# Evaluating Proactive Telecare Outbound Calling in Scotland

# Report

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## Executive Summary

A definite societal shift post Covid-19 has emerged as a catalyst for a more anticipatory, tailored, personalised telecare service that moves beyond reacting to crisis (Morrison et al., 2022). A recent two-part review of Telecare Call Handling Services in Scotland (Farr Point 2020, 2021) recommended a shift to a more proactive telecare model to support customers' wellbeing and resilience, anticipate adverse events or crises, and take preventative action. During the early stages of the Covid-19 pandemic, Councils and Telecare providers in Scotland rapidly introduced wellbeing calls to provide regular contact and additional support for citizens and Telecare customers who were isolating or shielding during Covid-19 restrictions (TEC Scotland, 2020*).*

Acknowledging this innovative approach, the Scottish Government's Technology Enabled Care (TEC) programme funded four proof of concept, 'Test of Change' projects to understand the practicalities, benefits and feasibility of introducing a Proactive Telecare Outbound Calling approach, herein referred to as Proactive Telecare. This report presents the results of an academic evaluation of the experiences of three of the four test sites. The evaluation was commissioned and jointly funded by the Digital Health & Care Innovation Centre (DHI) and the TEC Programme.

Both the project and the evaluation were conducted over two phases. Phase 1 evaluation conducted a retrospective analysis of factors impacting on the implementation of Proactive Telecare Outbound Calling and captured the voice and experience of customers, carers and staff. Phase 1 was followed by a three month pause to assess learning, appraise options and agree next steps. Phase 2 evaluation aimed to describe the delivery model for a targeted cohort of customers and assess added value for customers, for the telecare service and the wider health and care sector.

This evaluation has yielded a rich experiential data set which captures the reflective learning from planning and delivering Proactive Telecare for 178 customers in Phase 1 and 109 in Phase 2, across three different test sites and with five HSCP partners across central and southwest Scotland. The telecare delivery context differed across sites so no direct comparison is made between test sites. The customers targeted in Phase 1 and Phase 2 differed so the results for the two phases are presented separately, providing an individual site profile of the experience delivering Proactive Telecare.

The main findings are summarised under four headings:

### Impact of Proactive Telecare Outbound Calling

- Proactive Telecare increased the duration of calls and impacted on staff resource, however, over time this may be offset by a reduction in inbound calls and responder services.
- Phase 2 has shown that Proactive Telecare Outbound Calling is cost effective with the service costs associated with proactive calls being offset by reductions in inbound calling and funded responder visits in addition to potential cost avoidance from reduced ambulance conveyance, A&E attendance and hospital bed days.
- The system costs avoided are an important potential benefit of proactive calling, as well as the internal telecare service costs avoided. This underlines the need for a

strategic approach to commissioning Telecare services that build system wide capacity and resilience through technology enabled prevention and support for wellbeing; and targeted coordination and early intervention for customers with greater levels of need and / or at higher risk of harm and adverse outcomes.

- In both phases, onward referrals to primary care, community services and signposting to local community and voluntary supports facilitated early intervention as issues emerged.

**Feasibility**

- Proactive Telecare Outbound Calling augments and enhances existing Telecare service provision. Three test sites embraced this new way of working and viewed this as a worthwhile investment at a local level. The positivity from the test sites about the value and effectiveness of Proactive Telecare lays a strong foundation for continued work to support adoption and scaling-up.
- Proactive Telecare Outbound Calling offers a personalised, flexible anticipatory care support for wellbeing for different customer groups. Phase 1 showcased how Proactive Telecare can be offered to customers with low intensity needs to those with more complex issues. Phase 2 confirmed that time limited Proactive Telecare also offers personalised, flexible support for customers experiencing recurrent falls or recent hospital discharge.
- The Phase 2 test of change has highlighted the potential for housing and Telecare providers to provide proactive education/ health coaching as well as personalised transitional care coordination underpinned by TSA National Standards.
- Customers with significant dementia, communication or hearing impairment were excluded from this test of change.
- All Test sites faced challenges in accessing data from multiple systems that lack interoperability resulting in duplication of work to navigate across many IT systems during both Phase 1 and 2.
- A minimum data set was agreed with test sites at the outset of Phase 2 to offset the challenges associated with a lack of comparable data in Phase 1. Despite this, cross checking and cleaning of data proved challenging at each site due to the multiple systems used to extrapolate information.
- Test sites underestimated the time to screen and assess customers for suitability. Manually screening and assessing existing customers impacted on time as staff were extracting data from multiple record systems across social care, health and Telecare providers. All test sites were open to finding innovative solutions to support how they could save time screening and recruiting customers.

**Customer, Carer and Staff experience**

The customer experience was central to this project, not only in terms of their satisfaction with the service but for the test sites to consider whether they recruited the right customers to benefit from Proactive Telecare*.*

- Call duration, frequency and length of Proactive Telecare service was personalised, and person led in both Phases.
- In Phase 1, proactive calls averaged 24mins and offered wellbeing support at a time when customers were experiencing a high level of pandemic related isolation. Proactive calls (mean 7.4 per customer) averaged 18 mins during Phase 2 and were

an opportunity for early intervention and time limited care coordination for customers experiencing escalating risk of harm and negative outcomes.

- Customers interviews during Phase 1 revealed that they valued the service and saw it as beneficial to their health and wellbeing, connections with others as well as reducing their sense of isolation.
- Customer satisfaction surveys during Phase 2 confirmed an ongoing positive experience. 63% (50 customers) reported that their health and wellbeing improved after receiving the proactive calls. 87% (69 customers) reported they felt able to talk about their health and wellbeing on the calls and 80% (63 customers) looked forward to receiving the Proactive Calls. 78% (62 customers) agreed that if they had a concern, they knew this would be dealt with quickly and efficiently.
- Carer feedback in phase 1 and 2 was equally positive and interview data reflected the sentiment that they were satisfied that their family member had someone checking in on them and others saw definite improvements in the persons mental wellbeing.
- All staff valued being involved in this new way of working. The themes of job satisfaction, relationship building, and connectedness emerged from the staff interviews and focus groups.
- All call handlers found the new role rewarding and increased their job satisfaction. All agreed they had gained a lot from participating in the test of changes.
- Regular supervision and peer support helped staff manage their emotions as customers shared intimate, complex, sensitive information.
- Call handlers observed that it took time to build relationships and trust with customers over the phone to fully understand the complexity of the customer's circumstances, needs and priorities.
- Call handlers reflected that their role preparation and training enabled them to support and motivate customers to stay healthy, stay connected and feel less isolated.

**Readiness to Scale**

- Strong leadership, partnership working and investment at an operational level has been showcased in this evaluation. However, there exists differences across the sites in terms of how they integrate with wider health, housing and care services thus impacting on how information is shared, potentially delaying throughcare and disrupting the customer/carer experience.
- The introduction of Proactive Telecare presents the opportunity for Telecare providers to consider their skill mix and / or create strategic partnerships for delivery.
- Plans to deliver at scale should include recurring costs of staff supervision, training and CPD to maintain the quality and consistency of the service.
- Local intelligence is vital to the identification of customers, alongside screening/risk stratification tools. Further work is required to standardise such tool(s) nationally to optimise targeting of customers and greater personalisation of Proactive Telecare.
- Information governance and data sharing between partners was complex and time consuming for each test site throughout the project. This was observed as a barrier to progress, fragmented integration and added a bureaucratic layer that was difficult to navigate.

- A national minimum data set for customers/service providers and information governance protocols will be pivotal if telecare providers are to deliver at scale and embed proactive calls as business as usual.
- A clear vision is evident at operational and strategic levels to support Proactive Telecare Outbound Calling across all three participating test sites. Continued success and the ability to deliver at scale will rely on recurring financial investment to enable the test of change projects to become business as usual.

The findings and recommendations in this report add to the growing evidence on the need for and effectiveness of Proactive Telecare in the UK and Europe (Tunstall, 2020a, 2020b; European Commission 2021; ADASS, 2023). This report should be considered by Telecare providers and national and local stakeholders to ensure future developments of Proactive Telecare Outbound calling interventions are sustainable, cost effective and fit for purpose.
Applying the experiential learning from the evaluation of the three test sites is key to informing future design, planning and delivery of Proactive Telecare in Scotland so that it can fully contribute to preventative support for wellbeing and also offer targeted coordination, support and early intervention for selected customers at higher risk of harm or negative outcomes.

Implementing the following recommendations will ensure future developments of Proactive Telecare Outbound Calling move the innovation from its current discovery/testing phase to scaling and embedding as business as usual.

**Recommendations**

**Telecare Providers**

- Telecare services should now decide how to adopt Proactive Telecare delivery, using available health and care data to match the intensity of proactive calling to the complexity of risk and changing level of needs of their customers.
- Telecare services should actively engage with Health and Social Care Partnerships on their contribution to proactive, anticipatory care, transitional care and support for wellbeing.
- Unpaid carers should be considered as an additional bespoke customer group who may benefit from wellbeing calls.
- Now is the time for Telecare Providers and Investors to develop and achieve consensus on service models, minimum data sets, information governance, risk stratification tools and quality standards for Alarm Receiving Centres delivering Proactive Telecare.

**Research and Innovation**

- To demonstrate value, impact and effectiveness will require an in-depth longitudinal, prospective matched control study on a larger customer group in one region. This would enable the telecare service to demonstrate unequivocal evidence of the benefits to customers, carers, Telecare Providers, and commissioners in terms of Quality of Life, social connectedness, functional ability and health and care utilisation.
- Innovation is essential to the long-term success of Proactive Telecare therefore to improve the effectiveness of screening and recruitment of customers; research is needed in the field of artificial intelligence to automate and predict customer eligibility and behaviour.

**Education and training**

- Research and collaboration with NHS Education for Scotland and Further and Higher Education institutions is recommended to scope the preparation of new and existing call

handlers to build capability for proactive calling, while fitting around the needs of the service and workforce.

**Information**

- For Proactive Telecare to succeed a minimum data set and information governance protocols are needed. This is not the sole responsibility of Telecare providers but requires a national collaborative approach involving key partners and investors from industry. This work should run concurrently with any further research or development in Proactive Telecare.

## 1. Introduction

Personalised care, digital innovation, and the integration of health and care services feature prominently in multiple policies in Scotland (Scottish Government, 2021). Across the country, health, housing, and social care partners are developing proactive and personalised approaches and understanding how to apply digital solutions and technology enabled care to empower people to live longer, healthier lives at home, or closer to home (Wright, 2020; Scottish Government, 2021) and to stay connected and reduce the risk of loneliness and isolation (Scottish Government, 2018). The national Technology Enabled Care programme is making a significant contribution to realising the ambitions set out in Scotland's Digital Health and Care strategy (Scottish Government and COSLA, 2021). In the National Care Service Bill (Scottish Government, 2022), digital is signalled as a key enabler for sharing information between health, housing, and care providers to enable prevention, early intervention, continuity and coordination of care and better outcomes for people.

### *1.1. Telecare in Scotland*

Telecare is defined by the Scottish Government (2016) as
*"The provision of care services at a distance using a range of analogue, digital and mobile technologies. These range from simple personal alarms, devices, and sensors in the home, through to more complex technologies such as those which monitor daily activity patterns, home care activity, enable 'safer walking' in the community for people with cognitive impairments/physical frailties, detect falls and epilepsy seizures, facilitate medication prompting and provide enhanced environmental safety".*

This highlights a complex social intervention involving the individual and their data; technology and the environment; and the important interconnected role they play in the real time monitoring of individuals to reduce health and lifestyle risks and promote independent living.

It is estimated that 180,000 people in Scotland currently use Telecare (Public Health Scotland, 2020), predominantly delivered as a reactive service responding to people who require assistance. A recent review identified there are 22 Alarm Receiving Centres (ARC) in operation in Scotland with approximately 343 full time equivalent staff employed as call handlers receiving 6.7 million incoming calls per year (FarrPoint, 2020, 2021).

Telecare provision nationally is evolving and one strategic priority shaping this direction is the switch from Analogue (i.e., through traditional telephony connections) to a fully Digital internet-based service. Resources such as the Digital Telecare Playbook and the Security Assessment Scheme have enabled services to ensure their technical infrastructure, procurement of equipment and information governance processes are safe and robust (Digital Telecare, 2020). The shift to digital supports and enhances the Scotland vision on Telecare and creates opportunities for greater personalisation and integration of Telecare, including adoption of Proactive Telecare.

### *1.2. Proactive Telecare*

Proactive Telecare augments the conventional reactive approach by expanding and developing a deeper relationship with the customer*, gathering insights into patterns of behaviour and preferences over time, enabling a more tailored, anticipatory, and preventative service that supports wellbeing and resilience* (TEC Scotland, 2020*).*

A proactive, anticipatory and integrated approach to care has been shown to be effective in preventing or delaying the onset and consequences of frailty in older people by identifying early decline in functional ability or wellbeing in order to trigger appropriate interventions (Hendry et al., 2018). Strategies employed may include signposting to a range of digital Information, advice or supports for wellbeing and self-management; referral to third sector supports such as community link workers or befriending services; and escalation to local health, social care and housing services such as falls, housing, rehabilitation or equipment services.

A recent two-part review of Telecare Call Handling Services in Scotland (Farr Point 2020, 2021) recommended a shift to a more proactive telecare model to support customers' wellbeing and resilience, anticipate adverse events or crises, and take preventative action. During the early stages of the Covid-19 pandemic, councils and telecare providers in Scotland rapidly introduced wellbeing calls to provide regular contact and additional support for citizens and Telecare customers who were isolating or shielding during Covid-19 restrictions (TEC Scotland, 2020*).*

Acknowledging this innovative approach, the Scottish Government's TEC programme funded four proof of concept, 'Test of Change' projects to understand the practicalities, benefits and feasibility of introducing a Proactive Telecare Outbound Calling approach, herein referred to as Proactive Telecare. The projects were commissioned and commenced in December 2020 with a Phase 1 evaluation period (April 2021 to November 2021) followed by a three month pause to assess learning, appraise options and agree next steps based on findings. Phase 2 (April 2022 to October 2022) aimed to broaden the focus of the Tests of Change and demonstrate value.

### *1.3. Evaluation of Telecare Proactive Outbound Calling*

This report presents the results of an academic evaluation of the experiences of the Proactive Telecare Outbound Calling over the two phases of the project. The evaluation was commissioned and jointly funded by the Digital Health & Care Innovation Centre (DHI) and the Scottish Government's Technology Enabled Care (TEC) Programme.

Phase 1 evaluation requirements were to conduct a retrospective analysis of the implementation of Proactive Telecare Outbound Calling including the factors that were impacting on this service change. These areas included referral, recruitment, risk identification processes, staff role preparation, community connections and technical delivery of the service. Further to this the requirements were to capture the voice and experience of customers, carers and staff using Proactive Telecare Outbound Calling. A key outcome of this phase was to establish a methodology for Phase 2 that could show how Proactive Telecare Outbound Calling adds value and could be scaled-up.

