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# DIGITAL TELECARE

Scottish Local Government

**NATIONAL BRIEFING DOCUMENT**

Transitioning from analogue to digital telecare

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**TELECARE SERVICES  
DIRECTLY SUPPORT THE  
INDEPENDENCE AND  
SAFETY OF 1.7 MILLION  
VULNERABLE PEOPLE  
IN THE UK.**

# FOREWORD

Telecare service provision in Scotland is transforming. As early as **2023**, it will no longer be possible for citizens to purchase an analogue phone service from many of the main telecommunication providers. In addition, all telecommunication providers expect to have fully completed migration of their analogue networks over to a digital equivalent by **2025**.

During this time, the Public Switched Telephone Network (PSTN) will be switched off and replaced with an ALL-IP digital solution. Telecare emergency calls will no longer be received via the traditional method over an analogue line, but instead will rely on data packets being sent over the digital network. Additionally, also by 2025, all Integrated Services Digital Network (ISDN) lines will be decommissioned, and these are currently utilised by many telecare service providers in Scotland to route alarm calls through multiple lines into their Alarm Receiving Centres (ARCs).

Traditional telecare devices are designed to send voice calls over the PSTN network and when these analogue devices attempt to connect with the ARC via a digital network, this emergency call could potentially be corrupted and fail to connect correctly or could become lost completely.

*Analogue telecare equipment therefore cannot be guaranteed to operate safely and reliably over digital telephone lines and with digital migration already underway across the country, some telecare service providers in Scotland are reporting a rise in the number of failed alarm call attempts. This sits alongside an increasing number of cases where users' have been migrated over to a digital service in their property and left with analogue telecare equipment operating either unreliably or not operating at all.*

The above factors, combined with a range well documented socio-economic factors and rising citizen expectations around consumer technologies, create the biggest challenges, but also the biggest opportunities faced by Scottish telecare service providers since they began delivering critical services around 30 years ago. The move towards digital telecare helps address these challenges, whilst also creating opportunities to redesign services around the user and ensure providers can fully exploit the capabilities of their upgraded telecare solution to improve efficiency,

resilience, reduce cost and enhance the range of services that can be offered to users'. This transformational transition could also potentially assist telecare services providers to provide best value, as well as prioritise telecare as an improved offering either as an alternative or enhancement to direct and systematic service provision.

**Digital Telecare for Scottish Local Government is funded by the Scottish Government TEC Programme and facilitated by the Digital Office for Scottish Local Government, who work closely with partners, including telecare service providers, COSLA and the Scottish Government, to oversee and coordinate the Digital Telecare portfolio.**

We know that the switchover will have an impact on users' living in their own homes, with dispersed telecare technologies, generally supported by the area's health and social care partnership. We also know that the switchover will have an impact on users' living in a grouped housing setting, supported by registered social landlords and private landlords across the country. Digital Telecare for Scottish Local Government will include these organisations within the scope of the ongoing and collaborative work in the realm of digital telecare, to ensure that no user is left behind and that the 'Once for Scotland' approach is genuinely inclusive.

**THE TELECOMMUNICATIONS INDUSTRY HAS ALREADY STARTED REPLACING ANALOGUE PHONE LINES WITH DIGITAL EQUIVALENTS AND IN MANY CASES HAVE ACCELERATED THEIR DEADLINE TO 2023.**

**Martyn Wallace**  
Chief Digital Officer for Scottish Local Government and Senior Responsible Officer for Digital Telecare



# EXECUTIVE SUMMARY

As soon as 2023, analogue telephone services in the UK will be switched off and replaced by digital systems using internet protocol (IP) technology. Telecommunication suppliers are well on their journey to making this switch to 'IP networks' and will not wait for telecare service providers to fully prepare themselves. They will be left behind and as a result, service users' will be at risk of receiving an unreliable service.

Scotland's telecare service providers, including health and social care partnerships, housing associations and many other organisations who use analogue connectivity to deliver their services, will need to be upgrade inevitably. Some may have already started their transition journey however those who have not, should now be starting to feel the pressure to do so.

Previously, there was major uncertainty of what the journey to digital telecare would look like and there was a need for a programme which would produce a roadmap and deliver a collaborative approach in a coordinated and timely manner. Digital Telecare for Scottish Local Government was established in early 2017 to plug this gap by working with

telecare service providers to identify their requirements to ensure a smooth, safe, transition to a digital service for those in recipient of telecare in their home environments.

## COLLABORATION

Continuing the strong level of engagement and collaboration which has been established since 2017 is key to the success of this transition. Telecare service providers should view costs as a necessary and effective investment which will support the effectiveness of future care services and reduce the burden on traditional health and care services. Investment will be required in the short term to secure the digital technology however significant costs and time can be saved by sharing best practice, solutions and knowledge between like-for-like organisations.

**INACTION ON SWITCHING TO DIGITAL TELECARE COULD LEAD TO DANGEROUS FAILURES OF ESSENTIAL SERVICES, AND WILL PUT THE SUPPORT GIVEN TO VULNERABLE INDIVIDUALS AT RISK.**





Estimated that Scottish Local Authorities spend around £39m delivering telecare services

Generating **£99m** of benefits to the wider public sector



Benefits primarily relate to:

- Prevention and delay of care home admissions
- Prevention and delay of hospital admissions



Around 2/3rds of these benefits accrue to the social care sector and the remainder to the NHS



## IMPACT

Moving from analogue to digital should be more than just replacing existing technology on a like-for-like basis. Emergent technology presents many opportunities for new consumer orientated and data-driven services. We have the opportunity to really transform the way health and care services are delivered across Scotland.

The potential economic impact of this digital transition is significantly positive. However, whilst transitioning, we must be sure that the disruption to service delivery is minimal, protecting the most vulnerable and as a result has no negative impact on wider health and social care services i.e. NHS.

