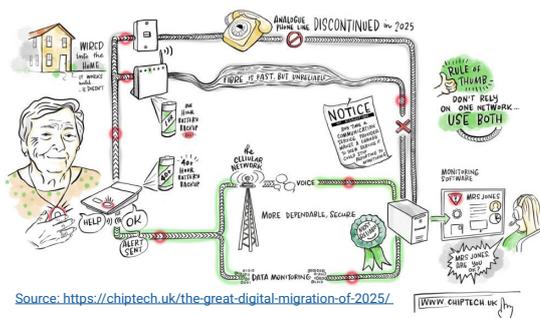


MOBILE CONNECTIVITY - DIGITAL TELECARE

INTRODUCTION

Technological change is a fast moving environment with the internet prominent in our lives and work. In order to prepare for the future, in 2017 British Telecom announced that by 2025 the existing analogue telephone network will be switched off and everyone will receive a digital internet protocol (IP) voice service enabled. As you would anticipate, all other communication providers in the UK are following suit by updating the way they deliver telephone services. Although majority of telephone users will be unaware of any change to their telephony service, there are implications for citizens in receipt of telecare in their home environments. In addition to the telecare service provision per se, the change will impact on supportive technologies within their homes. On some occasions, analogue telecare products may continue to operate however they are likely to become less reliable, with additional complexities surrounding installation and device management.



TOP 10 FACTS WHEN MOVING TO A FULL 'DIGITAL TELECARE SERVICE'

When moving to a full 'digital service', telecare will be dramatically affected. Here are the top 10 facts of how telecare is affected by this change:

1. **177,000** people receive telecare services in Scotland, of which **71%** are over 75 years old.



These telecare services are provided via:

- 22 HSCPs;
- 2 private providers;
- 2 housing associations.



45,000 citizens receive services from housing associations and **132,000** via HSCPs

4 million incoming telecare alarm calls per year via alarm pendants or automated sensors in homes.

5. There is likely to be a period of time before Partnerships have completed the upgrade of their ARC to digital when they have to operate analogue telecare alarms over users' digital phone lines. The time when Partnerships operate in this way should be minimised, given that reliability of analogue telecare signalling operating over digital phone lines may increase the incidence of failed calls.



Partnerships should have contingency measures in place for users where their analogue telecare will not operate following a digital telephone line upgrade. This could include the use of GSM-based alarms or migrating a user

6. to digital telecare and using another Partnership to handle their calls.

Partnerships should procure telecare equipment that supports 4G connectivity, where possible, as this provides a degree of future proofing. Network coverage is improving and can support the higher bandwidth applications that are likely to emerge as telecare services develop. Mobile connected alarm devices should be fitted with a roaming SIM

card, meaning the device can connect to any available mobile phone network. This ensures that the connection is resilient; being able to use the best available signal and move to another network in the event of one supplier's network failing.

WHAT MATERIALS ARE AVAILABLE TO SUPPORT YOUR TRANSITION TO DIGITAL TELECARE?

The following documents are available within the Technical and Security Pathway of our Digital Telecare Playbook to support partners transitioning to digital telecare:

- **Analogue Telecare in a Digital World:** Guidance to understand how current analogue telecare solutions will be impacted by the roll-out of digital telephone lines including: analogue telecare installations, reliability of telecare signalling, phone line failure notifications, power failures, telephone extensions and telecare alarm locations and connecting to digital phone lines. [View document](#)
- **Connectivity for Digital Telecare:** Overview of the mobile connectivity options for digital telecare and summary of the connectivity supported by each of the devices on the marketplace. [View document](#).

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2. Currently, all alarm voice calls are sent via the Public Switched Telephone Network (PSTN) to an Alarm Receiving Centre where an operator will provide advice or seek the help required for the issue.

In **2025**, this will be switched off and replaced with a digital 'all-IP' network. Voice calls and data will be sent as "data-packets" over digital networks.



Services will shift from users' own phone lines for connectivity to the use of digital connections. The recommended approach is that mobile telephone networks (rather than fixed broadband) be used to provide these digital connections.



4. When using a mobile connection, the data traffic related to signalling from the alarm devices is sent to the ARC securely. The security of this data traffic is provided by



the mobile SIM supplier through the use of dedicated data connections (a private APN1) and using encryption of traffic over the Internet (a VPN2).

Analogue devices, including telecare alarms, must be connected to an analogue terminal adaptor (ATA) in order for them to operate once a telephone line has been converted to digital. These adaptors, which may be a standalone device or integrated into an Internet router, convert analogue signals into Voice over IP (VoIP), which can then be carried over the digital phone line.

Analogue telephone lines receive their power from the telephone exchange, and so continue to operate if mains power fails. Digital phone lines will not operate in the event of a power failure. Where a user is identified as being vulnerable their telephone line supplier may provide battery backup, but this may only ensure phone line operation for 1 hour. Emergency backup line devices may also be provided, but these only allow 999/112 calls.

8.

Following the upgrade of a user's telephone line to digital, the telecoms provider may not connect the user's telecare alarm to the new phone line. This means that the telecare partnership will be responsible for relocating (as required) and connecting the telecare alarm following the telephone line upgrade. There is a range of devices that could be used to provide the telephone service following an upgrade. Partnerships will need to determine where to connect telecare devices and check for compatibility.

10.

David Brown, Business Relationship Manager, Digital Telecare for Scottish Local Government

FREQUENTLY ASKED QUESTIONS

Here are the most frequently asked questions to Digital Telecare relating to mobile connectivity:

- How does a digital alarm box use a mobile network to connect to its Alarm Receiving Centre (ARC)?
- What can go wrong with the mobile connectivity?
- When does the ARC notice that there is a problem with the mobile connectivity?
- What happens if there is a failure in the digital connection to the alarm receiving centre?
- Does the alarm device use 2G, 3G or 4G mobile?
- Can I use my own SIM card in the alarm box?

The answers to these questions can be found in the [Digital Telecare Playbook](#).

If you have any questions relating to this Insight piece or the wider Telecare environment, please [get in touch](#).