

# Physical disabilities and sensory impairments

## Connected Healthcare Solutions



Key information for health, housing and  
social care professionals and carers

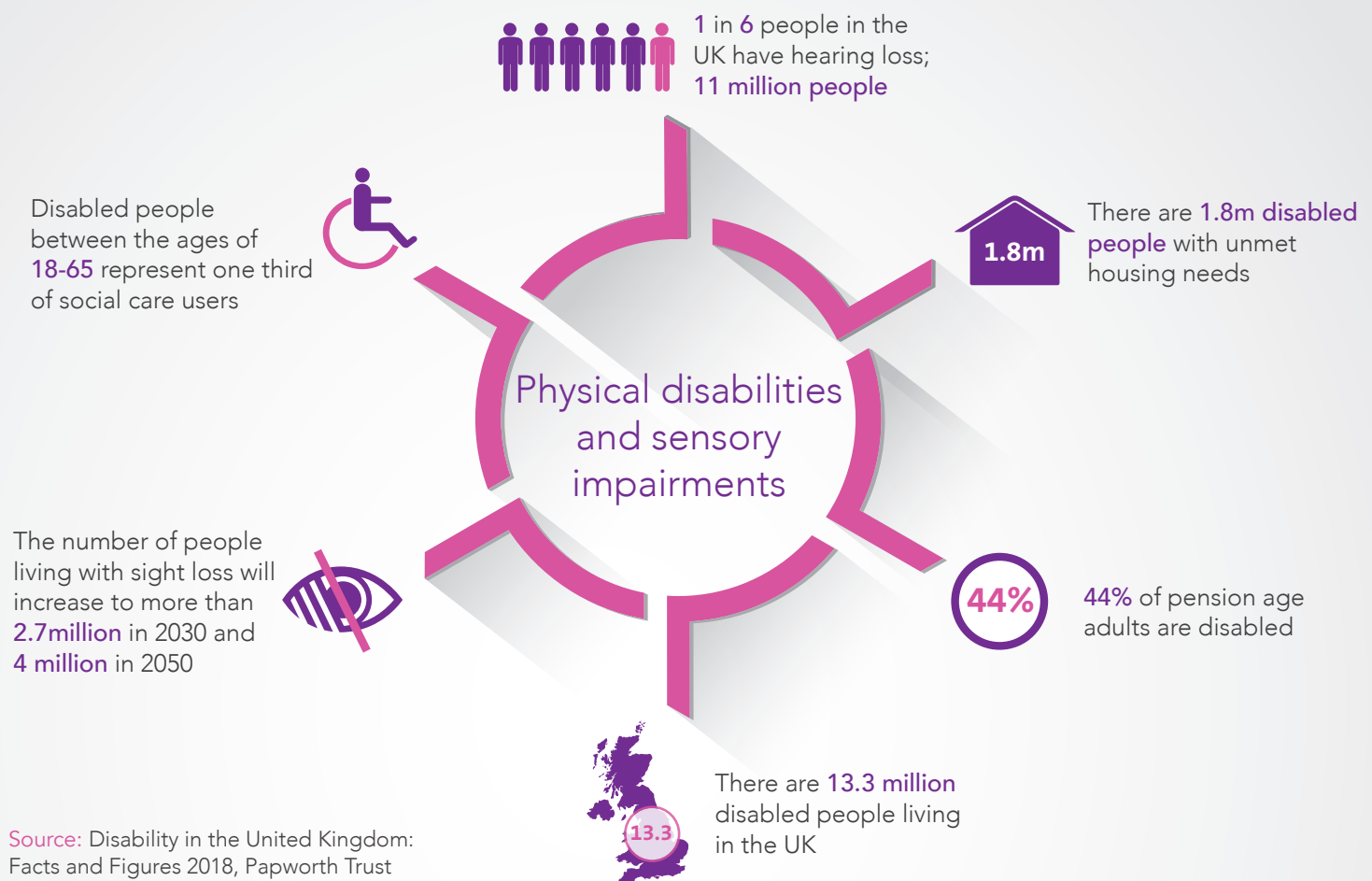
# Introduction

Connected Healthcare technology such as telecare and telehealth has a key role to play in supporting people with physical disabilities and sensory impairments in a way that promotes independence as well as contributing to safeguarding.

Technology can make a difference to people with all kinds of abilities. From managing risks such as fires or falling, to aiding communication and helping to deliver greater privacy or dignity, technology can enable people to have more control over the way they live their lives.