Phase 2 evaluation requirements were to conduct an analysis of the delivery model adopted by test sites in Phase Two, to assess added value to people receiving the service, the telecare service and the wider system, and the affordability for Scotland's health and care sector. The evaluation was also to conduct an analysis to identify if there is an optimum service model, based on the learning from the introduction of proactive calling in the test sites, and any other available evidence.

### *1.4. Who was involved?*

Four test sites were accepted for Phase 1 and three of these continued in Phase 2. As the Stirling Council Test Site was not able to continue in Phase 1 due to increased pressures during the Covid-19 pandemic resulting in staff shortages and reduced resources, the evaluation focused on the three active test sites: Bield Housing and Care; Edinburgh Health and Social Care Partnership (HSCP) and Dumfries and Galloway (D&G) HSCP.

## 2. Methods

### *2.1. Ethics, Data Management, Permissions and Privacy Impact Assessment*

Ethical approval was granted by the University of the West of Scotland Ethics Committee for both phases of the evaluation to ensure that the evaluation team adhered to consent, confidentiality, and data security legislative processes in the management of information from the test sites. A privacy notice was included in the Ethics application and a Privacy Impact Assessment (UWS PIA 29) was approved, assuring customers, staff and the multiple agencies involved of how data would be accessed, stored and managed.

Permissions to access customers and staff for the Phase 1 evaluation was facilitated by a named person at each test site. All participants received an information sheet and consent was gathered prior to data collection. As Covid-19 restrictions remained in place during the Phase 1 period of qualitative data collection, all contact with participants was facilitated via Microsoft Teams video calls and the telephone. To protect the anonymity of service, staff and customers in this report no names, locations or services have been identified in the quotations. In Phase 2, customer level data shared with the evaluation team for analysis was anonymised using a unique study ID number to ensure confidentiality. All survey data shared with the evaluation team was password protected and encrypted.

### *2.2. Phase 1 Methodology*

Phase 1 was a descriptive, exploratory study drawing primarily upon qualitative methodologies to document the experiential journey of all those involved in the tests of change. Quantitative analysis was limited as the test of change was near completion when the evaluation commenced, the number of participating customers was lower than anticipated, and the three test sites involved customers with differing levels of complexity and duration of participation. Therefore, it was not possible to collect comparable standardised data to support robust statistical analysis.

Secondary data was collected from each test site and analysed to summarise the process of implementing Proactive Telecare; call activity; partnership working; successes and challenges. This data was used by the evaluation team to prompt further inquiry through a series of individual interviews to elicit a deeper exploration of the complex needs of the customers/unpaid carers and their experience of Proactive Telecare. This approach was deemed appropriate to allow for expression of personal views and feelings on a topic without being influenced by, or feeling intimidated by, other people's (potentially different) perspectives (Silverman, 2011). Focus groups were used to support the elicitation of the views of staff delivering calls as a group within the individual sites to share their experiences and aspirations in relation to the delivery of Proactive Telecare.

A convenience sampling approach was used to recruit available staff, customers and unpaid carers to this phase of the evaluation, with recruitment facilitated via a named manager at

each test site. Initial '*Getting to Know You'* meetings were arranged to establish working relationships with the Telecare providers at the test sites. These conversations are included in the data analysis. Topic areas for facilitated discussion were standardised with the use of semi-structured interview schedules including trigger questions and prompts.

Dialogue with Proactive Telecare customers explored:

- general experience of Telecare
- likes, dislikes, preferences, and suggestions for improvement of Proactive Telecare.

Conversations with staff investigated:

- how Proactive Telecare was implemented.
- issues concerning customer screening and assessment.
- approaches to signposting to support and escalation of concerns.
- staff training and supervision.
- benefits experienced, challenges encountered and suggestions for improvement.

All interviews and focus groups were recorded and transcribed verbatim. A thematic framework analysis (Ritchie, Spencer & O'Connor 2003; Gale et al., 2013) was applied to analyse and interpret the information in terms of the person receiving the service and those providing the service.

An online Learning Collaborative event was held after the conclusion of Phase 1. Co-designed with the test sites and national stakeholders, participants reflected on the Phase 1 experience and considered lessons to shape the next phase of the project and related evaluation. An options appraisal exercise was constructed to enable test sites to explore their preferred approach to Phase 2 tests of change. Each test site was invited to consider the feasibility, desirability and impact of four options (Appendix 1), adapted from the Tiered Model described in the Telecare Business Case (TEC Scotland, 2021). Consensus was reached on testing a time limited Proactive Telecare intervention to promote confidence and independence in customers who are experiencing a change in health status, social circumstances or care setting. For example, customers transitioning from hospital to home, or with a history of recent injury or falls.

### *2.3. Phase 2 Methodology*

Multiple methods were used to explain the continued implementation and development of Proactive Telecare in the three test sites. Informed by the Option Appraisal, Phase 2 aimed to target customers experiencing recurrent falls or a recent hospital discharge.

For all test sites, customers with significant cognitive, communication and hearing impairment were considered unsuitable as were those with unstable medical conditions or end of life care needs.

The aim of the evaluation in this phase was to analyse the implementation of Proactive Telecare over a three-month period in customers who have experienced falls and /or are transitioning from hospital to home. This required a deeper dive on the processes for screening and assessment of the new target groups for Proactive Telecare, description of the health, wellbeing and functional ability of customers at baseline and following intervention, assessment of Proactive Telecare related service costs and potential for cost avoidance, and of survey of customer satisfaction with the service.

A standardised measurement framework was co-designed with the Test sites to provide insight on experience and outcomes for the selected customers, and assessment of the impact of the intervention on Telecare service and health and social care resource utilisation. The three sites agreed proportionate information on key parameters: baseline customer health, functional ability and service utilisation; proactive calling process measures; customer experience and outcomes during and post intervention; Telecare, hospital and care home utilisation; and related costs.

The Test Sites considered simple rapid screening / assessment tools that could be used by call staff to describe functional ability of the customers at baseline and changes over the duration of Proactive Telecare and follow up. Considered tools included the Modified Barthel Index (Yang et al., 2021), Indicator of Relative Need (IoRN) (Canny et al., 2016), Rockwood Clinical Frailty Scale (Church et al., 2020) and Lifecurve Scotland (Kelso et al., 2020). Site leads cautioned against making the baseline assessment overly complicated and risk losing engagement with customers at the start of the intervention. Also, it was acknowledged that functional ability can be difficult to gauge over the phone. In the end all sites agreed to use two simple measures: self-reported frequency of falls and self-reported change in functional ability. The more detailed survey assessment of health and wellbeing (Euro Quality of Life EQ-5D-5L) was additional to the two simple self-reported measures.

Four customer and service data measurement tools (Google Forms 1-4), a health and wellbeing experience, and a customer satisfaction survey were developed. The customer health and wellbeing experience data capture includes the Euro Quality of Life (EQ5D5L) validated measurement tool (Feng et al., 2021), and personal and relational wellbeing outcomes. Test sites collected data at six time points for each participating customer as outlined in Appendix 2 (Figure 1).

Online data was exported to Microsoft Excel and summary reports provided to each test site fortnightly on their Proactive Telecare data/customer surveys submitted. The evaluation team undertook quality assurance of the data entered. Data queries were shared with Test sites and calls arranged to resolve inconsistencies.

Initial analyses were shared at a Learning Collaborative event prior to the conclusion of Phase 2. This generated a picture of the status of Proactive Telecare across the test sites, including the high number of customers still to conclude their intervention and have a follow up call.

A minimum target to recruit was 50 customers per test site to generate a robust analysis of the data. This figure was negotiated with each test site based on their experience of recruitment in Phase 1. Multiple external factors impacted negatively on all sites. Service upgrades and periods of disaster recovery delayed recruitment and disrupted access to voice recording data. Due to these challenges and severe staffing constraints, Dumfries & Galloway were unable to contribute data on those who did not accept the intervention.

Additional meetings were held with test sites to capture the costs associated with the Test of Change and funded Telecare responder costs. Patient level costs for ambulance conveyance and healthcare utilisation were derived from Public Health Scotland costs book 2020 (Public Health Scotland, 2021). Data captured on functional ability and customer satisfaction was exported from Microsoft Forms to Microsoft Excel for analysis. All data are presented descriptively in terms of averages, frequency, and percentages.

## 3. Results Phase 1

This section of the report provides an overview of the experience of the three test sites and highlights some important differences and similarities in their approaches based on interviews with key informants. In total, 25 participants were involved across five focus groups and seven interviews (Table 1). Data collection totalled 523 minutes or 8 hours 43 minutes. Individual interviews ranged from 11mins to 63mins (average: 29mins) and focus groups ranged from 30mins to 90 mins (average: 52mins) in length.

*Table 1 Interviews and focus groups*

| Role | Test site | Number of participants | Data collection method |
|---|---|---|---|
| Customers/carers | Bield<br>D & G<br>Edinburgh | N=2<br>N=1<br>N=4 | 2x Interviews<br>1x Interview<br>4x Interviews |
| Staff | Bield<br>D&G<br>Edinburgh | N=3<br>N=4<br>N=5 | 1x Focus group<br>2x Interviews + 1x Focus group<br>1x Focus group |
| Getting to Know you Meetings | Bield<br>D&G<br>Edinburgh<br>Stirling | N=2<br>N=1<br>N=2<br>N=1 | 1x Focus group<br>1x Interview<br>1x Focus group<br>1x Interview |

Table 2 shows the number of customers offered Proactive Telecare in Phase 1. Of 499 customers offered the service, 42% (191 customers) accepted. In total across the three sites, 1186 proactive calls were delivered to 178 customers.

*Table 2 Test site Phase 1 Proactive Telecare Outbound Calling activity*

| | Bield Health and Care | Edinburgh HSCP | D&G HSCP | Total |
|---|---|---|---|---|
| Customers offered PT | 86 | 345 | 18 | 449 |
| Customers accepted PT | 48 (56 %) | 139 (40%) | 4 (22%) | 191 (42%) |
| Customers received PT | 44 (51%) | 131 (38%) | 3 (16%) | 178 (40%%) |
| Customers dropped out | 4 – all early drop outs | 55 | 1 early drop out | 60 (13%) |
| Number of PT calls delivered | 613 | 527 | 46 | 1186 |

Dropout rates were low but varied across the sites. One of the four consenting customers in Dumfries & Galloway dropped out early due to a change in their health circumstances and life priorities. Four of Bield's 44 customers discontinued their Proactive Telecare service. Edinburgh's high rate of drop out (42%) may reflect the lengthy delay between obtaining consent and securing data sharing agreements to enable the third sector partner, Care and

Repair Edinburgh, to begin delivering the Proactive calls. Call handlers remarked the customers *"…forgot why we were calling … lots of hang ups and confusing first calls"*

The following sub-sections describe the success factors for building readiness, implementing and effectively integrating Proactive Telecare Outbound Calling with local health and care services.

### *3.1. Strategic Fit of Aims*

All three sites secured senior sponsorship and established the alliances required to progress their tests of change. Proposals aligned well with local strategic plans and organisational priorities. In all sites, operational managers had not been directly involved in the proposals. With hindsight, they considered the original aims were overly ambitious in the short timescale.

**There is a significant lead time needed to build relationships and trust with new partners and new staff.**

*Table 3 Aim of test sites*

| Test Site | Aim |
|---|---|
| **Bield HC** | To test Proactive Telecare for health promotion, prevention and earlier intervention to increase ability of tenants / service users to be independent and remain active, healthy and socially connected |
| **Edinburgh HSCP** | To test Proactive Telecare in supporting self-management and wellbeing of citizens and unpaid carers by identifying their interests and concerns; providing tailored advice, support, equipment and digital solutions to enrich their quality of life, autonomy and safety at home; reduce social isolation; prevent deterioration; prevent or delay dependence on formal services. |
| **D&G HSCP** | To test models for Proactive Telecare as an enhancement of an existing Telecare, identify all costs and benefits to establish desirability, sustainability and scalability, identify practicalities, challenges and enablers and identify how the findings will be used to further develop a Proactive Telecare service delivery model |

### *3.2. Partnership, Governance and Readiness*

Bield Housing and Care Test Site established a Programme Board involving key internal staff and representatives from Inverclyde HSCP, Midlothian HSCP and Linstone Housing Association as their Proactive Telecare delivery partners.

Edinburgh HSCP Test Site established an Assistive Living Team (ALT) and a weekly ALT Panel as the engine room for the project and to involve local stakeholders including ATEC24 staff, Alarm Monitoring and Response team, Sheltered Housing Support Workers Service, Falls Practitioners and with direct links to locality hub services including social work assessment and reviews and to the third sector partner Care and Repair Edinburgh who delivered the Proactive Telecare. The Panel had a wider ripple effect as a forum for communication and mutual upskilling across teams to improve the coordination of enhanced Telecare.

Dumfries & Galloway built on close links with the Council Shielding team and aligned their Test of change with the emerging operational structures for their Care Call Service as it moved to sit within a Single Access Point (SAP) for HSCP community services. The previous hosting of Telecare services within Business and Transformation services had helped with the technical aspects of preparing for Analogue to Digital (A2D) shift and upgrade of Care Call and Alarm Receiving Centre (ARC) platforms but was not an ideal fit for a 24/7 service for vulnerable people that brokers responder services from a mix of personal emergency contacts,

private providers, and community health and care professionals. The strategic move of Care Call to the developing SAP for all health and social care enquiries had the potential to streamline access to support for issues raised during calls. This move was welcomed and described as "*bringing Telecare in from the cold"*. However, expediting this change during the six-month project resulted in some loss of organisational learning and management capacity as some key staff members did not move with the Care Call service.

**Partnership working, continuity of leadership and clear lines of communication with all stakeholders are key to success**

### *3.3. Target population*

Each test site reported debate about what type of customer to target and as the test of change commenced, they refined this further using risk stratification tools and local intelligence on call activity and service use. One site commented:

*"We flipped it. Our biggest learning was to move upstream and establish a relationship with those who don't call".*

Edinburgh HSCP Test site focused on telecare customers who make frequent calls and may have family support but do not receive other statutory care and support services. Edinburgh actively engaged with the unpaid carers of this cohort. Dumfries and Galloway targeted customers who had not recently manually triggered their alarm and then used risk stratification tools and local intelligence to determine those suitable for wellbeing calls.

Bield's test of change was the most complex as it targeted three different cohorts of customers: residents of Bield's sheltered housing in Midlothian who were still largely independent and had limited reliance on TEC; residents of Linstone's sheltered housing in Renfrewshire who had a similar profile to the Midlothian group; and older people living in social housing in Inverclyde who had more complex support needs and were generally considered to be TEC dependent. The Inverclyde group had an average age of 88 years, some 20 years older than the other two Bield cohorts.

