

The Digital Office for Scottish
Local Government

Telecare Benefits Framework Summary

Report

November 2025



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Executive Summary

This report presents an evaluation of the benefits delivered by telecare services across Scotland's health and social care landscape. Telecare, as part of the broader Technology Enabled Care (TEC) agenda, plays a pivotal role in supporting people to live independently, stay connected, and maintain wellbeing at home. While the value of telecare is widely acknowledged, previous evaluations have lacked consistency and standardisation, making it difficult to quantify its full impact. This report addresses that gap by applying a structured benefits framework to assess the measurable outcomes of telecare services already in place across Scotland.

Scotland's commitment to digital innovation, as outlined in national plans reflects a clear strategic direction toward more integrated, proactive, and sustainable models of care. The shift from analogue to digital telecare is a central part of this transformation, ensuring continuity and resilience for over 142,000 people who rely on these services.

This report strengthens the understanding of telecare's impact by using a structured approach following best practice guidance from HM Treasury's Green and Magenta Books and the Digital Appraisal Manual for Scotland. A Theory of Change model underpins the analysis, linking telecare inputs and activities to outputs, outcomes, and strategic objectives. The report uses this approach to assess both anticipated and realised outcomes, and ensures that the benefits identified are measurable, stakeholder-relevant, and aligned with broader organisational goals. These benefits include reduced ARC tariff costs, increased digital platform efficiency, improved workforce performance, and better outcomes for service users.

The framework categorises benefits across four key domains: service users, society, public services, and health and care providers. It also accounts for the diversity in telecare service delivery across Scotland, including variations in technology platforms, response models, and service features.

While the report presents a robust evidence base for many telecare benefits, several remain unquantified due to limited data availability or low uptake of newer service features. These include disaster recovery cost savings, shared call handling efficiencies, and impacts on hospital discharge and at-home care demand. As more data becomes available and service adoption increases, further analysis will be conducted to assess these benefits.

As telecare across Scotland progresses into its next phase, it is recommended that this framework:

- is used to evaluate other health and care projects that have been undertaken to demonstrate value; and,
- can be used as a basis at the start of pilots/projects to ensure that projects make an impact, and the data is collected from the start (rather than from the end).

General Dispersed Alarm Telecare Benefits

+28% increase in service user wellbeing



£50,000

Annual reduction in residential care costs per service user



£4.2 million

Annual reduction in residential care costs for a typical provider (4,000 users)



£190.1 million

Annual reduction in residential care costs across Scotland currently



Shared ARC Benefits

6% reduction in Shared Alarm Receiving Centre (ARC) costs compared to standalone contract



20% reduction in time spent on administrative tasks



Modern Shared ARC reduces call volumes, making more efficient use of operators, allowing them to focus on complex calls



Coming Soon – 2026

Reduced disaster recovery (DR) costs



Reduced shared call handling costs



Faster discharge from hospital



Reduced demand on at-home care



Reduced emissions from travel



Cloud-based ARC Benefits

+5% improvement in call-handling performance times



Response Service Benefits

870

Annual reduction in ambulance call-outs for a typical service provider (4,000 users)



30,920

Annual reduction in ambulance call-outs across Scotland*



1,315

Annual reduction in emergency bed days for a typical service provider (4,000 users)



46,630

Annual reduction in emergency bed days required across Scotland*



240

Annual reduction in long lie bed days for a typical service provider (4,000 users)



8,605

Annual reduction long lie bed days across Scotland*



*if all councils offered a response service

1. Introduction

1.1 Background

Digital innovation, personalised care and integrated service delivery are key priorities across Scottish health and care policy. National and local partners are increasingly using telecare/Technology Enabled Care (TEC) to support people to live independently, stay connected, and improve wellbeing at home.

Previous work undertaken with the Scottish Government, the Digital Office and Telecare Service Providers (TSPs) has identified a broad range of economic, social and environmental benefits associated with the provision of telecare. It is widely accepted that telecare delivers significant value to service users and their families, the care service provider, the wider public service network, and society as a whole.

However, while the benefits of telecare are widely acknowledged, the magnitude of these benefits is less well understood. To date, analysis of the benefits of telecare has been sporadic or has not used a standard approach to benefit collection and measurement, meaning it is difficult to apply the results to telecare/TEC in Scotland more broadly.

To address this evidence gap, this report focuses on a set of measurable benefits associated with the implementation and scaling of telecare services. The report focusses on the benefits offered by current reactive telecare services, separate analysis using this framework will be required when assessing the benefits offered by other TEC services. Current benefits include cost reductions such as lower Alarm Receiving Centre (ARC) tariffs and shared call handling costs, as well as improved efficiency across digital platforms and applications. The adoption of flexible,

technology-enabled service models has also been associated with improved staff performance and productivity.

