard programme, along with insights on the way in which the programme was implemented. This report should be read in conjunction with the AHSN's report to get a holistic view of the Vanguard impact.

The economic evaluation of the Vanguard has been carried out by York Health Economics Consortium (YHEC). The objectives of the economic evaluation were to:

1. Clean and analyse the available data and assess the feasibility of analysis at an overall programme level and at sub levels;
2. Develop summary analysis of the impact of telemedicine on care homes using a before and after analysis of usage. This will be done at a programme level and a sub-levels including by different CCG, by type of home (residential v nursing), by usage of the telemedicine Hub, by environment (urban v rural), and any other sub-levels identified as being feasible for comparison;
3. Understand the costs of the telemedicine service to care homes;
4. Develop return on investment analyses for the overall programme and the sub-levels identified.

This report describes YHEC's findings in relation to these objectives. The gaps in the data mean our findings should be interpreted with caution. The weaknesses in the data are outlined in Section 2.



## Section 2: Methodology

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### 2.1 OVERVIEW

During summer 2017 a data dashboard was developed by a business intelligence organisation to support economic analysis of the Vanguard. The contract with the organisation expired in August 2017, meaning that no further data were added and the only output was a large spreadsheet with over 290,000 data points recorded. The data points consist of every contact made by care home residents in Bradford, Airedale, Wharfedale, Craven and East Lancashire with NHS statutory services and any telemedicine calls made to the Airedale Telemedicine Hub.

The data time periods covered April 2013 to March 2017 for Airedale, Wharfedale and Craven and Bradford and May 2014 to December 2016 for East Lancashire. Telemedicine was installed in most of the care homes in these areas at different points in time during these periods. This makes analysis problematic because there is no single intervention date and in effect means that a separate analysis needed to be carried out for each individual care home.

There was only a very small number (25) of care homes in the three areas that did not have telemedicine installed. This provides a very limited control group. Given this limitation, and the fact that telemedicine was installed at different times across the care homes meant that the only practical approach was to conduct a before and after analysis for each care home, based on an observation of the use of health care resources in the year before and the year after installation.

Following cleaning, the data were sorted and a 'live' period was generated for each care home based on the period one year before and one year after the installation date. However, due to the limitations of the data periods not all care homes with telemedicine had a full year of data available before and after the installation date. For example, if a care home had telemedicine installed in June 2013 in Bradford, there would only be two months of data in the 'before' period, with a full year available in the 'after' period. It was agreed, with Airedale and Partners and the AHSN that any care home that did not have at least six months of data available before and after installation of telemedicine would be excluded. Care homes with more than six months but less than a year's worth of data would be included but only for an equivalent period either side of the installation data, e.g. eight months before and eight months after.

The only practical way to gather the data was by the postcode of the care home. Data for individual patients were obtained and pseudonymised using a number which allowed for data on health care resource usage to be linked for specific patients. This provides the potential to understand what happened to care home residents following a call to the Hub.

## 2.2 DATA ANALYSIS

The data set obtained from the business intelligence organisation, included over 290,000 individual contacts with the NHS for residents of care homes. This included telemedicine contacts with the Hub; hospital inpatient contacts (elective, emergency and other); A&E attendances; hospital outpatient attendances; out of hospital care (out of hours, 111). Although available, hospital elective inpatient admissions and hospital outpatient appointments were not analysed as primary outcomes. This was agreed in the original scope of the Vanguard evaluation and is based on the argument that these types of health care resource are unlikely to be influenced by telemedicine.

The data were gathered and compiled from a variety of sources and included a considerable number of data fields. Our initial work involved a considerable data cleaning exercise.

Nineteen variables that were not required for any of the analysis were deleted from the dataset. The dataset included a considerable number of episodes of care for people who were under 65 years of age (99,676 episodes). This analysis concerns only those of 65 years of age or older and so those episodes were removed from the dataset. Similarly, all episodes in the dataset for a care home that was a learning disability care home were removed from the dataset as they were not included within the scope of this project. Where it was not known from the dataset if a care home included residents with learning difficulties, the Care Quality Commission website was used to inform this missing data.

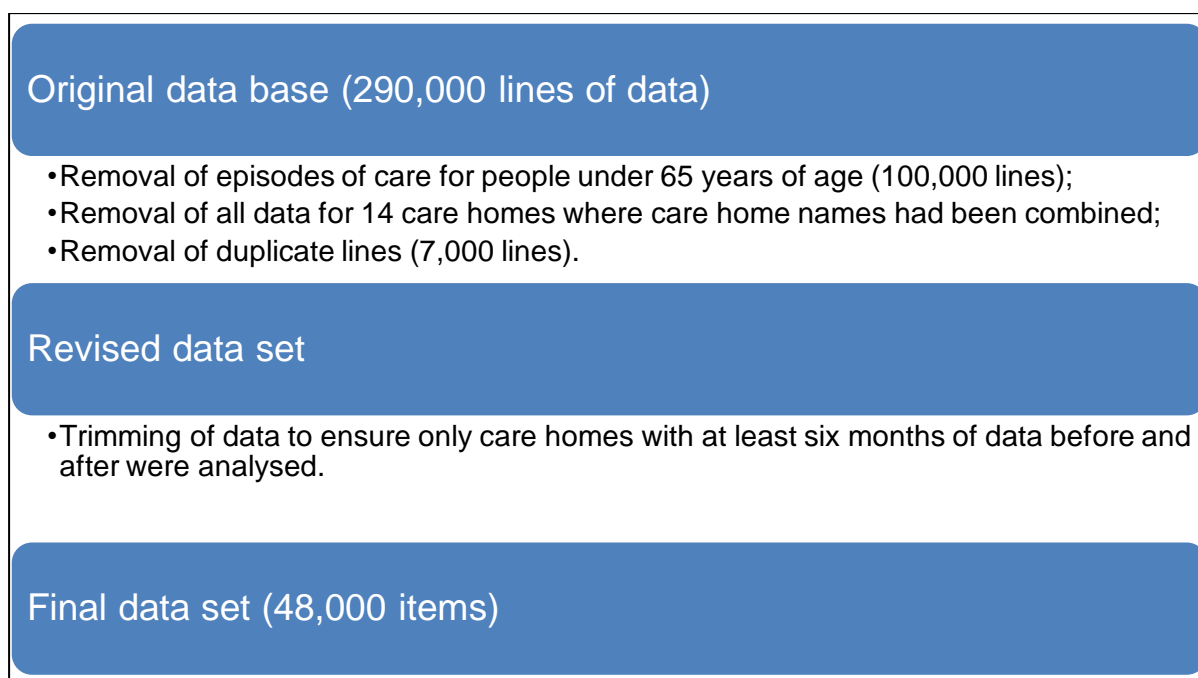
Thirteen care homes were identified in the dataset to have entries (episode data) under different care home names due to spelling error or the care home name being entered differently into the dataset. These were confirmed to be the same care home by comparing longitude and latitude data for these entries. Relevant data for each care home were combined under a single care home name. There were two examples in the dataset, Oakmount Care Home and Mill Lodge Care Home, where the care home name was the same in two locations. The care home name was updated to reflect the location for these care homes to allow for them to be identified separately.

