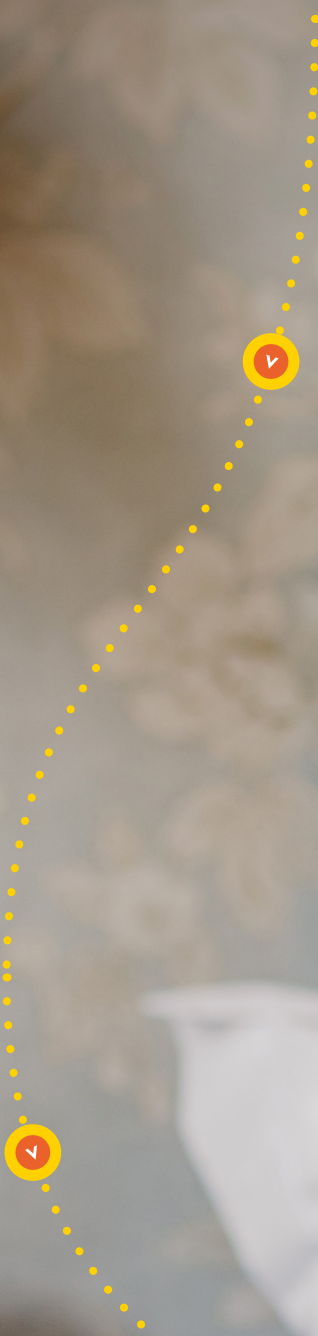# Guide to first time call failures:

How to protect your telecare services

Contents

There has been a significant rise in first time call failures over the last few years, with many telecare alarm calls taking multiple attempts to connect or even failing completely.

This poses serious risks for the people who rely on telecare services to keep them safe, so what do housing providers need to know about the issue – and, most importantly, what should you be doing about it?

This rise in first time call failures is linked to the upgrade of the UK's telecoms infrastructure and is due to compatibility problems between the new digital network and old analogue telecare equipment. As the digital phone switchover progresses, we're seeing a knock-on effect on telecare services designed to operate over analogue telephone lines.

First time call failure rates currently stand between 11-30%, representing hundreds of thousands of emergency alarm calls with delayed responses.

It's essential housing providers understand why this is happening and what they should do to manage the problem.

First time call failure rates currently stand between

11-30%

This guide looks at:

What is a first time call failure?

A first time call failure (FTCF) occurs when a telecare alarm call is unable to connect to the monitoring centre on the first attempt.

This can result in:

- Multiple attempts to connect the call, costing valuable time in an emergency
- The complete failure of the call, also known as 'Total Call Failure'

This can also impact call clarity, causing extensive distortion on the line when the call connects, which makes it difficult for the operator and the telecare user to communicate with each other properly.

You may see the issue referred to more generally as 'telecare call failures' but the term 'first time call failure' provides a more accurate representation of what is happening.

The impact of the digital phone switchover on telecare

The increase in call failures is due to analogue and digital compatibility issues, with some analogue telecare devices struggling to operate correctly over the digital network.

The telecoms industry announced plans to retire the UK's traditional analogue phone lines (known as the Public Telephone Switched Network, or PTSN) back in 2017. Since then, work has been underway to roll out the digital or 'all IP' network across the country.

As we get closer to 2025 when communication providers including Virgin and O2 are due to complete these upgrades, more and more areas are being moved to digital. And, by January 2027, just thirteen months later the rest of the network will have been switched. This means telecare alarm calls are increasingly likely to come across at least part of the digital network before they connect to a monitoring centre – and are therefore more vulnerable to compatibility issues.

What's causing the rise in first time call failures?

To understand why analogue telecare equipment may not operate reliably over the digital network, we need to look at how an alarm call connects to the monitoring centre.

Analogue telecare equipment sends audible tones through the phone line, much like a fax machine.

If you were to pick up the phone to a device, you'd be able to hear these tones, which are distinct in their pitch and timing. The equipment at the monitoring centre deciphers these tones to get information about the alarm call and the device.

The tones are sent in a format designed for the analogue telephone network but are now coming across portions of the digital network on the journey to the monitoring centre.

There are two main reasons why this causes a call failure:

1. Round trip delay

This happens because the timings between the tones gets altered when they are converted to digital. If the gaps between the tones are not the same as when they were sent, the monitoring centre is not able to understand the message, so the call will not connect.

2. Data malformation

This happens when the tones themselves are altered as they convert to digital. Again, the monitoring centre cannot recognise the alarm call and will reject this.

