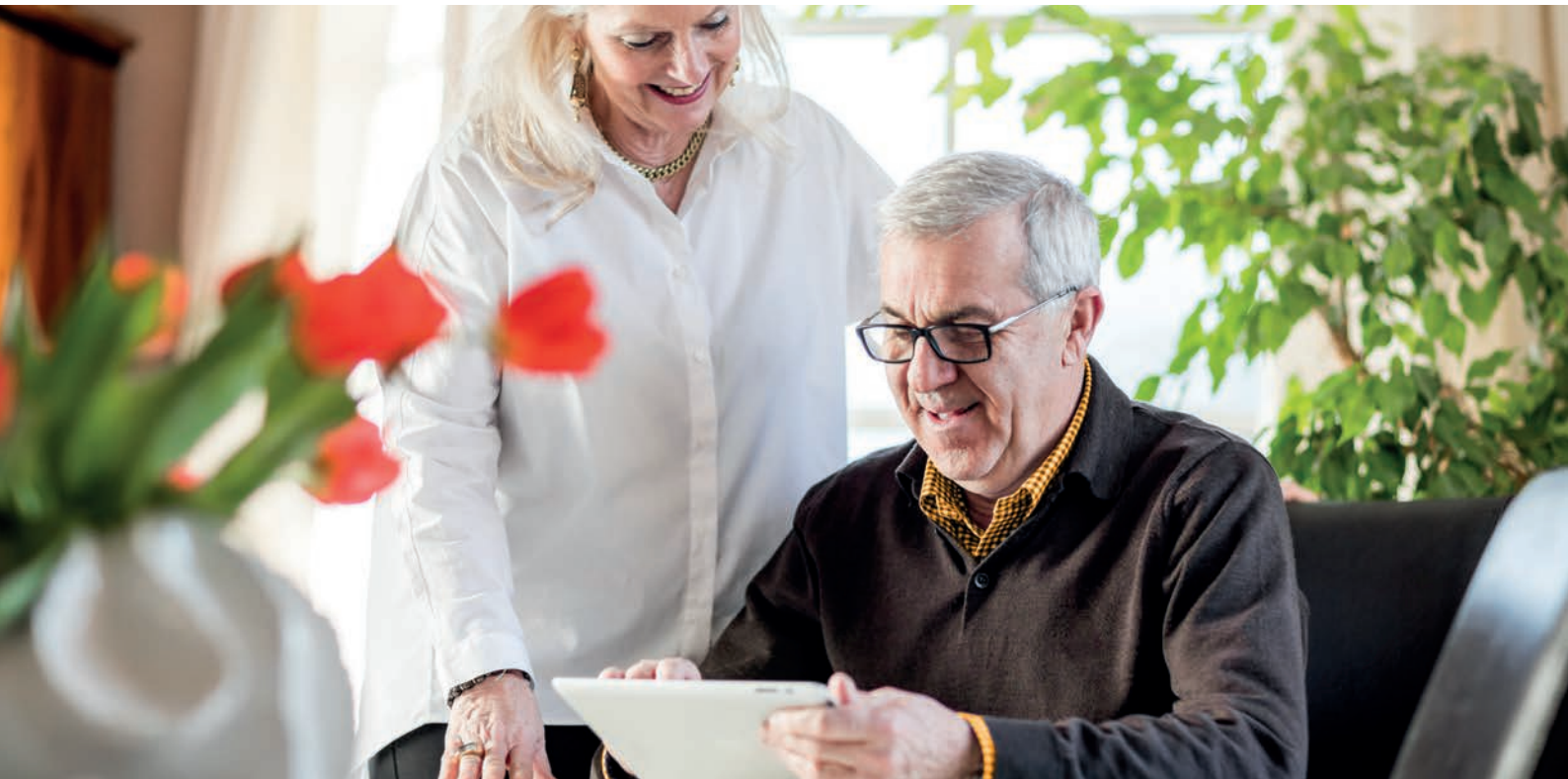


Dementia Care

Connected Healthcare Solutions



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

Introduction

Dementia and technology

Dementia is one of the biggest challenges facing our society, and our ageing population means it is one that is set to grow. Dementia currently affects 850,000 people in the UK, a figure forecast to double in a generation and rise to more than 2 million by 2051.


