ASSISTED LIVING

A dignified elderly care in Denmark

WHITE PAPER

Healthcare DENMARK

About this white paper
This white paper presents the Danish approach to a coherent elderly care and includes a broad range of innovative assisted living technologies and solutions that help to improve quality of life for elderly citizens, and at the same time support healthcare professionals. It is part of a series of white papers that show how Danish solutions can contribute to increase efficiency in healthcare while empowering patients and staff.

Danish healthcare innovation is not exclusive for the Danes: many years of global presence show that our healthcare products and solutions create value internationally. Danish ideas and products are used every day in hospitals, medical clinics, ambulances, and nursing homes across the world.

We hope to inspire you and would like to invite you to Denmark to learn more about the Danish healthcare system.

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Executive summary

New assisted-living technology plays an important role in Denmark's elderly care. Every day, a range of solutions help improve the quality of life for elderly citizens and support healthcare professionals in creating an efficient, high-quality framework for care, rehabilitation, and prevention.

Denmark's tradition of publicly funded care for elderly citizens dates back to the emergence of the welfare state in the 1930's. But over the past few decades, the approach to care has changed significantly. By working with targeted efforts, elderly citizens can maintain their independence and stay in their own homes for as long as possible. Nursing homes and other care facilities have also been supplemented with efforts to help improve the quality of life for residents. These efforts are increasingly supported by assisted-living technologies and other innovative solutions that bring a number of benefits for both citizens and caregivers.

Innovative Danish solutions

This white paper describes some of the assistive technologies that are currently being implemented in Denmark's elderly care. Some are already commonly used by municipalities across the country while others are still in early trials. Overall, these innovative solutions have been developed to empower elderly citizens, giving them a more active role in their own treatment, assisting them in their daily routines, and keeping them connected, active, and physically safe. These innovative solutions, which also facilitate improved communication and information sharing between caregivers, citizens, and their families, are important enablers for the comprehensive Danish home-nursing support of elderly citizens in their own homes.

Prevention and early detection

Data-driven solutions can assist municipalities in detecting the need for preventive efforts, identifying citizens with special challenges, or reacting faster in cases of emergency. The specific technologies range from wearable technology that is simple and easy to use to complex digital platforms allowing data to be gathered, shared, and utilized in new ways, improving citizens' quality of life as well as the workflows of care professionals.

Person-centered approach to rehabilitation

In Denmark, rehabilitation interventions are person-centered and adapted to the individual, aiming at the highest possible level of participation and inclusion. This enables the citizen to remain independent, self-reliant, and to participate actively for as long as possible.Technology-driven solutions are important in honoring the ambition of 'everyday rehabilitation'. These solutions include, among other things, intelligent rehabilitation equipment such as motion sensors and robots that help citizens train independently.

Improving the working environment for healthcare professionals

Being known for having a safe and attractive working environment is a factor in attracting new employees. This is a priority for most caregiver organizations as the issue of workforce shortages is on the rise. Innovative technologies can improve the working environment for healthcare professionals while maintaining a high level of care quality. Ceiling lifts, bathing chairs, reversing systems, sliding and turning systems for beds, entry-exit beds, and hygiene solutions support citizens in their everyday routines, improve professionals' physical working environment and free up physical and mental resources allowing more time for personal contact and primary care.

Nursing homes of the future

New technologies can be integrated in the design of nursing homes to support the overall aim of homeliness, stimulation, mobility, and social inclusion. This white paper describes some of the solutions that meet current and future demands for the design and interior of nursing homes. These solutions share a holistic approach to care, often addressing multiple concerns such as functionality, safety, aesthetics, and accessibility at the same time.

: Magnus Heunicke
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Foreword

Denmark has come a long way in developing the elderly care. Through a citizen-centered approach and targeted efforts including assisted living technology, the aim is to assure that elderly citizens more often can maintain their independence and quality of life.

The overall ambition for developing the elderly care is to improve quality of life for elderly citizens with focus on values such as influence over one's own life, respect for diversity, focus on humanity, self-determination and worthiness in the last part of life.

In Denmark, we have a dignified elderly care with focus on involving and empowering every citizen with focus on their individual needs and preferences. The goal is to maintain their independence and gain control of their own life.

The citizens are involved in their own recovery with focus on their individual needs.

New assisted-living technology play an important role within the sector of elderly care. Danish municipalities and hospitals in the regions are implementing innovative technologies that support citizens in their daily routines, keeping them connected, physically active, and safe. These innovative Danish solutions can help improve the quality of life for elderly citizens as well as support healthcare professionals in creating an efficient, coherent and high-quality framework for care, rehabilitation, and prevention.

Denmark will keep continuing to develop and expand the use of new assisted living technologies – in collaboration and dialogue with elderly citizens, their peers and care staff – to the benefit of citizens, healthcare professionals, and society.

Magnus Heunicke

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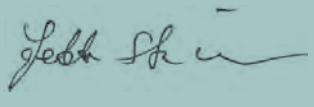

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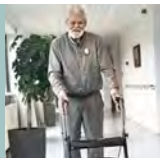

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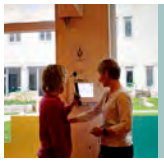

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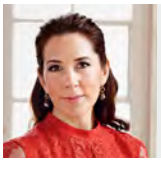

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As long as possible in your own home

Denmark has a citizen-centered approach to care and rehabilitation for elderly citizens. The vast majority of citizens wish to stay as long as possible in their own homes in familiar surroundings. To accommodate their wishes, physical training and assisted living technology are particularly important.

In Denmark, publicly-funded nursing homes date back to the 1930's and the emergence of the Danish welfare state. Since then, Danish governments and municipalities have provided nursing-home care for elderly citizens who cannot take care of themselves.

The late 1980s saw Denmark's approach to elderly care change significantly. The sole focus on nursing homes has given way to significant emphasis on empowering elderly citizens to remain self-reliant for as long as possible. This involves supporting them in continuing to be healthy and allowing them to live in their own homes, supported by a social-care system, with visits from home-care nurses, and increasingly: the use of assisted-living technology.

"It is well-documented that the majority of elderly citizens prefer to live in their own homes for as long as possible."

It is well-documented that the majority of elderly citizens prefer to live in their own homes for as long as possible. While some will be admitted to nursing homes eventually, municipalities now focus on helping citizens maintain – or regain – self-reliance, and on allocating the necessary human and technological resources needed to make this possible. So do the hospitals, where they are inpatients in shorter time and can perform more home controls by themselves thanks to new technology.

In that context, physical training and assisted-living technology play an important role. Municipalities and hospitals are increasingly implementing a range of innovative technologies that support citizens in their daily routines, keeping them connected, physically active, and safe. These include anything from simple smart-sensor devices and other assisted living technologies to advanced telehealth solutions and digital communication platforms.

One commonly used assisted-living technology is an electronic device that reminds citizens to take their medication, ensuring the right dosage at the right time. Another solution is a digital platform that allows relatives to check on elderly family members.

In general, these innovative solutions improve the quality of care, enhance citizens' independence and quality of life, and free up the time of care staff – allowing them to use their time to provide direct care, training, and assistance.

: Denmark and the Danish healthcare system

Denmark has a population of about 5.8 million people, spread over a geographical area of 43,094 km^2.

The Danish healthcare system is based on the principle of equal and free access for all citizens.
The majority of Danish healthcare services are financed by general taxes.

The Danish healthcare system operates across three levels:
National level: The parliament and the government set the regulatory framework
Regional level: Five regions are responsible for the hospitals – both acute and psychiatric, prehospital care, delivery of primary care, secondary prevention and specialized rehabilitation and training.

Local level: 98 municipalities are responsible for prevention initiatives, rehabilitation, home care, and elderly care.

All citizens in Denmark, regardless of their economic means, are entitled to personal and practical assistance in their own homes if they need help performing everyday routines such as cleaning. Based on individual assessment of a citizen's physical and mental constitution and housing conditions, the municipality determines, on a case-by-case basis, what type of help is needed.

Each municipality politically sets its own transparent quality standards for rehabilitation and home care services, defining the level of service that the citizens' can expect to receive if they need assistance.

An intelligent 'pill robot' ensures accurate and timely medication

A medication dosage solution has been integrated with a user-friendly primary-care record, greatly increasing citizens' flexibility and involvement in their own care.