A further issue associated with the care home name was that there were 14 examples of care home names that actually comprised two care home names. It is understood that this occurred due to some data only being available by postcode. Therefore, if more than one care home was within the postcode, the data could not be mapped to a specific home. Given that the care home live data were required for the analysis, and that this was not available for these care homes specifically, all episodes entered under a care home with two names joined together or either of the care homes within the joint name care home were removed from the dataset.

Where data were missing for the following variables, data made available from the Airedale Vanguard were used to complete the missing values: care home live date, care home type, district, care home area, care home classification, if the home was a learning disability home, size, care home triage, care home cohort. Episodes where the activity was telemedicine and this occurred prior to the care home live date were removed given that this activity would be implausible. Two-hundred and eighty-five episodes had no identifier (care home name, live date, longitude or latitude data etc.) and so were removed from the analysis.

In addition to this, once the data set had been trimmed to include only care homes for which we believed the data to be reasonably robust, and to ensure that there was at least six months' worth of data before and after installation of telemedicine, it was discovered that there were more than 7,000 duplicate lines of data in the data set. These were removed leaving a truncated set of data including 45,000 lines. The data cleaning process is outlined at Figure 2.1.

**Figure 2.1: Flow chart showing data cleaning process**



A proxy installation date for the control care homes was inputted to allow for the analysis window to span 12 months before and 12 months after the installation date. The proxy installation date was the median telemedicine installation date for the telemedicine care homes included in the analysis (those with residents of 65 years of age or older and not learning disability care homes). The median telemedicine installation date was the 07 December 2014.

## 2.3 DATA LIMITATIONS

The data were received in the form of a large Excel spreadsheet. The business intelligence organisation had previously used this dataset when developing a dashboard platform to demonstrate data in different formats. As has already been described, we needed to carry out a considerable amount of cleaning on the data set with many fields missing and a large number of problems. We have cleaned this data and imputed any missing data where possible using data available from the Airedale Vanguard.

The key concerns with the data relate to the number of lines that had to be removed or discounted for the following reasons:

- Duplicate care home names;
- People under 65 years of age (unlikely to be in a care home);
- Exclusion of data on people in care homes for learning disabilities;
- Duplicate lines of data;
- Data with no identifier, e.g. care home name.

The data were cleaned as much as possible but necessarily many lines of data had to be excluded. Given concerns over the data analysis was limited to the descriptive analysis described in objective 2, with the exception of the analysis between rural and urban care homes as this data field was not considered reliable even after cleaning.

There are also some concerns about the quality of the raw data from which these data were obtained. For example, we found five episodes recorded as maternity inpatient admissions but which were for people more than 80 years old. Any obviously erroneous data such as these were also excluded from the analysis.

## Section 3: Results

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### 3.1 OVERVIEW OF RESULTS

For the 141 care homes with telemedicine across the whole Vanguard area included in the analysis there was some face value reduction in the use of health care resources in the period after installation of telemedicine compared to an equivalent period before installation. This was the case for A&E and emergency inpatient activity, but there was no corresponding increase in the use of 111 and a small increase in the use of out-of-hours services by care homes. Emergency inpatient data were calculated on spells in hospital rather than individual finished consultant episodes. Table 3.1 demonstrates the summary data.

**Table 3.1: Summary of the use of health care resources in all care homes with telemedicine (n=141)**

	111	A&E	I/P emergency	OOH
Before	2,395	3,831	2,703	1,750
After	2,303	3,821	2,624	1,792
Difference	-92	-10	-79	42
% change	-4	-0.3%	-3%	2%

These high level figures hide a range of differences between care homes and sub-analyses have been carried out which are described later in this section. Tables 3.2 to 3.4 break down the results into the three CCG areas.

**Table 3.2: Summary of the use of health care resources in AWC care homes with telemedicine (n=22)**

	111	A&E	I/P emergency	OOH
Before	560	460	348	425
After	536	449	325	470
Difference	-24	-11	-23	45
% change	-4%	-2%	-7%	11%

**Table 3.3: Summary of the use of health care resources in Bradford care homes with telemedicine (n=53)**

	111	A&E	I/P emergency	OOH
Before	1,853	1,279	925	1,325
After	1,766	1,401	949	1,321
Difference	-69	122	24	-4
% change	-4%	10%	3%	-0.3%

**Table 3.4: Summary of the use of health care resources in East Lancashire care homes with telemedicine (n=66)**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
Before	1	2,092	1,430	1
After	1	1,971	1,350	1
Difference	0	-121	-80	0
% change	-	-6%	-6%	-

In terms of A&E usage, Airedale, Wharfedale and Craven showed a 2% decrease in activity post-implementation of telemedicine and East Lancashire's decrease was 6%. Emergency admissions decreased by 7% in Airedale, Wharfedale and Craven and 6% in East Lancashire. In Bradford, there was an increase in A&E activity of 10% and an increase in emergency admissions of 3%.

There was a small control group of 25 care homes that did not have telemedicine installed. The comparative health care resource use figures are provided in Table 3.5.