**It is possible to deliver Proactive Telecare to customers across the life course with varying needs.**

### *3.4. Screening and Consent*

The project provided useful insight into the complex process of engaging customers in a new service. Linstone Housing Association proactively approached Bield with a list of suitable and interested customers, having heard about the project in a news article through social media. In Midlothian, Bield staff readily identified potential customers based on long established relationships between their residents and sheltered housing managers. Managers commented: *"We can chap doors of our own tenants rather than send a letter seeking interest from our partners".*

Recruitment proved more challenging for Bield in Inverclyde as staff recruited customers at 'arm's length'. Based on alarm data and review of their social care records. Once again, local intelligence from another housing provider helped recruitment. Buy-in with local partners is necessary. Staff commented that to successfully deliver Proactive Telecare

*"Need someone in the partnership who is passionate to sell this as a best hope service".*

In Edinburgh, triangulating data from ARC records and social work records generated a list of customers for more detailed screening calls by ATEC24 staff. They reported finding delays in updating records to reflect current circumstances, functional ability and or support provided. This was compounded by complex information sharing agreements and data privacy impact assessments. Team meetings were created between Care and Repair staff and ATEC 24 call handlers to share information and ensure all information was safely handed over and recorded.

Although there was no consideration at the outset of the project to include unpaid carers, the offer of involvement was welcomed at pre-screening conversations with customers. This quickly became embedded in their local approach to Proactive Telecare.

Dumfries and Galloway secured permission to use Tunstall's Risk Stratification Tool as this was in use by an established Proactive Telecare provider, Delta Connect in West Wales. The project lead adapted the nine screening questions for the local context and customers in Dumfries and Galloway.

Screening calls to recruit customers ranged from 15 – 22.5 minutes in addition to between 5 and 40 minutes for preparation and updating of customer records. Recruitment of customers was resource intense. Overall, only 40% of customers offered Proactive Telecare went on to accept the intervention, although Bield's recruitment based on established relationships with local housing staff resulted in acceptance rates of 80 – 100%.

**Recruitment and Screening of customers was complex and resource intensive at all sites. Proactive Telecare should be data driven using information from both Telecare records and Health and social care records combined with intelligence of local partners**

Several members of staff commented that the consent process and supporting materials for customers could be simplified. Bield developed an Easy read letter and pre call planning questions and service agreement in line with good Health Literacy practice.

**A Proactive Telecare service agreement should set out mutual expectations on information sharing and governance from the outset.**

### *3.5. Duration, Frequency and Continuity*

Edinburgh customers commenced Proactive Telecare in waves from March – June 2021 and were called weekly for five – seven weeks by staff from Care and Repair Edinburgh. These calls averaged 13.5 (range 6-21) minutes. Customers were not assigned to a specific staff member.

The Bield test of change offered continuity for calls that were initially weekly but then reduced for some customers who were ready to resume their previous activities the average duration of Bield Proactive Telecare was 24 minutes. Calls with the older customers in Inverclyde were longer duration than calls with the younger customers from Linstone Housing and Bield Housing in Midlothian. This reflects the more complex needs of the Inverclyde cohort.

The small number of Proactive Telecare customer in Dumfries and Galloway's Test Site were called weekly for 12 weeks by a single member of staff for an average of 20 minutes.

**Call duration, frequency and length of Proactive Telecare service was personalised, and person led.**

### *3.6. Referrals and Signposting*

Managers discussed a perceived risk that Proactive Telecare could increase demand for services in the short term if call handlers uncover considerable unmet need and escalate referrals to statutory services rather than offer strength-based support to self-manage and identify solutions from local community assets. Increased referrals were viewed as a positive outcome if they enabled earlier intervention to improve wellbeing, reduce dependency and improve longer term system outcomes.

Bield referred 25% of their Proactive Telecare customers to primary care, but staff reported many of these were customers who had been reluctant to approach their general practice team about their health issues during the peak of the pandemic. The Bield staff did not make any direct referrals to community health and care services. Edinburgh staff referred only 4% of Proactive Telecare customers to primary care, but 8% were referred to community services and 11% had a change in their Telecare package.

Around one third of Edinburgh's customers and almost a quarter of Bield's were signposted to non-statutory sources of community support. Working with Midlothian Community Links practitioner, Bield developed a directory of local knowledge and community resources available to tenants, drawing on the ALISS resource (Health and Social Care Alliance Scotland, 2022). The Dumfries and Galloway site referred one customer to a community service, signposted two to community support and changed one individual's Telecare package. There was no systematic follow up information collected on the uptake and outcomes of this signposting.

**Test sites reported referrals to primary care and community services and signposting to local community and voluntary supports, facilitating earlier intervention for issues identified. Referrals to statutory services may be more likely if staff have limited experience and confidence in supporting people to draw on a range of options for self-care; or limited awareness of local resources.**

### *3.7. Information Flow*

As Edinburgh HSCP contracted with a Third sector partner to deliver their Proactive Telecare, their test of change required the approval of a new data sharing agreement. This resulted in a delay of three months between initial screening by ATEC24 team and readiness of Care and Repair staff to commence Proactive Telecare. Once the service commenced, manual notes of the calls were scanned into Care and Repair Edinburgh's system, but this information was not able to be linked with ATEC24's system which also lacks an interface with social care records.

Similarly, although Bield developed a Microsoft form data spreadsheet and summary of Proactive Telecare conversations and wellbeing data to supplement the audio records in BR24s system, there was no direct linkage with the care records held by the participating HSCPs. Despite good partnership working and clear lines of communication this approach was resource intensive and impacted on the collection of data.

Dumfries & Galloway developed a Proactive Telecare template that allows notes / actions to be recorded on client records in their Social Work system. This data is then accessible to health and care partners as per their local data sharing agreement.

**All Test sites faced challenges in accessing data from multiple systems that lack interoperability resulting in duplication of work to navigate across many IT systems. This interoperability was also an issue for routine telecare 'reactive' calling.**

### *3.8. Measurement*

Prior to, and running parallel with this evaluation, the test sites had been supported by the TEC programme and Healthcare Improvement Scotland to develop and apply a comprehensive measurement framework that considered customer outcomes, balancing indicators and system outcomes. This measurement framework remains in its infancy and no reliable and consistent dataset has yet been established. This challenge is compounded by multiple IT systems that are not linked, requiring significant manual work to interrogate systems and collate data. At the end of Phase 1 there was a sense of frustration across the sites that there remains no standard approach to monitoring Proactive Telecare customer experience and personalised outcomes.

**Additional data and capacity for data linkage are required to inform the business case for Proactive Telecare and to enhance the narrative on customer satisfaction and outcomes.**

Bield staff adapted and tested the Wellbeing Wheel used by the Delta Connect programme in Wales (Tunstall, 2020a) to identify and describe the impact of Proactive Telecare on the wellbeing of their customers. Notably, participants painted a positive picture of their circumstances, however, as relationships developed (after four or five calls), conversations became more 'honest' and participant scores on the wellbeing wheel changed to reflect this. The tool was found to be too detailed to be useful for every call and that it may work better when used at intervals over a longer time period. The Edinburgh test site applied the principles of the Delta Connect project to develop a framework for personalised wellbeing plans with goals and outcomes clustered around three themes: Staying healthy; staying connected; staying active.

All test sites and associated partner organisations recorded calls, and this was viewed as a protective element for both staff and customers as well a quality assurance process. Staff also had some non-contact time scheduled before and after making their proactive calls to allow them to reflect on previous calls, prepare their script and make notes of the latest conversation. Bield and D&G staff estimated this non-contact time was 15 – 20 minutes per call and Care and Repair Edinburgh staff estimated it was around five minutes per call.

### *3.9. Staff Training and Development*

The four Bield call staff participating in Bield's test of change undertook training on self-management and outcomes based Good Conversations provided by the Thistle Foundation, as well as training on safeguarding of vulnerable adults. Bield named their project ***Inspire*** to reflect the purpose of the calls and to help motivate their team. Care and Repair Edinburgh's staff members joined ATEC24 staff in two development sessions and some training on 3 conversations – an asset orientated, strengths-based approach that focuses on capabilities of people, families and communities. The ATEC24 service has now been positioned as an innovation site for Edinburgh HSCPs work to spread adoption of the 3 Conversations approach.

The Dumfries & Galloway staff member making the wellbeing calls did not undergo specific additional training but was an experienced Care Call handler who had worked in the COVID-19 shielding team.

Bield and Edinburgh project leads developed conversation scripts with prompts and tips for those undertaking the screening and wellbeing conversations. All staff involved had experience of working as a call handler/operator dealing with reactive calls and had undergone specific preparation for this change in role. All staff identified that they initially found the new role challenging. They acknowledged that this was about changing custom and practice and moving away from a 'find out and fix' approach to relaxing and waiting for the person to talk. One participant said

*"It was a shift to sit on your hands and listen. We've a lot of customer experience but we learned to listen more and not assume situations".*

All agreed that the preparation for the calls helped them in other aspects of their job role and personal life. Several highlighted that the good conversation skills developed and influenced their approach to customers when dealing with reactive calls. This participant commented:

*"You know, and it's helped me, you know, being a team leader as well and people managing. You know, listening to people, listening to others and not just jumping in. Making the difference, obviously, at the start, you know, I found it a wee bit, just a little bit challenging, because we were told to sit back and have a good conversation and we were allocated, you know, an average time of forty-five minutes was, you know, … quite good".*

**Role preparation and training are essential ingredients for successful role out. Therefore, staff should be offered training on supporting self-management, strength-based conversations, and outcomes-based approaches.**

### *3.10. Transition from Proactive Telecare*

Customers and staff were aware from the outset that the Phase 1 project was time limited. Accordingly, there was proactive discussion about transition to usual care and the need to identify those who required some follow up support for wellbeing. Bield customers received a thank you letter at the end of the project and follow up was through local housing staff in Midlothian and Renfrewshire or through referral to Age Scotland befriending support for the Inverclyde cohort. The Edinburgh test site sent a follow up letter with a contact number for self-referral to Age Scotland's friendship line. There was no specific follow up planned for D&G Care Call customers, but staff suggested the emerging locality Home Teams would be the best forum for identifying appropriate transition support for their customers.

None of the staff wished to give up the new approach and returning to previous work practice at the end of Phase 1 was expressed as failing the project and the efforts made. One participant commented:

*"I think if we don't [move forward] we're kind of failing the pilot anyway. You know, you either believe in what we're doing here, and I do, so therefore you want to try and see where that moves on to"*

Several staff highlighted that to move forward more clarity is required on the scope and purpose of Proactive Telecare. One senior manager reflected current ambiguity around the purpose.

*is it to prevent customers needing alarm calls in future or is it to reduce the number of frequent callers now?*

Another senior manager suggested in future we may no longer view Proactive Telecare as an intervention for selected customers but consider it as an approach that can be tailored and personalised for all Telecare customers.

*Proactive Telecare has to be part of how we do our business as usual with all call handlers trained in proactive calling and have this as part of their job descriptions.*

**Proactive Telecare enables services to tailor and personalise care to customers.**

### *3.11. Staff (Call Handler) Experience*

The call handlers' experiences of delivering Proactive Telecare were explored through a series of focus groups and interviews. The findings from these focus groups and staff interviews revealed two main themes of job satisfaction and relationship building.

Call handlers reflected on the contribution they made to supporting and motivating customers to stay healthy, stay connected and feel less isolated. One participant reflects:

*"So, for me, it's been lovely to get to know people and, … the stories that people tell you and the things that people want to open up about, is amazing. So, the trust that you gain from that is just, for me, it just makes me feel like, 'Yeah, I am doing my job".*

One participant said that they felt proud of the feedback they received as it showed that the customers "really enjoyed speaking to us, getting to know us".

Another remarked that *"It went right to my heart and felt as if I was doing something good".* Staff began to see the benefits in other areas of their work.

"*I actually got feedback the other day from a team leader that my emergency calls, I'm a lot more confident on them. So, and that can't be a coincidence that it's the project and then this. So, I think they've—both sides have helped me massively, I think. So, I like both*".

Project leads and service managers offered individual and / or group supervision to reflect on calls, address concerns and provide peer support. Care and Repair staff had an escalation pathway to colleagues at ATEC24 and a learning log was complete.

**All call handlers found the new role rewarding and agreed they had gained a lot from participating in the project.**

**Regular supervision and peer support helped staff manage their emotions as customers shared intimate, complex, sensitive information.**

All agreed that it took time to build relationships and trust with their customers. Only when they had achieved this, were they able to identify the unmet needs that the customer did not want to bother other professionals with. They agreed that Proactive Telecare calls were longer and more challenging, and one person commented it would be "too intense to do every day". One participant succinctly said, you need to get into a 'mindset' for Proactive Telecare. It was also viewed as emotionally draining especially if the customer and or carers was upset or distressed. Staff viewed the training on developing conversation skills as standing them in good stead and some spoke of being continually impressed with the 'power of silence' and using open questions to encourage people to talk.

All reported they had underestimated the personal impact of developing a professional relationship with the customers. They described experiencing the highs and lows working alongside the customers and spoke of 'laughing and crying' at different times. Many staff found

it difficult to let go and cope with some of the content shared; and all identified that they worried about the customers.

*"On a normal call all I could do is case note it and send it on. I listened. Came off the call quite tired…I've taken a lot home… I think about them"*

All staff felt unprepared for ending the relationship with the customers and expressed a range of emotions about how they felt, e.g. 'I feel sad'; 'I will struggle to let go'. Notably, they all worried about how the customer was going to cope as Proactive Telecare had, for some customers, been their only contact with the outside world. Balanced against this was the view that they felt they had begun to equip the customers with the skills to be more resilient.

**Staff needed time to build a relationship and trust with customers. Only then did they discover the unmet needs of the customers and the complexity of their lives.**

3.12. *Customer Experience*

The customer experience was central to this project, not only in terms of their satisfaction with the service but for the test sites to consider whether they recruited the right customers to benefit from Proactive Telecare*.*

All customers interviewed reported enjoying the social aspect of connecting with the caller and the value in their lives of 'knowing someone was there'. Two of the customers expressed that they felt they benefited from referral onwards as a result of their conversations with call handlers. One man (Bield customer) explained how the call handler had helped him negotiate services to find new and accessible housing. He felt that without the calls he would not have been able to access the correct services and would have remained in a top floor flat which prevents him getting out without support to go down the stairs.

*I was just sitting, like I'm stuck in this house and I'm not going to get out. Nobody seems to be doing anything for me and then, along came [call handler], started the ball rolling, so that kind of cheered me up a wee bit.*

Another customer (Edinburgh) described her poor health and that the support of the call handlers she received helped to fill a gap left by no longer having a social worker.

*"I used to have a social worker and when there was a problem, you'd tell the social worker, and they'd help sort it. Now we don't have that, so you know, we've got no one to off load to….so the calls helped."*

Throughout the Covid-19 lockdown, the customers valued the social connection and expressed how the calls could be a 'highlight of their week'. They felt that the calls provided an outlet for them to speak to someone out with their family. This allowed them to have a general chat, build a relationship with the call handler and offered an opportunity to discuss concerns and worries that they would not be comfortable talking about to their families. A customer (Dumfries and Galloway) described Proactive Telecare as providing her with a sense of security, finding it reassuring knowing that the service was there.

*"Well… they show that they're caring that if anything happened between last Friday and this Friday… you're able to talk to them about it or, and they're more than willing to listen. And anything they can do to help; they will do it. So, it's a security thing as well, isn't it? When you live yourself"*

She looked forward to the interaction as she lived alone and valued the regular contact as the calls helped orientate and anchor her to the day of the week. She found the call handlers warm and genuinely interested in her life.

