Telecare: supporting independence at home

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The role of the healthcare assistant (HCA) is one that comes into contact with lots of different forms of technology. For those that work in the community, one of the most common forms of technology that will arise is telecare. Positive use of this technology can save lives and save resources and increase independence.

As people get older, their ability to do things can become diminished. This decrease in functioning means that the older person might be more susceptible to accidents such as falls, floods, or forgetting to take medication. These accidents can be prevented through the use of technology called telecare.

What is telecare?
There are many conflicting definitions of telecare. What is evident is that telecare is traditionally used to support older people, but can also be used with people of all ages. Telecare can be seen as a range of technology services, which can be used to support people and enable them to be independent in their own homes (Schillmeier and Domènech, 2010).

Telecare uses sensors to alert a carer or a response centre when a difficulty has arisen. Telecare can support carers by allowing them to free up time to do other things, while being reassured that the person they care for is safe.

Telecare (linked to a remote call centre) also provides personal reassurance that, if a problem arises, there is someone to talk to at any time of the day or night.

Standalone telecare
Standalone telecare equipment is ideal for people who have a live-in carer. Standalone telecare equipment produces noises to alert the carer. Some standalone devices offer softer tones or voice messages, which are designed to remind the client of something important, such as to stay seated or to take tablets. Standalone equipment might be battery operated or plugged into the mains power supply. The best use of standalone telecare is to provide instant alerts when something happens.

Scenario 1: wandering sensor
A client is prone to wandering, but when they leave their bedroom at night, they are unsafe. A sensor is set by the bedroom door, which sends an alert to the bedroom of the carer when movement is detected. The carer is able to resettle the client and return to bed.

Abstract
This article introduces the notion of telecare technology and its use within the community to enable older people to live independently. It identifies the essential things that healthcare assistants (HCAs) should be aware of when working with telecare.

Key words
- Telecare
- Technology
- Older people
- Disabled people
- Independence
- Enablement

Dispersed alarm telecare
Dispersed alarms generally use the telephone wire to transmit alerts to remote call centres (Fisk, 2003). In grouped accommodation, the alarms are likely to be wired...
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Table 1. Telecare devices and their functions

<table>
<thead>
<tr>
<th>Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pendant alarm</td>
<td>The pendant is often worn around the neck and it sends an alert to the response centre if the wearer presses the pendant button</td>
</tr>
<tr>
<td>Fall sensor</td>
<td>This is worn by the client and can trigger automatic alerts to the response centre if a fall occurs</td>
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<tr>
<td>Flood sensor</td>
<td>This is often laid on the floor and automatically alerts the response centre if water is detected</td>
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<tr>
<td>Smoke sensor</td>
<td>This is located on the ceiling and automatically alerts the response centre if there is excessive smoke in a room</td>
</tr>
<tr>
<td>Heat sensor</td>
<td>This is located on the ceiling and automatically alerts the response centre if there is excessive heat in a room—often associated with a fire</td>
</tr>
<tr>
<td>Pull cord</td>
<td>This alerts the response centre if a person in distress has pulled the cord to trigger the alert</td>
</tr>
<tr>
<td>Bed exit (bed occupancy) sensor</td>
<td>This is under the sheet on the bed. It can automatically alert the response centre if a person gets out of bed and fails to return within a preset time</td>
</tr>
<tr>
<td>Wandering sensor</td>
<td>Wandering sensors are often attached to doors and automatically alert the response centre if a person opens a designated door at a set period</td>
</tr>
<tr>
<td>Pill dispenser</td>
<td>Locked tablet container that dispenses medication at prescribed periods and alerts the call centre should a person not take medication</td>
</tr>
</tbody>
</table>

Another example of wearable telecare: a fall monitor. When activated, it contacts the help centre wirelessly—the warden in a community setting, or the remote call centre.

to send an alert within the accommodation or to a remote call centre, depending on the time and day.

