Combating loneliness with technology enabled care

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Preface

Older generations are fitter, healthier and more independent than ever before. However, an ageing population presents challenges to society. This is where technology enabled care (TEC) comes in. TEC can help older people live a richer, longer and more independent life. It can also improve the working conditions of care providers.

But TEC can also be a solution to a growing social issue that many countries are facing: loneliness.

Loneliness can be soul crushing but can also cause physical problems, including premature death. Loneliness is as dangerous as smoking and obesity, according to several studies.

During the pandemic, we were asked to maintain social distancing which exaggerated the existing problem of loneliness. Now that we're hopefully on our way out of the pandemic, we must address the problem of loneliness as it poses a threat to public health.

The problem exists among all ages but is especially prevalent among the elderly.

In Sweden, where we are headquartered, up to 65 percent of those living in nursing homes feel that they are "sometimes" or "often" lonely.

The home care of today is one cause of loneliness but it can become a crucial part of the solution when combined with TEC. Recent years have seen a number of technological breakthroughs and the birth of new digital tools, as we show in this report. However, those tools are not yet widely used but they could offer great opportunities for freeing up time and resources for carers to focus more on reducing loneliness.

With this report we will demonstrate how TEC can do just that – reduce loneliness. We also offer policy recommendations to speed up development and implementation.

Let's end loneliness together.

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What is technology enabled care?

The Swedish government defines technology enabled care (TEC) as “digital technology that contributes to a greater quality of life for the elderly and those living with a disability”. They also point out that TEC is about “maintaining or increasing the safety, activation, participation or independence” of those groups. TEC is also known as telecare, telehealth or ehealth, but Careium feels it’s important to highlight that this is a new technological field to improve the lives of the elderly and others.

TEC is a broad concept. In practice, TEC can be:

- Personal emergency alarms.
- Nightly activity monitoring of older people via a camera rather than physical visits that both require more resources and risk waking and confusing the service user.
- Devices that remind the user to take their medicine when they struggle to remember it themselves.
- GPS tracking alarms that transmit the user’s position to emergency services to make them easier to locate when lost or in need of assistance.
- Robots that make daily life easier, such as robot vacuums, robotized pets and therapy animals, or personal robotic assistants.
- AI that monitors the user’s health and automatically detects falls, weight loss or lack of oxygen.
- Smart lights or security solutions that e.g. lock all doors or adjust the indoor lighting depending on the time of day.
- Sensors, cameras or other units that make it easy not just for workers but also for relatives to stay in touch or check the person.

The opportunities of technology enabled care

Existing technology enabled care (TEC) continues to be implemented around the world. At the same time, the process of developing services based on that technology continues at a rapid pace. In order to capture the possibilities of digital transformation, we must create systems for both existing and future technologies. In this section, we look at the technological opportunities that are on the near horizon.

1. More people are aging, and we must invest in TEC to support them

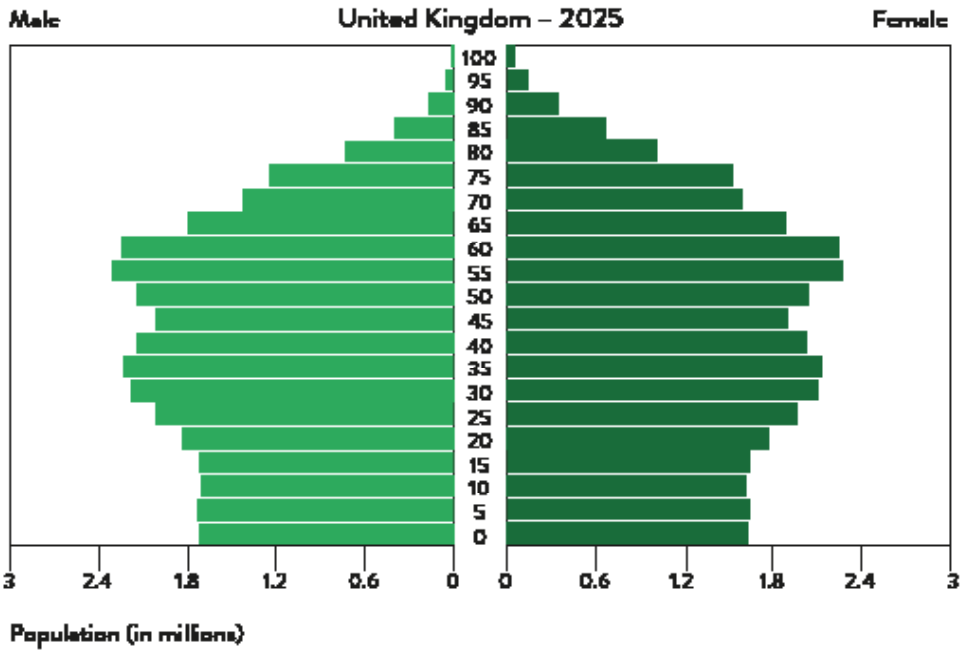
Many countries face an aging population, and older citizens will make up an increasing part of the population over the next decades. The proportion of people aged 80 or older in the UK will nearly double within the next 25 years to 4.3% of the population. Germany will face an even bigger challenge, as the proportion of 80-year-olds will reach 8% of the population by 2030, and 13% by 2050. In other words: this issue isn't going away and will become more and more challenging for many years to come.