*"Well, I think they actually worry about the old people. They don't just… It's… They never leave you so that you feel lonely for too long. I get a phone call once a week from XXX or if he's on holiday, there's someone else phones instead and I have a talk to them for ten, fifteen minutes and you always feel better when they go off the phone".*

She reported that call staff took the time to ask how she was and chat about her life over the course of a 20-minute telephone call and felt this was invaluable to her at a time when her usual social contact was very limited.

Although revisited several times during interviews with two carers (Edinburgh), a proactive element to the Telecare service appeared unfamiliar to them, even though they were the customer's next of kin. They did not recollect call handlers making scheduled calls to their loved ones, and rather, described the benefits of the conventional reactive Telecare service. They expressed their gratitude for this service and described the positive difference it made to their lives as relatives. This included the peace of mind it gave them knowing someone was available if there was an accident as they were not always able to be there.

The five customers interviewed all expressed disappointment at the Phase 1 project finishing and would be keen to continue with the calls. They all said they would recommend the service to someone in a similar situation to themselves. This positive view is supported by the feedback from 26 (59%) of Bield's 44 Proactive Telecare customers. All felt the service was beneficial and 23 / 26 (88%) would like to see the service, or a similar service, continue in future.

**Themes of satisfaction, value, community connections and isolation were evident from the telephone interviews with five customers and two carers.**

Staff from the three test sites were invited to provide stories that illustrate the benefits of Proactive Telecare on the wellbeing and quality of life of their customers. Three stories have been selected to illustrate the range of positive outcomes experienced from a blend of practical advice, signposting to support and referral for equipment and services delivered during Proactive Telecare Phase 1. These three stories are summarised in Figures 1-3 below.

*At the start of the inspire project one customer advised that everything was going really well and that he was living the best life he could be. Through good conversations, building mutual trust and respect, the customer opened up in terms of how he was really looking after himself. Within three conversations the customer was comfortable and confident enough to disclose that he was not taking as good care of himself as he could be, and this was having an effect not only on his mental health but also his physical health. Following an honest conversation, the customer disclosed that he was in fact struggling with finances and as a result was eating 1 x microwave meal split over two days.*

*Whilst the proactive call handler would normally sit back and empower customers to take control of the situation this was ringing alarm bells and in this instance the operator switched hats slightly to take on a more assertive approach to support the customer to get the help he needed at that*

*point in time. Through effective conversation and sign posting, the customer gave permission for the operator to contact and refer him on to the local food bank and citizens advice for a review of income.*

*Within 24hrs the local foodbank had contacted the customer and provided food parcels to ensure the customer did not go without proper nutrition. Within two weeks the customer had a full benefits review which resulted in an increase in weekly payments and a backdated payment. The customer is now receiving the income he was entitled to. This allowed him to move away from receiving the short-term support of food packages and not only purchase proper food, but also treat himself to a take away once a month. The customer advised this had a positive impact on his mental health, he was able to sleep easier and felt a "weight had been lifted".*

*Figure 1 Phase 1 Customer Story*

*Mr X is a 62 year old gentleman with a complex medical history affecting his mobility (diabetic neuropathy and removal of 2 toes). His 27 year old son lives with him and he has a diagnosis of Autism. No formal care package in place. During outbound call conversations Mr X explained he has been housebound for the past year and feeling isolated. He recently moved to a ground floor flat due to mobility and falls issues and had not yet met his new neighbours at the time of the first call as he has been unable to go out due to his limited mobility and pain levels. During the subsequent conversations he indicated he started to settle into his new flat and noticing a decrease in falls. His son continues to assist him with personal care tasks, shopping and taking him to appointments but Mr X felt this is a big responsibility and commitment on his son and feels dependent on his help. He was keen to regain some independence but continued to experience pain. With his consent, the following plan was agreed for ATEC24 staff member to:*

- *Contact GP to raise awareness of current pain levels and enquire re the possibility of review of his pain management plan*
- *Referral for Home Care assessment for personal care to alleviate the stress on son. Home Care contacted Mr X to obtain further information on current needs. He is currently waiting for assessment as it was identified they can manage tasks between them in the short term and this is not a crisis situation.*
- *Referral to Physio for falls and indoor/outdoor mobility assessment to enable him to independently mobilise to his outdoor mobility scooter, and therefore access the community i.e. local shops and meet local residents.*
- *Phoned daughter who is in contact, but has her own family to look after. She was happy to input into any planning around care to meet the needs of both her father and brother. She expressed relief that Mr X was opening up as he is very proud and not known for asking for help.*
- *Agreed with Mr X that ATEC24 will follow up in 4 weeks to review progress*

*Figure 2 Phase 1 customer story 2*

*Mrs X`s daughter and main carer initially participated in the outbound call service and Mrs X joined after a number of conversations also. Mrs X lives on her own as her husband moved to a Care Home approx. 1 year ago. Mrs X was the main carer for her husband and felt it took its toll on her own health. The property is over 2 storeys, but Mrs X lives solely on the ground floor where the bedroom and bathroom are located. She suffers from a number of long term medical conditions affecting her mobility and continence. Her daughter attends to all shopping and cooks meals for Mrs X to heat up. Strong family support with Mrs X`s daughter visiting weekly and her son also in regular contact. During the series of conversations, the family was adjusting to Mr X living in a care home and a change in his temper to more aggressive nature as part of his deteriorating health. Mrs X explained she would still wake up during the night listening out for her husband. When they were able to start to visit him Mrs X would go with her daughter and son in law every week. Mrs X doesn`t go out very often due to Covid, but she was very pleased when she received both her vaccinations.*

*Daughter enquired re provision of a grab rail by the bath as her mother has been washing by the sink as struggles to transfer in/out of the bath, and the request was directed to an ATEC staff member who carried out a phone conversation initially to gather info around Mrs X general function before completing an assessment. The agree assessment outcome was:*

- *Mowbray toilet frame and seat already in situ and in use*
- *Replacement of bath board with bath hoist and provision of commode, Rutland trolley and a bed lever to facilitate independent transfers*
- *Request for fitting of handrail at front door as Mrs X for easy access and she enjoys gardening/greenhouse*
- *Advice and signposting for benefits check including carer`s allowance*
- *Referral made by daughter and placed on Social Work Team waiting list cancelled as no longer required.*

*The planned review visit has been deferred as Mrs X`s husband sadly passed away but ATEC24 staff member will contact the family as agreed in a few weeks' time.*

*Figure 3 Phase 1 customer story 3*

## 4. Results Phase 2

The aim of Phase 2 was to study the feasibility of Proactive Telecare for customers with a history of recent falls or transitioning from hospital to home, and to understand the extent to which the anticipated benefits listed in Table 4 have been achieved.

*Table 4: Anticipated Benefits*

| | |
|---|---|
| **Reducing** | • Alarm activations and in person response<br>• Falls and Hospital admissions<br>• Social isolation<br>• Carer stress<br>• Spend on long term social care and support |
| **Increasing** | • Level of support to the citizen<br>• General health messages to maintain/improve health and wellbeing<br>• Confidence and resilience of citizens with changing health status<br>• Social and digital connectedness<br>• Independent living and safety for people living alone<br>• Quality of life<br>• Choice and control for citizens |
| **Avoiding** | • Gaps in service provision as health status changes<br>• Significant or troublesome changes in health<br>• Long term institutional care<br>• Hospital admissions<br>• Dependence on formal services (for some) |
| **Delaying** | • Dependence on formal services<br>• Deterioration in functional ability<br>• Progression to higher level of care dependency |
| **Preventing** | • Progression to higher level of care dependency<br>• Falls and Hospital admissions for fractures<br>• Social isolation and depression |
| **Enabling** | • Citizens with long term conditions to live at home independently<br>• Empowerment of citizens to determine lifestyle choices<br>• Choice and control for citizen and family<br>• People to live longer in the community<br>• Citizens to maintain social contacts and personal interests |

### *4.1. Identification of customers who would receive the Proactive Telecare intervention.*

In view of the short duration of the test of change the three sites mainly used information from their existing telecare records to identify customers who would be suitable for the intervention. The process of finding a cohort of customers who would be suitable for and agree to participate in proactive calling involved several stages where potential participants were filtered down using locally determined selection criteria. Table 5 shows the characteristics of those screened at the three sites - age and gender, living alone or with other(s), the referral source and the principal selection criteria for their consideration as possible participants.

The average age across the three sites is 80 years with the expected balance of male and female customers. About two thirds live alone in the Bield and Edinburgh cohorts with a higher proportion of D&G customers living alone. The principal reason for referral was falls at Edinburgh and D&G (n=263 and 212 respectively). The majority reason (n=103) in the Bield sample was that the customer had been discharged from hospital.

*Table 5: Screening and Referrals Characteristics*

| Test Site | Total screened | Age Range (Average) | Gender M | Gender F | Lives Alone Yes | Lives Alone No | Referral Source Internal | Hosp | Comm | SAS | Principal reason Falls | Discharge | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bield** | 140 | 45-95 (79.5) | 50 35.7% | 90 64.3% | 106 73.6% | 37 26.4% | 140 | - | - | - | 37 | 103 | - |
| **EDI** | 263 | 25-104 (80.8) | 100 38% | 163 62% | 196 74.5% | 67 25.5% | 257 | - | 2 Eligible | 4 2 eligible | 263 | - | - |
| **D&G** | 212 | 47-97 (81.9) | 77 36.3% | 135 63.7% | 197 93.0% | 15 7.0% | 212 | - | - | - | 212 | - | - |

The three participating services approached selection of customers differently and this reflected the data that were accessible locally. A summary of how the numbers originally screened as possible participants were filtered down to a final selection ('the intervention group') is shown in Table 6, for each of the three sites. Note that D&G reported their numbers retrospectively and did not supply details about customers who were deemed to be unsuitable or who declined the offer of Proactive Telecare.

*Table 6 Count of customers at each site*

| | Bield n= | Edinburgh n= | D&G n= | Total n= |
|---|---|---|---|---|
| **Number screened** | **140** | **263** | **212** | **615** |
| **Number eligible** | **104** | **129** | **162** | **395** |
| **Number assessed** | **77** | **110** | **43** | **230** |
| **Number assessed who were suitable** | **65** | **62** | **43** | **170** |
| **Number suitable who accepted** | **45** | **47** | **43** | **135** |
| **Number who received intervention** | **45** | **21** | **43** | **109** |

### *4.2. Screening for Eligibility*

Note that Bield had partially filtered their telecare records for the exclusion criteria before screening. Edinburgh reported however that their data were less reliable as a pre-screening source, so a higher proportion of their customers were not excluded until formal screening.

The proportion of those considered potentially eligible at screening who were then subsequently assessed varied from 27% for D&G to 74% and 85% for Bield and Edinburgh respectively.

Table 7 shows a breakdown of the reasons why customers screened were not considered eligible for the intervention. Notably, all sites screened out customers with dementia prior to further analysing their suitability.

*Table 7: Eligibility Criteria*

| Test Site | Eligible | Not eligible | | Now Deceased | Hospital / medical issues | Communication | Cognition | 24 hour care | No falls | Great family support | Not specified |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bield** | 104 (74%) | 36 (26%) | | 3 | 4 | 2 | 19 | 6 | - | | 2 |
| **Edin** | 129 (49%) | 134 (51%) | | 12 | 47 | 4 | 12 | 9 | 17 | 1 | 32 |
| **D&G** | 162 (76%) | 50 (24%) | | - | 6 | 13 | 7 | 15 | 1 | 5 | 3 |

Bield identified the following criteria for Proactive Telecare in Phase 2:

- People with falls as a feature for a new referral to BR24 or those who receive reactive call handling where fall alarm triggers exceed two in any month.
- People discharged from hospital who have a new referral to BR24 or those who receive reactive call handling that is being resumed after hospital discharge.

Of the 140 Bield customers screened, 36 (26%) were determined to be non-eligible. Despite a pre-screening filter for dementia, the most frequent reason for exclusion at point of screening was the identification of cognition issues, accounting for 19 customers.

Edinburgh's early scoping work identified citizens with a history of falls as a high-volume high-risk group likely to be suitable for Proactive Telecare. Three groups were identified as eligible:

- Existing customers experiencing 2 or more falls in a 3-month period (recurrent falls)
- People in receipt of a telecare package and referred by Locality Falls Teams with 2 or more falls within 3 months.
- People referred through the SAS Fallen and Un-injured Person Pathway after a fall

In Edinburgh, where pre-screening had not been undertaken to the level of the Bield approach, 134 of 263 (51%) customers screened were determined to be non-eligible. The range of reasons for exclusion at point of screening are shown in Table 7. The most frequent reason cited, accounting for 47 people, was that the customer was either in hospital or had unstable medical issues. Reasons for exclusion were not specified for 32 customers.

D&G test site targeted Care Call customers who had experienced falls in the previous three months. They worked alongside the Single Access Point – a multi-agency integrated 'single front door' approach access Health and Social Care Services and with the local Ambulance Service Falls Pathway and Short-Term Assessment Reablement Team. The recently discharged target group was not pursued. Of the 212 customers screened, all were Telecare customers with a history of falls.

At screening, D&G identified 50 people (24%) who were determined to be ineligible. The most frequent reasons for exclusion were that the customers were receiving 24-hour care (15 individuals) or had communication issues (13 individuals).

### *4.3. Assessment of Suitability*

Table 6 illustrates that not everyone who was considered eligible at point of screening were subsequently assessed as suitable for Proactive Telecare. The Bield and Edinburgh sites detailed some of the reasons why customers were unsuitable.

For Bield, 77 of the 104 customers considered potentially eligible went on to have an assessment call to discuss their health and wellbeing and interest in receiving proactive calls. Twelve of the customers assessed were found to be unsuitable due to the reasons listed in table 8 below.

*Table 8 extract of reasons for unsuitability at assessment (Bield)*

| Deceased | In hospital / medical issues | Communication | Cognition | 24hr care | Not specified |
|---|---|---|---|---|---|
| **3** | - | **3** | **1** | **1** | **4** |

For Edinburgh, 110 of the 129 customers considered potentially eligible went on to have an assessment call to discuss their health and wellbeing and interest in receiving proactive calls. Forty-eight of the 110 customers assessed were found to be unsuitable for the reasons summarised in table 9 below.

*Table 9 extract of reasons for unsuitability at assessment (Edinburgh)*

| Deceased | In hospital / medical issues | Communication | Cognition | 24hr care | Unable to contact | Not specified |
|---|---|---|---|---|---|---|
| **6** | **27** | **1** | **1** | **4** | **7** | **2** |

### *4.4. Acceptance of Intervention offered*

Not everyone who was assessed as suitable for Proactive Telecare accepted the service offer. Overall, 45 customers declined the offer to receive the proactive calls, citing that they did not feel they needed the calls and/or had good family support available to them.

*Commencement of Intervention*

In Edinburgh, not everyone who accepted the service went on to receive it. Nineteen customers who had accepted the offer were unable to commence proactive calls in the time frame of the test of change. The remaining 28 customers who accepted the offer were allocated to the service but one of these was unable to be contacted and six opted out at the first call.

