



# Digi-Ageing

overcoming loneliness

## Desk Research Report Cyprus

by Agecare & UCY

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<b>Partner organisation:</b>	Agecare UCY
<b>Researcher(s) responsible for filling in this document:</b>	Andria Hadjicosta Christos Mettouris
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# DIGI-AGEING -overcoming loneliness

## 1 Introduction

**"Loneliness in old age" is a well-known social phenomenon that still receives too little attention. However, the current pandemic clearly shows us that we need to pay more attention to the issue. Older people are increasingly isolated in this situation:** Those in care facilities are secluded for their own protection, others have little contact with friends and family or live entirely on their own. People caring for older people are often overwhelmed by the many safety precautions and challenges in their own daily lives. This is also true for family caregivers.

Since October 2020, the international Digi-Ageing consortium has been working on a comprehensive concept that addresses these challenges and develops appropriate measures to counteract the phenomenon of "loneliness in old age". One of the main goals is to increase competences in the use of digital tools in the elderly care sector and to create a strong network that develops joint solutions.

### Objectives

- Map the situation of elderly loneliness in Europe.
- Raise awareness about the theme.
- Establish networks and policy recommendations to coping the problem.
- Develop digital tools to diagnose and prevent loneliness.
- Provide strategies for lonely individuals, caregivers, family, and friends on how to combat loneliness in later life.
- Create blended training programs on prevention of elderly loneliness.

### Research Design for Desk Research

The present desk research has been carried out in each partner country to examine the phenomenon of "loneliness in old age" from different angles, to find a uniform perspective regarding the common goals of the project and to use terminology that is as consistent as possible. The results obtained in this way are later to be verified and supplemented by a field research in all participating countries.

## 2 Executive Summary

### 1. Loneliness in old age seen as a social phenomenon

In Cyprus, older people are still close to their families but not as close as they were in the past, as their value as members of modern society is being diminished.

#### Demographic data on ageing in Cyprus

The percentage of older adults (65 or over) has increased rapidly among the total population of Cyprus. The data showed that the percentage of elderly who live alone in Cyprus is low compared to the average of Europe. In addition, studies have found that the only a small percentage (10.4%) of older adults aged 65 to 74 years are economically active in Cyprus and that most older adults in Cyprus have low ICT skills and are not familiar with modern technological devices. Only 26% of older adults use the internet at least once a week compared to the 45% of older adults in rest of the European Union countries.

#### Care structure for older people

The family unit is the foundation of Cypriot society, providing emotional and economic support to the individual. Adult children are expected to care for their elderly parents into their old age as much as they can, even though their ability to do so is diminishing due to demographic reasons. The adult children are usually the ones who take responsibility to ensure that their parents are not left alone by acting according to the level of support and care they need.

### 2. "Loneliness" and "Social Isolation" - a demarcation

#### Description of loneliness

Loneliness is a subjective negative emotional state caused by the need to connect with someone, and the absence of that potential. Loneliness emerges even if the individual is surrounded by others. It is also related to the lack of emotional support. Some of the negative effects associated with loneliness have an impact on quality of life, cognition, subjective health, stress and depression, decreased quality of sleep, disability, cardiovascular disease and institutionalization.

#### Description of social isolation

Social isolation is more objective and related to the lack of social interactions and relations. It can be measured objectively by the number and frequency of contacts with others. Both social isolation and loneliness have a negative impact on physical and mental health of the older adults.

#### Challenges and risk factors for loneliness in old age

The risk factors for loneliness in old age include living in rural area, widowhood, poor functional status, lower income and education, urinary incontinence, subjective causes, depression, living alone.

Care homes often face particular challenges such as uneducated staff about loneliness, lack of entertainment activities for residents, lack of consistent and standard tools to identify and monitor the psychological state of each resident which contribute to the phenomenon of loneliness in older adults.

### **3. Socio-political aspects and measures**

#### **Special challenges posed by COVID-19**

In Cyprus, social isolation is one of the core measures taken to reduce the spread of the virus, prevents family from interacting with their loved ones. These measures also had impact on the variety of daily activities of older adults such as visiting neighbours, going for coffee and backgammon to the Cypriot traditional cafes “kafenio”. This has affected their sense of belonging in the community and has increased loneliness. Furthermore, in order to minimize the chance of infection of older adults, local authorities banned visitors to nursing homes and long-term care facilities, resulting in the residents of the units becoming more socially isolated and residents with cognitive diseases to be affected more psychologically. Also, the level of anxiety among the staff of the care homes has dramatically increased resulting in a more stressed working environment.