Additionally, a shrinking cohort of younger people will have to provide for this growing number of older people, which could lead to staff shortages in healthcare and elderly care. In fact, the data already shows that many countries are struggling with staff shortages in elderly care. In Norway, 10 people in employment supported 1.9 older people in 1970. By 2060, that figure is expected to double, as 10 employed Norwegians will have to support 4 pensioners.

At the same time, researchers in the Netherlands and other countries have found that a large and growing number of older people prefer to live at home for as long as possible, rather than moving into a nursing home. As a result, older people who receive care at home are more geographically dispersed compared to when they live together in a nursing home. This makes it more difficult for care providers to monitor and assist them as quickly as in a nursing home, or to spend as much time with each individual, which in turn increases the risk of social isolation.

TEC plays a central part in solving these challenges according to a report by the Swedish government. Technology can both automate more tasks, facilitate the work of care staff and above all improve the lives of the elderly.


The number of people aged 80 or older in
Sweden will increase by 50% in 10 years



Older people will make up a larger part of the UK's future population
Source: Office for National Statistics – National population projections

2. TEC enables a better quality of life at no additional cost

With the help of TEC, many people working in elderly care can spend less time on transportation, administration and similar tasks and instead spend more time caring for the elderly. This isn't about replacing staff with technology, but about providing more and better care and improving the lives of older people.

Thanks to night-time activity monitoring with cameras, for example, care workers don't need to spend time traveling around to check in on every service user. This also avoids the risk of waking, scaring or confusing the elderly. Instead, care workers can spend more time with those individuals who actually need help or companionship at night.

Cleaning and household robots free up time for nursing home staff to socialize with residents or help them in different ways. Similarly, the time and energy that would have otherwise been spent cleaning the homes of service users can instead be spent on activities or services that brighten up their lives. In other words, TEC frees up time and resources for the kind of services and support that only humans can provide.

Staff members themselves also benefit from TEC. Reducing the amount of monotonous or dull work paves the way for more meaningful interactions. Their jobs also become safer when they don't have to venture outside in the middle of the night. In addition, emissions are reduced when care workers drive around less. In fact, an analysis by Lund University of Technology and Careium shows that monitoring older people with night cameras instead of in-person reduces carbon dioxide emissions by the equivalent of an intra-European flight for every service user, every year.

TEC will generate new types of jobs at the intersection of technology and care: since many users have disabilities or a lower technology proficiency, those who develop TEC will need to understand both the technology itself and how users interact with it.

3. Future solutions are personalized with AI and robots

While today's TEC is relatively simple, future devices and services will be able to collect data and use it to make decisions or actively assist the user. The technology can subsequently operate on its own and automatically adapt to different users and situations.