The definitive number of customers who received the Proactive Telecare intervention at Bield, Edinburgh and D&G are 45, 21 and 43 respectively (Table 6).

### *4.5. Self-assessed health and well-being of the participants.*

To provide an understanding of the functional characteristics of the people receiving the proactive calling interventions in this study, the participants were invited to compete a self-assessment of their health and well-being status, using a widely recognised instrument – the Euro Quality of Life Questionnaire (EQ-5D-5L) (Feng et.al, 2021). This self-reported tool was intended to be completed at baseline and at the end of proactive calling along with an end of service customer satisfaction survey. The baseline survey was best completed once the

customers had established contact and a rapport with the call handlers. Therefore, baseline data refers to data from the initial call or within the first three calls. This impacted on completion as it did not fit logically with other key data touchpoints in the customer journey. Not all baseline questionnaires were fully returned, and the post intervention quality of life data was not completed at the final / follow up calls; therefore, matched time data is not available for any customers. Baseline data is only available for the Bield and Edinburgh test sites.

A description of the health profile of the customers at this baseline is presented and an overall self-rated health status. Health state was calculated for each customer but due to the limitations on sample size and no comparator, this was not matched against EQ-5D-5L national datasets. Table 10 provides a breakdown of the scores per problem area assessed across each dimension of the EQ-5D-5L.

*Table 10 EQ-5D-5L problem per dimension*

| EQ-5D-5L Level | Mobility | Self-Care | Usual Activities | Pain | Anxiety or Depression |
|---|---|---|---|---|---|
| Level 1<br>I have no problem | 6 (7.6%) | 27 (34.2%) | 9 (11.4%) | 17 (21.5%) | 32 (40.5%) |
| Level 2<br>I have a slight problem | 14 (18.7%) | 21 (26.6%) | 19 (24.1%) | 27 (34.2%) | 23 (29.1%) |
| Level 3<br>I have a moderate problem | 27 (34.2%) | 21 (26.6%) | 21 (26.6%) | 24 (30.4%) | 15 (19%) |
| Level 4<br>I have a severe problem | 26 (32.9%) | 4 (5.1%) | 16 (20.3%) | 9(11.4%) | 6 (7.6%) |
| Level 5<br>I am unable to … | 6 (7.6%) | 6 (7.6% | 14 (17.7%) | 2(2.5%) | 3 (3.8%) |
| Total | 79 (100%) | 79 (100%) | 79 (100%) | 79 (100%) | 79 (100%) |

A total of 87 customers (Bield and Edinburgh) completed the functional ability questionnaire, of whom 79 accepted, 7 declined and 1 was a test record. Customers were also asked to self-rate their health on a scale of 0-100 (0 being worst and 100 being the best). The average score for self-rated health status was 55. The functional ability of Bield customers was 56.8 and 46 for Edinburgh customers. Collective mean score was 55.5, SD: 24.3.

Mobility impairment is reported to be moderate to severe. This is not an unexpected finding given the reason for referrals was a recent fall or discharge from hospital to home. Self-care ranges from no problem to moderately problematic. Being unable to undertake usual activities is a sight/moderate concern for customers. Pain self- reported scores are slightly higher but still fit in the slight to moderate levels. Anxiety and depression are reported as slightly problematic with a large number identifying no problems.

### *4.6. Measuring the outcome of proactive calling interventions in this study.*

Collecting data that could be used to measure the difference proactive calling made during the time limited period of the study relied on the local sites producing baseline information including the key demographics, telecare activity and health and care service utilisation of every customer receiving the intervention. All three sites participated in this essential exercise. The principal aim was to compare activity pre and after the start of proactive calling, for all recipients of the proactive calls. Agreement was reached with sites that they would also supply this data at the end of the intervention period for each person participating. This exercise involved the completion of individual records by site staff on the agreed range of measures.

This method however had limitations as the duration of proactive calling varied across sites and across individuals, for a variety of reasons. To simplify the comparison between the two periods, two sites – Edinburgh and Bield - carried out a retrospective extract of their Telecare data that would enable the service activity to be compared for the two periods in customers who had data for the 3 months before and after starting proactive calling. In the analysis below for D&G, and for Edinburgh's ambulance and A&E data, a pragmatic adjustment has been made to the results that relate to a shorter follow up to allow for a better comparison.

To ease the analytical requirements for Edinburgh, where changes in coding described later in this report were complicating the availability of data, the request for retrospective call handling and responder data for the participating cohort was further simplified to obtain data in two blocks of three calendar months, with the second block overlapping with the intervention period in most cases. For all these reasons the analyses reported below use slightly different approaches for each site. Although the different methods are not thought to have affected the results markedly, it would be advisable to be cautious in any comparison across sites.

### *4.7. Bield Housing and Care – outcome and estimated cost impact*

All 45 customers who were suitable and willing to accept the service were allocated to a member of staff for Proactive Telecare. Twelve customers from the intervention group already had enhanced telecare, two were receiving community rehabilitation, three had homecare support and 14 reported a recent decline in their functional ability. Proactive Telecare was completed as mutually agreed for 41 (91%) customers. One customer dropped out, one died, one was discontinued due to cognitive issues, and one person was admitted to hospital.

Customers participated for an average of 66.8 days (range 20 – 99 days) and received an average of 9.1 (range 1-18) proactive calls. Excluding set up time for staff training, screening and initial assessment calls, the average cumulative staff time for proactive calling (sum of contact and non-contact times) was just over two hours per customer (average 125 mins, range 15-300 mins) with an average of 14 minutes for each proactive call.

Table 11 below shows key statistics for the 45 Bield proactive calling customers in the three months before the intervention began.

*Table 11 Bield customer history 3 months prior to the start of proactive calling*

| **Bield participants' history 3 months prior to the start of proactive calling (N=45)** | |
|---|---|
| Alarm call for information or assistance | 527 calls |
| Funded responder episodes | 238 episodes |
| Calls escalated to ambulance | 35 ambulance escalations |
| Conveyed to A&E | 26 journeys |

A like for like comparison of these pre-intervention figures against the outcomes observed over the three months from starting proactive calling has not been possible for the full sample as seven customers who started their intervention later had less than three months follow up. There is no reason to assume that the customers for whom follow up data are not yet complete (and thus not explicitly included here) will be materially different.

*Table 12 Comparison of alarm activity and cost difference pre and post start of proactive calling*

| **Comparison of reported alarm calls and funded responder episodes pre and post the start of proactive calling, and an estimated cost difference (N=38)** | | |
|---|---|---|
| Bield | Alarm call for info/ assistance | Funded responder episodes |
| Reported activity before proactive calling | 438 | 181 |
| Reported activity post-start of proactive calling | 121 | 72 |
| Reported change in activity post-start of proactive calling | 317 | 109 |
| Estimated cost avoided over 3 months | £254 | £7,194 |
| Estimated cost avoided over 3 months per customer receiving Proactive Telecare | £7 | £189 |

Standard unit costings were applied as shown

- Alarm call for info/assistance - £0.80 based on national average time 3 min and Bield staff@£15.91/hr
- Funded responder episodes – £66 based on D&G costs for Stewartry Care responder

Similarly, using the data provided by Bield, it is possible to estimate healthcare costs avoided from reductions in the number of calls escalated to the ambulance service and people conveyed to A&E. For example, for the 38 customers in the sample shown it is estimated that there was a £7,348 cost reduction to the ambulance service as described in Table 13.

*Table 13 Comparison of activity and cost difference pre and post start of proactive calling (Bield)*

| **Comparison of reported calls escalations to the ambulance service and conveyance to A&E pre and post the start of proactive calling, and estimated cost difference (N=38)** | | |
|---|---|---|
| Bield | Calls escalated to ambulance | Conveyed to A&E |
| Reported activity before proactive calling | 29 | 22 |
| Reported activity post-start of proactive calling | 7 | 7 |
| Reported change in activity post-start of proactive calling | 22 | 15 |
| Estimated cost avoided over 3 months | £7,348 | £2,550 |
| Estimated cost avoided over 3 months per customer receiving Proactive Telecare | £193 | £67 |

Standard unit costings were applied as shown

- Calls escalated to ambulance – Public Health Scotland Gross Costs Book 2019/20 @£334
- Conveyed to A&E – Public Health Scotland Gross Costs Book 2019/20 @£170

In this study, comparison of hospital bed days before and from the start of proactive calling is unlikely to be as reliable as the other measures due to the relatively small number of admissions that occur. The cost however of these bed days is high and worthy of consideration. Bield supplied data on hospital bed days used by intervention customers until the end of their proactive calling period. Table 14 shows that after adjusting to a notional three month period for comparison purposes the estimated costs avoided for the sample was £71,248, or £1583 per person over three months.

*Table 14 Hospital bed days and estimated cost (Bield)*

| **Bield n=45** | **Hospital bed days /estimated cost** |
|---|---|
| Reported activity before proactive calling | 200 |
| Reported activity post-start of proactive calling[1] | 78 |
| Reported change in activity post-start of proactive calling[1] | 122 |
| Estimated cost avoided over 3 months[1,2] | £71,248 |
| Estimated cost avoided per customer receiving Proactive Telecare over 3 months[1,2] | £1,583 |

1: the activity and costs shown are estimates based on a pro rata increase to 3 months (intervention average 66.8 days)
2. hospital bed day costs from Public Health Scotland Gross Costs Book 2019/20 @£584

The data submitted suggests that, in the Bield experience of Proactive Telecare, there were reductions in activity and cost to the Telecare service (alarm calls and funded responder visits) and reduction in healthcare costs for the ambulance service, A&E and hospital.

**It is important to underline that system costs avoided, as illustrated in tables 13 and 14, are an important potential benefit of proactive calling, as well as the internal service costs avoided.**

The Proactive Telecare service costs avoided are greater than the costs of providing proactive calling as illustrated in Table 15 which estimates the main costs of delivering proactive calls, using information provided by Bield.

*Table 15 Costs for delivering Proactive Telecare (Bield)*

| | **Average time per customer** | **Average cost per customer** | **Number of customers** | |
|---|---|---|---|---|
| Total time for regular proactive calls | 125 minutes | £33.15 | 45 | £1491.56 |
| Staff Supervision | 1hr/week x 5 staff @ £15.91/hr x 26 weeks | | | £2068.30 |
| Costs of proactive calling for intervention cohort n=45 customers | | | | £3559.86 |
| Costs of proactive calling per customer | | | | £79.11 |

This excludes non-recurring costs for staff training; screening – estimated at 2 days of project lead time (6 minutes per customer screened); and initial assessment calls (average time 32 minutes / £8.48 per customer) for 77 customers assessed. Over time, as numbers participating increase and staff confidence grows, staff supervision costs per customer are likely to decrease.

Co-location of Proactive Telecare with the reactive team helped the latter understand proactive telecare and proactively identify potential beneficiaries. Staff commitment meant calls were able to be provided seven days per week offering greater flexibility for customers and enabling continuity of call handler to rapidly build a relationship and trust. The time limited Proactive Telecare intervention encompassed personalised wellbeing calls and positive conversations to build confidence and resilience as in Phase 1. It also aimed to coordinate immediate personalised support until the appropriate package of care could be arranged. Staff provided general health advice and signposting to condition specific specialist local third sector support.

Signposting and referrals were made for 16 customers. Three of these customers were signposted to multiple services. The range of supports and services (with the number of customers shown in brackets) were:

- Befriending (1)
- Bereavement support (1)
- Third sector: MS society (1); Age Scotland (2); ROAR Connections for Life (3)
- Social work review (1)
- Single Point of access for equipment (2)
- Chiropody (2)
- GP practice team (3);
- Mental health team (1)
- Additional TEC equipment (1)
- New enhanced assistive technology (2)

Figure 4 customer story showcases the range of positive empowerment, enablement and choice outcomes achieved for individuals receiving proactive calls.

Mrs X, age 77, had been housebound for almost five years due to deterioration of both physical and mental health. She fell frequently resulting in multiple family and funded responder visits each week. Through Proactive Telecare she was supported to contact ASERT who arranged for an OT assessment and delivery of a walking frame with a seat. After 8 weeks Mrs X has had no falls and no responder visits and her confidence has grown such that she is venturing on longer walks, sitting when needed, and has joined a gym to be able to swim with support and have help from a personal trainer to strengthen her legs. After being referred to ROAR, Mrs X has joined a social day club which will connect her to people in her community. Mrs X benefited from proactive telecare by focusing on what's possible and what's available to support and empower her to live the life she wants to live.

*Figure 4 Phase 2 Customer Story (Bield)*

### *4.8. Edinburgh HSCP – outcome and estimated cost impact*

Four people were referred via the ambulance uninjured faller pathway and two by the locality falls team. The remainder (98% of the total) were existing customers with recurrent falls. Twelve of Edinburgh's 21 Proactive Telecare customers had homecare. Twelve had experienced a recent decline in functional ability.

Proactive Telecare was completed as mutually agreed for 17 (81%). One customer dropped out, one died, one was discontinued due to cognitive issues becoming limiting, and one was unable to complete the intervention before the test of change concluded. Information on duration of the intervention, number of calls and alarm activation history was submitted for 20 of the intervention group. Customers participated for an average of 67.5 days (range 20 – 147 days) and received an average of 5.5 (range 2-8 days) proactive calls. Cumulative staff time (sum of contact and non-contact times for calls, excluding initial assessment call) averaged 180 minutes (range 15-300mins) per customer, with an average of 33 minutes per call.

Table 16 shows key statistics for the 21 participants in the 3 months before proactive calls.

*Table 16 Edinburgh customer history 3 months prior to the start of proactive calling*

| **Edinburgh participants' history 3 months prior to the start of proactive calling** N=21 | |
|---|---|
| Alarm call for information or assistance | 80 calls |
| Funded responder episodes | 57 episodes |
| Calls escalated to ambulance | 10 ambulance escalations |
| Conveyed to A&E | 2 journeys |

Note that Edinburgh transferred their ARC to another provider during the test of change and local telecare codes changed at the end of May 2022. This unforeseen change of ARC provider meant they were no longer able to access their electronic recordings (including voice recordings). It proved difficult to compare with certainty recorded information (calls and responses) on the intervention group across the two periods before and after the start of proactive calling. Edinburgh sought to map across codes as accurately as possible for calls and responder activity and the retrospectively extracted data are illustrated in table 17.

*Table 17 Comparison of alarm activity and cost difference pre and post start of proactive calling (Edinburgh)*

| **Comparison of reported alarm calls and funded responder episodes pre and post the start of proactive calling, and an estimated cost difference (N=21)** | | |
|---|---|---|
| Edinburgh | Alarm call for info/assistance | Funded responder episodes |
| Reported activity before proactive calling | 80 | 57 |
| Reported activity post-start of proactive calling | 68 | 41 |
| Reported change in activity post-start of proactive calling | 12 | 16 |
| Estimated cost avoided over 3 months | £11 | £1,056 |
| Estimated cost avoided over 3 months per customer receiving Proactive Telecare | £0.5 | £50 |

Standard unit costings were applied as shown

- Alarm call for info/assistance - £0.90 based on national average time of 3 min and Grade 5 SCP40 midpoint (with oncosts) = £18.09 / hour
- Funded responder episodes – £66 based on D&G costs for Stewartry Care responder call out

The results show a reduction in the number of calls across the two periods – 80 in the quarter prior to the start and 68 in the quarter after the start of the interventions. Funded responder episodes show a comparable reduction. The table includes an estimate of the internal service cost reduction to as a consequence of the reduced activity, in total for the 21 individuals and as an average per person.