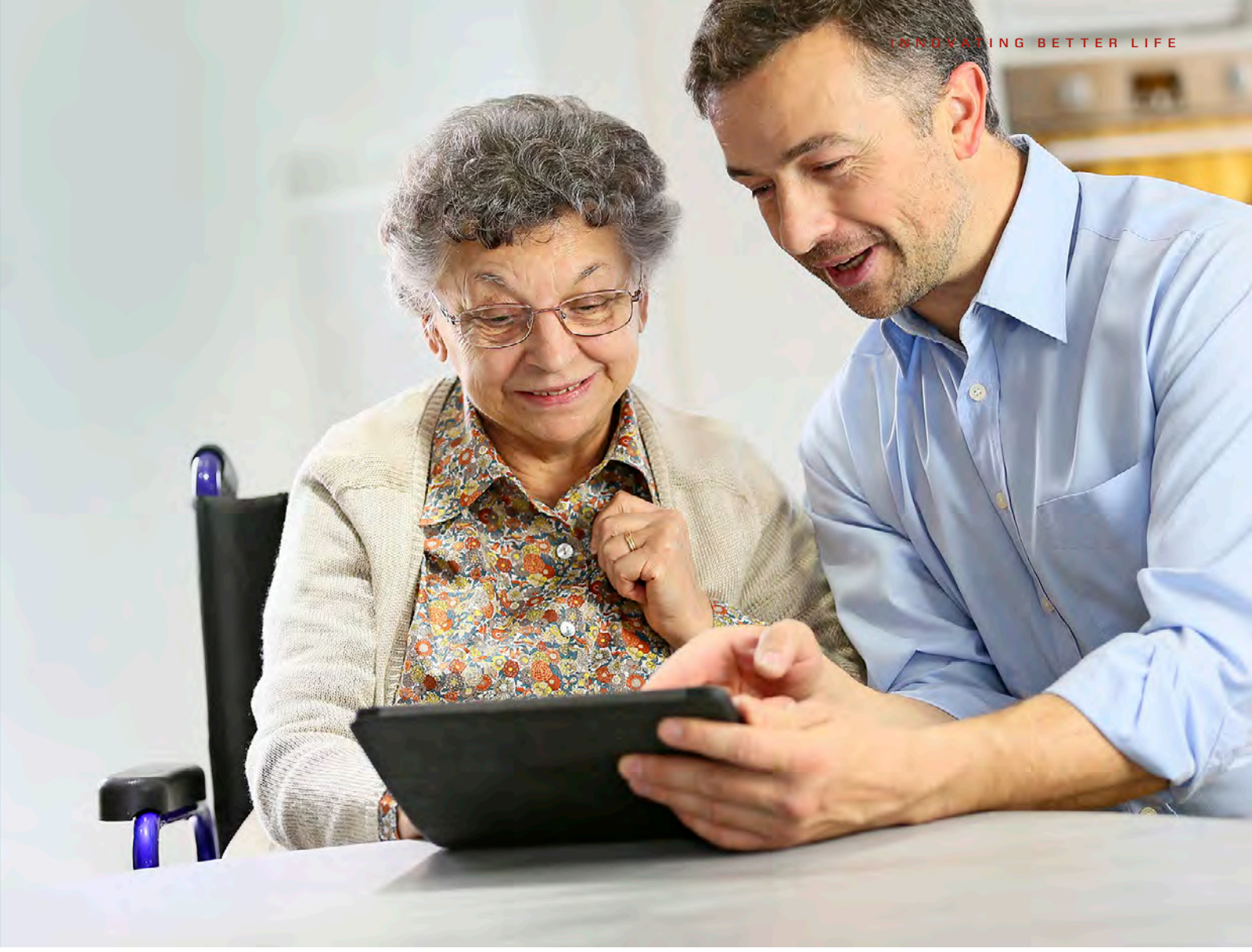
In Hjørring Municipality in the North Denmark Region, Susan, an elderly woman living in her own home, is about to take her medication. She has several prescriptions and needs to take her medicines 4-6 times every day.

Earlier, she was often confused by the many pills, sometimes forgetting to take some of them, or getting them mixed up. She now participates in a project in which a 'pill robot' has been installed in her home – programmed with the dosage for her various medicines. The robot is integrated with the primary-care record, Columna Cura, and the Shared Medication Record, a database with updated medication information shared among patients, doctors and other healthcare professionals. Here they can find information about all the medicines that the patient receives through any prescription or pharmacy in Denmark.

This means that when a doctor changes Susan's prescription, the pill robot is updated in real-time. New medication is delivered to Susan's robot within 24 hours after it has been prescribed. And if Susan forgets to take her medication, the robot will notify home-care services.

As the solution is fully integrated, home-care professionals need only a single point-of-contact, the primary-care record. They can access it on a tablet computer, which makes it possible for them to document health-data on location. This makes it easier to involve Susan in discussions and decisions about her care.

The solution has given Susan more flexibility in her daily life, as she no longer depends on home-care staff to provide the medication several times a day.



Digital support for relatives frees up staff resources

Relatives of elderly citizens have embraced a new platform that allows them to check on the health and well-being of their family members.

The municipality of Fredericia in the Region of Southern Denmark has had a very positive response to a new digital platform for elderly citizens and their relatives.

The web-based solution, KMD Nexus Citizen portal, enables elderly citizens and their relatives to check on a number of care-related issues – from medical prescriptions to scheduled visits by home-care staff. The portal is accessible via a cell phone, tablet or desktop computer and is particularly popular among relatives who account for 75 percent of the users.

"*Relatives are incredibly happy with the possibilities this solution offers. In particular, they use the portal to check on their elderly family members as not everyone has the opportunity to visit their family frequently, for example due to geographical distances.*" – Bodil Grøn, Project Manager in Care in the Municipality of Fredericia.

The solution has made everyday life easier for the home-care staff, because they get fewer 'routine' phone calls from relatives who want to know how things are. This has freed up time and added resources to develop new service initiatives.

An analysis published in co-operation with the DaneAge Association concludes that, on a national level, the majority of relatives demand more digital tools in everyday life to support their elderly family members. The learnings from Fredericia will now be used to further develop digital solutions in the rest of Denmark.

Digital medicine box reminds elderly citizens to take their medicine

Digitized medicine management for all types of packed and pre-measured medication reduces care costs while improving citizens' self-reliance and safety.

Gladsaxe Municipality in the Capital Region of Denmark and the company DoseSystem have collaborated to pilot, test, and implement the medicine box, DoseCan.

The medicine box can contain all types of packed and pre-measured medication, dosage boxes and additional medical supplies such as ointments, patches, and drops. The lid has a display that reminds the user, with beeps and blinks, when it is time to take the medicine. The user confirms taking the medicine by pressing an OK button. If the button is not pressed, the municipal home-care staff are immediately alerted and make a call or a visit to check on the citizen. The solution improves citizens' adherence to treatment and helps them to be self-reliant. Finding the optimal working procedures for the medicine box was a long process. To implement the solution, the municipality decided to organize and simplify a number of processes.

"We went from four teams to a few professionals who now have the complete responsibility. We have been able to use our resources in a more efficient and effective manner." – Camilla Lynge Ellitsgaard, Health-tech Consultant, Gladsaxe Municipality.

Gladsaxe Municipality has invested in integrating the medicine box with their primary care record, which ensures that the solution is set up automatically, and direct advice on lack of receipt in the care system. This means that the municipal home-care staff can log in to just one platform and have only one system to maintain.

In the new setup, citizens will get an introduction to the solution and learn to use it at one of the municipality's 67 so-called temporary homes where citizens can stay during their rehabilitation process.

- National surveys reveal that when a medicine box solution is used, the average municipality saves approximately EUR 4,000 per year.
- It is expected that Gladsaxe Municipality will have 150 medicine boxes in operation by the end of 2020.

Emergency call device enables independence and self-reliance

Personal alarms notify healthcare professionals in emergency situations, creating a safe environment for citizens and empowering them to live an independent life in their own homes.

The Danish company CEKURA offers citizens a personal-alarm service that combines the latest technology with care provided by a caregiver.