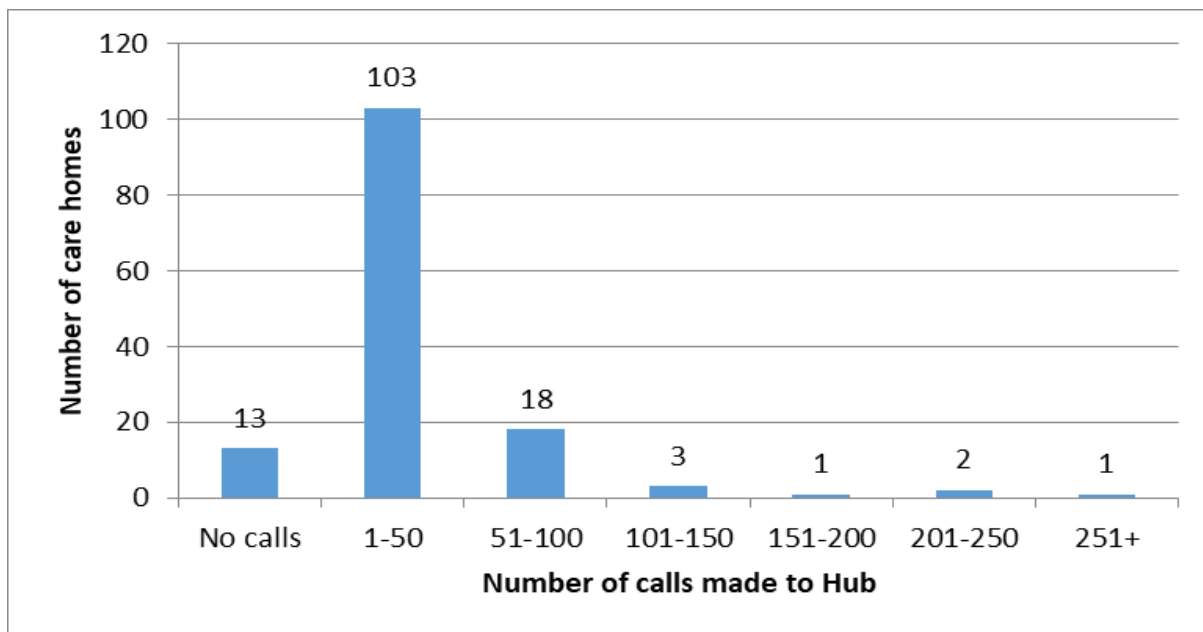
**Table 3.5: Summary of the use of health care resources in care homes without telemedicine (n=25)**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
Before	101	160	124	87
After	137	208	150	136
Difference	36	48	26	49
% change	36%	30%	21%	56%

### **3.2 TELEMEDICINE USAGE**

The data show that 128 of the 141 care homes with telemedicine (91%) made a call to the Hub during the relevant period following installation. There were 4,391 calls in total. The range of use was enormous from one call to 503 calls during the one-year period. This is demonstrated in Figure 3.1. The median number of calls was 17.

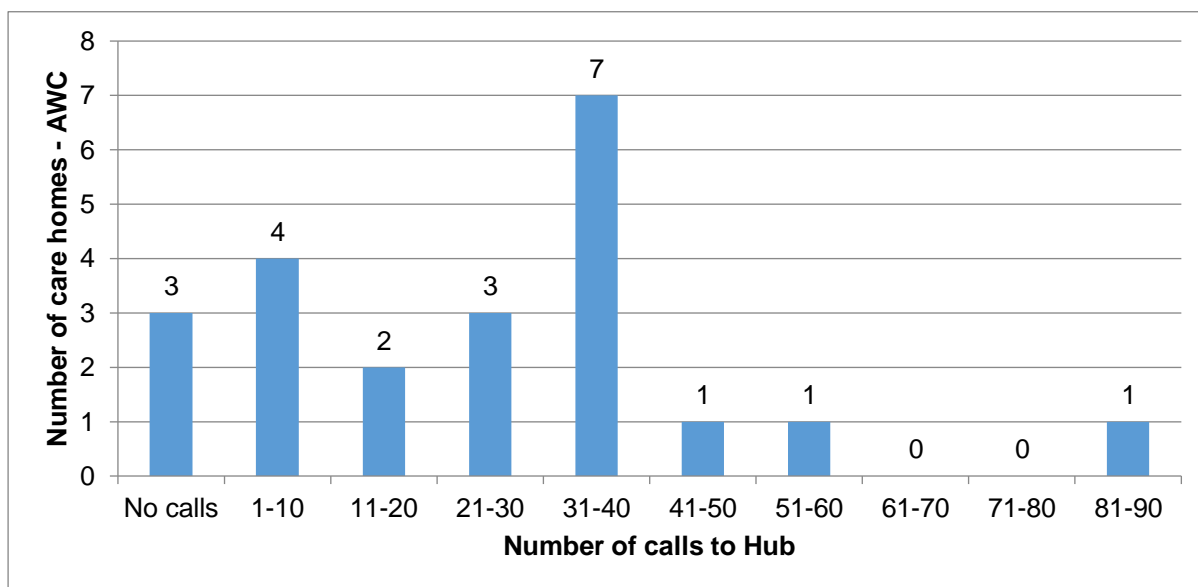
**Figure 3.1: Range of calls to Hub by all care homes in the year following installation**



The potential number of calls made to the Hub was, in most cases, artificially constrained by the type of contract each care home had with Airedale Hospital. Most care homes (135) had a standard telemedicine service model which consisted of a single point of contact at all times with Hub but, significantly, a restriction on the number of calls to the Hub of an average of four per month, or 48 in total per year. Further calls made would be charged for and it appears that a number of care homes with standard contracts made additional calls to the Hub. A smaller number of care homes (6) had a GP triage service model which allowed for unlimited calls to the Hub.