Similarly, using the data provided prospectively by Edinburgh (see earlier note) it is possible to estimate healthcare costs avoided from a reduction in the number of calls escalated to the ambulance service and the number of customers conveyed to A&E. For example, for the 21 customers in the sample shown it is estimated that there was a £2,338 cost reduction to the ambulance service as illustrated in Table 18.

*Table 18: Comparison of ambulance activity and cost difference pre and post start of proactive calling (Edinburgh)*

| **Comparison of reported calls escalated to the ambulance service and conveyance to A&E pre and post the start of proactive calling, and an estimated cost difference (N=21)** | | |
|---|---|---|
| **Edinburgh** | Calls escalated to ambulance | Conveyed to A&E |
| Reported activity before proactive calling | 10 | 2 |
| Reported activity post-start of proactive calling[1] | 3 | 1 |
| Reported change in activity post-start of proactive calling[1] | 7 | 1 |
| Estimated cost avoided over 3 months[1] | £2,338 | £170 |
| Estimated cost avoided per customer receiving Proactive Telecare over 3 months | £111 | £8 |

1: the activity and costs shown are estimates based on a pro rata increase to 3 months (intervention average 67.5 days)

Standard unit costings were applied as shown

- Calls escalated to ambulance – Public Health Scotland Gross Costs Book 2019/20 @£334
- Conveyed to A&E – Public Health Scotland Gross Costs Book 2019/20 @£170

As noted above, in this study comparison of hospital bed days before and from the start of proactive calling is unlikely to be as reliable as the other measures due to the relatively small number of admissions that occur. The cost however of these bed days is high and worthy of consideration.

Edinburgh have supplied information on hospital bed days used by customers for the period until the end of the intervention. After adjusting to a notional 3-month period for comparison purposes the estimated cost avoided over three months for the sample was £12,264, or £584 per person, as shown in Table 19 below.

*Table 19: Hospital bed days and estimated cost (Edinburgh)*

| Edinburgh | Hospital beddays /estimated cost |
|---|---|
| Reported activity before proactive calling | 29 |
| Reported activity post-start of proactive calling[1] | 8 |
| Reported change in activity post-start of proactive calling[1] | 21 |
| Estimated cost avoided over 3 months[1,2] | £12,264 |
| Estimated cost avoided per customer receiving Proactive Telecare over 3 months[1,2] | £584 |

1: the activity and costs shown are estimates based on a pro rata increase to 3 months (intervention average 66.8 days)
2. hospital bedday costs from Public Health Scotland Gross Costs Book 2019/20 @£584

The data submitted suggests that, in the Edinburgh experience of Proactive Telecare, there were small reductions in activity and cost to the telecare service and in costs avoided for the ambulance service, A&E and hospitals. **It is important to highlight that system costs avoided, as illustrated in tables 18 and 19, are an important potential benefit of proactive calling, as well as the internal service costs avoided.**

An additional insight from Edinburgh's data was the considerable variation observed in the number of alarm activation events per person across the two quarters examined. As the intervention numbers were low, it is important to acknowledge that the results, in aggregate form, may be influenced by the effect of a small number of outliers as illustrated in figure 5.

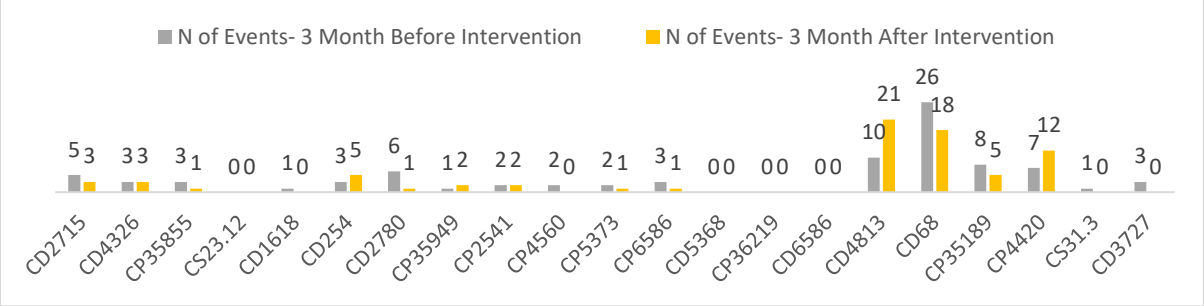


*Figure 5 Observed trends before and after intervention (Edinburgh)*

Table 20 shows the breakdown of the alarm activations for the two customers with a higher number of calls for information / assistance in the period after starting the intervention. Some of these calls occur after the intervention had concluded, raising questions around the potential for a time limited intervention to have lasting impact.

*Table 20 details of alarm activations for outliers*

| Customer ID | | CD4813 | CP4420 |
|---|---|---|---|
| 3 months before intervention | | 10 calls | 7 calls |
| 3 months from start of intervention | During intervention | 9 calls | 7 calls |
| | After last Proactive call | 12 calls | 5 calls |

Table 21 shows the mean duration of Edinburgh's proactive calls and the associated service costs based on salary information provided by Edinburgh (mid-point SCP40 @ £18.09/hour).

*Table 21 Costs of Proactive Service (Edinburgh)*

| | Average time per customer | Average cost per customer | Number of customers | Total |
|---|---|---|---|---|
| Total time for regular proactive calls | 180 mins | £54.27 | 21 | £1139.67 |
| Staff Supervision | 1 hr/ week x 5 staff members | | | £2351.70 |
| Costs of proactive calling for intervention cohort n=21 customers | | | | £3491.37 |
| Costs of proactive calling per customer | | | | £166.26 |

This excludes non-recurring costs for staff training; set up and screening estimated at 18 days of ATEC senior officer time; and initial assessment of 110 customers for average of 30 minutes at £9.05 per customer. Running costs for Edinburgh's Proactive Telecare exceed the telecare service costs avoided from reduced alarm activation and response as shown in Table 17. However, over time, as numbers participating increase and staff confidence grows, staff supervision costs per customer are likely to decrease.

Of note, Edinburgh's model is different from the other test sites as they did not use their ARC staff to deliver proactive calling. Although they worked very closely with their Telecare Service, all calls were undertaken by staff within the Assistive Living Team who had undergone training to identify triggers that may indicate early intervention is required to prevent deterioration. Like Phase One, the calls applied a strength based, person led "good conversation" approach promoting self-management and support to enhance the ability of the individuals to Stay Well; Stay Active; and Stay Connected. A key difference in approach for Edinburgh in Phase 2 was that the calls were handled in house and not by a third party (Care and Repair).

By closer working with falls practitioners, the target group were offered falls prevention advice and support and their telecare service was reviewed and additional technology, equipment and minor adaptations were offered where appropriate. Those referred by the Scottish Ambulance Service were offered Telecare and / or Proactive Telecare as well as a referral to the Falls Prevention Service. Eleven customers (52%) were signposted or referred to VOCAL carer support (1); Social work (2); Befriending support (2); GP and District nurse (1); Food Train (1); enhanced assistive technology (3); occupational therapist assessment and falls / Intermediate care team (1). Figure 6 presents an example of the positive empowerment, enablement and choice outcomes achieved for individuals through earlier intervention and coordination of care.

Ms X lives on her own in a fourth floor flat with no lift. She has no family, friend or formal support and is awaiting knee replacement surgery. Her mobility problems were compounded by low mood, loneliness and isolation. Initial conversations focussed on building a relationship and trust, and "what matters" for her wellbeing. She agreed to a home assessment and was provided with bathing equipment and an external grab rail and referred to EVOC for a befriending service. A request was made to the Locality Team Occupational Therapy (OT) for advice on wet floor shower adaptation or re-housing to meet her long-term needs. By the 4th week follow up conversation, Ms X advised OT has supported her in completing an application for re-housing to a ground floor property. "I felt listened to and it was good to have "someone on my side" to assist with some things and help me even in some small way.''

*Figure 6 Phase 2 Customer Story (Edinburgh)*

4.9. *Dumfries and Galloway HSCP– outcome and estimated cost impact*

Dumfries and Galloway test site targeted Care Call customers who had experienced falls in the previous three months. They worked alongside the Single Access Point – a multi-agency integrated 'single front door' approach access Health and Social Care Services – and with the local Ambulance Service Falls Pathway and Short-Term Assessment Reablement Team. The recently discharged target group was not pursued. The site reported significant staffing constraints and problems with ARC software that limited their ability to submit data.

As noted earlier in Table 6, 43 (26%) of 162 D&G customers considered potentially eligible went on to have proactive calling. No assessment data was submitted on the remaining 119 potentially eligible customers. Average age of the intervention group was 79.4 years (range 49 – 96). Thirty-three were receiving homecare and 17 already had enhanced Telecare.

Table 22 shows key statistics for the 43 participants in the three months before proactive calls.

*Table 22 D&G customer history 3 months prior to the start of proactive calling*

| **D&G participants' history 3 months prior to the start of proactive calling** (N=43) | |
|---|---|
| Alarm call for information or assistance | 575 calls |
| Funded responder episodes | 207 episodes |
| Calls escalated to ambulance | 23 ambulance escalations |
| Conveyed to A&E | 11 journeys |

Follow up information was available for 41 (95%) of the 43 customers. One customer dropped out but the remaining 40 completed Proactive Telecare as mutually agreed. Customers participated for an average of 80 (range 20 – 120) days and received an average of 6.5 (range 4-40) proactive calls, each for an average of 18 minutes (median 15, range 15-45 minutes).

The results in Table 23 show a reduction in the number of alarm activation calls across the two periods – 575 in the quarter prior to the start and 395 in the quarter after the start of the interventions. Funded responder episodes show a comparable reduction. The table includes an estimate of the internal service cost reduction as a consequence of the reduced activity, in total for the 41 individuals and as an average per person.

*Table 23 Comparison of reported alarm calls and funded responder episodes (D&G)*

| **Comparison of reported alarm calls and funded responder episodes pre and (adjusted) post the start of proactive calling, and an estimated cost difference (N=41)** | | |
|---|---|---|
| Dumfries and Galloway | Alarm call for info/ assistance | Funded responder episodes |
| Reported activity before proactive calling | 575 | 207 |
| Reported activity post-start of proactive calling | 395 | 105 |
| Reported change in activity post-start of proactive calling | 180 | 102 |
| Estimated cost saved over 3 months | £112 | £6,732 |
| Estimated cost saved over 3 months per customer receiving POC | £3 | £164 |

Standard unit costings were applied as shown

- Alarm call for info/assistance - £0.90 based on national average time of 3 min and Grade 5 SCP40 midpoint (with oncosts) = £18.09 / hour
- Funded responder episodes – £66 based on D&G costs for Stewartry Care responder call out

Similarly, using the data provided by D&G, it is possible to estimate the costs avoided for the ambulance service and A&E. For example, for the 41 people in the sample shown it is estimated that there was a £3,123 cost reduction to the ambulance service and a further £710 cost reduction to A&E as illustrated in Table 24.

*Table 24 Comparison of ambulance activity and cost difference pre and post start of proactive calling (D&G)*

| **Comparison of reported calls escalations to the ambulance service and conveyancing to A&E pre and post the start of proactive calling, and an estimated cost difference (N=41)** | | |
|---|---|---|
| D&G | Calls escalated to ambulance | Conveyed to A&E |
| Reported activity before proactive calling | 23 | 11 |
| Reported activity post-start of proactive calling[1] | 14 | 7 |
| Reported change in activity post-start of proactive calling[1] | 9 | 4 |
| Estimated cost avoided over 3 months[1] | £3,006 | £680 |
| Estimated cost avoided per customer receiving Proactive Telecare over 3 months | £73 | £17 |

1: the activity and costs shown are estimates based on a pro rata increase to 3 months (intervention average 67.5 days)

Standard unit costings were applied as shown

- Calls escalated to ambulance – Public Health Scotland Gross Costs Book 2019/20 @£334
- Conveyed to A&E – Public Health Scotland Gross Costs Book 2019/20 @£170

As noted above, in this study comparison of hospital bed days before and from the start of proactive calling is unlikely to be as reliable as the other measures due to the relatively small number of admissions that occur. The cost however of these bed days is high and worthy of consideration. Dumfries and Galloway have supplied information on hospital bed days used by customers for the period until the end of their interventions. After adjusting to a notional 3-month period for comparison purposes the estimated costs avoided over three months for the sample was £22,192 or £541 per person, as shown in Table 25.

*Table 25: Hospital bed days and estimated cost (D&G)*

| D&G (N=41) | Hospital bed days /estimated cost |
|---|---|
| Reported activity before proactive calling | 115 |
| Reported activity post-start of proactive calling[1] | 77 |
| Reported change in activity post-start of proactive calling[1] | 38 |
| Estimated cost saved over 3 months[1,2] | £22,192 |
| Estimated cost saved per customer receiving POC over 3 months[1,2] | £541 |

1: the activity and costs shown are estimates based on a pro rata increase to 3 months (intervention average 66.8 days)
2. hospital bedday costs from Public Health Scotland Gross Costs Book 2019/20 @£534

The data submitted suggests that, in the D&G experience of Proactive Telecare, there were reductions in activity and cost to the Telecare service and costs avoided for the ambulance service, A&E and hospital.

**It is important to underline that system costs avoided, as illustrated in tables 24 and 25 above, are an important potential benefit of proactive calling, as well as the internal service costs avoided.**

Excluding initial assessment calls, the cumulative staff time for proactive calls (sum of contact and non-contact times) averaged 97.3 minutes per customer. Related costs in Table 26 are based on salary information provided by D&G (Band 5 @£12.53 / hour).

*Table 26 Proactive Telecare Service costs D&G*

| | **Average time per customer** | **Average cost per customer** | **Number of customers** | |
|---|---|---|---|---|
| Total time for regular proactive calls | 97.3 mins | £ 20.32 | 43 | £ 873.76 |
| Staff supervision costs | | | | £ Not known |

The £20.32 average cost per customer excludes non-recurring costs for staff training; set up and screening costs estimated at £429 based on average of 9 minutes per customer by a Band 7 or Band 9 staff member post; initial assessment calls and related administration estimated at 55 minutes / £11.49 per customer for 212 customers assessed; and staff supervision costs that were not able to be detailed due to a change in local project leadership.

Around half of the customers reported feeling more able to manage ADL, one less able and the remainder no change after the intervention. Signposting and referrals were made for 12 customers - four for upgrade of telecare equipment; two for Enhanced Assistive Technology; two for social work review; two for community meals; and one each for physical activity and befriending support.

Similarly, In Figure 7, D&G also show an example of the benefit of proactive calls facilitating enablement and choice outcomes for individuals through earlier intervention and coordination of care and support.