For individuals receiving care, telecare supports faster discharge from hospital, improves wellbeing and reduces the need for at-home and long-term care. Wider system benefits include fewer ambulance call outs, reduced emergency and long-lie bed days, and lower travel-related emissions. Together, these benefits form the basis for the evaluation and analysis presented in this report.

1.2 Document Structure

The structure of this document is as follows:

- **Section 1: Introduction** – details the background to the project and the structure of the report.
- **Section 2: Impact Evaluation** – this section sets out the analysis and results from the Benefits Realisation, considering both the quantitative metrics captured as well as the more qualitative insights gained throughout the life of the project.
- **Section 3: Conclusions** – the final section presents a summary of the key findings alongside recommendations and next steps.

2. Methodology

2.1 Approach

The approach to assessing the benefits of telecare aligns with [HM Treasury's Green Book](#) guidance on project appraisal and the [Magenta Book](#) guidance on evaluation, as well as the [Digital Appraisal Manual for Scotland](#). Although evaluation is often seen as something conducted after implementation, it should instead support decision-making throughout the entire policy cycle, informing design, guiding delivery, and shaping future improvements (Figure 1).



Figure 1: Policy Process (Source: HM Treasury, UK Government)

The focus of the impact evaluation is on understanding what benefits have been delivered. A benefit is defined as: the measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders, which contributes towards one or more organisational objectives. Fundamentally, this means that the benefits identified:

- should be measurable;
- are the improvements resulting from the outcome of the change, and they are not the change itself;
- are in the eye of the beholder – in other words, different stakeholders will value the same benefits differently. In some cases, a benefit to one stakeholder may be a disbenefit to another;
- should create the link between tangible outputs and strategic goals; and,
- should ensure there is alignment of effort, resources and investment towards achieving organisational objectives.

To determine which benefits should be measured when evaluating the impact of telecare, a structured framework has been developed. This framework aligns telecare services with national policy priorities through a clear accountability structure. Using a Theory of Change, it maps objectives to inputs, outputs, and outcomes. A Benefits Realisation Matrix captures and tracks these outcomes, linking them to strategic objectives and key government policies. This evidence base will support the development of a robust business case for future investment in telecare services.

For the purposes of this evaluation, a linear Theory of Change approach, structured as in Figure 2, is used. This establishes an understanding of how Telecare is expected to work in practice, starting from the problem the intervention aims to address; the change it aims to bring about; the causal chain of events that are expected to bring

about the change; the main stakeholders expected to affect change and be impacted; and the expected conditions required for the intervention to succeed. It exposes any assumptions upon which the intervention is based and the strength or weakness of the evidence supporting these assumptions.

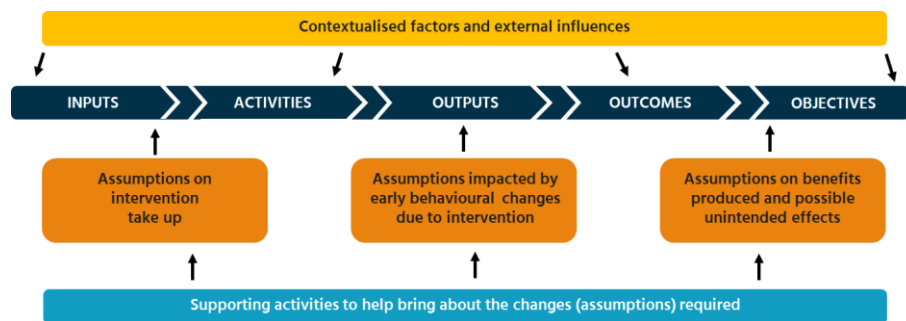


Figure 2: A Linear Theory of Change (Source: HM Treasury, UK Government)

There is considerable variation in how telecare services are delivered across Scotland. Some areas provide rapid response teams, others operate digital cloud-based ARCs or are part of the Shared ARC, and some offer enhanced sensor packages beyond basic dispersed alarms. This framework reflects these differences and identifies the specific benefits linked to each distinct service feature.

To undertake this assessment, several key assumptions have been used. Firstly, this initial benefits identification focuses on the impact of the Shared ARC and of Current Telecare Provision (understanding which outcomes are related to the Alarm Receiving Centre, the delivery of reactive telecare and the delivery of a response service). This same approach can be used for future developments in telecare provision, for example, for the use of smart in-home devices, proactive telecare or the better use of health and care data. However, at this stage, we focus on existing telecare services, where benefits can be measured and understood.

2.2 Policy Context

Telecare policy in Scotland is undergoing a major transformation as part of the national strategy to modernise health and social care services. Central to this shift is the transition from analogue to digital telecare systems, driven by the planned withdrawal of the UK's analogue telephone network by 2027. This change is crucial, as over 142,000 users rely on telecare alarms and monitoring services. In response, the Scottish Government and local authorities have committed to completing the transition by the end of 2025, as set out in the [Care in the Digital Age: Delivery Plan 2024-25](#), which outlines the vision, objectives, and implementation timeline for establishing a fully digital, integrated telecare infrastructure. These efforts are guided by best practice from the [Digital Telecare Playbook](#), a comprehensive online resource that provides implementation guidance, service design support, and risk assessment tools for partnerships undergoing the transition.