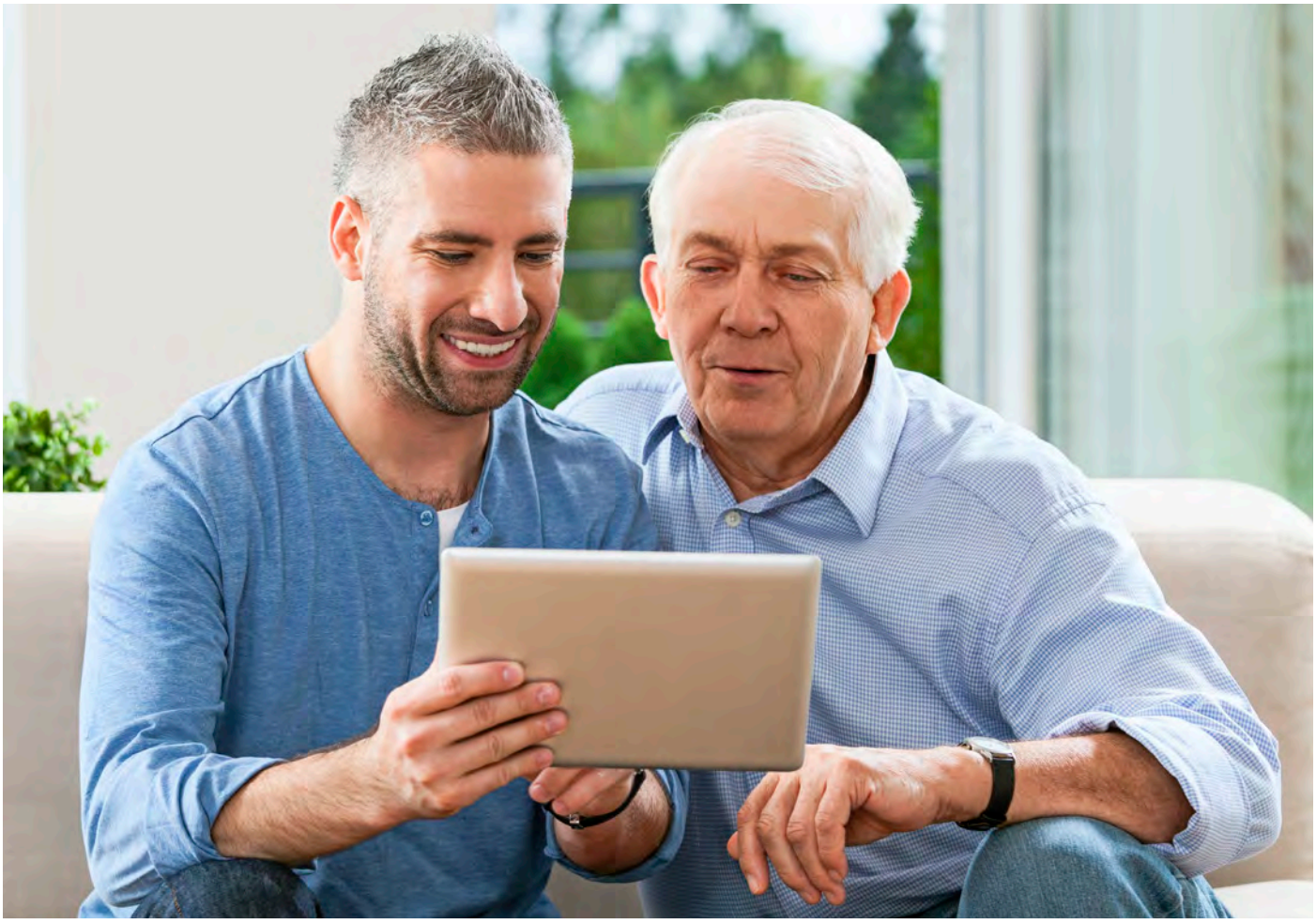
At the core of the service is a wireless button that can be installed in the private homes of elderly citizens or at municipal rehabilitation centers and nursing homes. For instance, the service has been implemented successfully in all nursing homes and home-care services in Svendborg Municipality in the Region of Southern Denmark.

The alarm is a wireless device that allows the user to contact a central monitoring station with a single click of a button.

If the citizen experiences an emergency situation, such as a fall or heart attack, or feels unwell, pressing the button will immediately alert a healthcare professional, who will then be shown a complete action plan on his or her screen, including the citizen's profile, location, disease history, and emergency contact. This enables the healthcare team to provide the right help as quickly as possible.

The monitoring station provides more than just emergency help. One of its core tasks is to support citizens in other aspects of everyday life, such as reminding or motivating them to do their daily exercises and having their meals and medicines on time. The staff is also available when a citizen is feeling sad or would just like to talk.

This type of support increases citizens' sense of well-being, reduce anxiety, and motivate them to do daily tasks – in turn supporting them to remain independent and self-reliant in their own homes.



Motivating elderly citizens to adopt new technology

According to a research study, many elderly citizens go through five psychological phases when assistive technologies are introduced in their daily lives. Understanding this process is important to successfully implement assisted-living solutions.

When elderly citizens begin to use assistive technology, it is a process characterized by complexity and ambivalence.

How well healthcare professionals understand this process and address the challenges it presents, will influence the success of any new assisted-living solution.

A Danish research study conducted in 2018 at the Health Sciences Research Centre, UCL University College and the Unit of Rehabilitation, University of Southern Denmark, identifies five different phases that elderly citizens go through when they adopt assistive technologies. How they play out, is highly influenced by family and friends.

In the first phase, the elderly citizen *evaluates* the need for the particular technology and weighs its positive aspects, such as more independence, against the potential negative ones.

The next phase is *acknowledging* the need for the technology. Here, the attitude typically changes from ambivalence to belief that the technology will enable a less restricted life.

The citizen then begins to *incorporate* the solution into his/her life; establishing new routines and abandoning or modifying old ones.

Positive experiences enhance the citizen's trust in the technology and increase the feeling of being competent when *using* it in different situations and settings. By understanding this psychological process, healthcare professionals gain insight into the citizen's experiences in adopting the technology and can provide a purposeful support to the user in the process.

As such, the citizens seem to acknowledge the preventive nature of assistive technology, in that having the assistive technology means that they are well equipped for an independent life in the future.

: The 5 phases in becoming users of assistive technology

1. Evaluating the need for the assistive technology
2. Acknowledging the need for the technology
3. Incorporating the technology into daily life
4. Using the assistive technology
5. Future use of the assistive technology

Prevention and early detection

In 2017, the Danish Health Authority published a number of recommendations to strengthen municipalities' workflows, competences, and tools related to early detection. These recommendations also include innovative technology such as digital support and integration between applications, triage boards, and digital-care records.

Danish municipalities and regions make targeted efforts to identify elderly citizens with special challenges or needs, resulting in concrete preventive propositions to the citizens. Preventive measures increasingly include innovative technologies that empower citizens to live an independent life in their own homes for as long as possible.

In the Danish care sector, the regions provide patient-oriented prevention in the context of hospital services and medical practices, while the municipalities offer preventive and health-promoting services to all their citizens.

Municipalities make targeted efforts to detect risks of impaired functional, physical or social capacity among their elderly citizens – so that they can take the relevant preventive measures.

For more than 20 years, all municipalities have offered their elderly citizens preventive home visits. Such visits improve prevention and health promotion efforts by providing advice and guidance on activities and supporting opportunities to maintain and improve well-being and functional ability in elderly citizens. The municipality can decide that the preventive efforts should focus on specific themes, for example loneliness, fall prevention, security, nutrition, physical activity, etc.

At the same time, elderly citizens can ask their municipality for advice or information on specific preventive offers to improve their health and overall well-being. For instance, many citizens express a desire to be more socially and physically active.

Over the past few years, the municipality of Odense has made preventive home visits more structured in order to get a better empirical foundation for further collaboration with citizens. This includes a structured questionnaire implemented on a digital platform (the online mailbox, e-Boks, which all Danish citizens use to communicate with public authorities).

The questionnaire can be filled out by the citizen either prior to or during a visit. If the citizen reports having a particular challenge, additional questions will unfold to further determine the need for help, paving the way for specific preventive efforts.

Wearable technology

Preventive efforts can also involve assisted-living technologies that support citizens in living independently and enable them to manage everyday activities themselves.

These technologies include intuitive solutions, uniquely adapted to specific needs of elderly citizens and their caregivers. For example, a small device designed as a personalized brooch has integrated fall detection, GPS, and a call button that works as a direct link between the citizen and the caregivers.

For citizens suffering from incontinence, another wearable technology can improve their quality of life. Equipped with a unique digital sensor and wireless connection, the changes in wetness levels are continuously registered and the information can be shared with caregivers in real time via an app on their mobile devices.

Sensor technology keeps citizens active and prevents frailty

A new sensor-based solution with automatic fall detection and GPS has made it easier and safer for nursing-home residents to take walks by themselves.

Taking walks, even short ones, are essential for sustaining balance and, in turn, confidence among elderly citizens. Frequent walking leads to a healthier lifestyle and is a key factor in avoiding falls.

With increasing strain on staff resources, it is often a challenge for nursing homes to offer accompanied walks. To address this challenge, the nursing home Kristiansgaarden in the Central Denmark Region has introduced a new wearable solution, Sarita Pearl, with consent from the residents. Based on sensor technology and supported by GPS, it gives residents the freedom to move around without compromising their own safety or losing contact with caregivers.

The wearable solution allows residents to contact healthcare professionals wherever they are. This makes it possible for caregivers to assist the elderly even when they are away from the nursing home. Whenever residents fall, an automatic notification is sent to a healthcare professional via mobile phone. The healthcare professional will then locate the residents and call them, calm them down and assure them that help is on the way.

"*Once, we went to the cinema, and one of the residents disappeared. With the new technology, we could easily find the person because the technology works both inside the nursing home and in the city*". – Lisbeth Thingholm, Manager of Kristiansgaarden nursing home.

This model of care 'on-demand' is beneficial for care institutions and supports elderly citizens in remaining independent in their daily lives.