Mr C is a 70-year-old gentleman with an acquired brain injury and previous stroke which has rendered him virtually bed bound and unable to use traditional telephone handsets. Care Call was provided due to risk of falling out of bed and as a method to seek medical support should he feel unwell. He had upwards of 50 alarm activations per day possibly motivated by anxiety and isolation. Joint working between Care Call Technicians, Social Work staff and his Power of Attorney led to installation of assistive technology and to scripting of controlled responses from Operators. Twice weekly proactive calls to reduce his isolation and promote his understanding of the service supported Mr C in the transition to this new equipment. His activations have reduced to an average of 8 per day and video monitoring is ongoing resulting in reduced need for physical attendance by responders.

Figure 7: Phase 2 customer story

### *4.10. Customer Satisfaction with Proactive Telecare*

At or shortly after, their final proactive call, customers were asked four questions pertaining to their experience of Proactive Calls.

Based on responses from 79 customers at Bield and Edinburgh sites, 87% (69 customers) report that they felt able to talk about their health and wellbeing on the calls, 12% (10 customers) were unsure and no customers disagreed with this statement.

Nearly two thirds (63%, 50 customers) report that their health and wellbeing improved after the call. The remaining 21% (10 customers) were unsure and 7.6% (6 customers) disagreed.

Four in five (80%, 63 customers) reported that they looked forward to receiving the calls, 18% (14 customers) were unsure and (2%, 2 customers) did not look forward to them.

In response to the question - *should you have a concern, you knew this would be dealt with quickly and efficiently* - 78% (62 customers) agreed; 18% (14 customers) were unsure and (4%, 3 customers) disagreed.

The customers' satisfaction with the service was further expressed in qualitative feedback. One customer explained:

*"I am happy that my needs are being met, I requested information on handrails, and these are now being fitted to my property and mobility items I no longer require were picked up which helped with space at the house".*

Carers have commented:

*"I feel the Proactive telecare definitely improves his mental wellbeing getting the call weekly".*

Another carer stated:

*"I appreciate the calls and happy that someone is checking on him. He can get lonely on occasions even though he is able to socialise."*

A consistent message is evident throughout Phase 1 and 2 that customers and carers are very happy with their Proactive Telecare calls, acknowledging that they are valued and personally beneficial.

One customer who was eligible for Proactive Telecare but declined explained their reason for declining the service. They stated:

*"they could not commit to a weekly or fortnightly call as they already had numerous services involved with them."*

## 5. Strengths and Limitations

This evaluation has yielded a rich experiential data set which captures the reflective learning from planning and delivering Proactive Telecare for 178 customers in Phase 1 and 109 in Phase 2, across three different test sites and with five HSCP partners across central and southwest Scotland. It has generated a detailed overview of the operation of three tests of change and provides insight and understanding of key areas including:

1) Building readiness for Proactive Telecare
2) Developing staff capability; organisational and information governance for Proactive Telecare
3) Processes for screening and assessment of customers and delivering a model with local partners.
4) Preliminary indicators of savings in service cost and return on investment.

A key strength is that test sites have demonstrated that Proactive Telecare is feasible for different targeted cohorts, from those with low support to those with more complex needs. Over the duration of the project, Test Sites developed an understanding of the potential to segment their customer base and local population to target and tailor Proactive Telecare to population groups with different levels of need, including those who may benefit from time limited proactive calling when experiencing a transition from hospital or escalating risk of harm from recurrent falls.

Phase 2 case mix was intentionally more complex than in Phase 1. The level of complexity is reflected in the baseline customer health and wellbeing surveys and in high levels reporting a recent decline in functional ability. Despite this customer complexity, dropout rates were low once customers started on the intervention. This is a strength in a 'real world research' setting.

The use of interview techniques and focus groups was valuable as it enabled the test sites to reflect and explain how Proactive Telecare has worked, the unique elements to their geographical region and the experience of staff, customers, stakeholders and funders driving forward this change. An individual profile for each test site has been created based on this narrative highlighting their learning, a description of maturity and a vision for Proactive Telecare in their area.

Despite variation in the target customer groups and processes implemented, many common opportunities and challenges were identified. The different approaches taken highlights the importance of contextualising delivery of Proactive Telecare to the existing service and information infrastructure and the local readiness for collaboration on proactive, anticipatory and intermediate care by partners from health, social care, housing and third sectors.

Partnership working was observed as creating the conditions for integrated working, collaborative learning and problem solving. This was observed both at a national level as test sites worked with the TEC programme team, across regions, and at a local level as they engaged with local stakeholders.

Whilst similarities are observed in learning across each test site, no direct comparison can be made due to the different local health and care context; age and levels of complexity of the customers targeted; and the intensity of the service delivered.

Covid-19 restricted in person contact and all interviews and conversations were held over Microsoft Teams. This restricted the project team's ability to observe staff in their work

environment and listen into calls with customers in Phase 1. Whilst the individual customer interviews were informative, they were also limited as they were conducted over the telephone. A deeper relationship/observation could have emerged if they were in person.

Focus groups were conducted with each test site. The use of focus groups bringing together call handlers from all sites may have generated a greater consensus on the customer and staff experience of proactive calls.

The evaluation commenced midway through the Phase 1 test of change. Each site had already begun to collect different variables dependent on their local service requirements and commissioning arrangements. This limited opportunities to compare data across the three sites and highlighted the complexities associated with extracting data from local systems. In the absence of a national dataset for Proactive Telecare, a bespoke measurement framework was co-designed with the Test Sites for use in Phase Two of the project (Appendix 2).

Retrospective screening of existing customers for eligibility in Phase 2 was challenging for all three sites due to difficulties extracting and triangulating data from multiple information systems across social care, health and Telecare providers. This appeared to be particularly challenging for Edinburgh where the test site staff were not based in the Alarm Receiving Centre (ARC). All three sites underestimated the time to assess existing customers for suitability for the specific proactive calling approach being tested in each phase. In future, if assessment for proactive calling is undertaken when someone is initially referred for Telecare, then this information gathering process should require less staff time and prospectively inform the approach to proactive calls for the customer from the outset.

All test sites faced significant delays to implementation due to Telecare service upgrades and periods of disaster recovery protocols being implemented. The transfer of Edinburgh's Telecare to a new ARC in London midway through Phase 2 resulted in a change of coding at the end of May 2022. This unforeseen change of ARC provider also meant the test site staff were no longer able to access their electronic recordings (including voice recordings). This added further challenges when cleaning and reconciling data and it proved difficult to compare with certainty recorded information (calls and responses) on the Edinburgh intervention group across the two periods before and after the start of proactive calling.

Although high numbers of customers were screened for eligibility; a much lower number met the selection criteria after assessment and then went on to accept and start the intervention in the time available for the project. As the sample size associated with the intervention results are low at each site, any inferences about the benefits to customers and services should be approached cautiously as Proactive Telecare Outbound Calling may not be the only factor impacting on outcomes.

Functional ability and customer satisfaction were described in 79 completed surveys, however no customer level comparison across baseline, during and end of intervention was achieved. This was impacted by the variation of when sites commenced the intervention and the requirement for call handlers to engage and establish a relationship with customers before asking sensitive personal information.

Intense support and monitoring of data was required by the project team during phase 2 to collate and link customer level data over time. In turn this impacted on each test site in terms of staff time and resources. Although the tests of change were still at an early discovery phase,

this collective effort to link alarm data with healthcare utilisation over time moves the work beyond proof of concept towards building the narrative for a business case.

The evaluation team acknowledge the need to mitigate, wherever possible, for the 'before and after' regression to the mean effect that besets longitudinal studies of anticipatory and transitional care interventions. However, the duration and scope of this 'real world' test of change did not allow for prior identification of a control cohort. Consideration was given to a post hoc control group of people assessed as suitable for proactive calling but who declined to take part or were unable to be allocated in the available time. This pragmatic idea was followed up by Bield, but the data coding and extraction difficulties faced by the Edinburgh site made this approach unreliable. A future study should consider the prospective identification and use of a control group, suitably matched to the intervention group.

## 6. Conclusions and Recommendations

A definite societal shift post Covid-19 has emerged as a catalyst for a more anticipatory, tailored, personalised telecare service that moves beyond reacting to crisis (Morrison et al., 2022). This evaluation has been successful in analysing and appraising the introduction of Proactive Telecare Outbound Calling across three test sites in Scotland.

Phase 1 evaluation was exploratory in nature, discovering and understanding how each site implemented and adjusted to this change in service delivery. Notably, Phase 1 highlighted that Proactive Telecare Outbound Calling is feasible on a relatively small scale and wellbeing calls can be successfully delivered for a diverse range of customers across the life course with varying levels of health, housing and care needs. The decision to study a high-risk customer group in a time limited manner in Phase 2 was influenced by the objective of demonstrating service impact in the short timescale available for the project.

Phase 2 evaluation confirmed the benefits and costs avoided from Proactive Telecare Outbound Calling applied to customers experiencing transition from hospital or escalating risk of harm associated with recurrent falls. Currently this is a group with high levels of demand for emergency hospital attendance, admission and readmission so there is considerable potential for cost avoidance with targeted implementation at scale.

The experience of the customers and unpaid carers is positive in both phases of the evaluation. A clear message was conveyed that the customers valued the service and saw it as improving their health and wellbeing, connections with others as well as reducing their sense of isolation. Not one type of customer emerges as more suitable for Proactive Telecare, albeit the service has not been applied for customers with significant dementia, hearing or communication impairment.

Like the customers, staff involved in the evaluation across the test sites embraced the new approach, valued the opportunity to build their skills and voiced improved job satisfaction around the experience of building relationships with customers. Proactive Telecare impacts on staff resource, therefore, plans to deliver at scale should include recurring costs of staff supervision, training and CPD. Mobilising and further developing the existing Telecare workforce to deliver Proactive Telecare could greatly enhance the capacity and skill mix of the integrated workforce required to coordinate care and support for people with complex needs.

Whilst recognising the limits inherent in the absence of a control group, Phase 2 has shown that Proactive Telecare Outbound Calling is cost effective with the service costs associated with proactive calls being offset by reductions in inbound calling and funded responder visits in addition to potential cost avoidance from reduced ambulance conveyance, A&E attendance and hospital bed days. These system costs avoided are an important potential benefit of proactive calling, as well as the internal service costs avoided. This underlines the need for a strategic approach to commissioning Telecare services that build system wide capacity and resilience through technology enabled prevention and support for wellbeing; and targeted coordination and early intervention for customers with greater levels of need and / or at higher risk of harm and adverse outcomes.

Leadership, partnership working and investment at an operational level have been showcased in this evaluation. However, there exists differences across the sites in terms of how health, housing and care services integrate which impacts on how information is shared, potentially delaying throughcare and disrupting the customer/carer experience.

Information governance was vital and necessary for the tests of change to succeed however, in one area this was more frustrating and limiting of progress as the call handlers were not based in the Alarm Receiving centre (ARC) and there was an additional requirement for data sharing protocols with external partners. The lessons from this project around information governance and who owns data are relevant to all test sites going forward and may require future work to pre-empt these challenges.

Data collection from each test site was complex and resource intensive in the absence of a standard national linked dataset. It is acknowledged that the national TEC programme is leading this agenda, however, this evaluation highlights the urgency for standardised data collection if Telecare providers are to scale up and embed proactive calling as business as usual. Another essential ingredient to realising this ambition is a standard approach to the creation of information sharing protocols prior to any new service model being adopted. Implementing proposals in the refreshed Digital Health and Care strategy (Scottish Government, 2021) and the National Care Service Bill (Scottish Government, 2022) will minimise variation in the approach as Proactive Telecare progresses across Scotland.

The findings revealed a range of approaches used to select customers and staff debated whether current risk stratification tools were fit for purpose. Local intelligence on Telecare customers proved more valuable when used in conjunction with screening tools and data driven methods. Future work may involve the use of Artificial Intelligence in development and/ or refinement of existing risk stratification tools for use by Telecare providers and locality teams to target customers and resources more cost effectively.

The findings from the three test sites in Scotland resonate with the emerging learning from across the world. In the UK, West Wales where Delta Connect is providing proactive calling to promote customer wellbeing and support selected patients during transition home from hospital (Howson, Lewis & Howson 2021, Tunstall 2020a). Experience of telephone-based coordination of transitional care is limited in Scotland however, the growing international evidence base in Singapore (Lee et al., 2021) and the US (Marafino et al., 2021) support this as a feasible option to deliver at scale. Simple telephone based follow up and referral / signposting has been shown to significantly reduce 28-day readmission rates to hospital

improving outcomes for individuals and on a pressurised healthcare system (Vernon et.al., 2019).

The prevention, detection and response to falls in those at risk of recurrent falls is another area with a strong evidence base for benefit from prevention (Scottish Government, 2019). The epidemic of deconditioning resulting from the pandemic has increased current demand for community falls interventions. A recent systematic review of 31 studies involving 2,500 older adults from 17 countries found that telephone-based education and coaching combined with exercise training reduced fall risk by 16% but even telephone-based education alone was associated with a non-significant risk reduction (Chan et.al., 2021). The Phase 2 test of change has highlighted the potential for housing and Telecare providers to provide proactive education/ health coaching as well as personalised transitional care coordination underpinned by TSA National Standards.

Multiple regions of Spain and across the European Union are pioneering innovative solutions to improve the lives of ageing populations (Bousquet et al., 2019; Digital Health Europe, 2023). Catalonia is cited as having one of the best developed electronic health system-based algorithms for identifying complexity and risk of poor outcomes (Santaeugènia et.al., 2021). To date the risk algorithm has not mined local telecare data but as the policy on integrating health and social care in Catalonia gains traction, early adopter municipalities are increasingly integrating their anticipatory care with technology enabled care. One example is the Proactive and Personalised Care programme in the city of Badalona in the Metropolitana Nord region of Barcelona (Mas et.al., 2021). The social workers based in primary care centres have close links with municipality services including Barcelona's award-winning telecare service (ADASS, 2023). The health and care team use a shared health and social care record to identify citizens with rising risk who will benefit from a proactive case management approach. This work builds on learning from the 2015/16 pilot in Badalona for the BeyondSilos study of technology–enhanced integration of health, social care and third sector support (Piera-Jiménez et. al. 2020). The integrated care planning, information sharing, remote monitoring and assistive technologies intervention was found to be cost - effective. Similar results were observed in the CareWell evaluation of proactive technology enabled care in patients with multimorbidity (Mateo-Abad et.al., 2020). These studies further support the benefits of proactive and integrated digital health and care solutions.

TEC Scotland is currently twinning with the Andalusian Telecare Services (European Commission, 2021, Digital Health Europe, 2023) to learn, adopt and share innovation around technologies that can be used at scale. Annual reports for the Andalusian service show impressive activity and a strong focus on public health messages, access to emergency advice and to GP appointments. Two call centres in Seville and in Málaga cover the region with approximately 14,382 calls managed daily (2021/22); an average Proactive outbound call is 4mins and 80% of the Telecare calls are outgoing and staff are trained to manage both in and outbound calls (Tunstall, 2020b).