Dispersed alarm telecare uses the traditional dispersed alarm system, but has the ability to add new devices. Most telecare devices work through wireless technology and can be triggered to produce alerts that can be beneficial to the client. In the event of a difficulty, the telecare wireless device sends a signal to the dispersed alarm box (at the premises or in the home), then this uses the telephone wires to send the alert to the response centre. The alert will continue to be transmitted until the response centre makes contact with the client.

The main dispersed alarm telecare equipment available is shown in Table 1.

Scenario 2: fall detector

A person has regular falls. A fall detector is provided which the person wears and this alerts the response centre automatically in the event of a fall.

Scenario 3: bathroom pull cord

A person has difficulty bathing. A pull cord is provided, so if the person becomes distressed they can call for assistance.

Telecare and the health professional

There are a number of important things to remember when a person has telecare:

- Instructions should be provided with any telecare device. These should inform the user and care staff of how to operate the device and any issues to do with maintenance.
- It is advisable to test telecare devices, ideally every 2 weeks, but every month at the least. If the device calls a response centre, then explain you are testing the equipment. Most dispersed alarm telecare should send low battery signals to the response centre, but sometimes devices are cut off from the main dispersed alarm unit, so testing is an important way to ensure the client is not left vulnerable.
- If the telecare device is worn, then it is important to consider how it is worn. If a pendant is worn, it is important to ensure the client can reach the button to press it. Similarly, with other devices, placement is important. Bed occupancy sensors are often flat sensors that fit under the bottom sheet of a bed, but must be across the bed—not from top to toe—to ensure they are working correctly. These also might require a mains socket to be plugged into; thus, checking it is plugged in will ensure it is working correctly.
- Pendant alarm buttons are often waterproof, but the cord that goes around the neck can take a long time to dry (sometimes up to four hours), so if a person is showering themselves, it is often better to remove the pendant and just physically check the person is still safe, rather than relying on the pendant to do this. Pull cords are also useful to have near a shower or bath, as these will allow the person to bathe without needing to call.
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Conclusion

This article has highlighted the importance of telecare to enable older and disabled people to retain independence (see case studies). With the appropriate use of technology, older and disabled people have the opportunity to live independently. Supporting and assisting people with telecare can help ensure the safety of a person.

Key Points

- Telecare enables people to be independent
- The benefits of telecare are achieving living independently
- There are two types of telecare: standalone and connected
- Telecare provides alerts or prompts
- It is important that telecare devices are checked regularly
- If a person refuses to use telecare, then it is important to alert your supervisor

Case Study 1: smoke detector and pull cord

Miss P is in her early 30s and has multiple sclerosis. She lives alone and has carers assisting her with all her daily living tasks. Following an assessment, two items of telecare were installed, a smoke detector and a pull cord above her bed. Although Miss P has limited movement, she can pull the cord in an emergency and now has the reassurance of a smoke detector linked to a 24-hour alarm service.

Case Study 2: falls pendant, bed exit sensor, smoke alarm

Mr R is in his 90s and continues to live alone in his flat, with home carer assistance. He has very reduced mobility and a history of falls. The last fall he had was in the night and he remained on the floor until the carer arrived in the morning. He now wears a falls pendant and has a bed exit sensor and a smoke alarm fitted.

Case Study 3: falls pendant, smoke detector and pull cord

Mrs M has severe rheumatoid arthritis and has reduced hand functions and a history of falls. When she falls, she is unable to get herself up and the last fall resulted in a hospital admission. She now has a falls pendant (as this type is easier for her to press), two smoke detectors and a pull cord fitted above the bath.

Further information

- Living made easy (Disabled Living Foundation) http://www.livingmadeeasy.org.uk/telecare/
- NHS Choices http://www.nhs.uk/Planners/Yourhealth/Pages/Telecare.aspx
- SMART Thinking http://www.smartthinking.ukideas.com/telecarelanding.html
- The Telecare Blog http://thetelecareblog.blogspot.com

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A pull cord above bed or bath—which wirelessly accesses help—can give the client reassurance they will secure emergency assistance.