According to a WHO (World Health Organization) report (Global Report on Falls Prevention in Older Age, 2007), falls often trigger a 'post-fall syndrome', characterized by increased dependence, loss of autonomy, confusion, immobilization and/or depression, all of which further restrict daily activities. However, if quick assistance can be provided, the long-term mental and physical damages can often be prevented.

Higher quality of life and reduced infection risk with digital incontinence solutions

Digital aid helps ensure individualized continence care for elderly citizens in nursing homes.

In January 2019, the nursing home Lergården in Aabenraa in the Region of Southern Denmark completed a 90-day trial, testing and implementing a digital incontinence-aid system.

Evaluations showed that it had released 32 minutes of daily care per resident due to fewer checks, fewer diaper leaks and fewer unnecessary diaper changes.

The digital incontinence aid, Abena Nova, is intended for everyday use to ensure individualized continence care. It looks and feels like a regular incontinence product but has built-in sensors to collect data in real-time. Caregivers are able to view the data via an app.

The nursing home already had a particular focus on good continence care but wanted to offer even better and more personalized continence care to its 84 residents.

Continence care can be notoriously difficult to fit into conventional care routines, due to the unpredictability of urination patterns. This can also result in unwanted side effects, including leakages and interrupted sleep.

"With this solution, we can more accurately predict when diapers need to be changed. Now the staff can spend time on other important tasks for the residents." – Betina Schlüter Schrøder, Manager at Lergården Nursing Home.

The nursing home estimates that the quality of care has improved by 23 percent due to individualized care; increased quality of sleep; and increased odor control.

In addition to other measurable results, the trial also indicated a reduction in urinary tract infections and skin problems commonly experienced by residents with incontinence.

: Findings from the trial at Lergården nursing home in 2019

- **Fewer manual diaper checks:** residents were checked 85 percent less.
- **Better sleep at night:** diaper changes were reduced by 39 percent.
- **Timely diaper changes:** leakages were reduced by 73 percent.

Monitoring assistive technologies improves users' quality of life

When people are dependent on assistive devices, early detection systems must be applied to the technology itself.

Preventive and early-warning technologies are not limited to the physical signals from citizens in need of care. New solutions that measure the usage and functionality of the assisted-living technologies themselves can improve the lives of senior citizens that are dependent on assistive devices, increasing their safety and their confidence in their electronic and digital aids.

"*These solutions give us a better understanding of the general use and the specific needs for service or repair. This will be an important way for us to structure our work in the future.*" – Malene Arnfast Bruun, Special Consultant, Department of Social Services, Municipality of Copenhagen.

In a study from 2018 on intelligent assistive devices, a datalogger was installed on an electric wheelchair to measure how often and how much the individual functions of the wheelchair were used. Among other things, it recorded the current and voltage draw on the battery, providing real-time information about the need for charging.

"This will be an important way for us to structure our work in the future."

After a few nights with unsuccessful charges (the battery was never charged to full capacity), the service provider was contacted. Initial tests showed that the battery was fully functional, and further checks quickly identified and solved the problem: a faulty battery charger.

Replacing the charger could be considered a preventive act due to its impact on the quality of life of the user. If the problem had not been discovered, the user would have been given a temporary standard wheelchair without the ergonomic padding and customized settings – increasing the risk of bad posture, sitting sores, and other healthcare issues, along with general inconvenience to the user.

The datalogger solution can also be installed on other electronic assistive devices. For example, nursing homes can install the solution on toilets with douche and drying functions, on ceiling lifts, and even on exercise and rehabilitation equipment for the residents with the purpose to measure the usage and functionality of the devices.

Cross-Tracks - Early interventions supported by artificial intelligence

At Horsens Regional Hospital, artificial intelligence can help predict unplanned admissions and re-admissions, enabling early interventions in patient care.

In 2017, Horsens Regional Hospital and four municipalities in the Central Denmark Region (Odder, Horsens, Hedensted, and Skanderborg) established a five-year cohort study called Cross-Tracks with support from Innovation Fund Denmark. The study covered 185,000 adult citizens (18+ years).

Today, 31 percent of all contacts with Danish hospitals are unplanned, which amounts to almost two million cases a year. 12 percent of hospital patients are re-admitted within 30 days, and 20 percent are re-admitted within 90 days. The objective of the cohort study is to identify these people before they require acute treatment, by using artificial intelligence to predict unplanned admissions and re-admissions.

Machine-learning experts and clinical professionals from the hospital, general practices, and municipalities develop an AI-supported system that combines healthcare data from both primary care (general practice and municipalities) and secondary care with data from national registers such as prescriptions, social benefits and other welfare payments from 2012-2017.

The prediction algorithms enable screening of each individual citizen at high intervals, determining which patients might require early interventions and assistance. They are integrated into a clinical decision-support system to assist healthcare professionals' decision-making.

The system aims to reduce the number of unplanned admissions while also introducing a link to other clinical aspects such as early screening, preventive care, and diagnostics.

: The future of senior fitness

A Danish research study from 2000 among women aged 80-89 years shows that elderly citizens can achieve significant results both physically and functionally by doing physical exercise.

- Strength training keeps elderly citizens up to 20 years younger biologically.
- Cardio training keeps elderly citizens up to 10 years younger biologically.
- With training of the muscles, elderly citizens can prevent falls and improve their functional ability in everyday life.
- Training makes participants feel healthier, more energetic, and more self-reliant, while also reducing the risk of diseases.

A person-centered approach to rehabilitation

Person-centered 'everyday rehabilitation' supports independent living and increases motivation and satisfaction among elderly citizens.

Denmark has a long-standing tradition for high-quality, publicly-funded care for the elderly, the disabled, and the socially challenged. For the past two decades, care efforts have put an increasing emphasis on physical training and exercise, at the same time applying a holistic objective of enabling meaningful and independent life for each individual.

Today, rehabilitation interventions in the municipalities are person-centered and adapted to the individual, aiming at the highest possible level of participation and inclusion.

The basic idea of this 'everyday rehabilitation' approach, originally conceived at the Municipality of Fredericia in the Region of Southern Denmark, is to enable the individual citizen to remain independent, self-reliant and actively participate in his or her own life for as long as possible.

While home-care staff would typically be involved in solving tasks for citizens, the staff in everyday rehabilitation focus on helping citizens to solve the tasks themselves. This has been documented to improve their perceived quality of life as well as significantly reduce their need for assistance and support. Studies find that 81 percent of the citizens are generally satisfied with their everyday rehabilitation program.

Individualized rehabilitation programs with assistive technology

The Danish care sector – public institutions, private companies and citizen-driven initiatives – emphasizes coherence between treatment, care, health promotion, prevention, and rehabilitation.

In the municipality of Aarhus in the Central Denmark Region, a rehabilitation and emergency unit, Vikærgaarden, offers treatment and rehabilitation to citizens who have been hospitalized or have experienced loss of function. The rehabilitation stay is short and aimed at citizens moving back into their own homes.

The rehabilitation program is highly interdisciplinary; it applies relevant interventions based on individual tests and assessments of each patient's specific situation.

The technologies include intelligent, measurable, and motivational rehabilitation equipment such as motion sensors and robots that help citizens train independently.

Live feedback during training helps motivate citizens and reassure them that they are performing their exercises correctly.

This allows for accurately adjusted training and ensures that the process is fully documented. Both citizens and healthcare professionals can access information about the training programs and monitor progress via an app on a tablet computer.

Acknowledging that rest is often a crucial factor in any rehabilitation process, ambient applications use sound, light, and images to create a peaceful and safe environment that supports the rehabilitation process.

Mobility Monitor – an interdisciplinary approach leading to faster rehabilitation

Sleep is very important for overall well-being and rehabilitation. Innovative technology makes it possible to analyze sleeping patterns and improve the quality of sleep.

At Vikærgården, a rehabilitation and emergency facility in the Municipality of Aarhus, in Central Denmark Region, an 86-year old woman arrived, after a long hospital stay, to recover from pneumonia. At the hospital, she had trouble finding the peace to sleep during the night, and the problems persisted at Vikærgården.

The staff placed a monitoring solution in her bed to analyze her sleeping pattern. The solution, Mobility Monitor, found that she was only lying in bed for three hours, from 1-4 am. This information provided an opportunity to have a closer dialogue with the woman about her inconsistent sleeping pattern.

As it turned out, the woman felt restless. She was not tired in the evening, and when she finally went to bed, she would often wake up again shortly due to pain from an old hip fracture.

The caregivers contacted her GP with this specific knowledge. The data from the monitoring solution, demonstrating micro activity and a very short time in bed, combined with her own statements about pain and unrest, made the doctor respond immediately.