A major policy innovation underpinning this work is the Shared Alarm Receiving Centre (Shared ARC), developed by The Digital Office for Scottish Local Government, COSLA and Scotland Excel. The Shared ARC offers a cloud-based digital platform for managing telecare alarms. It improves service resilience and enables better integration with health and social care systems by standardising how alerts are handled across Scotland.

To ensure consistent service delivery and performance monitoring, the Telecare Information Framework (TIF) was introduced in 2023. Developed in collaboration with Scottish Government, Digital Health and Care division, Scottish telecare services providers and NHS Wales Performance and Improvement, this collaboration has

contributed to the creation of a framework that aligns with health, housing and social care data standards for both Scotland and Wales.

Procurement has also been modernised through a [Digital Telecare Dynamic Purchasing System](#) (DPS), managed by Scotland Excel. Running until 2031, it allows partnerships to procure digital equipment and services, ensuring value for money.

2.3 Telecare Benefits Framework

Telecare technology offers significant benefits to service users, society, the public, and health and care services (Figure 3). The Telecare Benefits Framework examines how investment in telecare services affects these four key groups, highlighting its broad impact. This structured approach helps assess value and outcomes across social, public, and healthcare domains.



Figure 3: Telecare Benefits Key Themes (Source: FarrPoint)

In line with UK project and policy evaluation standards, a Theory of Change approach is used to map the benefits of telecare to stakeholder objectives, linking these benefits to the specific characteristics of the telecare services that deliver them.

2.4 Benefit Identification

Figure 4 contains a full logic map; the theory of change and workshops highlighted key benefits linked to various service features.

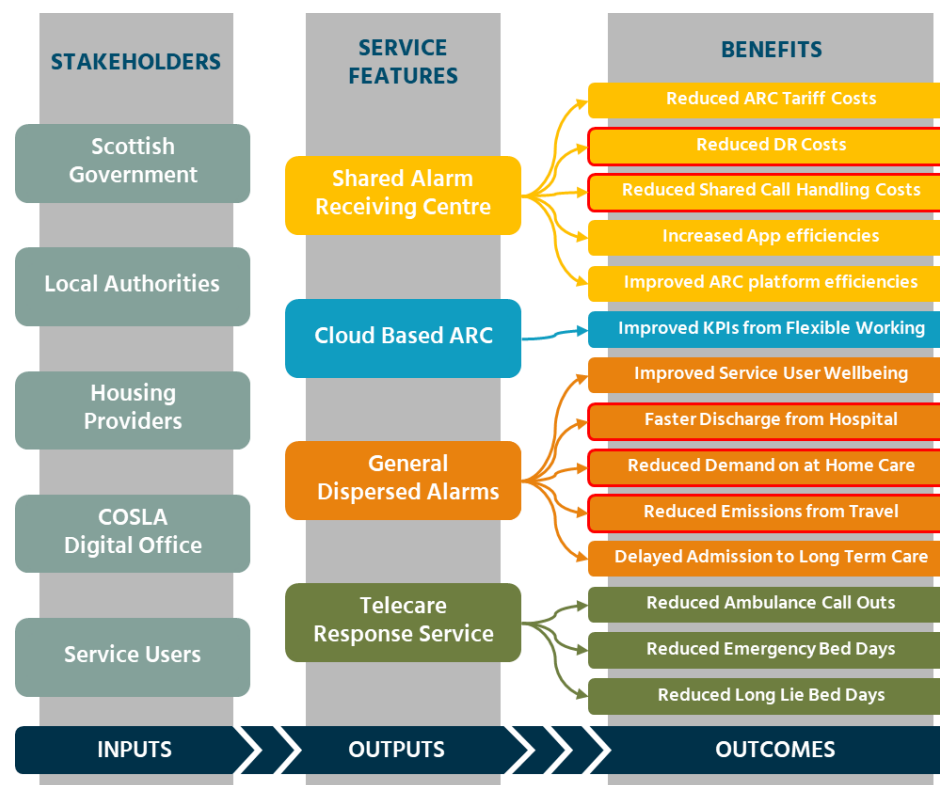


Figure 4: Initial Telecare Benefits (Source: FarrPoint)

2.5 Data Collection Approach

A range of information sources were used to gather evidence on the identified outcomes. This section provides a summary of the findings.