Moving to digital brings with it a vast wealth of opportunities but it also introduces some new risks in the cyber security space. Robust measures are paramount to ensure services are delivered as safely as possible. Opting to participate in the [Digital Telecare Security Assessment Scheme](#) gives confidence

that, at least, the minimum-security standard will be met.

Telecare service providers must keep up with consumer expectations and emerging technology. Digital telecare can offer better quality services which are tailored to meet each service users specific needs and improve their experiences. However, it is essential that we are aligned with the migrations and timescales being pursued by the telecommunications industry, which we can now be measured against the Digital Telecare Roadmap presented later in this document.

Clear, strategic focus on the transition to digital telecare is vital. Digital Telecare for Scottish Local Government is driving this and has provided clear guidance that telecare service providers must make this shift as early as 2023 due to the accelerated timescales from telephony providers. Service providers must recognise the urgency and work with different sectors to collaboratively implement this shift.

# OVERVIEW

Digital telecare is an evolution of existing analogue telecare services offered by local authority health and social care partnerships, housing associations and voluntary organisations in Scotland. It is estimated that around 136,900 people in Scotland receive a telecare service from their local authority health and social care partnership, along with an additional 45,000 people who use telecare services provided by independent and third sector organisations. On average, 20% of all citizens over 75 years old are in receipt of a telecare service and this figure is widely predicted to increase due to demographic changes, increasing fiscal challenges and other socio-economic factors.

Currently, the equipment utilised to deliver these telecare services contains analogue dial-up protocols to carry status and alarm signalling between the alarm devices in a user's home to the Alarm Receiving Centre (ARC). The connectivity between the home and the ARC is provided by a user's home analogue telephone line or a mobile GSM radio embedded in the user's telecare alarm device.

In 2016, it was announced by all of the main telephony providers in the UK that their current telephony arrangements were being upgraded from existing

analogue networks, to become a fully digital, internet-based infrastructure by 2025. Ofcom and telecommunication providers advised that any systems relying on 'voice band data', such as telecare, will be affected by this change and citizens' equipment must be updated for them to continue to receive their vital services. This digital shift aligns with the Scottish Government's strategic direction to enhance care for the people of Scotland through the use of digital.

We are just over four years away from the existing analogue telephone network services being completely switched off as the UK's telecommunications infrastructure is upgraded solely to digital connectivity. This shift is well underway with telecare service providers already replacing analogue phone lines with digital equivalents and in many cases accelerating their deadline to **2023**.

This transition is happening now and there are increasing reports from service providers of instability on analogue networks, along with growing numbers of cases where telecare users are being migrated to a digital telephony service, placing their analogue telecare service at risk of operating unreliably, or failing completely. Recent activity across the

**ANALOGUE TELECARE EQUIPMENT CANNOT BE GUARANTEED TO OPERATE SAFELY AND RELIABLY OVER DIGITAL TELEPHONE LINES AND WITH DIGITAL MIGRATIONS UNDERWAY ACROSS THE COUNTRY SOME SERVICES ARE REPORTING A RISE IN THE NUMBER OF FAILED CALLS.**



sector has shown significant spikes in the numbers of failed calls received by ARCs, leading to capacity challenges for teams attempting to manage this, along with risks to telecare users that their emergency call does not connect when seeking assistance.

**One service provider in the UK has reported a failure rate of 11.5% (and rising) for the first alarm attempt (1).**

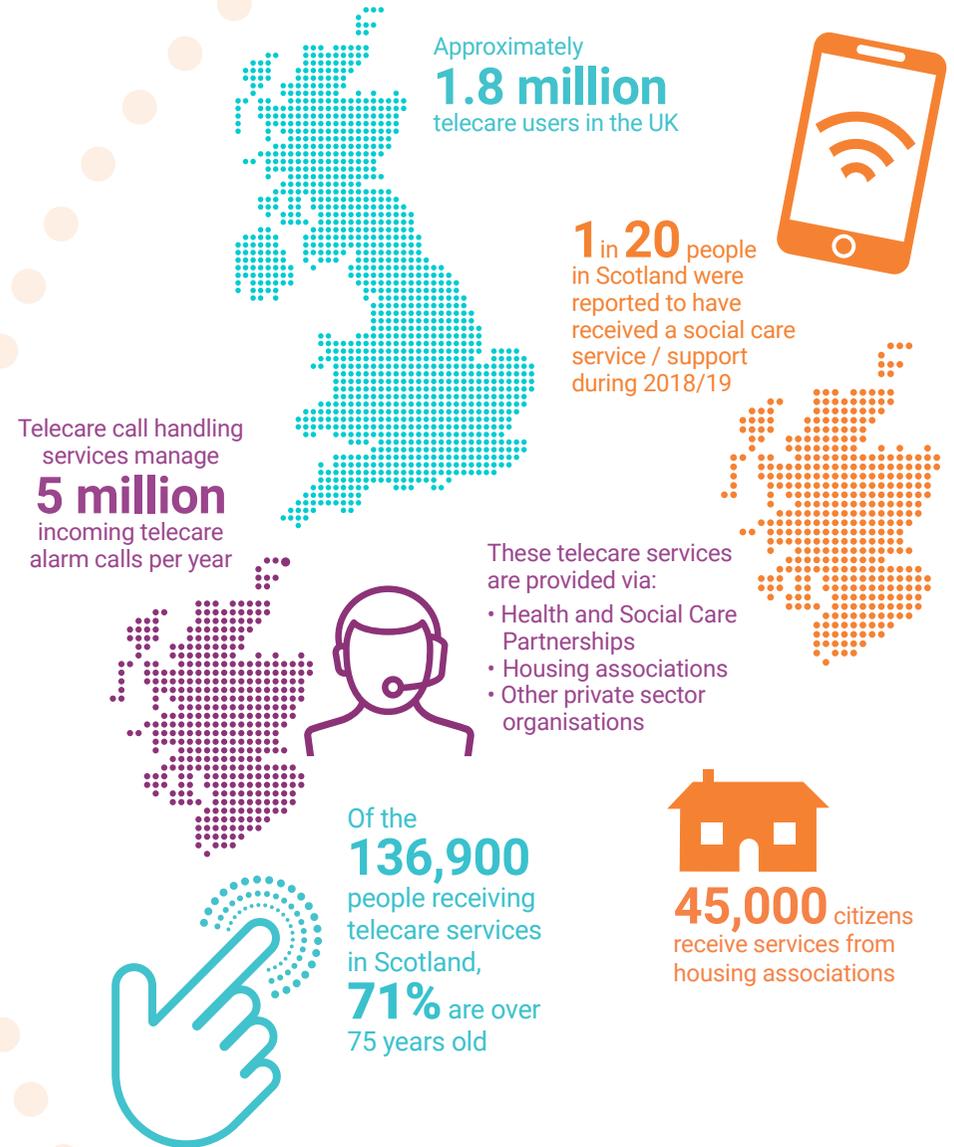
These risks to citizens and challenges for providers, mirror the experience of digital migration programmes in other countries. In order to learn from these experiences and identify potential issues involved in the migration, the Broadband Stakeholder Group commissioned a report from Plum Consulting, examining international examples of a migration to All-IP and retirement of the PSTN in France, Germany, Switzerland and New Zealand. This report was published in 2018 and established a range of risks and issues related to the operation of analogue devices and in particular medical devices attempting to send analogue signalling over digital lines (2).