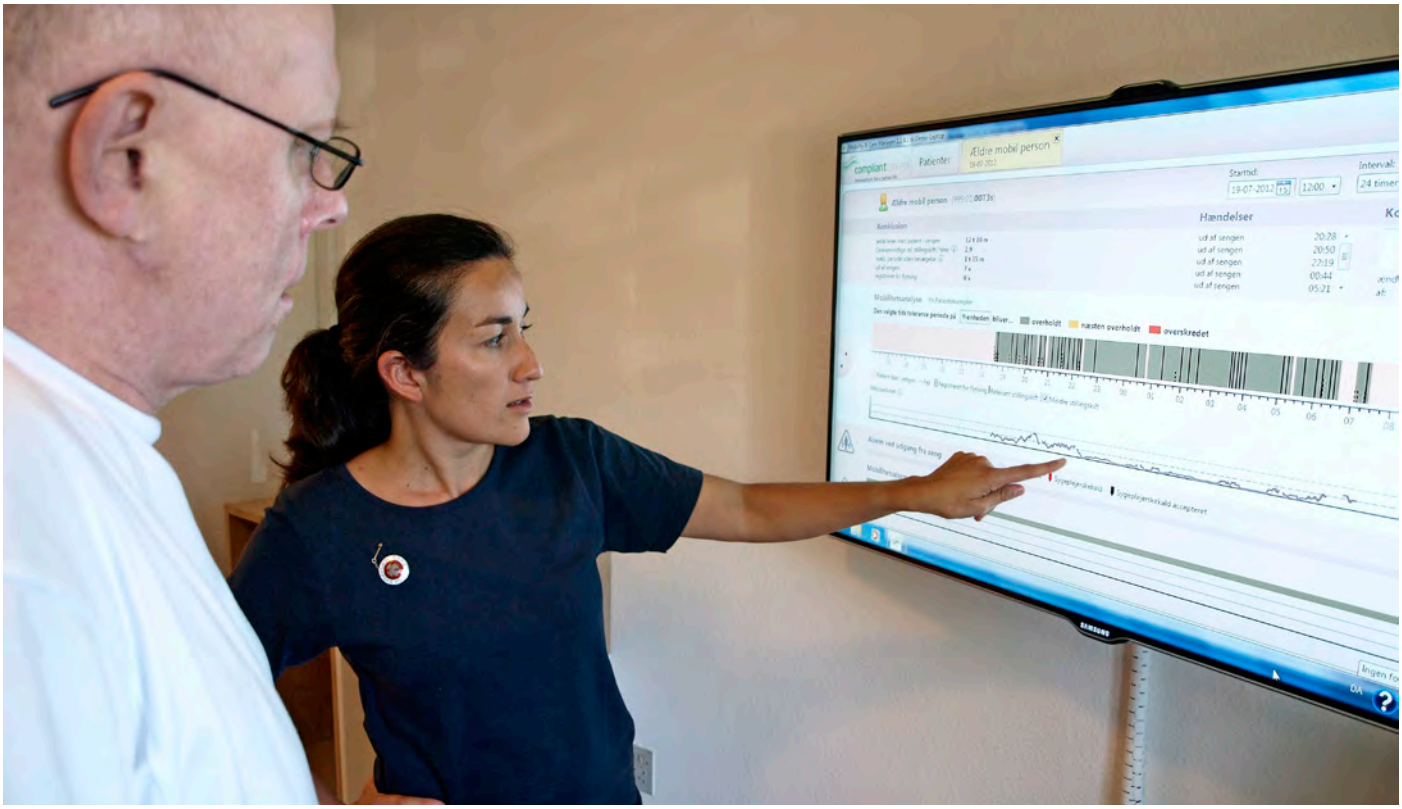
A temporary pain treatment was prescribed, along with melatonin tablets to help her sleep in the evening.

The monitoring solution enabled the caregivers to assess and analyze the woman's sleeping patterns and take the necessary actions to improve her sleep quality and overall well-being.

After her first treatment, she got out of bed the next morning and took a shower on her own – for the first time in 2 months.

: Vikærgården Rehabilitation and Emergency Unit

- Vikærgården offers short rehabilitation stays to citizens who have been hospitalized or have experienced loss of function at home. It takes an interdisciplinary approach to the assessment and treatment of their condition.
- The rehabilitation stay lasts up to five weeks. Afterwards, the citizens move back to their own homes or to new accommodation.



Sensory stimulation improves the well-being of people with dementia

Ambient application of sound, light, natural scenery, and other images can create a peaceful environment in nursing homes and improve the well-being of residents with dementia.

In Vejen Municipality, the nursing home Kærdalen has experienced how a mobile device for sensory stimulation, that displays relaxing nature-scenery films, has improved the quality of life for its residents with dementia.

The device is a cabinet on wheels mounted with a projector, a sound system, and a control panel to navigate the different films/programs. While it is mostly used in the public areas of the nursing home, its portability allows it to be used in the residents' own apartments as well.

The displays and music are specially designed to calm and stimulate people suffering from anxiety, creating a positive distraction.

"One of our residents is very restless and extremely sensitive to external impulses and stimuli. She often needs professional help to rest during the day. This ambient device creates moments of peacefulness, making her calmer and improving her quality of life." – Sigrid Rindom, Group Leader, Dementia Department, Kærdalen, Vejen Municipality.

"This ambient device creates moments of peacefulness, making her calmer and improving her quality of life"

Overall, the device has had a significant effect on residents who feel restless. Relatives have also made positive observations, stressing that the natural images and sounds work as a calming catalyst and a subject for conversations.

Sensor-based rehabilitation increases elderly citizens' functional levels

Sensor-based technology helps elderly citizens set rehabilitation goals and keep track of their activities. The program improves self-empowerment, physical activity, and functional levels in daily life.

In Næstved Municipality, in Region Zealand, a rehabilitation center has implemented a new sensor-based rehabilitation program to encourage elderly citizens to be more physically active. When citizens are referred to rehabilitation, physiotherapists at the center decide whether they are likely to benefit from the program, which includes an app and a motion sensor to support home training.

Citizens enrolled in the program only visit the center once a week (compared to twice a week earlier). At this weekly visit, the physiotherapists use data from the citizen's home exercises/activity from the previous week to adjust the program.

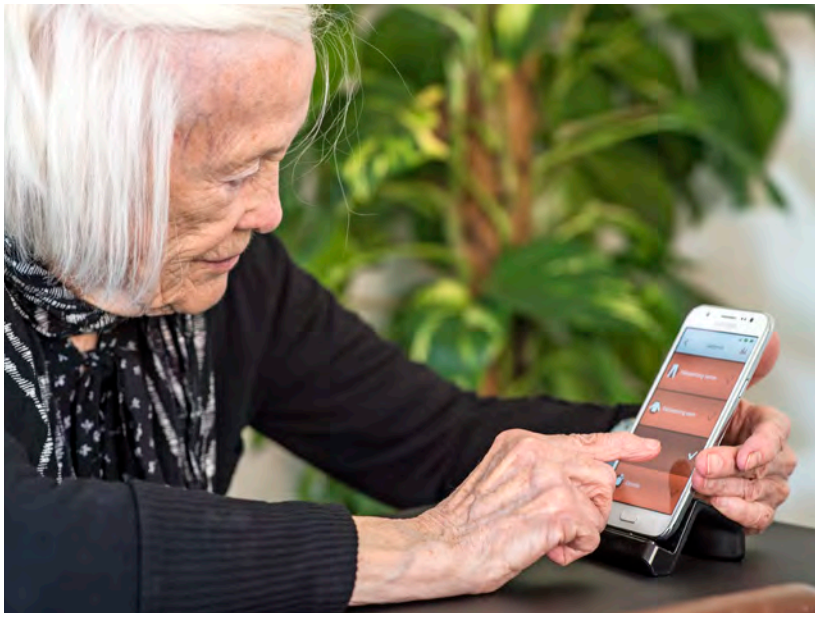
The consistent accumulation of data ensures that the staff at the rehabilitation center always have an updated profile of the individual citizen's compliance and progress.

The assisted-living technology has been designed for people with limited digital experience – a common challenge associated with digital solutions for the elderly.

"*The technology is often the biggest hurdle, but this solution is so simple that most people can use it. All of our patients are extremely happy with the solution – despite initial skepticism. They almost won't let go of it.*" – Louise Rommel Nielsen, Physiotherapist.

Sensor-based home training can have a large impact. Some citizens live far away from training facilities, and many are not used to doing daily exercises. With digitally-enhanced training, more citizens are able to find the time for training in their everyday lives.

The program in Næstved Municipality is tailored to each individual's needs and possible impairments. It includes a series of exercises and an activity log that monitors both the exercises and basic daily movement, including step count. The program is visualized on a simple user interface that gives a clear overview of the daily activities and goals.



50% sick leave reduction and faster recovery with new rehabilitation robot

Digital training improves motivation for patients with shoulder injuries, enabling a faster recovery process.

Recovering from shoulder injuries typically involves a rehabilitation process that combines self-training and supervised training sessions with a physiotherapist.