BENEFIT		SOURCE	METRIC
	Shared ARC Benefits		
B1	Reduced ARC Tariff Costs	TSPs in Scotland	Comparison of costs from Shared ARC to individual ARC procurement
B2	Reduced Disaster Recovery (DR) Costs	Due to no TSPs in Scotland taking up these new service characteristics, these are currently unmeasured. Once the data becomes available, analysis will be conducted to assess impact.	
B3	Reduced Shared Call Handling Costs		
B4	Increased App Efficiencies	South Ayrshire	Process efficiency comparison: response app vs. manual process
B5	Improved ARC Platform Efficiencies	Perth & Kinross, South Ayrshire	Comparison of call wrap time pre/post use of Shared ARC platform
	Cloud-based ARC Benefits		
B6	Improved KPIs from Flexible Working	Bield Hanover	Comparison of call answering time KPI before/after flexible working
	General Dispersed Alarm Telecare Benefits		
B7	Improved Service User Wellbeing	Falkirk	Comparison of pre-post install (6months) wellbeing questionnaire

B8	Faster Discharge from Hospital	Due to a lack of available data/evidence of this benefit, it is currently unmeasured. Once the data becomes available, analysis will be conducted to assess impact.	
B9	Reduced Demand on at Home Care	Due to a lack of available evidence of this beyond qualitative case studies, it is currently unmeasured. Once the data becomes available, analysis will be conducted to assess the impact.	
B10	Reduced Emissions from Travel	Due to no evidence of impact on reduced demand on at-home care, this benefit is currently unmeasured. Once the data becomes available, analysis will be conducted to assess impact.	
B11	Delayed Admission to Long Term Care	NHS Wales Performance and Improvement	Average delay admission into residential care based on user data
	Response Service Benefits		
B12	Reduced Ambulance Call Outs	Carr Gomm Edinburgh Orkney NHS Wales Performance and Improvement	Comparison of falls requiring an ambulance, when there is a response service in place, versus when only ambulance service.
B13	Reduced Emergency Bed Days	As above, plus Welsh Ambulance Service	B12 data alongside information on falls requiring A&E admission. This also takes into account differences in 'lie time' (B14), with longer lies spending more time in hospital.
B14	Reduced Long Lie Bed Days	As above, plus, British Medical Journal (BMJ)	B11/B12 data on falls, admission and response times and BMJ estimates used to calculate long lie days with/without response service.

2.6 Limitations

Due to data limitations and low uptake of new service characteristics, several key initial benefits remain unmeasured. However, once the necessary data becomes available, analysis will be conducted to assess the impact of these benefits. In addition, it is important to recognise that telecare services are delivered by TSPs across Scotland, which will have an impact on the magnitude of the benefits.

3. Analysis

This section provides a clear overview of the impact modelling carried out for each of the key benefits of telecare services in Scotland. This section also summarises the benefits that have been identified but not yet quantified due to current data limitations. Once the necessary data becomes available or if a TSP adopts a relevant service characteristic, such as shared call handling or shared Disaster Recovery (DR), further analysis can be undertaken to assess the impact. Appendix A provides further detail on the methodology used to calculate the impact for each benefit.

3.1 Shared ARC Benefits

The assessment initially focuses on the benefits that are directly associated with the Shared Alarm Receiving Centre (ARC) provision.

3.1.1. Reduced ARC Tariff Costs

The Shared ARC in Scotland delivers cost-saving benefits through a collaborative model. As more telecare TSPs join, the cost per user decreases due to economies of scale. Taking a multiple-user consortium also benefits from greater collective bargaining power, securing better pricing and terms than individual contracts. Importantly, it is worth highlighting that this model excludes the substantial costs typically associated with running separate procurement processes, saving both time and resources. By pooling demand and streamlining procurement, the Shared ARC offers a more efficient, cost-effective, and sustainable approach to delivering high-quality telecare services across Scotland.

6% reduction in ARC tariff costs



3.1.2. Increased App Efficiencies

The Shared ARC offers access to a dedicated responder app, which replaces traditional manual and paper-based systems with a streamlined digital solution. This app significantly improves the coordination and delivery of telecare response services by enabling real-time communication, task updates, and secure information sharing between the Shared ARC and mobile response teams. By moving away from paper logs and manual processes, the app reduces administrative overhead, reduces call volumes, minimises errors, and ensures faster, more accurate responses to service users' needs. This digital approach represents a more efficient use of resources, supporting better outcomes for TSPs and service users, while reinforcing the benefits of a shared, technology-enabled telecare infrastructure. See Appendix B for more details on the impact of the app on processes for one service provider.

20% reduction in time spent on administrative tasks



3.1.3. Improved ARC Platform Efficiencies

At the outset of the benefits study, it was expected that efficiency gains would be realised in the Shared ARC through reduced call handling and wrap times. In practice, however, call handling times have increased, while overall call volumes have decreased. Feedback from one service provider indicates that this is due to responders no longer needing to make multiple calls, such as logging arrival, providing outcomes, or requesting client contacts to be informed, as these tasks are now completed within the app. As a result, the Shared ARC now manages fewer but more complex calls, leading to longer average call durations. This shift allows operators to dedicate more attention and time to each call, improving the accuracy

of the information recorded, enhancing decision-making, and ensuring that client needs are addressed more thoroughly.