**During their digital switchover, Sweden launched a national digital upgrade programme after failed telecare calls were widely reported and one fatality occurred after the citizens analogue alarm was unable to connect via the digital network (3).**

Ofcom have confirmed that the migration in the UK will impact a range of areas including telecare provision as these **“rely on some attributes of the PSTN that may not be fully replicated in VoIP-based” (4)**, and that analogue “DTMF tone transfer will be affected in ways that may make some security and care alarms malfunction” (5).

**It has never been more vital that telecare service providers begin planning their digital telecare transition now.**

The ‘once for Scotland’ approach that is being driven by Digital Telecare for Scottish Local Government, will allow organisations to get ready for the digital shift, upgrade their existing delivery models and recognise the opportunity digital connectivity presents to develop new service and product offerings for the citizens of Scotland.



(1) [https://www.tsa-voice.org.uk/downloads/pdfs/analogue\\_to\\_digital\\_shift\\_-\\_10\\_facts\\_-\\_march\\_2020.pdf](https://www.tsa-voice.org.uk/downloads/pdfs/analogue_to_digital_shift_-_10_facts_-_march_2020.pdf)  
(2) <https://plumconsulting.co.uk/preparing-the-uk-for-an-all-ip-future/>  
(3) [https://www.tsa-voice.org.uk/downloads/pdfs/analogue\\_to\\_digital\\_shift\\_-\\_10\\_facts\\_-\\_march\\_2020.pdf](https://www.tsa-voice.org.uk/downloads/pdfs/analogue_to_digital_shift_-_10_facts_-_march_2020.pdf)  
(4) [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0032/137966/future-fixed-telephone-services.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0032/137966/future-fixed-telephone-services.pdf)  
(5) <https://niccstandards.org.uk/wp-content/uploads/2019/03/All-IP-NICC-slides-for-230318-event-v3.pdf>

# RECOMMENDATIONS

## 1 Work collaboratively to co-ordinate the transition and have a robust communications plan in place

It is essential that the providers of technology enabled care devices and services are aligned with the migrations and timescales being pursued by the telecommunications industry. Telecare service providers require a clear and coordinated communications plan to navigate the challenges of the digital shift and communicate the transition effectively to their service users.

## 2 Have a clear strategic focus on the transition and follow national guidance on accelerated timescales

Clear, strategic focus on the transition to digital telecare is vital. Digital Telecare for Scottish Local Government is driving this and has provided clear guidance that service providers must make this shift as early as 2023, due to the accelerated timescales by the telecommunications industry. Telecare service providers must recognise the urgency and work with different sectors to collaboratively implement this shift.

## 3 Take full advantage of best practice guidance provided nationally

Utilising the Digital Telecare Playbook, launched by Digital Telecare for Scottish Local Government in 2018, is key to the success of the transition for telecare service providers. The Playbook is fully interactive resource, providing service providers with a single interface to a repository of best practice support, frameworks and guidance materials to facilitate the transition to a digital telecare service. [Access the Playbook.](#)

## 4 Develop, agree and follow a roadmap to achieve a safe transition

The rapid changes in technology make the development of a roadmap crucial to ensure vulnerable users are transitioned safely to a new digitally-enabled service ahead of the analogue telecommunications switch off. This National Briefing Document contains a roadmap which service providers can use to plan their own transition to digital telecare. It must be noted that as the telecommunications industry have not published all of the analogue switchover details, therefore timescales within this roadmap are estimations that service providers need to work towards.

## 5 Secure adequate funding for the transition

Funding is essential to ensure the right resource investments are made to support a successful transition to digital telecare. Telecare service providers should view costs as a necessary and prudent investment which will support future care services and reduce the pressure on traditional health and care services.