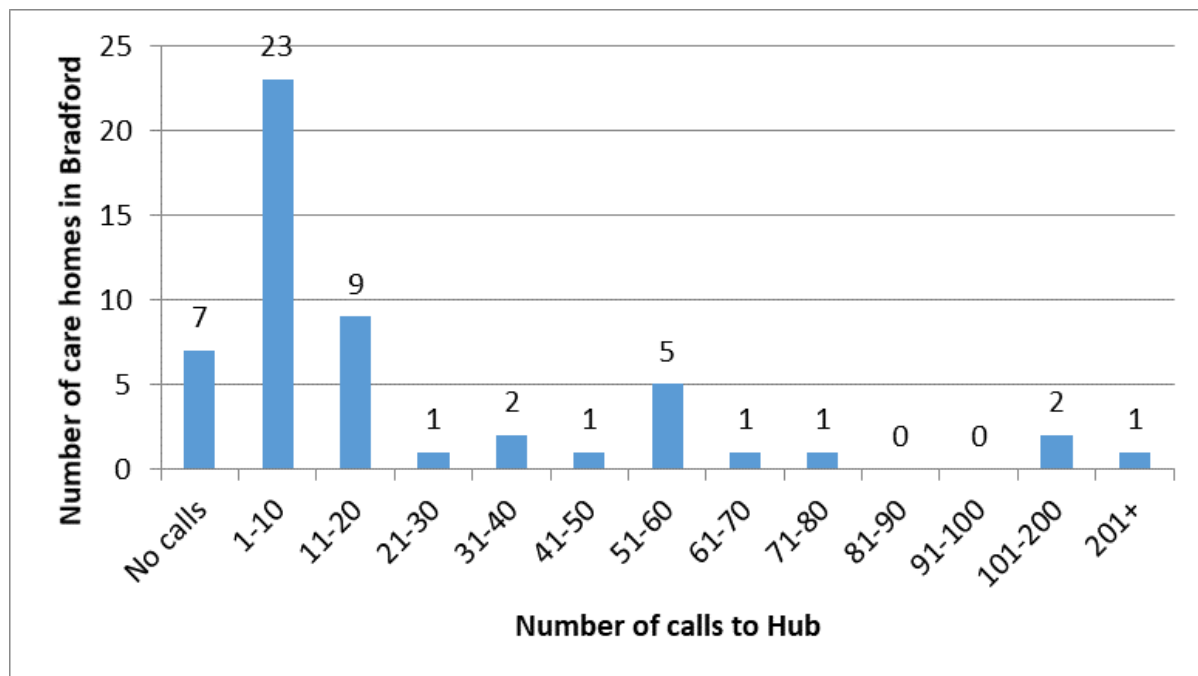
Breaking down the numbers of calls into the individual areas does not provide any particular insight into patterns of telemedicine calls, as demonstrated in Figures 3.2 to 3.4.

**Figure 3.2: Range of calls to Hub by AWC care homes (n=19) in the year following installation**



The median number of calls in Airedale, Wharfedale and Craven was 34 and the total number made was 576.

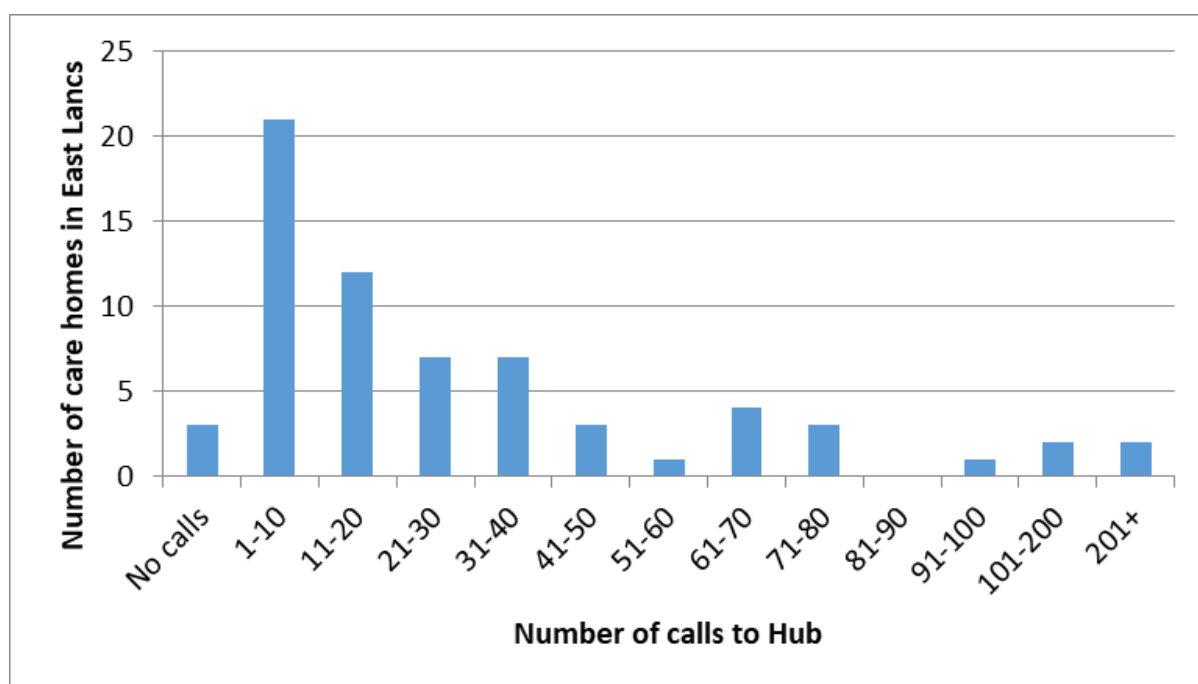
**Figure 3.3: Range of calls to Hub by Bradford care homes (n=46) in the year following installation**



The median number of calls in Bradford was 10 and the total number made was 1,299.



**Figure 3.4: Range of calls to Hub by East Lancashire care homes (n=63) in the year following installation**



The median number of calls in East Lancashire was 20 and the total number made was 2,516.

Data were stratified to identify the highest and lowest users of telemedicine in terms of calls made, ignoring those care homes in which no calls were apparently made (Tables 3.6 and 3.7). Rates of usage were calculated by dividing the numbers of calls per home by the number of beds (adjusted for the relevant time period) to generate a call rate per bed year.

This analysis showed some unexpected findings, with low usage care homes showing a 15% reduction in emergency admissions while there was a 10% increase in emergency admissions in high use care homes. High use care homes also had a 14% increase in A&E attendances in the year after installation of telemedicine compared to a reduction of 16% in low use care homes. There was a similar reduction in 111 call usage in both high and low use care homes. High use care homes showed a 3% increase in out-of-hours usage following installation of telemedicine, while low use care homes showed a 5% reduction.

Figures 3.5 to 3.8 provide scatter plots to show the inter-relation of the two variables. They show a very minor trend towards reduced use of 111 services but a trend towards increased use of services for A&E, emergency inpatients and out-of-hours.

Given the limitations of the data described in Section 2, it is important that these results are considered with caution, as there is no certainty about causal links between the use of telemedicine and changes in the use of health care resources. It may well be that care homes with higher numbers of calls to the Hub simply have a larger number of residents with a higher degree of frailty. It should be noted that the data for inpatient emergency admissions relate to finished care episodes rather than spells for this part of the analysis.