Connected Healthcare technology such as telecare and telehealth has a key role to play in supporting people with dementia in a way that promotes independence as well as safeguarding them.

Technology facilitates the delivery of care at home, enabling people with dementia to stay in familiar surroundings for as long as possible, helping them to enjoy a better quality of life for longer, as well

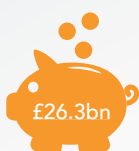
as offering invaluable support to carers. When residential care becomes the most appropriate environment, technology can help to provide improved levels of care, supporting staff and protecting the safety and dignity of residents.

As more is understood about dementia in its various forms it is clear that enabling technology has the potential to make a significant and positive difference to the lives of people with dementia, and the ability of our health and social care systems to support their needs effectively.

This guide outlines some of the ways technology can contribute to improving the everyday lives of people with dementia as well as those who care for them.

 Dementia affects approximately 1 in 14 of people in the UK aged over 65 and 1 in 6 people over 80


Dementia costs the UK economy **£26.3bn** a year



 **225,000** people will develop dementia this year, that's one every three minutes

There are **700,000** carers of people with dementia in the UK



 **70%** of people in care homes have dementia or severe memory problems



Up to a quarter of hospital beds are occupied by people with dementia

All statistics in this document are sourced from Alzheimer's Society

What is Connected Care?

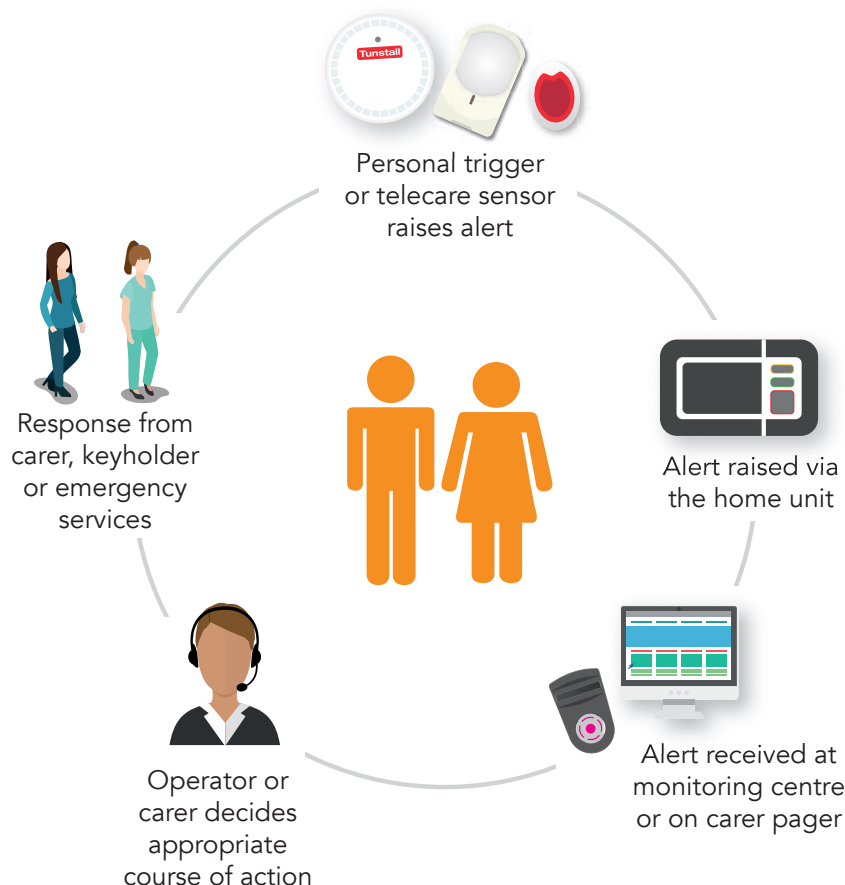
Tunstall's Connected Care solutions use advanced technology to support a wide range of people, including older people, people at risk of falls, people with limited mobility, people with physical disabilities and sensory impairments, people with learning disabilities, people with epilepsy and people with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

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.