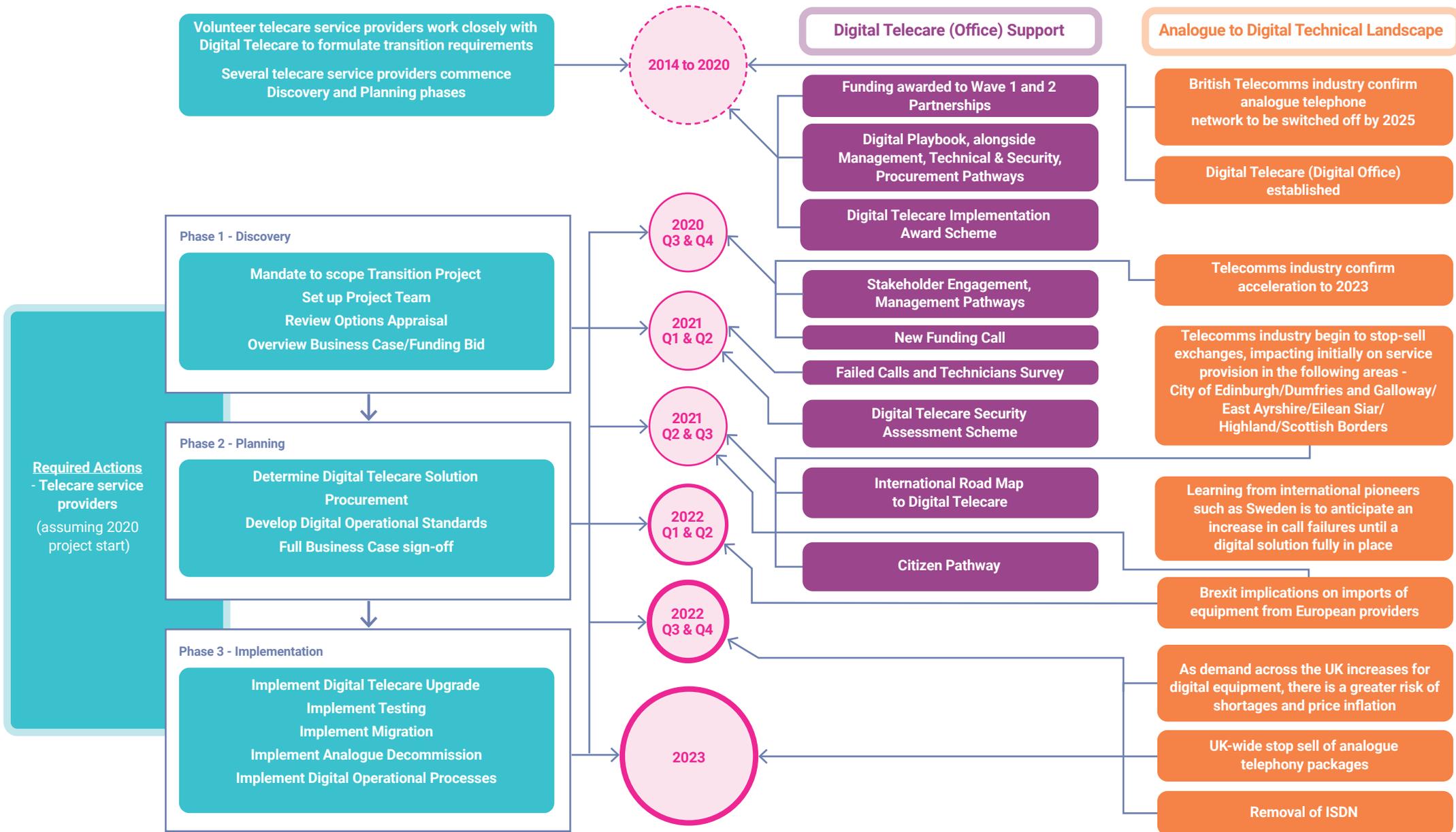
## 6 Consider consumers' expectations

Technological advancements and changes in consumer behaviour have had an impact on expectations of the telecare service delivery. Telecare service providers must consider their users' expectations, and how emerging technologies can provide a new user-orientated and data driven service.

**THE DIGITAL SHIFT IS INEVITABLE. TELECARE SERVICE PROVIDERS NEED A PLAN OF ACTION TO MINIMISE DISRUPTION TO THEIR SERVICE USERS'.**



# DIGITAL TELECARE ROADMAP



# IMPACT ON SERVICE USERS

By now, we know that the transition from analogue to digital telecare will have a huge impact on service users. It is important that their analogue telephone line and equipment is upgraded to continue to receive their vital services.

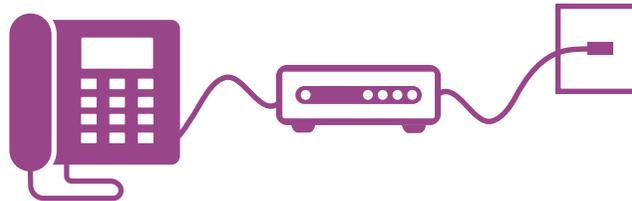
Telecare service providers are already upgrading to new digital alarms to ensure their users continue to receive a high-quality service and telephony service providers have also commenced migrating service users to a digital telephony service.

It is important that the service users are kept informed throughout the transition to digital telecare through various methods of communication. The Digital Telecare Playbook hosts a Stakeholder Engagement Pathway which offers guidance and materials on how to communicate with key stakeholders, including service users, throughout the transition.

## WHAT SHOULD I BE AWARE OF AS A SERVICE USER?

Service users must advise their telecare service provider if they have or are thinking of moving to digital telephone service to ensure their alarm will continue to work properly and efficiently. The following steps should be followed:

**1. Check if you have a digital telephone line** - Telephone services are often sold as part of a package combined with internet access and potentially television, meaning you may be upgraded to a digital telephone line if you swap or upgrade your internet or TV package. If you have had to connect your telephone handset to a different socket, potentially in your internet router, Wi-Fi hub, or TV box, then you have probably been moved to a digital phone line.