**Table 3.6: Summary of the use of health care resources in care homes with high use of telemedicine (>1.5 calls per bed per year) (n=31)**

	111	A&E	I/P emergency	OOH
Before	664	1,032	556	470
After	612	1,180	614	482
Difference	-52	148	58	12
% change	-8%	14%	10%	3%

**Table 3.7: Summary of the use of health care resources in care homes with low use of telemedicine (<0.3 calls per bed per year) (n=45)**

	111	A&E	I/P emergency	OOH
Before	628	1,226	775	478
After	585	1,034	655	452
Difference	-43	-192	-120	-26
% change	-7%	-16%	-15%	-5%

**Figure 3.5: Scatterplot of usage rates versus change in use of 111 services**

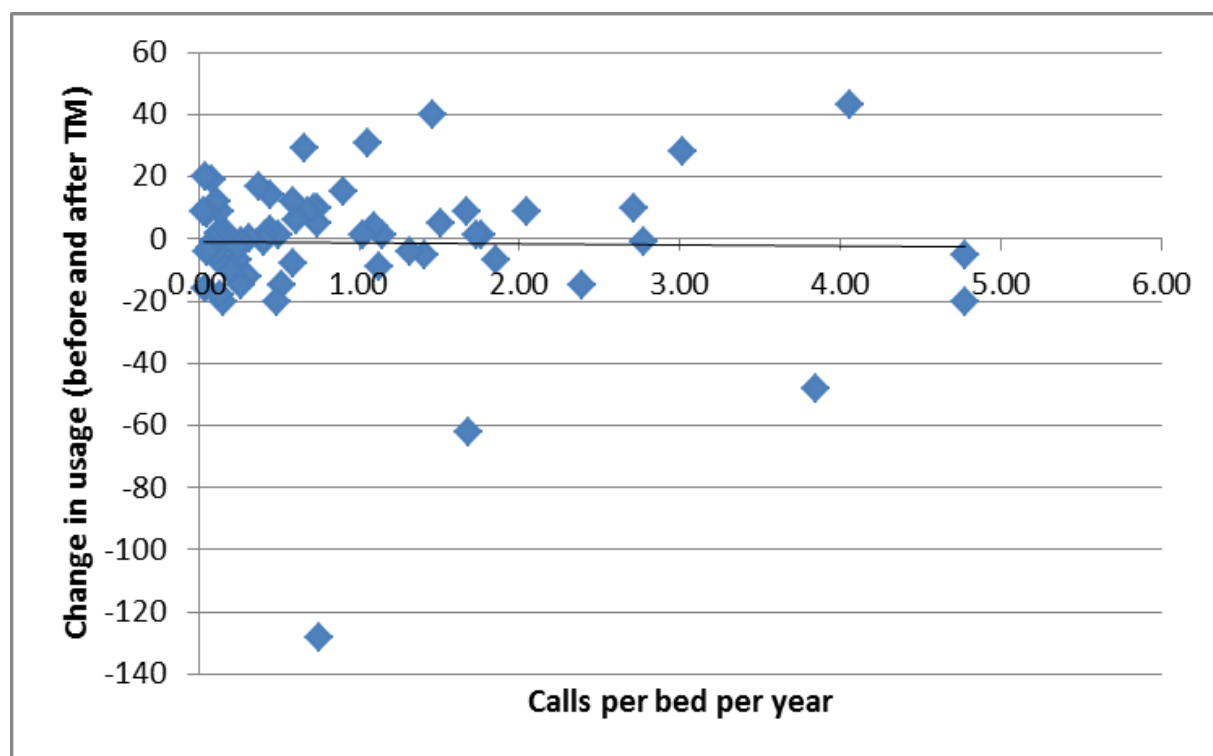


Figure 3.6: Scatterplot of usage rates versus change in use of A&E services

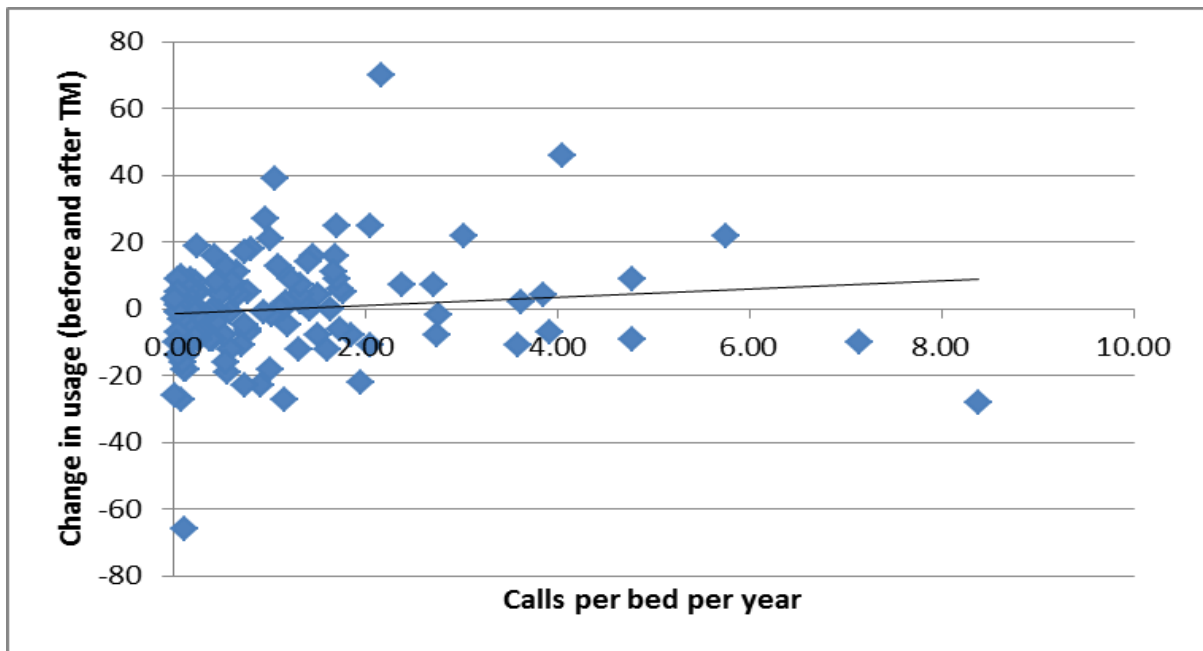
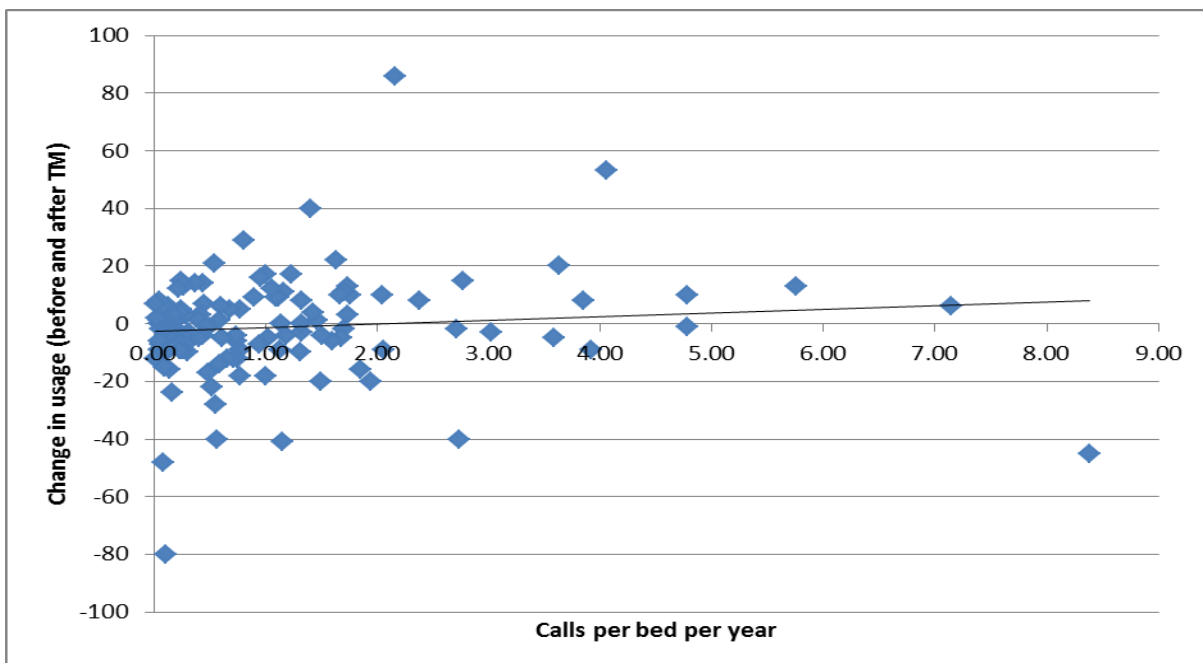
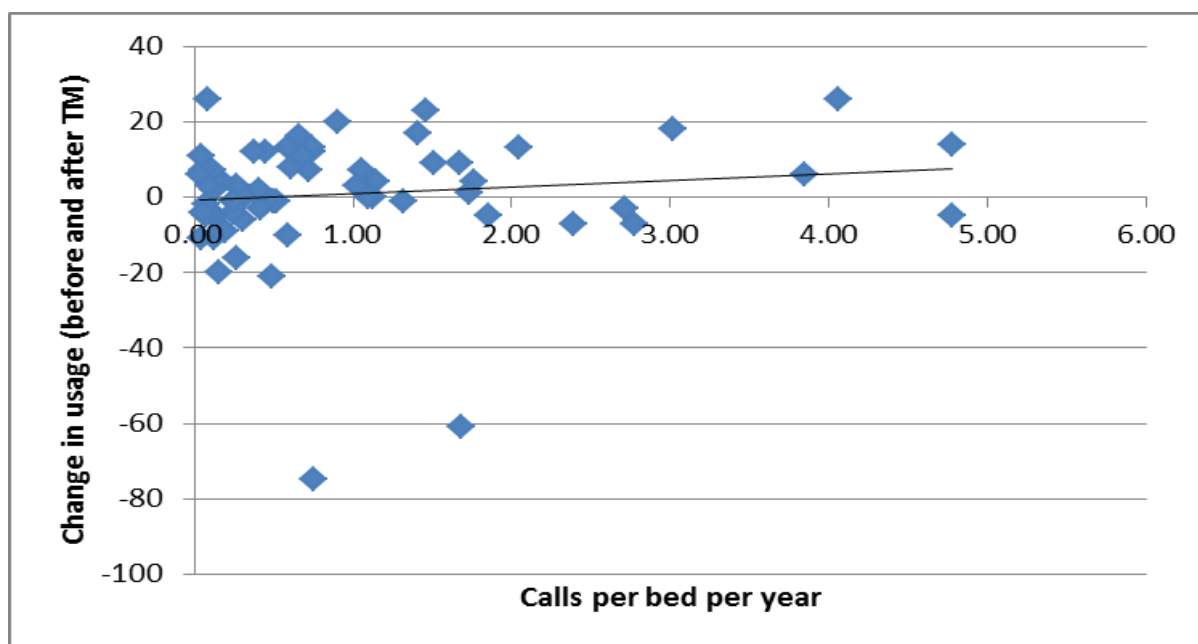


Figure 3.7: Scatterplot of usage rates versus change in use of emergency inpatient services (FCEs)



**Figure 3.8: Scatterplot of usage rates versus change in use of out-of-hours services**



### 3.3 NURSING HOMES COMPARED TO RESIDENTIAL HOMES

The care homes were divided into nursing and residential homes and analysis was conducted into any differences. Tables 3.8 and 3.9 demonstrate some apparent differences between the two types of home. Nursing homes showed a decrease in emergency inpatient admissions of 11%, compared to an increase of 5% for residential care homes. Nursing homes also recorded a decrease in the numbers of A&E attendances, 111 calls and out-of-hours episodes, with residential care homes showing increases in their use of those health care resources in the period following implementation of telemedicine.