Self-training is usually the most challenging part, especially in the early stages, when many patients suffer from high levels of pain and low mobility. They often feel that they are improving very little and very slowly. This reduces their motivation and sometimes creates uncertainty about whether they are doing their exercises right.

To improve motivation and compliance to training, Aarhus Municipality, in Central Denmark Region, has introduced a rehabilitation robot based on state-of-the-art technologies. The robot assists patients and therapists in maintaining a motivating, intelligent, and measurable rehabilitation process.

Measuring continued progress has a tremendous impact on motivation, enhancing the quality and frequency of training and ultimately ensuring faster rehabilitation.

The solution has been co-developed by the company Robofit and Aarhus Municipality. From the very first prototype, they have collaborated extensively on testing, establishing user cases, and generating relevant feedback.

"It has been an interesting process for us at Aarhus Municipality; developing an innovative solution that will support the actual practice. It is not just a desktop project conceived far from reality. It has been shaped by our citizens and therapists, which has increased the value for everyone." – Ida Munk Sandegaard Skyt, Project Manager in Aarhus Municipality.

It is an example of assisted-living technology, which both provides value to the end users, adds a valuable tool the therapists' toolbox and has a positive impact on the municipalities' expenses.

: A report from 2017 shows that implementing the rehabilitation technology in Aarhus Municipality has:

- increased compliance from 30 percent to 86 percent
- reduced the duration of users' sick leave by up to 50 percent
- added crucial data to improve the rehabilitation process

DigiRehab – a 12-week program which reduces the need for home care

Vejen Municipality experiences great results with digital training that helps improve quality of life for the elderly and decreases their need for home care in just 12 weeks.

Physical exercise has a great impact on elderly citizens' quality of life. It increases their ability to master everyday life and can reduce the need for home-care assistance.

In Vejen Municipality, in the Region of Southern Denmark, a cost effective digital-training platform, DigiRehab, for at-home rehabilitation and physical exercise has been implemented.

The tablet-based solution tests citizens' physical ability and provides them with a tailored exercise program, supported by an algorithm. The exercises are performed twice a week in citizens' own homes, assisted by instructional videos and supervision by the caregiver.

"The exercises make elderly citizens more self-reliant and improve their quality of life. At our municipality, the overall need for home care has not increased despite a growing number of elderly citizens. This initiative is part of the reason. It has also changed the way both staff and citizens think about rehabilitation. Elderly citizens have learned how training can improve their quality of life." – Line Ballisager Juhl, Team Leader of Home Care in Vejen Municipality.

After 12 weeks of exercise with the tailored programs, the average citizen's need for home care decreases with 45 minutes per week.

: 118 citizens in Vejen have completed the 12-week exercise program conducted in collaboration between DigiRehab and Vejen Municipality.

- 72 percent of users experienced reduced need for home care after the program (average reduction: 36 percent).
- 18 percent had the same need for help after the program.
- 10 percent experienced increased need for help (average increase: 9 percent).

: Working environment is an essential part of the education at schools of social and health sciences.

A top-class working environment helps address shortage issues

Denmark is increasingly implementing innovative technologies to help improve the working environment for healthcare professionals with physically demanding tasks, while maintaining a high level of care quality. Knowledge about these technologies improves healthcare professionals' awareness of their working environment and helps them reduce physically stressful postures.

The vast majority of elderly citizens have a strong desire to be able to take care of everyday routines themselves – such as getting in and out of bed, taking a bath, and staying in touch with family and friends. Some manage this on their own, while others need some degree of support. Regardless of the degree of help, it is important to consider the needs of both citizens and professionals.

Whether they live in their own homes or stay in hospitals, rehabilitation centers, or nursing homes, citizens' care and treatment needs are becoming increasingly complex while healthcare professionals remain a limited resource.

To address this challenge and to tackle labor shortage issues, the Danish care sector is implementing a number of technologies that support the daily interaction between citizens and healthcare professionals. And to ensure the best match between citizens' needs and the available technology, healthcare management at both institutional and municipal levels focus on the skill levels of healthcare staff when it comes to mastering new technologies.

New technologies benefit both citizens and professionals

Technologies such as ceiling lifts, bathing chairs, reversing systems, sliding and turning systems for beds, entry-exit beds, and hygiene solutions both support citizens in their everyday routines and improve healthcare professionals' physical working environment.

Systematic support is vital to ensure that both users and professionals will reap the full benefits of assisted-living technologies. The municipality of Copenhagen has applied a technological implementation model which ensures that the introduction of new technologies will always be complemented by the appropriate development of staff skills.

Care staff is consistently getting better at matching citizens' needs with the available technology. Due to practice-based learning and living labs, professionals have a unique opportunity to explore and try new technologies before they are implemented as part of daily routines.

Knowledge about the way specific technologies are used also increases staff's awareness of assisted-living technology in general. This means that they are more aware of their physical working environment and are better able to reduce physically stressful postures.

A study from Copenhagen Municipality from 2017 shows that the application of some assisted-living technologies allows for better postures, relieving the physical strain on healthcare professionals, and reducing work-related pain and injuries.

As such, they relieve both citizens and professionals, physically as well as mentally, allowing more time for personal contact and other care tasks.

Patient-turning system improves working environment

Mechanical turning systems for transferring, moving, and handling patients have improved the working environment and the safety of residents in nursing homes in Hillerød Municipality.

Hillerød Municipality, in the Capital Region of Denmark, has vigorously pursued assisted-living technologies, which improve the working environment and safety of employees as well as the efficiency and quality of care. One of these solutions is the Vendlet patient-turning system.

The system consists of two motorized bars mounted on each side of the bed. Connected by a sheet, the bars turn the patient from side to side using a hand control. During the transfer, the caregiver does not need to push, pull, or lift the patient. In addition to being a gentler transfer for the patient, the system is proven to have positive impact on caregivers' working environment and their overall health.

"This technology makes transfers smoother and gentler for the patients and has significantly reduced the number of injuries among care staff."

It plays a significant role in preventing work-related injuries. Bedside care is a significant proportion of caregivers' daily routines, and handling patients is very stressful on their back, neck, and shoulders. As a result, patient transfers have traditionally accounted for a large number of work injuries.

"This technology makes transfers smoother and gentler for the patients and has significantly reduced the number of injuries among care staff. Not a single transfer-related work injury has been reported since we implemented the system." – Maria Westh Bernburg, Physiotherapist and Area Manager at Skovhuset Nursing Home in Hillerød.

Hillerød Municipality has implemented the new system in all nursing homes and works continuously to ensure that all employees are properly trained in using it.

Innovative inclusive care-center planning

At nursing homes, installing ceiling hoists as part of the basic structure improves the working environment, ensures safer patient transfers, and makes facilities accessible to all residents.

Ceiling hoists are a great care tool for both staff and residents at nursing homes. Traditionally, they are installed only in bedrooms and bathrooms. But at the Marienlund Nursing Home in Silkeborg Municipality, in Central Denmark Region, they have been more widely integrated into a new nursing-home design.

All individual apartments, group areas, and specialist facilities have been fitted with room-covering ceiling hoists as part of the basic structure. Walls and hoists can be moved and adapted to the needs of residents and caregivers at all times.

"Having ceiling lifts installed just about everywhere gives us a much more efficient way of working and a good working environment, with tremendous benefits in terms of ergonomics, health, and safety."

"Having ceiling lifts installed just about everywhere gives us a much more efficient way of working and a good working environment, with tremendous benefits in terms of ergonomics, health, and safety. It allows residents to be assisted in personal tasks and needs as quickly and as gently as possible." – Jette Laumann, Head of Section for the Nursing Homes in Silkeborg Municipality.

Common rooms such as the TV room, the sensory room, the spa, and the 'man cave', are equipped with hoists, allowing them to be used by all residents – including wheelchair users.

In the residents' own apartments, the rail system has been integrated discreetly. The structure does not take up much space and thus prevents any undesirable "hospital feel" in private residential spaces.

Educating nurses and assistants to co-create innovative care solutions

Assisted-living technologies are evolving rapidly, constantly changing the daily routines of social and healthcare professionals. A new education program provides healthcare workers with digital skills, giving them a new role in implementing innovative solutions.

Patients and their relatives increasingly expect digital and technological solutions that support independence, flexibility, and quality of life.

This calls for care employees with skills and learning abilities that can support the implementation of new technologies.

Studies in Denmark show that students in vocational training often lack digital skills. As a frontrunner in care, the School of Social and Health Sciences (SOSU Syd) has collaborated with the local municipalities of Haderslev, Aabenraa, Tønder, and Sønderborg to develop a new education program, DIGI-Tech, which takes a technical-innovative approach to care.

Students not only learn the traditional skills of social and healthcare professionals, they also obtain a level of technological know-how. This allows them to communicate with developers of assisted-living technology solutions, participate in complex processes, and become co-creators of innovative care solutions. This approach is emphasized in both school learning and internships.