**2. Contact your telecare service provider** - Contact your telecare service provider and let them know if you already have a digital telephone line or require one. They will arrange a suitable date to install a new telecare alarm device which doesn't require a phone line, meaning you will continue to receive a reliable service.

**3. Continue to use telecare services** - Keep using your telecare equipment as normal, press your pendant and tell your telecare service provider about your telephone service. They will arrange a suitable date to install a new telecare alarm device which doesn't require a phone line, meaning they can continue to provide you with a reliable service.



**DIGITAL TELECARE CAN OFFER BETTER QUALITY SERVICES WHICH ARE TAILORED TO MEET EACH SERVICE USER'S SPECIFIC NEEDS AND IMPROVE THEIR EXPERIENCES.**

**EMERGENT TECHNOLOGY PRESENTS MANY OPPORTUNITIES FOR NEW CONSUMER ORIENTATED AND DATA DRIVEN SERVICES.**

**WHAT WILL HAPPEN DURING THE TELECARE ALARM DEVICE INSTALLATION?**

There will be changes in a service user's home as a result of the transition to a digital service.

The telecare service provider will arrange a visit to the service user's home to install each telecare alarm device. Installation processes will vary as some organisations will use different devices to others.

**BENEFITS FOR SERVICE USERS**

Digital telecare can offer better quality services which are tailored to meet each service user's specific needs and improve their experiences.

Benefits include:

- Faster connection speeds;
- Better call quality and reliability;
- More meaningful contact with the service provider;
- Self-installation would reduce waiting time;
- Potential to use own device(s);
- More choice on where alarm is located within the home – not tied to phone socket.

Digital telecare systems are also more reliable, offering a real-time overview of device statuses increasing citizen safety through:

- Fewer instances of failed calls;
- Live monitoring of devices enabling quicker fault detection.

**CHALLENGES FOR SERVICE USERS**

- Overcoming change;
- Wires and complexity of the new equipment set up;
- Potential increase of cost – service providers may increase cost to service user;
- There could be a risk around a user being left without a service if an engineer unplugs their old equipment and doesn't install the new digital line;
- Service users' may be worried about security/ loss of their data.



# MISCONCEPTION VS REALITY

## MISCONCEPTION:

Telecomms network providers will migrate to digital in 2025.

Moving to digital telecare will increase cyber security risks, but trying to understand and mitigate against all conceivable risks is too hard.

Telecomms providers will take care of the move to digital telecare.

Service users do not want change.

It is difficult for service users to switch to a digital service.

Telecare alarms will fail due to loss of power to routers.

## REALITY:

Many providers have announced accelerated deadlines of 2023, and this work is underway now.

Your data protection procedures through your Data Protection Officer and security procurement procedures through your IT colleagues, all in conjunction with the national programme, will help to explain and mitigate these risks realising service delivery and cost benefits through collaborative working.

Telecomms providers' responsibility only extends so far. The telecare service provider will need to ensure that the delivery of their service is working end-to-end.

Service users want the best possible service that suits their needs. Digital telecare services will offer more meaningful contact between the user and service provider and services can be tailored to suit the user needs and expectations.

Service users can either opt for self-installation or their telecare service provider will arrange for an installation of the new service, making it as easy as possible to switch.

This isn't an issue for alarms on the old phone networks. When power fails, these alarms have a 24-hour battery back-up and phone lines still work. But when analogue alarms run on digital networks, they will rely on routers, plugged in at home, which will stop working during or shortly after a power cut.

This also means that 999 calls will not be possible from fixed-line phones when power is lost. Telecoms providers have responded differently to this critical issue, but their proposals are limited.

**BT have confirmed that their new router will come with one hour of battery back-up. Virgin Media's router has no back-up at all and 'vulnerable clients' will be provided with a separate device that allows 999 and 112 calls only. These proposals unfortunately go against industry standards (EN50134) and best practice guidance, which all require 24-hour operation of telecare alarms in the event of a local power failure.**



# BENEFITS AND OPPORTUNITIES

Digital telecare systems offer a significant range of advantages which would increase the capacity of telecare service providers, power pro-active approaches to telecare delivery and offer better outcomes for users.

The following information details the benefits and opportunities of a digital telecare service, why it should be viewed as an essential service for telecare service providers and why the transition to a digital telecare service in Scotland should continue to be prioritised.

## CITIZEN EXPERIENCE

- Better quality services which are tailored to meet each citizen's specific needs;
- Faster connection speeds;
- Better call quality and reliability;
- More meaningful contact with services;
- Self-installation, reducing waiting time;
- Potential to use own device(s).

## INCREASED RESILIENCE

- Real-time overview of device statuses increasing citizen safety;
- Fewer instances of failed calls;
- Live monitoring of devices, enabling quicker fault detection;
- Ability of GSM devices to move between networks.

## GREATER FLEXIBILITY

- Calls can be routed, providing more options for remote working and options for service providers to support each other if one is experiencing a particular spike in calls;
- Call takers do not need to be located in the same building as the ARC equipment, enabling remote working;

## IMPROVED DEVICE MANAGEMENT

Without the need for an analogue phone-line, set-up is quicker and digital systems offer more efficient processes for updates and configuration meaning:

- Digital devices can be deployed swiftly;
- Simpler set-up processes meaning citizens can self-install alarm units;
- Devices can be updated/reconfigured remotely;
- Digital systems have sufficient bandwidth to incorporate cameras which could link in with NHS Near Me.

**TELECARE SERVICE PROVIDERS MUST KEEP UP TO DATE WITH CONSUMER EXPECTATIONS AND EMERGING TECHNOLOGIES.**



## MORE EFFICIENT DELIVERY MODELS

- Automate routine administrative tasks which would facilitate more effective use of staff resource and a shift to proactive services;
- Increase overall service capacity;
- Allow better focus on user-facing tasks;
- Free up time for outbound calls to promote health and well-being advice or activities;
- Improve staff job satisfaction.