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.



Case study



Managing memory loss and taking medication

The situation

Norman has vascular dementia, and lives alone, although his daughter lives nearby. There is CCTV installed outside Norman's home which his daughter is able to view remotely to make sure her father is safe and well. Norman also has a GPS tracker device, which enables his daughter to locate him should he leave home and be unable to find his way back. This has happened on several occasions.

The solution

Norman's daughter asked the Hertfordshire Telecare Service to advise on technology that could help her father remain living at home safely. Following an assessment, a telecare system was installed, with sensors to detect floods, fires or carbon monoxide in Norman's home, and automatically raise an alert via a Lifeline home unit at the monitoring centre. Property exit sensors have also been fitted which will raise an alert at the monitoring centre if an external door is opened.

If an operator is unable to get a response from Norman via the system, they can contact Norman's daughter, or the British Red Cross Responder Service.

The outcome

In the weeks after the system was installed, a property exit sensor was activated three times. On two of these occasions, the monitoring centre successfully made contact with Norman, but on the third there was no voice contact. The monitoring centre contacted his daughter to ask her to check the CCTV system to see if her father had left the property, and she saw that he had. The monitoring centre also contacted the British Red Cross Responder Service to attend, and they later reported that Norman had been found safe and well and had been helped to return home. The Service means that if Norman leaves his property, his daughter or the Responder Service will be quickly made aware, avoiding him being at risk, enabling him to remain in his own home.



Case study

Supporting carers

The situation

Mrs A is hard of hearing, has diabetes, high cholesterol and arthritis and has had a series of TIAs and several falls. She is also being assessed for vascular dementia. One fall when she was alone in the house resulted in a hospital admission, and her family is very concerned that she will fall again, particularly when trying to use the bathroom during the night. She lives with her son and daughter-in-law, and her daughter-in-law has cared for her for 16 years including prompting with personal care, washing, dressing, medication, meal preparation and cleaning. Because of her poor mobility, the likelihood of falling and her short term memory issues, her family very rarely leave her alone, which has a big impact on her daughter-in-law in particular.

The solution

A Lifeline unit has been installed along with a CareAssist pager. Mrs A's daughter-in-law can carry the pager and it will alert her to events such as her

mother-in-law falling when she is in a different area of the house. Mrs A wears an iVi pendant which automatically raises an alert on the CareAssist pager if it detects she has fallen. A bed sensor has also been installed which will raise an alert if Mrs A leaves her bed during the night and doesn't return safely after a short time.

The outcome

Mrs A's daughter-in-law and the family were clearly under strain and said that without their support Mrs A would have moved into a care home. Telecare gives them the reassurance that they will be alerted if Mrs A needs them, and allows them to spend time in other parts of the home without constantly checking and worrying. As the system can be diverted to raise an alert at the monitoring centre instead of the CareAssist the family can now spend a little time away from the home and feel reassured that they will be contacted in the case of an emergency.



Case study



Managing memory loss and taking medication

The situation

Lucy cares for her mum, Val, who has early onset dementia with rapid deterioration of memory. Val takes lots of medication, but due to her memory problems she was either overdosing or not taking her medication at the right time. Lucy was so worried that she took away the medication and delivered it herself at the correct time. Val also needed to visit the hospital weekly due to changes in her condition.

The solution

Val was provided with a medication dispenser linked to a Lifeline home unit which dispenses her tablets. The unit flashes and sounds an alert each time Val needs to take her medication. If Val

doesn't remove the medication, an alert is raised to Lucy or the monitoring centre to let them know.