Reduction in call volumes for operators



3.2 Cloud-based ARC Benefits

3.2.1. Improved KPIs from Flexible Working

A cloud-based ARC improves call answering Key Performance Indicators (KPIs) by enhancing system flexibility and reducing downtime. Unlike on-premise setups, the cloud platform allows staff to log in remotely, enabling rapid scaling of resources during unexpected call volume peaks. This ease of access ensures that more call handlers are available when needed, reducing wait times and missed calls. Additionally, these systems offer greater reliability with automatic updates and failover capabilities, ensuring continuous operation even during demand surges. Overall, this leads to faster response times and improved service quality.

There is a potential for this impact to be even greater for smaller ARCs, where unexpected absences can severely disrupt operations due to smaller workforces. With fewer staff members available, any absence places additional pressure on remaining team members, making it harder to maintain service levels. However, smaller ARCs often have less flexibility and fewer resources to quickly adjust staffing.

In addition to addressing these challenges, TSPs have highlighted the positive effects of the increased flexible working practices enabled by cloud-based systems. These can improve staff wellbeing, reduce burnout, and support higher retention rates by offering greater work-life balance.

5% improvement in call-handling KPIs



3.3 General Dispersed Alarm Telecare Benefits

This assessment focuses initially on service user wellbeing and delayed admission to long-term care. Future analysis will explore impacts on hospital discharge and at-home care as data becomes available.

3.3.1. Improved Service User Wellbeing

Telecare plays a role in improving service user wellbeing by offering peace of mind and enhancing personal safety. It ensures that help is readily available during emergencies, significantly reducing anxiety for users and their families. Knowing that support is just a button press away allows individuals to maintain greater independence and confidence while living in their own homes. This reassurance improves wellbeing and contributes to a more positive outlook and higher overall quality of life. Beyond safety, telecare can help combat social isolation by facilitating regular communication and check-ins. This supports emotional health and reduces feelings of loneliness, which are common among vulnerable populations. By supporting both physical and mental health needs, telecare offers a holistic approach to wellbeing that empowers service users to live healthier, more fulfilling lives.

This benefit is measured based on service user feedback from a wellbeing survey conducted in Falkirk. Respondents were asked questions related to independence, health, safety and confidence in their homes pre and 6 months post installation of telecare.

28% improvement in service user wellbeing



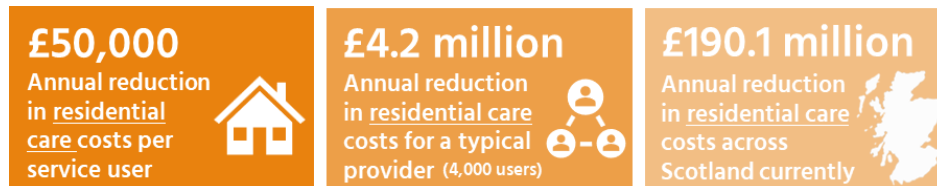
3.3.2. Delayed Admission to Long Term Care

Delayed admission to long-term care is one of the most important benefits telecare provides, enabling individuals to live safely and independently in their own homes for extended periods. Through continuous monitoring and timely support, telecare helps manage common health risks such as falls, medical emergencies, and gradual changes in health status that might otherwise lead to earlier admission to residential care. This approach reduces the chances of crises requiring full-time residential care.

Telecare also supports users maintain their daily routines and stay connected to essential support services, which boosts their confidence and overall ability to live independently. By offering reassurance and immediate assistance when needed, telecare helps prevent unnecessary hospital stays or long-term care placements.

Ultimately, delaying admission to long-term care improves quality of life and emotional wellbeing for individuals and reduces the strain on residential care facilities. This easing of demand helps lower costs and alleviates pressure on health and social care systems, while promoting dignity and independence for service users.

Findings from Wales (TEC Cymru) indicate that telecare plays a significant role in delaying admission into long-term care. On average, service users with telecare support as part of a wider care package are admitted to long-term care facilities 1 year and 1 month later than those without such services.



3.4 Response Service Benefits

3.4.1. Reduced Ambulance Call Outs

The telecare response service plays a role in reducing ambulance callouts by providing timely, local support when a telecare alert is activated. Instead of immediately calling emergency services, trained responders quickly attend to the service user, assessing their condition and offering appropriate help. This assistance often resolves issues without needing to escalate to ambulance dispatch, preventing unnecessary use of emergency resources.

Data from Wales (TEC Cymru) combined with information from Carr Gomm and Edinburgh compares ambulance callout numbers in areas with and without a telecare response service. The findings show an annual average reduction in ambulance callouts in areas where the response service is available, demonstrating that the telecare response service contributes significantly to lowering the demand on emergency ambulance services.