With public sector funding under increasing pressure, it is more important than ever that we realise the potential of enabling technologies to make a significant and positive difference to the lives of people with disabilities, and help our health, housing and social care systems to support their needs effectively.

This document outlines some of the ways technology can contribute to improving the everyday lives of people with physical disabilities and sensory impairments as well as those who care for them.



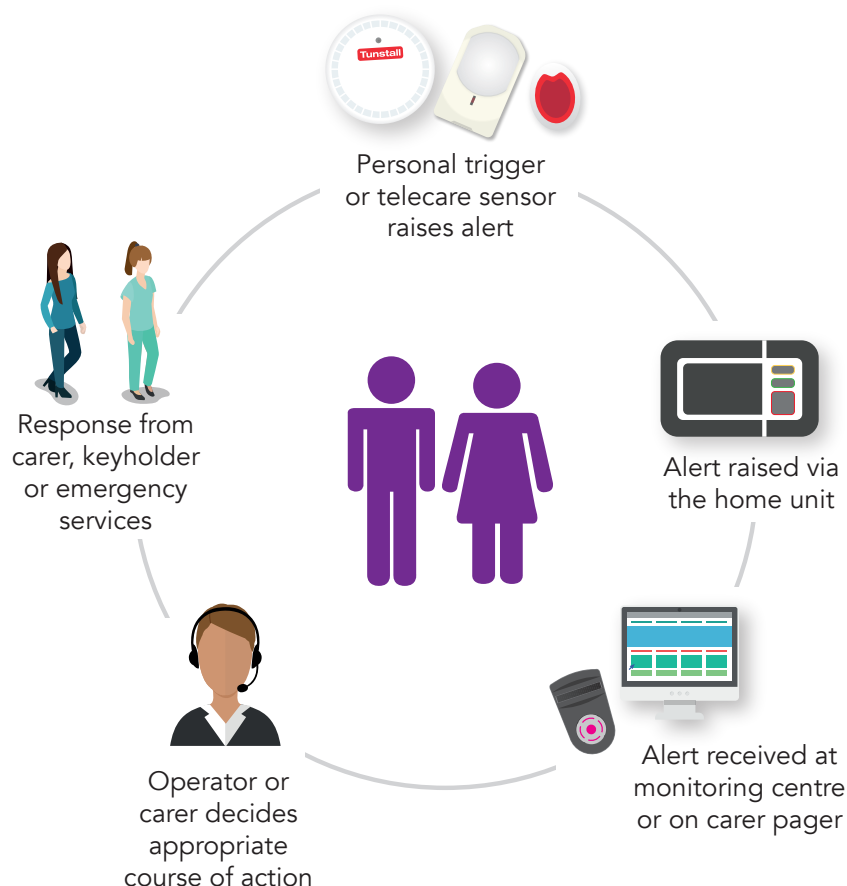
# What is Connected Care?

Tunstall's Connected Care solutions use advanced technology to support a wide range of people, including older people, people at risk of falls, people with limited mobility, people with learning disabilities, people with dementia, people with epilepsy and people with physical disabilities and sensory impairments.

Connected Care services combine a range of unobtrusive alarms and sensors which detect events such as smoke, gas or a person falling, with a 24-hour response centre. Should a sensor be activated, either automatically or by the user, an alert will be immediately received at the monitoring centre where the operator will contact family members, response teams or the emergency services to provide help. This rapid response minimises the consequences of events and provides reassurance to users and their families that risks are being managed effectively. Alerts can also be received by carers on a handset, in individual homes or grouped living environments.

Connected Care provides efficient, 24-hour support, giving a platform for the right amount of care to be delivered at the right time, and connects stakeholders to enable integrated care. Systems can also be configured to monitor changes in daily activity over time, aiding effective care planning and highlighting any deterioration in wellbeing at an early stage.

The latest evolution of Tunstall Connected Care is underpinned by the digital technology. Our Cognitive Care model will use data-driven insights to not just react to events, but predict and even prevent them, transforming the way health and social care is delivered.



Examples of technology in use and further details on the types of products developed by Tunstall are detailed in the following pages of this brochure.



# Service transformation

Connected Healthcare services and solutions such as telecare and telehealth can enable more people to be supported at home, helping to delay or avoid the need for more costly interventions. However, to be most effective, such technologies need to be embedded into provision, and form part of mainstream service delivery.