More recently Contreras et al (2022) report a longitudinal study of ambulance mobilisation in Spain associated with established Telecare users (Tunstall Televida service) receiving both proactive and reactive calls. This work advances the evidence on the impact of Proactive Telecare in Spain. Notably, they analysed longitudinal data of proactive and personalised telecare services between 2014–2018 involving up to 247,000 customers. Ambulance mobilisation per-person/per-annum reduced over time despite the increasing age profile at

cessation of Telecare. However, this study lacks a control comparator and does not acknowledge the potential contribution of other primary care and community-based interventions, particularly the introduction of intermediate care alternatives to hospital admission, on the need for emergency conveyance to hospital. Notably, all sites undertook exchange visits to Wales and Andalucía in phase 1 and Phase 2 of the project and have used their learning and reflection from these visits to directly influence future local and strategic business plans for scaling up.

The work of European and UK Telecare has also identified that there is considerable potential to apply telecare data in an AI powered data driven approach to population health and to improve the targeting and personalisation of proactive anticipatory care. This is a potential area for future work in Scotland.

Evaluation of Proactive Telecare in Scotland has similarly shown that Proactive Telecare is a dynamic and flexible intervention that can be tailored and personalised to customers with different levels of need and complexity. Indeed, how Proactive Telecare is delivered for an individual may evolve over time as their health and circumstances change. This opens out the possibility of involving a wider staff skill mix and or using a mix of community resources to support Proactive Telecare long term. It is now the decision of local services to determine how they wish to deploy their resources in a proactive, preventative and anticipatory manner.

To scale up Proactive Telecare, providers now need to decide what approach and service model best fits their local needs, understand the service readiness and ability to work more closely with their local partners on telecare enabled preventative support for wellbeing and/or care coordination and case management support for selected customers with more complex or changing needs. Figure 8 illustrates a three-level dynamic Proactive Telecare scenario: Proactive; Personalised; and Predictive.

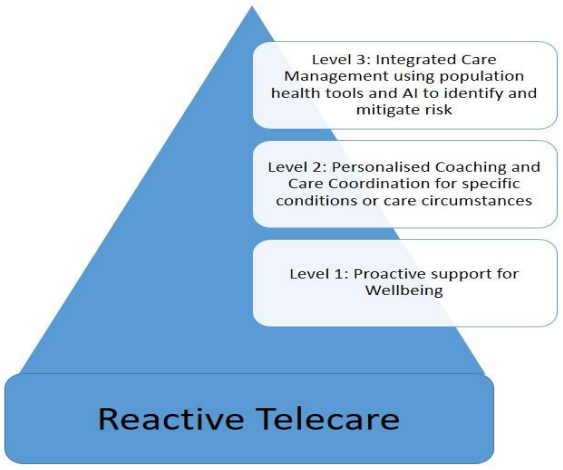


Figure 8 Levels of Proactive Telecare

Table 27 illustrates examples of approaches that could be considered at each level:

*Table 27 Examples of Proactive Service Models*

| | |
|---|---|
| **Proactive** Wellbeing service offered to all new customers | Proactive calls are offered to all new customers in a personalised plan to meet their needs and circumstances. The approach adopts a strengths-based, anticipatory and preventative philosophy and the focus is on wellbeing. Frequency, duration and intensity of support from calls can be increased or decreased as needs and circumstances change over time. |
| **Personalised** Proactive calls offered to selected existing customers | Based on local intelligence Proactive Telecare is offered as coaching / care coordination to targeted cohorts in order to:<br>• Prevent falls<br>• Tackle loneliness and isolation<br>• Provide carer support for customers with dementia |
| **Predictive.** Time- limited case management prompted by escalating levels of risk or agreed triggers | Health, housing and care providers use local data and risk prediction tools to identify individuals with escalating risk who will benefit from time-limited Proactive Telecare case management. Citizens / family can also self-refer prompted by specific triggers such as transitioning from hospital to home, experiencing bereavement, escalating levels of frailty or an exacerbation of a chronic condition. At the end of the case management episode the customer may opt-in to continue Proactive wellbeing calls or Personalised coaching / care coordination, according to need and circumstances. |

Whatever model of proactive calling is pursued, this evaluation has highlighted that a significant lead time for planning and development was required at all sites. The insights from this evaluation report offer other Telecare Providers a sound basis for operationalising similar tests of Proactive Telecare in future. The experiential learning from the three test sites is an important contribution to the Roadmap for the future development, planning and delivery of Digital Telecare in Scotland as illustrated in Figure 9. This high-level roadmap was designed as part of the Digital Health Europe funded Twinning project with the University of Agder (Norway), Grimstad Kommune (Norway) and the Agency for Social Services and Dependency of Andalusia (Spain).

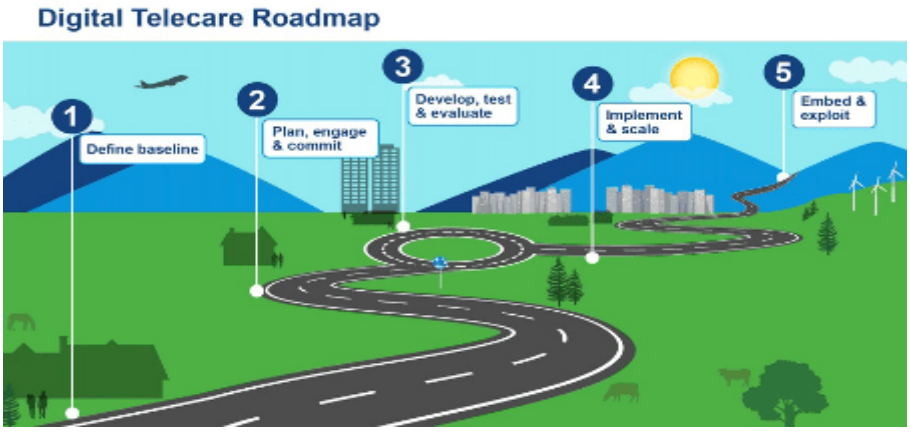


Figure 9 Digital Telecare Roadmap

## Recommendations

### Telecare Providers

- Telecare services should now decide how to adopt Proactive Telecare delivery, using available health and care data to match the intensity of proactive calling to the complexity of risk and changing level of needs of their customers.
- Telecare services should actively engage with Health and Social Care Partnerships on their contribution to proactive, anticipatory care, transitional care and support for wellbeing.
- Unpaid carers should be considered as an additional bespoke customer group who may benefit from wellbeing calls.
- Now is the time for Telecare Providers and Investors to develop and achieve consensus on service models, minimum data sets, information governance, risk stratification tools and quality standards for Alarm Receiving Centres delivering Proactive Telecare.

### Research and Innovation

- To demonstrate value, impact and effectiveness will require an in-depth longitudinal, prospective matched control study on a larger customer group in one region. This would enable the telecare service to demonstrate unequivocal evidence of the benefits to customers, carers, Telecare Providers, and commissioners in terms of Quality of Life, social connectedness, functional ability and health and care utilisation.
- Innovation is essential to the long-term success of Proactive Telecare therefore to improve the effectiveness of screening and recruitment of customers; research is needed in the field of artificial intelligence to automate and predict customer eligibility and behaviour.

### Education and training

- Research and collaboration with NHS Education for Scotland and Further and Higher Education institutions is recommended to scope the preparation of new and existing call handlers to build capability for proactive calling, while fitting around the needs of the service and workforce.

### Information

- For Proactive Telecare to succeed a minimum data set and information governance protocols are needed. This is not the sole responsibility of Telecare providers but requires a national collaborative approach involving key partners and investors from industry. This work should run concurrently with any further research or development in Proactive Telecare.

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## Appendix 1

### Option 1 – Maintain the status quo as a Reactive Telecare service

This would involve stopping Proactive Telecare activity albeit services would be free to progress other Telecare developments in conjunction with another TEC workstreams.

The potential advantages are:

- likely to require no additional new resource in the short term
- returning to previous reactive Telecare activity can be achieved quickly

Potential disadvantages are:

- difficult to meet the changing needs of customers now or in the future
- lack of innovation could threaten the long-term sustainability of the service
- reduced value for money from a customer perspective
- loss of organisational memory from Phase 1 and reduced staff motivation

Implications for Phase 2 evaluation – no prospective monitoring and evaluation proposed

### Option 2 – Proactive Telecare Wellbeing Calls

Proactive Telecare would specifically target customers who live alone but have low levels of support or reliance on TEC and infrequently activate their community alarm. The Proactive calls could be an enhanced, relational approach to the routine equipment checks with structured conversations that offer advice to support self-management, participation and wellbeing. Proactive calls could be complemented by SMS text messaging to identify changes in self-assessed wellbeing and functional ability.

Potential advantages are:

- telecare intervention is low cost, light touch, infrequent and not time limited
- could be scaled with minimal set up costs and training
- identify changing needs of customers early on before they require formal support
- opportunity to gather intelligence for other sectors to target early intervention
- improved targeting of system resources and delaying dependency over time
- enhanced security, wellbeing, self-management and participation for customers

Potential disadvantages are:

- requires a creative and flexible approach to scheduling calls for those still active
- risk of reverting to a ‘tick box’ check in service with loss of personalisation.
- risk of dependency on the service if open ended and not strengths based
- requires risk stratification, screening and local intelligence to identify the appropriate customers who do not require a more intensive Proactive Telecare approach
- significant impact on Telecare service demand and the local health and care system are unlikely to be realised in the short term.

Implications for evaluation – need for a standardised approach to measuring monthly proactive call activity and the related staff contact and non-contact time. Assessment of benefits will be largely qualitative to illustrate personal and relational wellbeing outcomes. The test sites will agree to use a common set of simple but well validated quality of life measurement tools that are appropriate for an older population, such as SF36, EQ5D, or OPQOL-brief. A consistent approach to measuring staff satisfaction is recommended.

**Option 3 – Time limited Proactive Telecare to enhance Transitional / Intermediate Care**

This option promotes the time limited use of Proactive Telecare for customers who are experiencing a change in health status, social circumstances or care setting. For example, those customers who are transitioning from hospital to home following a period of injury or ill health and who live alone and / or require support as they recover. This aim of this option is to promote confidence and independence at home as the individual recovers, in collaboration with a reablement or discharge to assess approach by a community integrated team. The Proactive Telecare may be able to integrate with other technologies that support self-management such as SMS reminders/Simple Telehealth solutions for medication prompts and calls to remind customers to adhere to their home exercise schedules.

Potential advantages are like Option 2 but include:

- time limited service, likely to be for a period of up to 8 weeks
- positive experience for customers and carers
- reduced risks of re-hospitalisation through early community intervention
- savings in hospital and care home utilisation likely to be realised in the short term
- potential for improved functional recovery, medication adherence and reduced harms resulting from medicines and falls
- adds value and amplifies impact of existing transitional / intermediate care services

Disadvantages are

- relatively intensive intervention involving a high frequency of calls
- increased staff costs for delivery, training and supervision.
- infrastructure and service redesign may be required to successfully integrate with local transitional / intermediate care services in some test sites.

Implications for evaluation – as for Option 2 there is a need for a standardised approach to measuring monthly proactive call activity and the related staff contact and non- contact time. Assessment of benefits will use mixed methods to illustrate changes in functional ability of customers, for example using the community IoRN, and in personal and relational wellbeing outcomes for customers and carers. Quality of life measurement tools and a consistent approach to measuring staff satisfaction will be used as above. Telecare, hospital and care home utilisation at baseline, three months and six months from commencing the service will be compared with a matched cohort receiving transitional or intermediate care without Proactive Telecare. Information on falls and medicines related harms will be recorded.

**Option 4 - Proactive Telecare support for Chronic Case Management**

This option promotes Proactive Telecare for customers with complex needs who require and currently use enhanced TEC in their home environment. The person may live alone, receive regular support from a carer or family member and may experience sensory or cognitive impairment. The aim is to improve the continuity and coordination of care for customers and carers, reduce demand on the Telecare Service and on local health and care services as part of a person centred, integrated, interdisciplinary and anticipatory approach to chronic care and support for people with complex or frequently changing needs.

Potential advantages are also like Option 2 and 3 and include:

- Early response and intervention for escalating dependency
- Reduced frequency of alarm activation and need for response
- Improved continuity and coordination of care for customers and carers
- Savings in hospital and care home utilisation likely to be realised in the short term

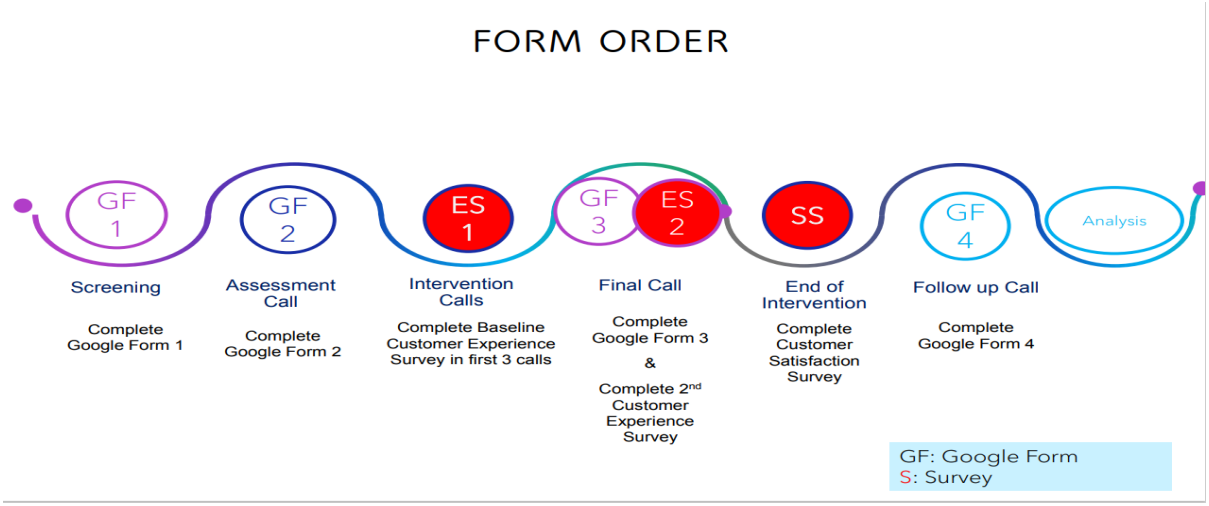
Disadvantages are:

- Intensive intervention over a prolonged period increases Telecare staff costs
- Risk of duplication unless targeted at those without an allocated case manager
- Redesign likely to be required to successfully integrate with local services

Implications for evaluation – as for Options 2 and 3 there is a need for a standardised approach to measuring monthly proactive call activity and the related staff contact and non- contact time. Assessment of benefits will use mixed methods to illustrate personal and relational wellbeing outcomes for customers and carers. Quality of life measurement tools and a consistent approach to measuring staff satisfaction will be used as above. Telecare, hospital and care home utilisation will be assessed for the six months prior to commencing the service and for the following six months. If possible, changes over time will be compared with a matched cohort of customers with similar SPARRA risk or eFI who are not receiving Proactive Telecare. Information on falls and medicines related harms will be recorded.

## Appendix 2

### Figure 1: Form order



**Changes**

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