This may not be conclusive but there may be scope to investigate these apparent differences in more depth. Some suggestions are made to this effect in Section 4.

**Table 3.8: Summary of the use of health care resources in nursing care homes (n=54)**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
Before	1,327	1,876	1,346	975
After	1,109	1,726	1,202	887
Difference	-218	-150	-144	-88
% change	-16%	-8%	-11%	-9%

**Table 3.9: Summary of the use of health care resources in residential care homes (n=87)**

	111	A&E	I/P emergency	OOH
Before	1,068	1,955	1,357	775
After	1,194	2,095	1,422	905
Difference	126	140	65	130
% change	12%	7%	5%	17%

### 3.4 STANDARD SERVICE MODEL COMPARED TO GP TRIAGE SERVICE MODEL

As described in Section 2, the standard service model in theory restricted the number of calls made to the Hub, while there were unlimited numbers of calls available to care homes using the GP triage service model. Around 96% of care homes analysed used the standard service model.

Tables 3.10 and 3.11 show some interesting results, albeit the small numbers of care homes using the GP triage model mean these results must be interpreted cautiously. The standard model care homes showed a 3% reduction in hospital emergency admissions while the homes using the GP triage model showed a 3% reduction in admissions in the year following installation of telemedicine. However, while the standard homes showed a 2% reduction in A&E attendances following installation of telemedicine, the GP triage care homes showed a 13% increase in the equivalent period.