In fact, some TEC products are already equipped with those features and are tested extensively in various pilot programs. One example is digital bracelets and other devices that are equipped with sensors that detect the service user's movements and behaviours. The sensors can detect if their behaviour deviates from the norm and alert care workers, for example if the service user hasn't made enough daily hand movements that would indicate eating, or if they have made those movements at highly unusual times. The sensors can also detect visits to the toilet through the person's movements and posture. If the number of toilet visits increase significantly, it can be a sign of a urinary tract infection, stomach problems or other health issues. Furthermore, sensors can detect if the person has fallen and is lying on the floor and can't get up. In some pilot tests, these types of sensors have reduced the number of hospital visits by 80 percent among service users, because many problems are detected early on, and the sensors can sometimes also figure out what has happened and how serious it is.

Another example is personal robots, which are also being tested in several different countries. These can perform housework, lead social activities for a group of people, provide entertainment or emotional support, keep the person company, remind them of healthy habits such as exercise or meals, help them to dress and undress, or enable care workers and relatives to communicate with the service user. The robots can also move around the home and, for example, keep an eye on residents and look for them if they aren't reachable or have gotten lost. Some of these robots can also be controlled remotely by staff and perform more advanced tasks without the staff having to physically travel to the location. The main advantage of robots is that they can provide users with greater independence, which is one of the most common desires among older people according to several surveys.

It´s important that the data collected by both robots and sensors is handled securely and not saved longer than necessary. It´s also important that the devices are tested and adapted to different poeple with different lifestyles, ethnicities and backgrounds so they don´t just work for certain social groups with certain habits or appearances.

The use of technology enabled care today

Technology enabled care (TEC) is not new and is already used in many countries. For example, 20% of German health care providers use it regularly, and 40% use it occasionally. In the UK, 2 million older people use TEC in 2022, and that number is expected to grow to 3 million by 2030.

A German study from 2020 concludes that TEC is already widely accepted among German medical professionals, but that various technical and regulatory obstacles must be overcome to make it routine. This matches a pattern in many studies and reports, which also found that TEC is still mostly used in pilot projects.

Alarms, night-time monitoring and digital services are the most common uses

Personal alarms are often the most common type of TEC. For example, they are used by some 10% of Norwegian pensioners. Digital monitoring is another common usage and is growing rapidly in popularity. In Norway, the number of users of tracking alarms increased by 48% between 2019 and 2020. Remote avtivity monitoring in home care increased by 53%, and digital tools that improve medication adherence increased by 215%.

The pandemic has accelerated the use of TEC rapidly and has created more ways for service users and their relatives to contact care workers digitally or apply for various types of support online.


95% of Swedish users of
remote activity monitoring
for home care are satisfied with it

Progress is nevertheless slow and unequal

Many municipalities in Sweden have started using TEC, but the more populous municipalities are typically further along than their smaller counterparts. This risks widening the digital divide and creating unequal access to help and services in different parts of a country.

Success factors

The Swedish government has compiled a list of success factors for the implementation of TEC. Unsurprisingly, skills are an important factor, both when it comes to the technology itself as well as the legal aspects and procurement. Organisational governance is also highlighted as an important factor. Implementing TEC requires structure and careful planning. Cooperation is another success factor. Funding is another important aspect, and those municipalities and local authorities that have taken a long-term view with regards to costs vs benefits have come further in implementing TEC.

Case study: Smarter elderly care in Uddevalla municipality through technology

Uddevalla is one of many Swedish municipalities working to take advantage of the possibilities of technology enabled care. In 2020, the municipality was named a role model for the digital transformation of their elderly care. The effort was led by Christer Fransson, head of social services in Uddevalla.

"Two of the biggest challenges facing the elderly are a lack of safety and independence. Technology enabled care can help alleviate that. Remote activity monitoring makes users feel safer, as they don't have to be woken up in the middle of the night by care workers and feel uncomfortable. A discreet camera is less intrusive than an unknown person entering their home in the middle of the night. A camera can also contribute to a feeling of increased independence."

Care workers also benefit, explains Christer. Among other things, they avoid making unnecessary trips to those who are actually sleeping, and can instead focus more on visiting those who want or need support.

Both residents and care workers in Uddevalla recognize the advantages of remote supervision, and the municipality aims to transfer 25% of night care workers to other roles or tasks. Uddevalla's goal is not to save that money nor to reduce the workforce, but to use it to fund new services that increase the service users' quality of life.

Another planned effort by Uddevalla municipality is to use more than just camera supervision to detect and prevent health problems at an early stage.