#### **Current measures for older people during the pandemic**

The local authorities issued measures to protect the older adults and adjust them according to the current situation. During periods that the country was not in total lockdown, the government issue measures to protect older adults such as allocating specific time for older adults to be served in shops and services without allowing the presence of the rest of the population.

### **4. Existing Networks to prevent loneliness in old age**

Due to COVID-19, all networks existing in Cyprus to prevent loneliness in old age are under-operating or are closed.

#### **Initiatives, programs and projects**

Some of the existing networks in Cyprus are community day-centers for older adults, different NGOs relating to older citizens, lifetime learning classes and retired professionals’ associations.

The centers are open weekdays morning hours, and provide an opportunity for socialising, learning, maintaining skills and cognitive fitness through activities, and stay healthy through basic monitoring and health-promotion activities.

#### **Good examples for coping strategies**

Recommendations from the National Gerontology Center of Cyprus include for older adults to familiarized themselves with online and other digital technologies for social networking but also for cognitive exercises. Also, they recommend frequent telephone contacts from community members to the older adults in order to provide them meaningful and supportive conversations. In addition, they highly recommend to provide specialist psychological support at home and they suggest that older adults should

be encouraged to do physical activities in order to reduce the negative impact in their psychological and physical status.

### **Possible cooperation partners for the project**

As Materia, our strongest network is with the primary users (older adults) and their family members. Other than our extensive current and alumni client database, a variety of organisations can be involved. Municipal day-care centers and Senior day clubs already have a long-standing collaboration with Materia, and cater to needs of older adults in the community. These bodies lose a portion of their beneficiaries due to worsening of their health condition and now digi-ageing tool will be able to assist them in continuing receiving these services. Materia Group has a long history of collaboration with a wide range of healthcare professionals who care for older adults in the public and private sectors. These health care professionals can be our spokespersons to get the word out and recommend the Digi-ageing platform.

UCY has a long collaboration with the Ministry of Health, Services for the Elderly of the Social Welfare Services, Department for Social Inclusion of Persons with Disabilities, Melathron Agonison EOKA and representation of the European Commission in Cyprus. These partners could also have an interest as secondary stakeholders in the Digi-Ageing platform.

## **5. Identification of “loneliness” – measures & tools**

### **Needs of older adults and the dangers of “loneliness in old age”**

Older adults need care and advice regarding their psychological needs. They also need more home visits by their health carers and family and friends.

### **Needs of the health care sector to prevent “loneliness in old age”**

The carers mentioned that more health services are needed, as well as more professionals from different disciplines besides doctors. There is no evaluation of quality and monitoring of their health care service from the Cypriot Ministry of Health and as a result there is no evaluation if any prevention measures are taken for loneliness in old age. Other needs are better coordination between the professional carers and their supervisors, as well as the need to establish a legal framework for home caring that includes prevention actions for loneliness. Also, the health care system needs to connect with the broader public health and social care communities to establish a firm connection to ensure better communication, treatment and quick response, in order to determine best practices and approaches: quality, funding, and research gaps.

### **Methods and Tools to identify and measure loneliness**

In Cyprus, is very uncommon for healthcare professionals to use any tools to identify and measure loneliness. Healthcare professionals in Cyprus, focus in administering usually assessments that evaluate depression in older adults such as the geriatric depression scales (GDS) However some professionals have been using the Social and Emotional Loneliness Scale for Adults (SELSA). Other international tools identified were the Berkman–Syme Social Network Index, the Revised UCLA Loneliness Scale, the Three-

Item UCLA Loneliness Scale, Steptoe Social Isolation Index, the Cornwell Perceived Isolation Scale and the De Jong Gierveld Loneliness Scale.

### **Methods and Tools on preventing loneliness**

Older adults already use existing digital tools in the form of smartphone applications to combat the effects of isolation due to the COVID-19 pandemic. The research categorizes the apps in 6 categories: Social Networking, Medical: telemedicine, Medical: prescription management, Health & Fitness, Food & Drink, and Visual & Hearing impairment. Some of the available applications and platforms are the + Simple platform, Guided Access Mode app and Social networking sites such as WhatsApp and Viber. Connect2affect is a new initiative.

### **Digital tools as an opportunity**

An idea would be to utilize large touch screens where older adults would be able to see clearly what is displayed and interact easier with the User Interface (UI), instead of focusing on mobile screens where a large number of elderly people are still unfamiliar with and unaware of how to use them.

## **6. Education, further training and awareness rising**

### **Gerontological findings on the phenomenon of loneliness**

No studies were found in this topic for Cyprus. Therefore, findings from international studies provided an insight of this phenomenon. Studies suggested that the prevalence of loneliness among older adults varies across studies as a function of the (a) measure of loneliness used, (b) populations studied, and (c) age group and sample sizes considered. It is highlighted the importance of all types of health professions and carers that are involved in care of older adults to be educated regarding such important issues such as loneliness and social isolation.