This shows some consistency with the findings demonstrated in Tables 3.6 and 3.7 relating to high and low users of telemedicine. The average number of calls made by care homes with standard service models during the year post-installation was 27, with a median of 17. For care homes with a GP triage service model, the average number of calls made during the year post-installation was 178, with a median of 128.

**Table 3.10: Summary of the use of health care resources in care homes using the standard service model (n=135)**

	111	A&E	I/P emergency	OOH
Before	2,395	3,493	2,476	1,750
After	2,303	3,440	2,393	1,792
Difference	-92	-53	-83	42
% change	-4%	-2%	-3%	2%

**Table 3.11: Summary of the use of health care resources in care homes using the GP triage service model (n=6)**

	111	A&E	I/P emergency	OOH
Before	0	338	227	0
After	0	381	231	0
Difference	0	43	4	0
% change	-	13%	2%	-

### 3.5 INPATIENT ELECTIVE AND OUTPATIENT ACTIVITY

Data were obtained and included in the data set on the changes in inpatient elective and outpatient activity before and after the installation of telemedicine. These data were not considered to be primary outcomes of the evaluation and so have not been included in the results reported.

The data were analysed but do not show anything of particular interest. Overall, elective hospital admissions reduced by 3% and the number of outpatient appointments did not change for care homes in the period following installation of telemedicine. These results are not significantly different for the analysis of care homes without telemedicine, although there was an increase in outpatient activity of 10% in the 'post installation' period.

### 3.6 POTENTIAL RETURN ON INVESTMENT

The results presented in the foregoing subsections need to be treated with caution as the control group is small and there are limitations in the analysis due to the nature of the data collected. If the results are taken at face value there is an indication that use of telemedicine reduces the use of healthcare resources in the period up to one year following installation. This assumption can be at least partially validated by comparing the results of the telemedicine group of care homes with those for care homes without telemedicine, and also by comparison with national data collected by the NHS England Vanguard New Models of Care team.

Table 3.12 shows some significant differences in the results of the two groups of care homes, with decreases in activity in the care homes with telemedicine in the period following installation and the opposite for care homes without telemedicine.

**Table 3.12: Comparison of changes in outcomes for care homes with (n=141) and without telemedicine (n=25)**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
With TM	-4%	-0.3%	-3%	+2%
Without TM	+36%	+30%	+7%	+56%

National data only provides indications for emergency admissions but this shows that compared to the baseline year (2014/15), there has been an increase in emergency admissions of 4.9% in areas that are not Vanguard New Care Model sites.

These comparisons, particularly the comparison with national data, provide some validity to the assertion that the installation of telemedicine in care homes may help to reduce the use of healthcare resources.

### 3.6.1 Return on Investment Principles and Assumptions

Return on investment is a way of demonstrating the extent to which an intervention or innovation is cost-effective or cost saving. For this evaluation we have used the National Institute for Health and Care Excellence (NICE) formula:

$$\text{Return on investment: } \frac{\sum \text{discounted Benefits} - \sum \text{discounted costs}}{\sum \text{discounted costs}}$$

Where  $\sum$  = sum of

In order to carry out a return on investment analysis it is necessary to understand the incremental costs of the innovation and monetised values of the estimated benefits. YHEC obtained the basic costs of the telemedicine service from Airedale Hospital. The costs are £400 per month per care home for a standard service and £600 per month for the GP Triage service. This extrapolates to £4,800 per year for the standard service and £7,200 per year for the GP Triage service. As there were only six GP Triage homes included in the analysis, we have used the standard cost as the cost denominator for simplicity.

Some assumptions need to be made in relation to the benefits of the telemedicine service. The first assumption is that the benefits relate to the value of the potential reduction in the use of health care resources as a result of using telemedicine. We also need to make an assumption about the extent to which telemedicine has reduced the use of health care resources by care homes and a value needs to be ascribed to the unit costs of each form of health care resource.

A conservative estimate of the extent of the reduction in the use of health care resources can be calculated by simply examining the reduction in use in the period after the installation of telemedicine. It may also be valid to estimate the extent to which activity might have risen in the post-installation period. To do this, we used the value of 4.9% that the Vanguard New Models of Care team have for non-Vanguard areas. Although this increase refers to emergency hospital admissions, it has also been applied to activity in relation to NHS 111, A&E and GP out-of-hours. Table 3.13 shows the actual difference in the post installation period and the estimated difference if activity had grown by 4.9%.

**Table 3.13: Difference in health care resource use for all care homes (n=140) following installation of telemedicine**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
Actual difference	-92	-10	-79	+42
Assuming 4.9% growth	-209	-198	-211	-44

The values of health care resources were imputed from a number of sources:

- NHS 111 services are assumed to cost £12.26 per call based on research carried out by the University of Sheffield.<sup>1</sup> There is some uncertainty in this value;
- A&E costs were derived from national prices and tariffs for 2016/17.<sup>2</sup> The median value of £132 was used based on a range of prices between £57 and £236 for emergency medicine;
- Weighted average costs for emergency inpatient admissions were derived from NHS Reference Costs 2015-16, using the number of finished care episodes and national average unit costs.<sup>3</sup> The values were £3,058 for emergency inpatient admissions or £616 for 'non-elective short stay'. Although in general, avoidable admissions are more likely to be reflected by a short stay, in the case of older people even a relatively minor cause for admission can result in a longer stay in hospital. On that basis, both the short and longer stay values have been used;
- It has been assumed that an out-of-hours call out will be a visit to a care home by a GP which would take one hour including travelling time. The cost of this has been assumed to be £236 per visit based on PSSRU values.<sup>4</sup>

### 3.6.2 Return on Investment Results

The estimated changes in health care resource outlined in Table 3.13 show that that telemedicine has potential to generate a return on investment. The NICE ROI formula was applied and the costs reported by Airedale Hospital and the values imputed for health care resources were used. Using a cost per spell of £616, this forecasts a negative ROI of -£0.92 for every £1 spent based on the actual reduction in health care resource use, improving to -£0.75 for every £1 spent if 4.9% growth is assumed in the baseline activity. This indicates that while some benefits are generated (£51,112 based on the actual difference or £169,058 assuming baseline growth), they are not enough to cover the costs of telemedicine (£676,800).