"In the future, we hope to take a more proactive approach and collect health data. We don't need an image, but rather information that e.g. informs us that the person is in bed and doing well. There's huge potential in technology enabled care."

The problem with loneliness

More and more people are living longer. This is great news but also means that the need for care at home will increase in the coming years. Considering that the problem of loneliness is greater among older persons who receive home care, decision-makers should find ways to detect and prevent it. One part of that is optimising the use of new technical solutions.

According to the charity Age UK, more than 2 million older people in England over the age of 75 live alone. While some of these have active social lives, a staggering 1.4 million of them say they are often lonely. Put differently: 6% to 13% of Brits aged over 65 say they feel lonely all or most of the time.

Combating loneliness is important, as no one should be forced to be alone. But it's also important because reducing loneliness will also reduce physical illness. To invest in measures that reduce loneliness is to lower future care costs and reduce suffering, which benefits everyone.

1 million elderly Brits often go more than a month without talking to a friend, neighbour or relative

Policy recommendations

Loneliness cannot be outlawed through legislation, but the political system can do a great deal to reduce this problem and its consequences.

Careium has worked for a year with researchers, older people organisations, politicians and thought leaders in Sweden in a project called The Commission on Loneliness. A number of policy proposals have been produced to inspire and encourage decisionmakers who wish to speed up the implementation of technology enabled care.

Reform home care services

We need to overhaul home care. Many elderly people continue to live at home with support from carers via home care services. There's an opportunity here to discover at-risk groups, but we also think there's an obligation to provide compassion. The right to social time should be part of the mission of any home care services. There are already several tasks that can be carried out with technology (for example nighttime monitoring), and free up time during home care visits for social activities.

Treat the disease, don't wait for the symptom

Technology can postpone or eliminate the need for care in many cases. Mobile, personal alarms are one example. They can enable an older person to continue to get exercise through daily walks or out and about, safe in the knowledge they can call for help if needed, which can make a big difference for their health and subsequent care needs in the long run. Here, decisionmakers must become better at calculating health economics and consider long-term effects. For example, assessments of a person's need for home care services should include measures that reduce the risk of loneliness.

National guidelines and support

More government support is needed for implementing technology enabled care on a broader scale. The opportunity to use technology and reduce the risk of loneliness shouldn't be determined by where a person lives. A report written on behalf of the Swedish government highlights a number of policy suggestions regarding privacy and decision-making. Privacy is particularly important as users and relatives must feel completely confident that their personal information is kept safe. Other suggestions from the report include a national knowledge centre for the development of future elderly care.

Public investments

Guaranteeing equal access to technology enabled care will require financial government support, as governments must provide the necessary financial means and promote the use of technology enabled care.

Training – a national responsibility

Implementing new technology on a broad scale requires training. Technology enabled care creates new opportunities for workers to spend more time on meaningful tasks. It also opens the doors for new skills that are necessary for providing care. A large number of people will need to be recruited for these efforts over the coming years.

Given the opportunities to use technology enabled care to make a big difference, and the need to recruit more workers, governments should assume a greater role when it comes to training.

Policy against loneliness

Governments should create and follow a policy against loneliness. Care services for the elderly are currently not required to prevent loneliness. While many service providers are nevertheless working on this issue, a policy would ensure that they create a strategy, provide the right training and follow up on their work. The procurement of services for elderly care is governed by strict requirements on everything from environmental policies to policies for textiles and laundry. We believe that all elderly care should follow a policy for detecting and preventing loneliness. Here, various technical aids will play an important part. We urge politicians to start working on this immediately, both in their current work and as a requirement in future tenders.

Saved time must become social time

Loneliness is a growing and serious threat to public health. We need to invest in measures that reduce and prevent these risks. One way is to take better advantage of the possibilities of technology enabled care.

The most important aspect of all of this is that these issues and solutions must be seen as a whole. The time freed up by new technology must be turned into more opportunities for care workers to socialize with service users. If 30 minutes can be saved on a physical visit to a sleeping resident by switching to digital night-time monitoring, that time must be turned into a longer, physical, social visit when the person is awake. It must not be treated as an opportunity to reduce staff, because those savings are key to reducing the risk of loneliness.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