"One of the keys to address the challenges of the social and healthcare sector is to co-create scalable and sustainable digital solutions that create value for the individual. These students will be a vital resource in this endeavor." – Søren Lorenzen, Director, Social & Health Care, Municipality of Aabenraa.

The program is also designed to attract a new type of student, those with digital interests, and possibly increase the recruitment of male students at the same time.

Nursing homes of the future put the resident first

Nursing homes in Denmark focus on high-quality nursing care, assistive technologies, architecture, and design to improve residents' quality of life and overall well-being.

All nursing homes in Denmark are designed to enhance care practice. Nursing homes are designed as real homes that give the residents a sense of living an ordinary everyday life. Parks and gardens often invite them to engage in outdoor activities, while a range of individual and social activities stimulate the senses, support the mobility of residents, and encourage social inclusion.

When Danish municipalities build new nursing homes, they are built to support care practice and a socially active life, while also acknowledging the wide range of residents' needs. The new nursing homes often include the implementation of innovative assisted-living technologies and sensory stimulation, which can improve residents' overall well-being and quality of life.

Nursing Home of the Future

The Nursing Home of the Future in Aalborg, in the North Denmark Region, has implemented a number of assistive technologies to support the everyday life of the residents.

The apartments are equipped with pressure-sensitive flooring that – if the resident permits it – can alert the nursing staff automatically in the case of fall accidents. Flush/dry toilets make it possible for some of the residents to go to the bathroom without assistance, while electronic information boards in the hallways keep the residents updated with important information.

The Nursing Home of the Future in Aalborg also serves as a so-called 'Living Lab', where new ideas, new technologies, and new workflows can be tested, evaluated, and implemented for the benefit of both residents and staff.

Modern and flexible bathroom solution contributes to a life enhancing culture

Albertshøj Nursing Home has installed a modern and flexible bathroom solution to benefit both residents and their caregivers.

When the Albertshøj Nursing Home in Albertslund Municipality, in the Capital Region of Denmark, opened in 2016, the bathroom design had been given thorough consideration.

A taskforce of employees, management, municipality representatives, architects, and the Danish company Pressalit had collaborated to analyze and identify the needs and requirements of the 108 residents.

The design process merged aesthetical and functional considerations, aiming to create the 'ideal bathroom' for both residents and caregivers.

From a functional point of view, the ideal bathroom must be flexible, with a horizontally and vertically adjustable sink, a height-adjustable toilet, and should preferably include the ability to tailor the installations to individual needs. It must also allow for freedom of movement for caregivers.

The overall functionality is supported by a number of aesthetic design choices.

One example is the importance of colors and contrasts for cognitively challenged residents who sometimes struggle to find their way around a room with no contrasts.

At Albertshøj, the tiles are designed in two contrasting colors. The wall-mounted grab bar in the shower is dark grey so that it clearly stands out against the bright tiles. This enables residents to navigate more freely and retain their orientation in the bathroom.

Before construction began, a model of the bathroom was created to allow the task force and users to test the equipment and provide input. This process has ensured that the nursing home now has a modern and highly-flexible quality solution that benefits both citizens and caregivers.

"Even if this comes to be your last home in life, it still needs to have substance, energy, and quality. Life is for living, also in the late years."

"Even if this comes to be your last home in life, it still needs to have substance, energy, and quality. Life is for living, also in the late years." – Bjarne Webb, Nursing Home Manager at Albertshøj.

For the management at Albertshøj, the bathroom design process has facilitated a cultural transition as well – from a traditional 'caring culture' to a much broader 'life-enhancing' culture, focused on supporting residents' individual life possibilities.

Caregivers actively pursue innovative technologies

The combined dedication of staff and management in Hvidovre Municipality, in the Capital Region of Denmark, has led to the introduction of new multifunctional beds.

The increase in the number of elderly citizens makes innovative technological solutions to assist caregivers in their daily routines very important.

At Torndalshave, a nursing home for people with dementia in the municipality of Hvidovre, the staff has, with the management's blessing, taken a pro-active approach to this challenge. At trade fairs and on the internet, they actively pursue new technologies relevant to their field. When they come across something interesting, they present it to the management, who consider whether it is fit for implementation.

One such technology is a new type of multifunctional care bed, three of which are now installed at Torndalshave.

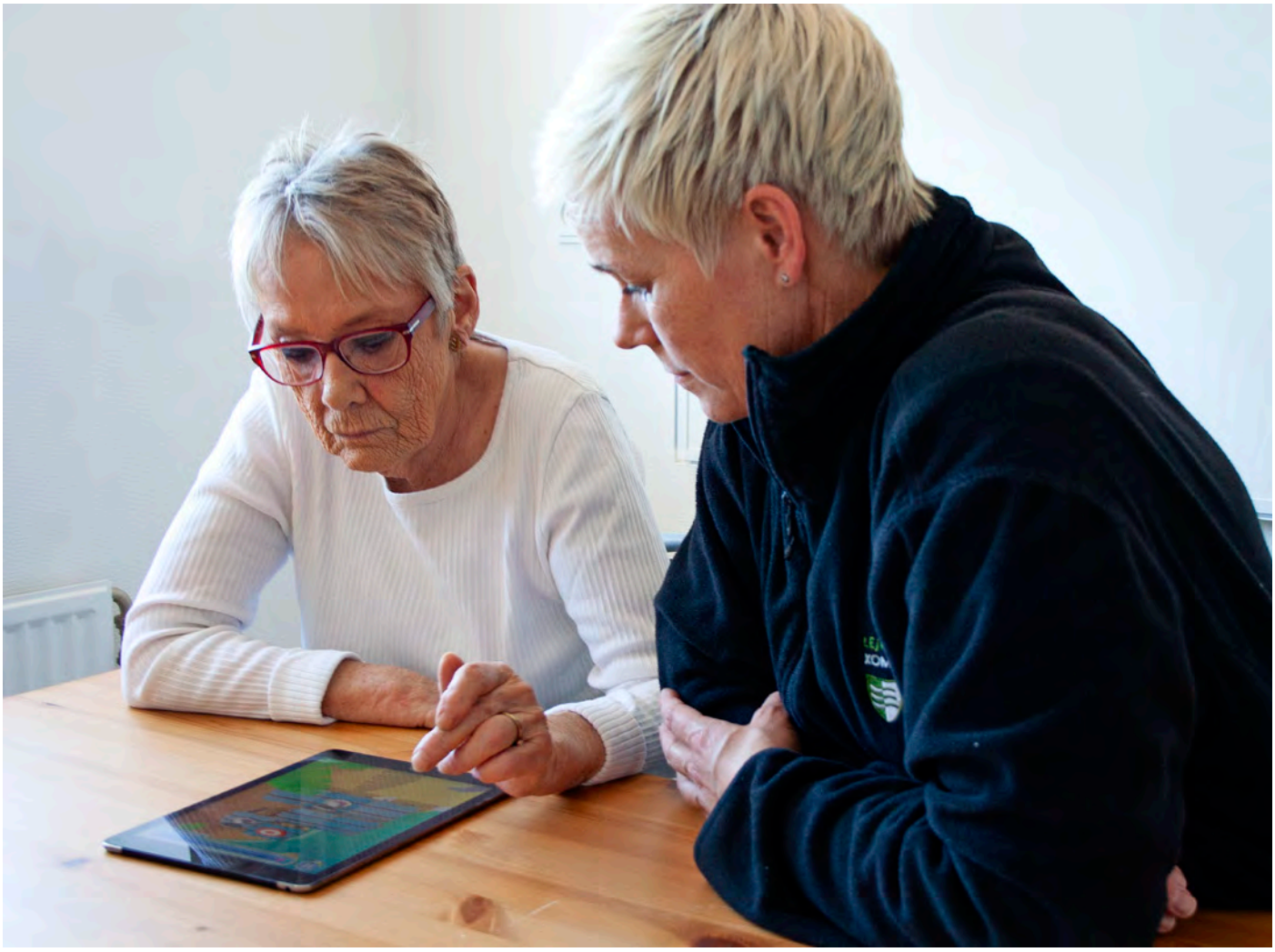
The bed, the 'OPUS 5', makes it possible for the resident to get out at the foot of the bed. At the touch of a button, the bed moves into an upright seating position and is then lowered to the ground, allowing the resident to exit it without exerting himself or the caregiver.

The bed can also be tilted to each side, enabling staff to turn and reposition the resident gently. The height of the bed can be controlled with practical add-on foot controls allowing staff to keep their hands free. The bed has a number of other pre-programmed positions, making it easier for the staff to re-position the residents with minimum effort.

"I can now assist a resident in his morning routines by myself. Before, we were always a team of two."

"I can now assist a resident in his morning routines by myself. Before, we were always a team of two." – Lisbeth Pabst, Caregiver at Torndalshave.