## CONSUMER TECHNOLOGY

Integrating devices and wearables would enable:

- Rapid up-scaling and more responsive services;
- Savings on installation time;
- Reduced expenditure on devices;
- Potential for no installation visit;
- A more attractive option for users', removing the stigma of telecare alarms.

## INTEGRATION AND PREVENTION

- Open data, shared platforms and predictive analytics which would enable greater service integration and power preventative approaches;
- Instant sharing of user information between services, powering partnership working;
- The ability to automatically predict indicators of a health risk and take preventative steps, lowering hospital admissions.

## EFFICIENCIES

Digital telecare can support service providers to deliver more effective and streamlined operations, providing efficiencies around quicker installation times and the ability for users to 'self-install' devices. Digital telecare also allows the opportunity to remotely reprogramme high numbers of user devices instantly via device management platforms, potentially avoiding the need for a face to face visit to multiple locations.

In addition, business continuity arrangements can be reviewed to explore opportunities around the flexibility that digital offers. It is crucial that service providers fully harness the power that digital transformation offers to provide greater opportunities that improve efficiency, resilience, reduce cost and enhance the range of services that can be offered to citizens.

**TELECARE SERVICE PROVIDERS SHOULD VIEW COSTS AS A NECESSARY AND EFFECTIVE INVESTMENT WHICH WILL SUPPORT THE DELIVERY OF FUTURE CARE SERVICES AND REDUCE THE BURDEN ON TRADITIONAL HEALTH AND CARE.**



# RISKS

**The transition to digital telecare is no longer an option. It is becoming increasingly urgent for the transition to be undertaken, in order to mitigate against the growing risks of maintaining analogue services during and after the transition to digital telephony.**

Digital Telecare for Scottish Local Government have undertaken research to determine the risks that may be inherent in this process.

## 1) Unreliability of analogue devices over digital networks

The telecommunications industry and Ofcom all recommend a shift to digital and away from traditional analogue devices. This is because analogue devices, including telecare alarms, send data as audible voice tones over the PSTN network. When they are connected via a digital network this 'voiceband' data could potentially be corrupted or lost. This has implications for the reliability and safety of analogue telecare.

Other countries have already encountered this problem; Sweden launched a national digital upgrade programme after failed telecare calls were widely reported and

a 76-year-old man died after his analogue alarm was unable to connect via the digital network. In fact, more than 95% of Swedish digital alarm installations now use mobile network connections.

## 2) Risk to service users

There have been verifiable cases in at least 12 areas of Scotland where service users' alarms have been deactivated or have lost functionality with minimal or often no notice. In most cases, the service user has signed up to a new service from a telecommunications company without realising or being told that this will impact on their alarm service. When telecommunications engineers have entered a property in many cases, they are the first to inform the user of conflicts, but equally there have been instances where engineers disconnect the alarm and leave it in that state without further discussion.

This requires increased vigilance from the telecare service provider to identify any connection issues. It is recommended that increased communication with service users' is prioritised to pre-emptively inform them of migration issues and prompt them to contact the service if they have changed their telecom arrangements.



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### 3) Risk of increased budget and resources

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Some telecare service providers have been able to plug their existing equipment into new digital routers provided by the telecommunications industry. However, in the majority of cases, action is required to ensure continuation of the service by replacing the old alarm with a new GSM device. Ahead of any planned roll-out of such services, service providers must consider the potentially unknown number of GSM boxes and sim cards with an equally unknown increase in budget that may be required.

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### 4) Increased call failure rate due to distortion in the analogue signalling

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Evidence from countries who have already undertaken the transition to digital telecare suggests that as the telecommunications industry prepare their networks for the switchover, there will be an increased rate of call failures from analogue telecare equipment due to distortion in the analogue signalling. Anecdotal evidence suggests that call failure rates for this reason are increasing, and work is underway to gather further data to track this.

**IT IS ESSENTIAL THAT PROVIDERS OF TECHNOLOGY ENABLED CARE DEVICES AND SERVICES ARE ALIGNED WITH THE MIGRATIONS AND TIMESCALES BEING PURSUED BY THE TELECOMMUNICATIONS INDUSTRY.**

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### 5) Sudden failure of an exchange

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Should a telephone exchange fail over the next couple of years, it is likely that, rather than being repaired, it will instead be transitioned to digital early. This could have an immediate impact on the reliability of telecare for service users' in that area.

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### 6) Cyber Risk

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When implementing digital telecare, telecare service providers are likely to use a range of suppliers to provide the equipment and services that form the overall solution. Given this, service providers need to evaluate the cyber security risk associated with each supplier during the implementation of their solution.

To ensure a consistent and best practice approach is taken to cyber security, Digital Telecare for Scottish Local Government has designed an assessment procedure that digital telecare suppliers can elect to undergo. Where a supplier meets the fair and common minimum-security standard, their name and the details of the equipment/service assessed will be added to the 'Assessed Supplier List', which will

be readily available on the digital telecare website. Telecare service providers will be able to access details of the accredited equipment/services and use this as evidence during their transition journey. Given this, the assessment approach should ensure time and effort saving, both for telecare service providers and suppliers.



# ESTIMATED TIMELINE FOR TRANSITIONING TO DIGITAL TELECARE

## Business Case Sign Off

- The Business Case needs to sell the vision in a simple manner to ensure maximum understanding. It should include background information on the telecare service providers current service provision, describe how the service will look going forward and the risks associated of doing nothing.