Research shows significant variation in ambulance callout rates across locations. On Orkney, more ambulance callouts occur relatively compared to Wales or Carr Gomm's figures. Many fall incidents on Orkney are initially managed by friends and family, reducing immediate professional responses. When the telecare response service is involved, situations tend to be more serious, often requiring a full ambulance response. This reflects strong community support but also explains the higher ambulance callout rates for telecare responses in Orkney.

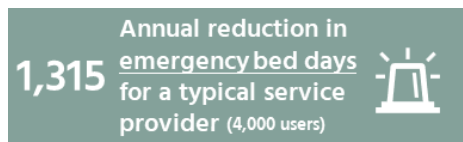


3.4.2. Reduced Emergency Bed Days

Having a telecare response service in place helps reduce pressure on Accident & Emergency (A&E) departments by providing timely, on-site care to service users. When a mobile responder attends an alert, they can quickly assess the situation and deliver appropriate support, often resolving issues before they escalate. This early intervention plays a role in managing health concerns at home, preventing conditions from worsening, and reducing the need for hospital admission.

By addressing problems promptly, response services help to avoid unnecessary visits to A&E, easing the strain on emergency departments and hospital resources. This benefits healthcare providers and improves the experience for service users, who can receive care in familiar surroundings rather than in a hospital environment. Overall, the telecare response service supports more effective and efficient care pathways, reducing hospital admissions and helping to maintain the availability of hospital beds for those with urgent needs.

Findings show an annual average reduction in emergency bed days in part due to the responses provided as part of the telecare service. This is based on data from Carr Gomm, Edinburgh and Orkney, with supplementary data from Wales.



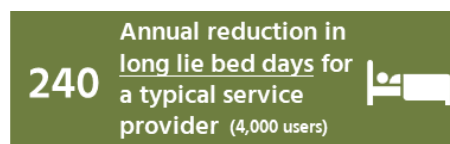
3.4.3. Reduced Long Lie Bed Days

With a telecare response service in place, the risk of individuals remaining on the floor for extended periods after a fall is significantly reduced. Without timely help, long lies can lead to serious complications such as hypothermia, dehydration,

pressure sores, and even muscle breakdown, which in turn increase the likelihood of hospitalisation and longer recovery times.

Mobile responders can attend more quickly than a typical ambulance call out when an alert is triggered, helping individuals back to safety and assessing whether further medical intervention is needed. This rapid response reduces both the physical and emotional harm caused by long lies, offering reassurance to service users and their families. By preventing these complications, the response service plays a vital role in reducing the number and length of hospital stays associated with falls. It also supports the wider health system by easing pressure on emergency departments and inpatient services, contributing to better outcomes for individuals and more efficient use of healthcare resources.

Findings show an annual average reduction in long lie bed days in part due to the responses provided as part of the telecare service. This is based on data from Carr Gomm, Edinburgh and Orkney, with supplementary data from Wales.



3.5 Coming Soon – 2026

Due to current data limitations and low uptake of new service characteristics, several key initial benefits remain unmeasured. However, once the necessary data becomes available, analysis will be conducted to assess the impact of these benefits in 2026.

3.5.1. Reduced DR Costs

The Shared ARC reduces disaster recovery (DR) costs by allowing multiple telecare providers to share DR capabilities, rather than each TSP having to invest in its own standalone solution. This shared approach eliminates the need for individual providers to maintain duplicate call handling infrastructure—including separate office space, equipment, and staffing—or to procure contracts with commercial DR service providers. By pooling resources and infrastructure, the Shared ARC enables a more resilient, efficient, and affordable approach to disaster recovery, ensuring continuity of service while avoiding unnecessary duplication and expense across the sector.

As detailed above, during 2026 we expect to measure the additional cost savings that are offered by taking a shared approach to service delivery, including shared DR between TSPs. In the meantime, we are aware that some TSPs have already been able to use the Shared ARC to put new DR call handling contracts in place with an external supplier, offering cost savings of around 67% over their previous arrangements. However, this figure is based on a single sample and should therefore be treated with caution until further data is available.

3.5.2. Reduced Shared Call Handling Costs

The Shared ARC can reduce call handling costs by enabling multiple TSPs to share resources through a streamlined and collaborative system. Rather than each TSP independently staffing and managing their own call handling services—particularly during lower-volume periods such as overnight shifts—the Shared ARC allows these responsibilities to be distributed across call handlers from other TSPs using the platform. This shared model reduces staffing and operational costs and enhances efficiency by optimising resource use across participating TSPs. By working together,

TSPs can maintain high-quality, responsive services whilst lowering the financial and operational burden of call handling.

3.5.3. Faster Discharge from Hospital

Telecare facilitates faster hospital discharge through two key drivers. Firstly, integrating telecare into a patient's care package enables them to leave the hospital sooner, as they receive ongoing support at home. Secondly, when telecare services are already in place before admission, patients can transition smoothly and safely back to their homes without delay. This reduces the length of hospital stays and frees up valuable hospital beds, supports patient independence, and promotes quicker recovery in a familiar environment.