Tunstall has a range of support services which can be combined to provide a structure for transforming healthcare provision, helping to integrate support and reduce future costs by shifting the focus to prevention and self-care using technology as an enabler. We work in collaboration with customers to understand their particular challenges and develop a strategy to address them, using Connected Healthcare solutions to underpin system redesign and culture change.

The approach is modular, meaning customers can choose support with specific areas or to partner with Tunstall for the whole service.

With years of experience working across the health, housing and social care landscape around the world, Tunstall is uniquely placed to help its customers redesign their services, maximising the potential of Connected Care and Connected Health to support the delivery of integrated, efficient care and support which improves outcomes for users. This experience, along with our significant ongoing investment in Innovation and Development, ensures that we have the expertise and resources to help our customers navigate the digital evolution, and provide a futureproof infrastructure to meet market challenges and service user needs.



# Case study

## Telecare supporting independence for a wheelchair user

### The situation

James Porteous is in his late sixties, and contracted polio at the age of six. As a result, his breathing was severely affected and he became paralysed. Although he made a slow recovery, James has been a wheelchair user ever since. This limited mobility has not restricted his achievements; James has had a long and successful career, and is very active in his community, gaining an MBE for his charity work.

As James gets older he is finding that some of his symptoms are worsening, and he has some pain and needs a respirator at night to help him with this breathing. His wife Gill has also recently been diagnosed with Parkinson's disease.



### The solution

James and Gill have been using the Be Independent telecare and response service for several years, with James wearing a personal pendant to enable him to call for assistance in an emergency from anywhere in his home or garden. This has been a great reassurance to him, and has also given peace of mind to Gill when she has left James alone in the house. As both their needs are increasing over time, Gill now also wears a pendant, and Be Independent staff continue to make regular calls to assess whether they can provide any other equipment or services to help make life safer and easier for them.

### The outcome

James says,

“Telecare acts as a safety net for us. We live a very independent and fulfilling life, but at the same time we are aware that one day there may be circumstances that mean we need urgent help and the system gives us that back up. It also helps our daughters feel better that we have easy, 24 hour access to help from people who know our situation. It's really a fantastic support for the whole family, and we would all be much more anxious and stressed without it.”



# Case study

Central Essex  
Community Services

## Managing the risk of falls

### The situation

Mr and Mrs Smith have been married for nearly 50 years and live together at home, with supportive family nearby. Mr Smith suffers from Progressive Supranuclear Palsy, a very rare condition that results in a loss of balance. He has had several falls, and although Mrs Smith managed to help him up without requiring an ambulance attending, she was finding it increasingly difficult to get on with her day to day life as she needed to continually check that her husband was safe in his chair.

### The solution

Mr and Mrs Smith's Community Matron put them in touch with Carecall, and following assessment they were offered a Tunstall wrist worn pager system linked to a chair occupancy sensor under the cushion of Mr Smith's armchair in the lounge. The sensor pad activates the pager worn by Mrs Smith if Mr Smith tries to stand up and walk, putting himself at risk of falling. Mrs Smith is then able to get to Mr Smith in time to make sure he

doesn't fall. Mr and Mrs Smith have also been provided with a bed occupancy sensor which links to a vibrating pillow alert under Mrs Smith's pillow. If Mr Smith leaves his bed in the night and fails to return safely within a short time, Mrs Smith will be woken by the vibrating pillow alert, as was the case when Mr Smith woke following a bad dream and went into another bedroom where unfortunately he fell. The vibrating pillow alert woke Mrs Smith who was able to get him safely back into bed.

### The outcome

Mr Smith has now started to use the chair occupancy sensor to get his wife's attention, raising himself slightly from his chair to make Mrs Smith's wrist worn pager vibrate. If the doorbell rings and Mrs Smith has not heard it, or if he requires help, Mr Smith now has a simple and safe means of contacting his wife anywhere in the house or garden.



# Case study

## Telecare providing reassurance and supporting independence

### The situation

Wendy is a 53 year-old social worker for Hull City Council who lives in Hull with her partner, Pete. Wendy has muscular dystrophy, a genetic muscle-wasting condition that over time leads to an increasing level of physical disability. Wendy uses a wheelchair and is supported by carers for day-to-day living. Wendy also has a Canine Partners assistance dog called Connor, a Labrador retriever cross. Connor helps Wendy with such tasks as putting washing in/out of the washing machine, pressing buttons and opening doors. A former lecturer at the University of Lincolnshire, Wendy works for Hull City Council with adults who need support to live their life, as well as looking after her grandson every Thursday.