The implementation of the new beds has been driven by the combined enthusiasm of staff and management, ultimately benefitting the residents at Torndalshave.



Faster and more efficient treatment and rehabilitation with the Brain+ solution

A digital tool improves the cognitive functions of elderly citizens with cognitive impairment, allowing for faster and more efficient treatment and rehabilitation.

For many years, Lejre Municipality in Region Zealand has had a targeted, caring, and efficient approach to rehabilitation. This includes rehabilitation for a wide range of cognitive issues, from brain trauma and Parkinson's disease to depression and other mental disorders.

There is an increasing need for accurate and adaptable tools that support cognitive treatment and rehabilitation. This is due to the increasing number of elderly citizens and earlier patient discharge from hospitals.

To expand their approach to rehabilitation, Lejre has implemented a new experimental digital app developed by Brain+ to ensure faster, more efficient treatment, and to reduce the burden on staff.

The app encourages participants to autonomously exercise fundamental cognitive functions such as attention, memory, problem-solving, and planning. This is done using both automatically generated and individually-tailored training plans.

The training platform does not require the involvement of healthcare professionals but allows them to track patients' activity and progress. To ensure adherence and long-term benefits, the app combines gamified cognitive exercises and behavioral therapy.

"Our citizens experience increased autonomy, confidence, and participation. The self-training aspect means we can offer rehabilitation and prevention options to more citizens without increasing the strain on staff. The app is fun to use, adapts to the individual's ability, and can be offered to anyone with a smartphone or tablet. Our citizens are very pleased with this additional opportunity to optimize their cognitive training at home." – Signe W. Jeppesen, Physiotherapist, co-responsible for assisted-living technologies in Lejre Municipality.

Sens-Aid, the blanket that hugs residents to improve their well-being

A new solution increases calmness and well-being of residents with physical or mental impairments in nursing homes.

Sensory solutions are increasingly being applied in Danish nursing homes to promote social interaction and well-being of residents.

At Sølund village in Skanderborg Municipality, in Central Denmark Region, the staff has implemented a new tool in their daily activities with residents who are mainly elderly citizens with physical or mental impairments.

The tool is a weighted blanket, called Sens-Aid, with six 'wings' that embrace the resident when seated. The wings stimulate the so-called tactile and proprioceptive senses; the body's sense of touch and position. They leave the resident with the feeling of being hugged, which triggers the hormone oxytocin, also called the 'cuddle hormone'. When this hormone is released, the resident immediately senses a positive change in well-being, energy, calmness, and peace of mind.

As such, the solution creates a comfort zone for the resident, and the staff have observed significant positive impact on the behavior of residents, some of whom are in their 80s. Many of them have developmental disabilities and are often very restless, and sometimes self-damaging, mostly in situations where they feel under pressure, such as the daily brushing of teeth.

When residents use the stimulating blanket, they are much calmer, more tolerant, and able to participate in social activities with other residents and staff.

A musical pillow benefits elderly citizens

A special pillow, with built-in sound and evidence-based music, has significantly improved the perceived state of citizens with dementia.

Music has an incredible ability to influence people's mood, awaken memories, induce emotions, reduce anxiety, create calmness, alleviate sleep problems, and in some cases even pain. This makes music, and musical intervention, particularly suitable to caring for people with dementia.

At Tinghøj, a dementia nursing home in Favrskov Municipality, in Central Denmark Region, residents have been able to use a specially developed pillow with built-in high-quality sound and specially composed music by Niels Eje. It helps them relax in troubled or agitated situations and remain relaxed after therapy sessions.

Based on the positive individual experiences with the MusiCure pillow, the nursing home conducted a user survey in 2018 to examine the benefits of the pillow more closely.

The overall positive results suggest that a large proportion of dementia patients will be able to benefit from the music interventions. The survey also concluded that the staff's knowledge of the individual citizen is instrumental to achieving good results.

"All the employees and management of the nursing home supported the user survey. The employees participated actively in adapting workflows and approaching the residents about using the pillow, which was a significant factor for the results achieved." – Lærke Kaae Pedersen, Project Worker at the Department for Assisted-living Technology in Favrskov Municipality.

The pillow can be used as a stimulating tool to create peace for individual citizens – improving the daily lives of elderly citizens, their relatives, and healthcare professionals. The technology, however, can neither be a standalone solution nor replace other solutions.

The future of elderly care in Denmark

Adequate and timely care for all elderly citizens has been a cornerstone of the Danish welfare state in a long time. Innovative technologies and artificial intelligence continue to be a priority in future efforts to improve the quality of life and care for our elderly citizens.

Across generations, citizens' rights to enjoy a meaningful and dignified life in their senior years, regardless of their economic means, has been embraced across the political spectrum. But while the underlying values of elderly care have remained intact, the practical approach and particular efforts and tools continue to evolve.

Like many other countries, the Danish care sector feels the pressure of demographic change – one that puts a severe strain on both the human and the financial resources required to maintain a high quality of elderly care.

As this white paper demonstrates, technological innovation plays a key role in meeting this challenge in collaboration with citizens, enabling solutions that are sustainable, viable, and do not compromise the quality of care.

Technology-supported solutions in the fields of elderly care, prevention, and rehabilitation generally empower and encourage elderly citizens to play a more active role, often enabling a higher degree of information-sharing and joint decision-making between citizens and caregivers. Also, a great number of technologies relieve caregivers of time-consuming, physically or mentally demanding tasks. This frees up time for personal contact and other care tasks.

Denmark continues to explore the possibilities that technological advances bring and their potential benefits to both citizens and healthcare professionals. This includes artificial intelligence and other new digital technologies that make it possible to utilize health data to more accurately determine, or predict, the need for help among specific groups of citizens.

To learn more about the Danish approach to elderly care, feel free to contact Healthcare DENMARK. If you want to visit Denmark to study its innovative solutions in detail, you can request a delegation visit through the Healthcare DENMARK website.

About Healthcare DENMARK

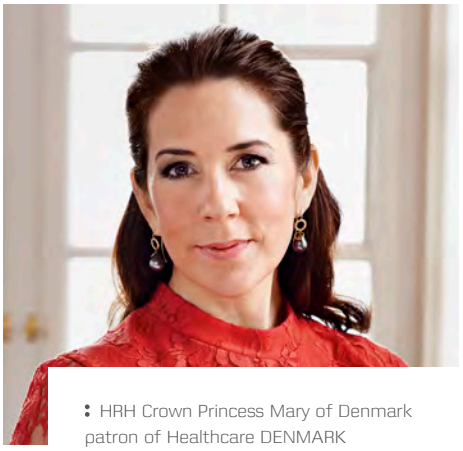
Healthcare DENMARK is the international gateway to Danish healthcare expertise and innovation. Our aim as a non-profit public-private partnership is to internationally benchmark Danish best practices within healthcare.

The goal of Healthcare DENMARK is not to sell or promote any specific products or solutions, but to communicate the strongholds of Danish healthcare. We do this by attracting health politicians, decision-makers, and journalists to experience Danish healthcare solutions in practice and meet the people behind. Our network is an extensive pool of public sector, private companies, and other actors in the area of healthcare – all dedicated to providing excellent and efficient healthcare as well as sharing best practices across borders and professions.

Hans Erik Henriksen
Chief Executive Officer

"In Denmark our focus on putting the patient first – combined with efforts to improve efficiency and quality – has resulted in a wide array of innovative solutions. I sincerely believe Danish solutions and expertise can have a positive impact on global health." - Her Royal Highness Crown Princess Mary of Denmark

If you would like to learn more about our world-renowned healthcare, we can assist you with tailoring a visiting program, setting up meetings, and arranging access to otherwise off-limits areas and people within both the public and private sectors, as well as assist you with local accommodation and transportation.



HRH Crown Princess Mary of Denmark
patron of Healthcare DENMARK

Healthcare DENMARK has a national and political mandate to provide this service to politicians, relevant top and management level professionals, and journalists working with healthcare.

Backing this public-private initiative is a partner group of both public and private key actors within Danish healthcare, including the Ministry of Health, the Ministry of Industry, Business and Financial Affairs, the Ministry of Foreign Affairs of Denmark, Danish Regions, Region of Southern Denmark, North Denmark Region, Aalborg Municipality, University of Southern Denmark, Aalborg University, School of Social and Health Sciences, the Confederation of Danish Industry, the Danish Chamber of Commerce, Danish Export Association, Danish Care, Falck, Systematic, KMD, Intelligent Systems, OpenTeleHealth, Lyngsoe Systems, Wavecare, PDC, and Icura.

Her Royal Highness Mary, Crown Princess of Denmark is patron of Healthcare DENMARK.

Visit www.healthcaredenmark.dk to learn more about some of the world's best and most innovative healthcare providers and companies or to request meetings with the stakeholders who are future-proofing healthcare sectors around the world.

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Visit our website healthcaredenmark.dk and sign up!

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