3.5.4. Reduced Demand on at-Home Care

Telecare services help reduce the demand for at-home care visits by providing emergency support and proactive care. Users can quickly access emergency services when needed, enhancing safety and independence. Additionally, features like medicine reminders support daily routines, while telecare increasingly replaces some general in-home care tasks. Together, these capabilities reduce the frequency of physical visits, easing pressure on care providers and enabling service users to maintain greater autonomy in their own homes.

3.5.5. Reduced Emissions from Travel

This benefit is based on the reduction in carbon emissions as a result of the reduced travel requirements from reduced home care visits.

4. Conclusion and Recommendations

This report demonstrates the wide-ranging and measurable benefits of Technology Enabled Care (TEC) services within Scotland's health and social care sector, including financial savings, operational efficiencies, improved outcomes for service users and positive environmental impacts.

Scotland's commitment to digital innovation, as outlined in national plans reflects a clear strategic direction toward more integrated, proactive, and sustainable models of care. The shift from analogue to digital telecare is a central part of this transformation, ensuring continuity and resilience for over 142,000 people who rely on these services.

While previous work with the Scottish Government, the Digital Office, and telecare providers has highlighted the potential benefits of telecare, this report strengthens the understanding of telecare's impact using a structured Theory of Change approach to assess both anticipated and realised outcomes. These include reduced ARC tariff costs, increased digital platform efficiency, improved workforce performance, and better outcomes for service users.

Despite these gains being widely acknowledged, past assessments have often lacked consistency in measuring and comparing benefits. This report contributes to closing that gap by offering an evidence-based evaluation that supports local and national planning, investment, and delivery of telecare services.

Looking ahead to new steps, the initial findings highlight clear benefits and promising early signs of health and wellbeing from telecare. Several benefits, however, remain unmeasured due to current data limitations and the early stage of service adoption. Once sufficient data becomes available, further analysis will be undertaken to evaluate the impact of these benefits.

As telecare across Scotland progresses into its next phase, it is recommended that this framework:

- is used to evaluate other health and care projects that have been undertaken to demonstrate value; and,
- can be used as a basis at the start of pilots/projects to ensure that projects make an impact, and the data is collected from the start (rather than from the end).

Technology Enabled Care is more than just a digital solution, it is a strategic enabler for building a more resilient, efficient, and equitable health and social care system in Scotland. To maximise its impact, continued collaboration, investment, and a standardised approach to delivery will be essential across all levels of the system.

Appendix A

	Benefit	Calculations
	Shared ARC Benefits	
B1	Reduced ARC Tariff Costs	<i>Average tariff costs of single ARC – Average tariff costs of shared ARC</i>
B2	Reduced Disaster Recovery (DR) Costs	<i>Average DR costs for a single provider ARC – Average DR costs for a shared ARC</i>
B3	Reduced Shared Call Handling Costs	<i>(Number of overnight call handlers × cost per call handler) – Cost of providing shared call handling</i>
B4	Increased App Efficiencies	<i>Process efficiency of response app vs. manual process</i>
B5	Improved ARC Platform Efficiencies	<i>Call wrap time pre use of Shared ARC platform – Call wrap time post use of Shared Arc platform</i>
	Cloud-based ARC Benefits	
B6	Improved KPIs from Flexible Working	<i>KPIs (%) of telecare calls in January 2024 (after home working) – KPIs (%) of telecare calls in January 2020 (before home working)</i>
	General Dispersed Alarm Telecare Benefits	
B7	Improved Service User Wellbeing	<i>Respondents were asked the following 3 questions pre and post installation: 1. In your home how independent do you currently feel? 2. How would you rate your health currently? 3. How safe and confident do you currently feel in your home? Respondents could answer each question with 1 of 5 responses: not at all; hardly at all; neutral; reasonably so; and, very. Controlling for health changes, questions 1 and 3 were weighted, and a standard regression analysis was performed.</i>
B8	Faster Discharge from Hospital	<i>Average time an inpatient spends waiting for telecare to be installed prior to discharge × Average cost of a hospital bed per day</i>
B9	Reduced Demand on at Home Care	<i>(Saving per person using medicine notifications × Number of people receiving medicine notifications) + (Proportion of home care that could be substituted with telecare × Average time and cost of that care)</i>