### The solution

Determined not to allow her condition to compromise her independence and safety at home, Wendy started using the Hull City Council Telecare Service in 2009. Wendy's telecare includes:

- A MyAmie personal trigger that Wendy can press at any time if she needs to summon help from anywhere in her home or garden
- Smoke detectors to raise an alert at Kingston Care monitoring centre in the event of a fire
- A Lifeline home unit, which can receive alerts from Wendy's MyAmie and smoke detector sensors linked to the monitoring centre, so that an alarm can be raised 24-hours a day



### The outcome

For Wendy, telecare reduces the risks of independent living and gives her peace of mind. For example, on one occasion, Wendy became separated from her house keys and ended up being locked in her home, unable to get to the phone. Having trained Connor the dog to push the alert on her telecare unit, Wendy told Connor to press the button. Connor pressed the button and staff at the monitoring centre called a locksmith.

Wendy says,

“Telecare gives me some ‘me time’, because I don’t always want somebody to be supporting me in my own home, but it’s nice to have the reassurance that I can get help if I need it.”



# Case study



## Supporting independence for people visual impairment

### The situation

Mrs P lives in Lancashire in her home of 35 years. She has a weakness in her right side and is registered partially blind. She receives 13 hours of care per week and her family ring her each morning and evening to check on her wellbeing. After a fall which resulted in Mrs P being hospitalised, she was keen to return home but worried about moving around her house and falling again in the future.

### The solution

Following a full telecare assessment, which included identifying potential risks and an understanding of Mrs P's daily activities, a Lifeline Vi+ home unit, iVi intelligent pendant, two smoke detectors, a carbon monoxide detector and a Key Safe were installed. Each piece of equipment was tested and the installer ensured Mrs P knew exactly how to use them and how to contact the operators who are on hand 24 hours a day, 365 days of the year. The service also provides a Home Responder who can visit in an emergency situation to help Mrs P.

### The outcome

There have been six activations of the iVi since the equipment was installed; on five occasions Mrs P was ok, but recently she had a fall which resulted in an injury. The iVi raised an alert at the monitoring centre, where an operator could talk with Mrs P via the Lifeline home unit, arrange for an ambulance and stay on the line until medical help arrived. Mrs P feels happy having telecare as it gives her confidence to remain at home alone, and gives her children peace of mind.



Mrs P says,

“ It has given me a new life, thank you so much. I feel at peace and safe knowing that there are operators at the end of a button. Lifeline does what it says, it saves peoples' lives. People don't realise how important it is, it really is a lifeline.



# Solutions

## Lifeline Smart Hub

The Lifeline Smart Hub is Tunstall's first IP home unit, and represents a step change in the way telecare services can be delivered, making them faster, more efficient and more insightful. Now with 4G, the Smart Hub retains the reliability of our analogue Lifeline units, but removes the restrictions of relying on an analogue connection and brings the many benefits of IP, such as remote management of units, Activities of Daily Living, monitoring and tracking, data gathering and intelligence leading to better quality services.



## Lifeline Vi and MyAmie

The Lifeline Vi home unit receives alerts from telecare sensors placed around the home and automatically raises an alarm with a carer or monitoring centre. The MyAmie pendant can be worn on the wrist or around the neck and allows the user to call for help simply by pressing the red button.



## Vibby

The Vibby is a sleek, contemporary and technologically advanced fall detector which can be worn on the wrist. The Vibby will automatically raise an alert if it senses the user has fallen, and also enables the wearer to easily call for help manually.\*



## Property exit sensor (virtual)

The virtual property exit sensor combines a Fast PIR with a door usage sensor (universal sensor) to create a solution which can monitor a door, generating an alarm if a client leaves their home (during the monitoring period) and does not return within a set time. It can also detect if a main exit door has been left open.



## iVi intelligent pendant

The iVi intelligent pendant is a small, lightweight device which allows the wearer to press a help button to generate an alarm call, and will also automatically generate a call for assistance if it detects a fall.\*



## Bogus caller/panic button

Fitted near the door, the discreet bogus caller button can be used to call for assistance at a 24 hour monitoring centre if a stranger requests entry into the home. Operators can advise the user, and all calls are recorded and can provide evidence admissible in court.