### **Current measures in education and further training programs to prevent loneliness**

There are no specific training programs to prevent loneliness in older adults in Cyprus. This highlights the importance of this project and how helpful could the outcomes be.

### **Main learning gaps regarding “loneliness”**

Research has identified the need to incorporate in the curriculum of the healthcare professionals' modules referring into identifying and preventing loneliness not only in Cyprus but also worldwide in the universities. International studies recommended in the topic of educating and training healthcare professionals to start by establishing training programs dedicated only for this purpose, accrediting certifications, and loneliness becoming a subject to exams on medical sciences field. These steps will emphasize the importance of knowing about loneliness and thus attract more healthcare professionals to educate themselves.



## Part A) Loneliness in old age seen as a social phenomenon

### 3 The "old age" as a phase of life

Cypriot society is quickly changing in regards to how Old age is perceived, both due to demographic changes, as well as the rapid changing of lifestyles. Traditionally, elders were, and in a great extend still are, esteemed as the respected wise who have been through the road of life and have knowledge and advice to pass on, and whom the young owe to care for, as they have cared for the young in the past.

However, the prevalence of technology and the fast pace of social media, easy international travel and world-wide communication made easy, as well as the blending of cultures as the EU state members people grow to acquire an additional common identity as Europeans, have long started to decrease the value of older people in Cypriot society. Their experiences, skills and know-how are often regarded as old-fashioned, outdated, even ignorant, as particularly those aged 80+ are much less familiar with modern technology and have lower ICT skills.

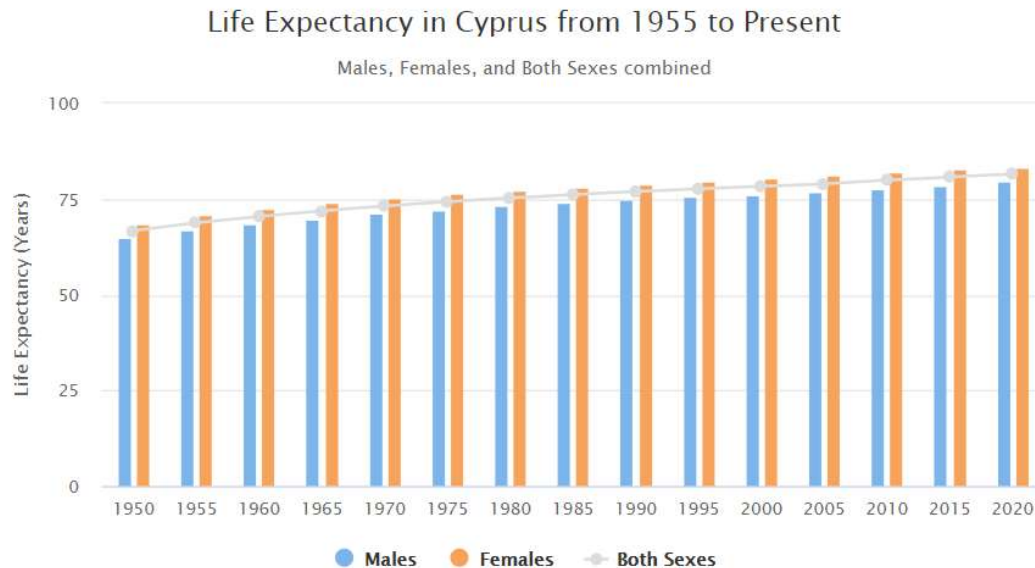
A couple of Cypriot tv commercials have even used this (true based on stats) stereotype in a mocking way towards older adults, for example a young teenager shows his new smartphone to his grandmother and she responds in an ignorant, supposedly funny way, only to prove at a later stage that EVEN SHE has managed to operate the phone. This is an example of the overall culture surrounding aging in Cyprus. Older people are still close to their families (but not as close as they were in the past), but their value as members of society is being diminished.

#### 3.1 Demographic data on ageing in Cyprus

As it is presented by the Eurostat website [1], there is an increase tendency of the percentage of older adults (65 or over) among the total population of Cyprus. As it is shown, in 1976 the share of older adults among the total of population of Cyprus was 10.1%, whereas twenty years later in 1996 the percentage was 11.0% and in 2016 it was 15.1%. It is projected that by 2025 the percentage will reach 20%.