In both cases, the telecare device will repeatedly attempt to resend the alarm call until it connects. This can lead to lengthy connection times, delaying the response from the monitoring centre. More rarely (for now), this can also result in a total call failure if the call continues to be rejected.

Telecare alarm calls are more vulnerable to compatibility issues

What happens when a telecare call fails?

One of the problems with first time call failures is that the issue is not always obvious.

To the person who has made the telecare alarm call, it simply seems as if this is not being picked up by an operator or there is a long delay before an operator answers. This can lead to the incorrect assumption that there's a problem at the monitoring centre.

But the operator at the monitoring centre is not aware the alarm call has failed to connect, as this can only be determined by later analysis.

Some digital monitoring platforms are able to identify when a call has been raised but did not connect. This means they can see first time call failures have occurred, allowing for further investigation to pinpoint what may have caused the failure. However, some analogue monitoring platforms are not aware of call failures at all.

As a result, you may not know the true scale of the problem for your telecare services. It's therefore important to track first time call failures by asking your monitoring centre to provide a regular report on these.

The current rates of first time call failures

First time call failure rates are not recorded as standard across the telecare industry at the moment. But information from various sources highlights how figures have been fluctuating over the past few years, in parallel with the work on the digital phone switchover.

Falkirk Council noted a marked rise in call failures to 12% in early 2017, finding these were linked to digital upgrades by a major telecommunications service provider.

Research for the NHS Directorate in 2022 found first time call failures were around 5%, noting:

"The failure rate reported varied significantly: one supplier reported seeing a failure rate of 30% for connections from older grouped scheme telecare equipment."

Digital Telecare for Scottish Local Government highlighted an increase in reports from service providers across Scotland in 2022 regarding issues with analogue to digital migration.

The TSA conducted **testing on analogue devices** across digital networks during 2022, finding:

"A significant proportion either function intermittently or not at all".

This echoes work we're doing at Appello, the UK's largest monitoring provider. We are analysing first time call failures across our monitoring centres, which support over 350,000 connections across the UK. We've seen rates steadily increasing since 2016 for customers still using analogue telecare equipment, with an average 18.9% calls being impacted in the first quarter of 2024. This figure varies depending on the make and model of equipment, as certain analogue alarm protocols (the language the equipment uses to communicate) are more prone to failure over a digital network.

As Digital Telecare for Scottish Local Government points out: "The view of network operators and communications providers is that call failure rates for tone-based analogue communication will continue to steadily increase as the UK's network infrastructure transitions to digital."

Alongside this, there's a danger we'll see a spike in failure rates when ISDN is withdrawn from the end of 2024 and replaced with purely digital services. That's because ISDN delivers both voice and data over the telephone network, so has bridged the gap between analogue and digital communication, masking compatibility issues to some extent.

Three steps to address first time call failures

The increase in first time call failures is a concerning trend. As a housing provider or local authority, many people rely on your telecare services as an essential lifeline in the event of an emergency. It's therefore vital to get to grips with the issue now to avoid potential problems further down the line.

You can do this by taking steps to:

1. Understand your current position

Ask your monitoring centre to provide a report on your first time call failure rates. This will help identify which properties and equipment are most affected by first time call failures and the extent of the problem. This allows you to establish a baseline figure and is also useful for the prioritisation of upgrade plans.

2. Monitor your first time call failure rates

Keep an eye on the situation with regular reports on your first time call failures, so you can see if these are increasing. Analysing the figures can also highlight if particular equipment or protocols are more likely to experience first time call failures.

3. Plan for digital

The evidence so far suggests older devices using certain analogue alarm protocols are especially vulnerable to first time call failures. This may provide a starting point as you plan a move to digital telecare. Ultimately, however, an end-to-end digital service is the best way to reduce the risks of failed calls. This ensures your telecare services are fully compatible with the digital network, so you can provide the safest possible solution for your customers.

Simplifying the switch to digital telecare

Our goal at Appello is to provide all the facts on the digital phone switchover and digital telecare, so you can make decisions with confidence.

- Find out about the key issues with our range of helpful resources, including digital switch video explainers and guides on digital telecare.

- Talk to us to arrange your pain-free transition to digital telecare. We'll audit your current system and provide our recommendations for cost-effective, future-proof digital telecare solutions that meet your needs.

Talk to us to arrange your pain-free transition to digital telecare

About **Appello**

Appello is a market leader in digital telecare and Technology Enabled Care (TEC). We work with housing providers to deliver safer and happier communities, using technology to help empower and enrich people's lives.

We've been creating and delivering digital telecare for a long time now, so you can feel confident that we have all the essentials covered while also providing innovative and comprehensive solutions.

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