The Business Case should also include an:

- Options appraisal;
- Financial breakdown, including the requirement to bid for capital funding;
- Risk evaluation (failed calls);
- Project Plan.
- Representatives from IT, Legal and the Alarm Receiving Provider should be consulted at this step and the final Business Case should be signed off by a director of service/executive.

## Establish Project Team

- The Project Team should, as a minimum, consist of:

### INTERNAL

- Project Lead;
- IT;
- Legal /Governance;
- HSCP Representative
- Where possible, service users.

### EXTERNAL

- ARC Representative;
- Supplier Representative;
- Telecommunications Industry Representative.

This timeline from Falkirk Council is being presented as an estimation for the digital telecare transition. Falkirk began their digital telecare journey in 2019, with 4,000 service users and have 7 staff involved in the transition. It should be noted that the timeline below is not a linear process and some steps can be completed in parallel with each other.

## Procure and Implement ARC upgrade

- This step will vary across each telecare service provider. Falkirk Council did a simple upgrade, however other options such as the development of an Invitation to Tender may need to be considered at this stage.

## Data Protection Impact Assessment Sign Off

- A template is available for this step which is robust and ensures all data protection considerations are assessed.

## Penetration Testing

- Penetration testing needs to be scoped. Consideration must be taken on what requires testing – is it the ARC database, the alarms and the infrastructure? Falkirk Council suggest that telecare service providers should not be afraid of pen testing as overcoming highlighted areas will provide them with reassurance to move forward.

## Procure Peripheral Devices

- Loading devices and testing is suggested at this step of the transition. It is very important to ensure that connectivity is achieved to the ARC, across the whole area.

4 months

1 month

6 months

3 months

2 weeks

1 month

## Staff Training

- This will be dependant on the devices and the ARC software that service providers procure. Key areas to consider are:
  - Staff training on the programming of the devices installed in service users' homes;
  - Staff training on the installation of devices;
  - Staff training on device fault finding;
  - Staff training on the understanding of 'Missing Heartbeats' and the process to follow;
  - Staff training on the installation of peripheral devices;
  - Staff training on the ARC.

## User Acceptance Testing

- This is the final sign off of all elements of the digital service and should include a detailed checklist covering all elements of the operation. It is likely that another period of testing to ensure that the service provider is satisfied with what has been delivered, will be required.

## Go Live/Migration

- 'Going live' requires a Migration Plan. Telecare service providers should consider which groups of users they will migrate first. They may also consider batch migration and a programme of continual testing. Falkirk Council decided that they would migrate one user at a time and testing as they went along.

## Business Continuity (BCP)

- Telecare service providers must consider what actions they will need to take in the event of "loss of ARC Premise" or a "complete loss of connectivity". Traditional telecare services will have a working BCP in place for their analogue service and one will be required for their digital service.

## Internal Acceptance Testing

- Testing criteria is available on the Digital Telecare Playbook to ensure that all aspects of the digital service work correctly. Falkirk Council conducted a significant amount of testing and found issues at this stage.

## Roll out Peripheral Devices

- Falkirk Council invested in a telecare team to swap out devices from analogue to digital. These were installed prior to the upgrade of their Alarm Receiving Centre and sending alarms signals using GSM. Falkirk also utilised the support of Haven Enterprises to pre-programme devices, ensuring a simple plug and play installation.

1 month/ongoing

1 month

3 months

3 months/ongoing

6 months/ongoing

Ongoing

# RESOURCES AND ESTIMATIONS

The following information should be used as an estimation only.

COST TYPE	ESTIMATED
Alarm Boxes (per box)	£200 - £260 per device - most include a 12 month sim
Sim Cards (monthly per card)	£5/month/sim after initial period
Peripherals	Varies. Most manufacturers allow upward compatibility, so replacement is only needed if changing manufacturer (or if using Tynetec to begin with)
Subcontract Alarm Receiving Centre	Benchmark £4 per user, per month e.g. 2500 users could be £360,000 over 3 years
Outfit own Digital Alarm Receiving Centre	Varies too dramatically to enable accurate estimation
ARC Upgrade	Purely software upgrade, £10,000 - £15,000, Wider hardware also requiring upgrade, £35,000 - £45,000
Cloud ARC	Indicative only: Setup fee of £20,000, service costs of £7-8/service user/month
Data Protection Impact Assessment	Internal costs therefore depends on internal IT structures and recharges
Pen Testing	£5,000, however funding available from Digital Telecare. <a href="#">Get in touch.</a>
Additional Internet Security	Costs based on firewalls therefore allow £500, per wall, per site
Phone lines	£2500/site/year based on 30 channel SIPP
Additional Internet Connection	Initial one-off install costs, £1,000 plus £2500 per site per year
Software Licence Costs	For licenses based on individual service users, expect around £2500 for first 500 users and then additional £5 per year per service user thereafter
Operational Changes (inclusion of Third parties)	Varies too dramatically to enable accurate estimation
Additional Staff training	Varies too dramatically to enable accurate estimation

**WHETHER YOU ARE A LOCAL AUTHORITY, A HEALTH AND SOCIAL CARE PARTNERSHIP, OR A REGISTERED SOCIAL LANDLORD, THE SWITCHOVER FROM ANALOGUE TO DIGITAL TELECARE IS DEPENDENT ON YOUR ORGANISATION'S DIGITAL LEADERSHIP, CAPABILITY AND MATURITY. THE END TO END CONSIDERATIONS OF THE SWITCHOVER WOULD BE THE ASSESSMENT OF YOUR DEVICES IN USER'S HOMES AND THE INFRASTRUCTURE AND ALARM RECEIVING CENTRE PLATFORM WHERE CALLS ARE RECEIVED AND DATA IS STORED. THE DIGITAL TELECARE PROGRAMME IN YOUR ORGANISATION SHOULD BE CONSIDERED AND ALIGNED THEMATICALLY TO THE IT / DIGITAL STRATEGY, AS WELL AS CENTRAL TO CITIZEN OUTCOME CENTRIC STRATEGIES, TO PROMOTE FOCUSED AND HIGH-LEVEL AWARENESS OF THE TRANSITION.**

## Suggested Project Team Structure

The following structure is recommended when telecare service providers are developing their Project Team at the beginning of their digital telecare journey. Telecare service providers are all different therefore titles and structure will vary and, in some cases, roles below may be combined \* for some organisations.