B10	Reduced Emissions from Travel	$\% (\% \text{ reduction in at home care visits} \times \text{Average care journey distance} \times \text{Average GHGe per distance})$ $+ (\% \text{ of response replaced from ambulance to response service})$ $\times \text{Difference in GHGe from different vehicles})$
B11	Delayed Admission to Long Term Care	$(\text{Number of service users} \times \text{Annual churn of service users} (\%))$ $\times \text{Proportion of service users admitted to residential care} (\%)$ $\times (\text{Cost without telecare} - \text{Cost with telecare}) = \text{Average saving} (£)$
	Response Service Benefits	
B12	Reduced Ambulance Call Outs	$\beta = \text{A\&E admission with response service}$ $= \text{Ambulance call outs with response service} \times \text{Proportion of calls needing A\&E admission}$ $\gamma = \text{A\&E admission without response service}$ $= \text{Ambulance call outs without response service} \times \text{Proportion of calls needing A\&E admission}$ $\text{Ambulance call outs saved} = \beta - \gamma$
B13	Reduced Emergency Bed Days	$\delta = \text{Long lie admission with response service}$ $= \beta \times \text{Proportion of response service call outs more than 60 minutes}$ $\theta = \text{Long lie admission without response service} = \gamma \times \text{Proportion of ambulance call outs more than 60 minutes}$ $\mu = \text{Short lie admission with response service}$ $= \text{A\&E admission with response service} - \text{Long lie admission with response service}$ $\rho = \text{Short lie admission without response service}$ $= \text{A\&E admission without response service} - \text{Long lie admission without response service}$ To calculate emergency bed days: $\emptyset = \text{Average length of stay with a long lie (3.6)}$ $\sigma = \text{Long lie admission with response service (bed days)} = \delta \times \emptyset$ $\tau = \text{Long lie admission without response service (bed days)} = \gamma \times \emptyset$ $\varphi = \text{Short lie admission with response service (bed days)} = \mu \times \emptyset$ $\omega = \text{Short lie admission without response service (bed days)} = \rho \times \emptyset$ $\vartheta = \text{Total bed days with response service} = \sigma + \varphi$ $\pi = \text{Total bed days without response service} = \tau + \omega$ $\text{Emergency bed days saved} = \text{Difference between with and without response service} = \theta - \pi$
B14	Reduced Long Lie Bed Days	$\text{Long lie bed days saved}$ $= (\delta \times \text{Additional time in hospital for a long lie})$ $- (\theta \times \text{Additional time in hospital for a long lie})$

Appendix B

Increased App Efficiencies – for one service provider

The introduction of the responder app delivered measurable efficiencies across several stages of the telecare service delivery process.

In the referral and installation stage, no time savings were observed. During the response stage, pre-visit forms were eliminated, and re-keying data was reduced, saving a total time of 9 minutes. In the maintenance stage, data re-entry was shortened, saving 2 minutes. Finally, in the uplift (service termination) stage, reductions in administration and appointment scheduling saved a further 8 minutes.

Stages	Incidences (per year), for one service provider
Referral & Installation	725 installations (2024)
Response	3,350 response calls (average Nov 23 – Jan 24)
Maintenance	2,000 maintenance calls requiring site visit (2024)
Uplift	630 units uplifted (2024)

Table 1: Summary of Telecare Service Demand Across Stages

A high-level service map for each of the main stages to telecare delivery is shown below. The previous manual process (top) and responder app process (bottom) are shown alongside the time saving for each step.

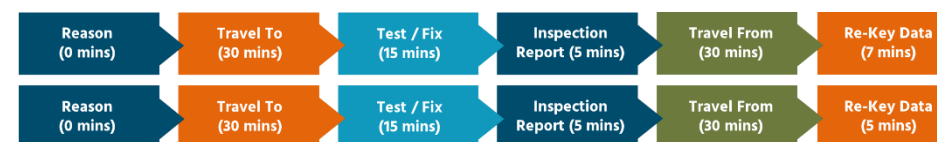
The final table show the annual impact of these time savings based on the number of calls / responses completed by the measured provider per year.

Response



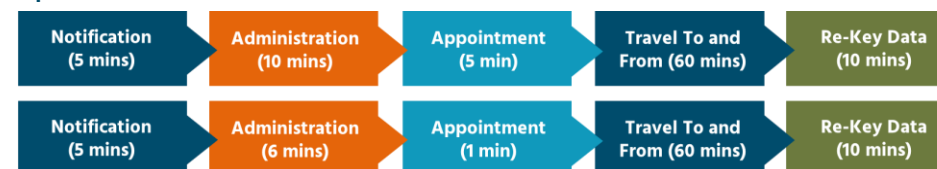
Time	Before	After	Saving
Per visit	33 minutes	24 minutes	9 minutes
Annual	110,550 minutes 1,843 hours	80,400 minutes 1,340 hours	30,150 minutes 503 hours

Maintenance



Time	Before	After	Saving
Per visit	27 minutes	22 minutes	2 minutes
Annual	54,000 minutes 900 hours	50,000 minutes 833 hours	4,000 minutes 67 hours

Uplift



Time	Before	After	Saving
Per visit	30 minutes	22 minutes	8 minutes
Annual	18,900 minutes 315 hours	13,860 minutes 231 hours	5,040 minutes 84 hours

Overall Saving

Annual Saving	Minutes	Hours
Response	30,150	503
Maintenance	4,000	67
Uplift	5,040	84
Total Saving	39,190	654

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