## CareAssist

CareAssist is an extremely easy to use, portable device that provides onsite carers with a means to receive instant alerts from a range of telecare sensors. This means that carers can be quickly made aware of any incidents allowing them to respond, but removes the need for them to continually observe the person they care for.



## Smoke alarm

Tunstall smoke alarms provide increased reassurance by raising an alarm call at the monitoring centre while also activating a local audible alarm, if they detect smoke.



# Solutions

## Tunstall GO

GO complements telecare packages by providing users with the means to easily access help when away from home. Worn as a pendant or attached to a keyring, if activated by the user it will connect them to the monitoring centre with two-way communication, enabling the operator to establish the nature of the event and send appropriate assistance. Activation also automatically notifies the monitoring centre of the user's location, and GO will automatically raise and alert if it senses that the wearer has fallen.



## Enuresis sensor

Placed between the mattress and sheet, this sensor provides immediate warning on detection of moisture, allowing effective action to be taken. The sensor eliminates the need for carers to make physical checks during the night, promoting dignity and independence.



## Epilepsy sensors

Epilepsy sensors are used to monitor people with epilepsy while they sleep. Patented sensor technology detects a person's movement in bed and is able to differentiate normal movements from epileptic seizures.



## Bed occupancy sensor

This specially designed pressure pad provides an early warning by alerting that the user has left their bed and not returned within a pre-set time period. The sensor can also be programmed to switch on lights, helping people find their way to and from bed easily.



## Bed shaker

The bed shaker is a Bellman & Symfon device which works as part of a telecare system to wake users in the event of a transmitter being activated. It can be used to alert people with learning disabilities if, for example, the smoke detector is activated during the night, or to wake carers if, for example, a bed occupancy sensor in another room indicates the person they are caring for has left their bed.



## Medication dispenser

Automatically provides access to medication over a 28 day period, providing audio and visual alerts to the user and/or their carer each time medication should be taken, and raising an alert if the user fails to access their medicines.



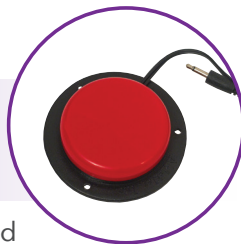
## Connected health

Tunstall offers a range of solutions to enable people, with assistance if required, to monitor their health condition at home. Vital signs and symptoms can be remotely monitored, and readings outside of parameters set for the patient will raise an alert with a clinician, enabling early intervention and avoiding further deterioration in health and the need for more complex care. Digital health monitoring can be particularly helpful for people with dementia who may not be able to communicate their symptoms.



## Environmental controls

Tunstall systems can also be configured to operate with a range of third party devices, such as sensors to control curtains, heating, lighting and windows, access control, aids to support bathing and toileting, cognition and communication aids, medical and therapeutic products and audio visual aids.







## The digital opportunity

BT has announced that it intends to complete the transition from an analogue telephony infrastructure throughout the UK to an IP (digital) network by 2025. The delivery of digital technology represents a huge opportunity to improve quality of life, making services faster, more efficient and more insightful.

Digital technology makes new models of service delivery achievable, with the power to;

- Empower and enable
- Safeguard and support

- Bring people closer together
- Give increased control over the way people live their lives

Tunstall has a range of resources available to help its customers navigate the digital transition, and can offer advice and support on managing the short-term impact as well as how to plan effectively for the future. Visit [tunstall.co.uk/digital-journey](https://tunstall.co.uk/digital-journey) to find out more.



## About Tunstall

Tunstall has been at the forefront of technology innovation for the health, housing and social care markets for over 60 years. Its pioneering software, hardware and services enable new delivery models which can transform services across the care continuum, and empower people to live independently and with an improved quality of life.

Tunstall works with social care providers, healthcare services, housing and retirement living providers and charities in 22 countries, improving the lives of more than five million people, including those living with dementia, learning disabilities, physical disabilities and long-term health conditions.

Tunstall's innovation-led, person-centred Connected Care and Health solutions connect people and integrate services, enabling early intervention to avoid or mitigate adverse events, and improve outcomes. As technology advances, we have the capability to not just react to events, but to predict and even prevent them, using data-driven insights. The Tunstall Cognitive Care approach can help to create intelligent, personalised care programmes and effectively allocate resources, making sure those in need have the right levels of support and reassurance.

Photos in this document have been posed by models in some cases and names may have been changed to protect individuals' privacy.

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