\* Depending on structure and levels of integration, staff from HSCP, Council and/or NHS may be involved. Not all these roles would be required, at least not on a regular basis but may contribute for short periods as relevant.

Role	Frequency/Reasons for involvement
<b>Telecare Service</b>	
Programme Manager	Core/Overall Lead
Project Manager/s	Core/Managing discrete work packages i.e testing
Telecare Service/ Responders Manager	Core/Able to provide more in-depth service specific knowledge
ARC Service Manager (internal or 3rd Party)	Irregular/Specific expertise on ARC operations and required upgrades etc
Telecare Operations Lead	Core/Able to provide more in-depth service specific knowledge
Telecare Access and Support Team	Irregular/guidance on issues in the field, technician training and skills, service user communications
<b>IT Services</b>	
Infrastructure Architect	Irregular/ expertise and planning if ARC solution will sit on the corporate network
IT Project Manager	Core/manages IT specific work packages
Digital Transformation Lead	Involvement could vary from a key role as part of the steering group, linking the project into the wider transformation portfolio, to irregular involvement when specific support is required to highlight an issue or risk

# OTHER RESOURCES

Digital Telecare for Scottish Local Government have a range of other resources to support telecare service providers with their transition to digital telecare including:

## Digital Telecare Maturity Assessment:

The Digital Telecare Maturity Assessment is a light-touch, self-managed questionnaire which will help to provide feedback on a telecare service providers readiness and a direct indication of the most appropriate sections of the Playbook for guidance which will help the organisation begin the analogue to digital journey. This acts as a pre cursor to help telecare service providers achieve the bronze milestone of the Digital Telecare Implementation Award Scheme. [Find out more.](#)

## Digital Telecare Implementation Award Scheme:

The Digital Telecare Implementation Award Scheme provides recognition to telecare service providers across Scotland, when reaching four key milestones during their transition to digital telecare. Service providers will receive a bronze, silver, gold or platinum badge when they reach each milestone. It is hoped that recognition of this nature will help ensure internal recognition of these achievements. [Find out more.](#)

## Digital Telecare Security Assessment Scheme:

Where a suppliers equipment/service meets a fair and common minimum-security standard, their name and the detail of the equipment/service assessed will be added to the 'Assessed Supplier List', which will be readily available on the Digital Telecare website. Telecare service providers will be able to access details of the accredited equipment/services and use this as evidence during their transition journey. [Find out more.](#)

## The Digital Telecare Playbook:

The [Digital Telecare Playbook](#) is an online, fully interactive, resource providing telecare service providers with a single interface to a repository of all relevant support and guidance materials to facilitate the transition to a digital telecare service. [Access Playbook.](#)

## Digital Telecare Insight Service:

The Digital Telecare for Scottish Local Government publish an Insight Service each month, aiming to provide guidance on the key operational procedure changes telecare service providers will need to implement when moving to a digital telecare service. [Find out more.](#)

**Digital Telecare Blog:** The monthly Digital Telecare Blog provides information from key colleagues or representatives from the sector. [Find out more.](#)

**Digital Telecare Newsletter:** The monthly newsletter contains all the latest information from Digital Telecare for Scottish Local Government. [Find out more.](#)

## Digital Telecare for Scottish Local Government Microsoft Teams environment:

Teams is utilised as a communication and collaboration space for key stakeholders. Partnerships must [register to access this environment.](#)

**Webinars:** The Digital Telecare for Scottish Local Government team hosts webinars to provide stakeholders with insight from key digital telecare topics and provides an opportunity for attendees to ask questions to knowledgeable speakers. All webinars are recorded and can be viewed on the [Digital Office YouTube Channel.](#)

**Case studies:** A range of case studies are available on the [Digital Telecare Website](#) showcasing progress and successes from telecare service providers across Scotland.

Role	Frequency/Reasons for involvement
<b>IT Services contd</b>	
<b>Cyber Security/ Network Manager</b>	<b>Irregular/expertise and planning around DPIA/Pen testing etc</b>
<b>ICT Relationship Manager</b>	<b>Could support aligning the digital telecare project with wider IT transformation portfolio</b>
<b>Information Governance</b>	<b>Irregular/expertise and planning around DPIA</b>
<b>External Groups</b>	
<b>Service User Representation</b>	<b>Irregular/SU communication and input to service design</b>
<b>Suppliers (both alarm and ARC suppliers)</b>	<b>Irregular – once contracts defined/feeds in on product spec and requirements</b>

## Steering Group

A Steering Group to offer governance and strategic direction should also be set up. Again, membership of this will vary due to roles and capacities but at a minimum should include:

- > Senior Responsible Officer for Digital Telecare (Chair);
- > ICT Security Manager;
- > Telecare Manager;
- > Alarm Receiving Centre Manager;
- > Digital Telecare Project Manager;
- > Telecare Team Leader.

Additional colleagues may be invited to attend for specific items on the agenda, as and when required. In regular attendance should be:

- > Information Governance Manager;
- > Head of IT;
- > HSCP Transformation Representative;
- > Strategic Housing Representative;
- > Telecare Supplier Representation.

A suggested Terms of Reference can be found on the [Digital Telecare Playbook.](#)

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