If a cost per spell of £3,058 is used then the ROI forecast using the actual reduction in health care resource use improves to -£0.64 per £1 spent, based on estimated benefits of £244,029. Using assumed growth of 4.9% in the baseline, the forecast ROI would improve to £0.01 per £1 spent, based on estimated benefits of £684,320.

There is obviously wide variation in the results for individual care homes and for some groups of homes, the results may demonstrate cost-effectiveness. For example, the potential reduction in health care resources for nursing care homes is set out in Table 3.14.

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<sup>1</sup> Pope C, Turnbull J, Jones J, et al. Has the NHS 111 urgent care telephone service been a success? Case study and secondary data analysis in England. *BMJ Open* 2017;7:e014815. doi:10.1136/bmjopen-2016-014815

<sup>2</sup> Monitor and NHS England. 2016/17 National Prices and National Tariff Workbook.

<sup>3</sup> Department of Health. NHS Reference Costs 2015-16.

<sup>4</sup> Curtis, L. & Burns, A. (2016) Unit Costs of Health and Social Care 2016, Personal Social Services Research Unit, University of Kent, Canterbury.



**Table 3.14: Difference in health care resource use for nursing care homes (n=54) following installation of telemedicine**

	<b>111</b>	<b>A&amp;E</b>	<b>I/P emergency</b>	<b>OOH</b>
Actual difference	-218	-150	-144	-88
Assuming 4.9% growth	-283	-242	-210	-136

On the basis of assumed benefits and a spell value of £616, a negative ROI is forecast of -£0.81 for every £1 spent based on the actual reduction in health care resource use, improving to a negative ROI of -£0.71 for every £1 spent if 4.9% growth is assumed in the baseline activity. If the higher spell value of £3,058 is used then the ROI for the actual reduction in health care resource use is estimated as -£0.29, improving to a positive ROI or £0.05 if 4.9% growth is assumed.

It is important to remember that the benefits estimated in the ROI are only those which can be quantified with the available data. We are not able to measure or quantify any changes in quality of life among residents as a result of using telemedicine or by avoiding visits to hospital.

It is also important to consider the extent to which the potential reductions in health care use can represent cashable savings. Reductions in NHS 111 activity and out-of-hours visits will not reduce costs because there will not necessarily be a reduction in the numbers of staff providing the services, although if out-of-hours services are provided by a third party agency there may be savings. This may also be the case for A&E visits and inpatient admissions. Even if the reductions in health care use are not cashable, they still represent opportunity cost savings in that they create capacity in the system to carry out more work which may be important in meeting demand.

The attribution of costs and benefits is also an important consideration. The costs of telemedicine are borne by CCGs while the benefits may be accrued by hospital providers or CCGs.

## Section 4: Conclusions

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### 4.1 CONCLUSIONS

The AHSN report on the qualitative evaluation of the Vanguard reported that there had been considerable challenges in establishing a linked quantitative dataset for the evaluation. Having reviewed the dataset in some detail, it is clear that the data set has some significant limitations which limit the extent to which conclusions can be drawn. The data set received included problems such as the duplication of care home names in some cases, and more than 7,000 duplicate lines which had to be excluded from the analysis.

We were able to rectify some weaknesses in the dataset such as imputing missing data but significant amounts of data had to be excluded. This reduced the numbers of care homes that we could analyse from over 200 to 141. The analysis reported here needs to be interpreted with these limitations in mind.

The data that we were able to analyse should be treated with caution due to the constraints of the data and the challenges of the project rollout. Statistical testing of the data was not possible during the time available for the analysis but our opinion is that our findings are unlikely to have any statistical significance due to small numbers in the control group, the potential for bias and the variation in the observed results.

At face value the data for all of the 141 care homes, in the year following installation of telemedicine, showed a reduction in emergency hospital admissions of 3%; a marginal reduction in A&E attendances; a small increase in the use of out-of-hours services (2%); and a reduction in the use of 111 calls (4%). When these data were analysed in more detail there are some differences between types of care home and the types of telemedicine service provided.

Analysis by type of care home showed a decrease in inpatient emergency admissions of 11% in nursing homes compared to an increase of 5% in residential homes. There were also reductions in nursing homes compared to increases in residential homes for A&E attendances (-8% versus 7%); use of out-of-hours services (-9% versus 17%) and 111 calls (-16% versus 12%).

Care homes using the standard service model, with limited numbers of calls to the Airedale telemedicine Hub, demonstrated a 2% reduction in A&E attendances compared to a 13% increase for care homes using the GP triage service model with unlimited calls. Standard service model homes showed a reduction in emergency admissions of 3%, with GP triage homes showing a small increase in activity. Care needs to be taken in interpreting these results as less than 10% of the care homes analysed used the GP triage service model.

It should be noted that not all of the potential health care resource use benefits from the use of telemedicine could be quantified in this study. For example, there were no available data on the impact on primary care, so the observed benefits may be understated.

The literature on telehealth and telecare in general has very mixed findings so, given that we were unable to control for the extent of frailty in individual homes, the analyses carried out for the Airedale Vanguard can only be seen as indicative at best. The AHSN report highlighted a number of inconsistencies in the implementation of telemedicine across the three areas. While some of this is to be expected as telemedicine has been rolled out over a number of years, there are different service models and local issues which affect the way in which telemedicine is used. These factors include the influence of local GPs, different configurations of local services providing support to care homes alongside telemedicine and different knowledge and skills of care home staff in using telemedicine.

This inconsistency in usage is borne out in the patterns of usage of telemedicine described in this report. Interestingly, there appears to be no correlation between high usage of telemedicine, in terms of rate of calls made to the Hub, and reduction in the use of health care resources. In fact the opposite is apparent but this may simply be a case of higher levels of frailty in certain homes leading to higher use of telemedicine and higher use of health care resources.

## **4.2 RECOMMENDATIONS**

The results demonstrated in this limited economic evaluation show interesting results with potential for further research and analysis:

- Airedale and Partners may want to consider exploring the possibility of carrying out more in depth analysis using statistical methods such as time-series analysis to observe some sub-sets of the data considered in this evaluation;
- Further investigation could focus more specifically on the key metrics and outcomes of interest. For example, the GP triage model could be seen as essentially an enhanced primary care offer, so more in-depth work could focus on the impact of care homes potentially using fewer GP resources, thus potentially improving GP access for the wider population which may impact on the use of acute care;
- Return on investment analysis relied on assumptions of the cost of avoided emergency admissions. A more detailed patient-level analysis could attempt to record exactly what types of admissions were avoided through use of telemedicine.

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