The outcome

Since the medication dispenser was installed, Val's condition has stabilised and she only needs monthly hospital visits. Lucy has now been able to go on holiday for the first time in many years, safe in the knowledge her mum's medication is being monitored whilst she is away.

Carers for
people with
dementia save
the UK over
£11.6 billion
a year



Case study

Using telehealth to support people with dementia in residential care

The situation

Among people living in care homes, hospital admissions for avoidable conditions are 30% higher for people with dementia. An estimated 30% of older people in hospital have dementia and they are often admitted as a result of avoidable conditions such as dehydration, urinary tract infections and complications as a result of long-term conditions. Once in hospital, people with dementia stay longer and have poorer outcomes than those without dementia.

The solution

The London Borough of Croydon and NHS South West London have been working together to pilot the use of the myclinic multi-user telehealth system in care homes. Following a review of the resident's needs, the clinician will create an individual telehealth monitoring plan for each user. Care staff using the myclinic tablet will record the residents' vital signs and complete their bespoke health questions each day. This information is then securely transmitted to a central triage monitoring centre. If a user's readings are outside of the preset limits set for them in their care plan, markers are raised on the triage system and appropriate action can be quickly taken, enabling early intervention.

The outcome

The myclinic solution has proven to be an effective support system, helping to provide person-centred care and improving quality of life by detecting possible health issues at an early stage, helping to prevent unnecessary hospital admissions. Residents are relaxed and accepting of the system, and monitoring has also become another opportunity for social interaction between staff and residents and is valued by both parties. Staff report that using myclinic has helped them to better understand the residents' health needs and has empowered them to help manage their care more proactively.

“Patients with dementia have special needs when it comes to healthcare. They are often not able to tell the care staff that they are ill or able to explain why or how they feel unwell. Telehealth is a great way of picking up health and wellbeing issues at an early stage.”

Brian Longman, Telecare and TeleHealth Lead, Croydon Care Solutions, London Borough of Croydon

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. 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 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.



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.



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.*



Flood detector

The flood detector will raise an alarm if sinks or baths overflow, or if a washing machine door is opened mid-cycle, protecting both people and property.



Carbon monoxide alarm

The carbon monoxide alarm provides an immediate alert when dangerous CO emissions have been detected due to a blocked flue or fault in a fuel burning appliance.



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.



Bed occupancy sensor

This specially designed pressure pad and 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.



*Due to the wide variety of types of falls, some falls may not be detected. In the event of a fall, the service user should always be advised to try and press the help button on the iVi.

Solutions

Ambient temperature sensor

The ambient temperature sensor is designed to ensure a comfortable temperature within the living environment. Low and high temperature thresholds can be set and an alert raised if these are crossed for over five minutes.



Natural gas detector

The natural gas detector raises an alarm call the moment the leakage of gas is detected, allowing the appropriate corrective action to be taken. It is supplied complete with standard UK mains plug and a preconfigured universal sensor, and doesn't need to be installed by a qualified electrician.



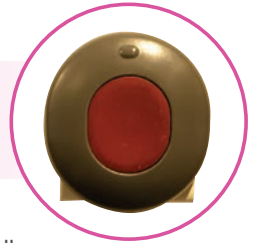
Property exit sensor (virtual)

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.



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.



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.



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.





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 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 community-based health and social care, and enable people to live independently and with an improved quality of life.

Tunstall's Connected Care and Health solutions are underpinned by IP enabled platforms and infrastructure, supporting the innovative use of technology including IoT, SaaS and cellular communications. It offers an end-to-end solution,

including training and consultancy, service and maintenance, and monitoring services which make more proactive and personalised models of care possible, and focus health and care teams where they are most required.

Tunstall works with social care providers, healthcare services, retirement living providers, and nursing and care organisations in 38 countries, improving the lives of millions of people, including those living with dementia, learning disabilities, physical disabilities and long-term health conditions.

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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