The graph below demonstrates the comparison between the life expectancy of women and men in Cyprus but it also demonstrates the continuous increase of life expectancy of the total population in Cyprus. As presented, the average Cypriot woman outlive the average Cypriot man by about 4 years. In 2020, Cypriot women at the age of 65 are expected to live another 18.5 years on average

compared to Cypriot men at the same age who are expected to live another 14.6 years on average [2].



(<https://www.worldometers.info/demographics/cyprus-demographics/>)

### 3.2 Care structure for older people

In 2016, the percentage of elderly who live alone in Cyprus is 17.6% is very low compare to the average of EU countries which is 32.1% [1]. These statistical findings are representative to what is commonly known of the culture and care structure of older people in Cyprus.

Furthermore, studies from 2016 found that only 10.4% of older adults aged 65 to 74 years are economically active in Cyprus and that only 26% of older adults use the internet at least once a week compare to the 45% of older adults in rest of the European Union countries [1].

The family unit is the foundation of Cypriot society, providing emotional and economic support to the individual. Adult children are expected to support their elderly parents into their old age as much as they can, even though their ability to do so is diminishing due to demographic reasons such as higher divorce rates, low fertility rates (fewer siblings to undertake care of parents), and high percentage of women in the workforce (not able to stay at home and care for parent). Additionally, increase of life-expectancy means an increase in the number of years the care needs to be provided, making care by a family member a more difficult task.

Despite above demographics, the average percentage of older people living alone is lower than the average EU %, due to two reasons: older adults sometimes move in or in adjacent quarters to one of their adult children's home once they reach a certain age or they become widowed, particularly in rural areas [3].

In the vast majority of older adults who need care and support at home, their children are usually the ones who take responsibility to ensure that they are not left alone. They usually make arrangements through employment agencies, and if needed contribute money, for their parents to hire a live-in carer (this is the most frequent care solution in Cyprus). These “carers” are usually unskilled workers from Asian countries like Sri-Lanka, Philippines, Vietnam and Nepal, often hired as house-maids, and often not having the knowledge/training/skills required to provide quality care to the older adult. In addition, the language barrier is considered a major obstacle in this type of arrangement, which is the most commonly preferred due to its low (perceived) cost.

For older people who need a short visit by a carer a few times per week, there are community care services funded by the social welfare department, according to the department’s assessment. The fund is given to the older adult as a stipend and they can choose their carer from a list of registered carers who have received 120 hours of training, or any other person they prefer.

For older adults whose care needs are more intensive (about 5% of the 65+ population), the solution is care homes and nursing homes. These belong to the private sector as small/medium enterprises (there are no large chains in Cyprus), or the municipal sector as community care homes. The state offers financial aid for older adults whose pension is low, to help them make the monthly payment for a basic care home.

For older adults requiring very light care and having relatively good mobility, there are community day care centers which also have mini buses to transport older people to and from their homes on a daily basis. These are mainly viewed as leisure / health promotion / active ageing centers, and are ideal for practicing and maintaining social and life skills, as well as socialising. These centers are funded by the state and also receive donations from their clients and their families. There are also few NGOs who operate such centers, with a specialisation in certain conditions (I.e Alzheimers association day-care center).



## 4 "Loneliness" and "Social Isolation" - a demarcation

Loneliness and social isolation are considered highly related between them. In this section it is given a clear definition of each term but also the challenges and risk factors founded associated with them. Some of these are the psychological state, scores in GDS, self-reported loneliness, frequency of meeting other people, living alone and the number of outings per week.

### 4.1 Description of „Loneliness in old age“

Loneliness is a more subjective concept related to a painful emotion of being alone even if well surrounded by others. It is also related to the lack of emotional support. Ong, Uchino and Wethington (2018) differentiate loneliness from social isolation by describing loneliness as subjective state of lacking desired affection and closeness to a significant or intimate other (i.e., emotional loneliness) or to close friends and family (i.e., relational loneliness) [4].

#### Negative Effects Associated with Loneliness [4]:

- Quality-of-life
- Cognition
- Subjective health
- Stress and depression
- Decreased quality of sleep
- Disability
- Cardiovascular disease
- Increased use of health care services
- Increased mortality
- Institutionalization

### 4.3 Description of „Social Isolation in old age“

Social isolation is more objective and related to the lack of social interactions and relations. It can be measured objectively by the number and frequency of contacts with others. As Europe's population is getting older, the prevalence of social isolation is expected to increase in the future [7]. This is very alarming considering the negative impact of social isolation and loneliness on physical and mental health of the older adults. The older adults that have already poor resilience and less physical activity, do not have meaningful and strong social relationships are at a greater risk of premature mortality and are more prone to experience depression [7]. This is also associated with cognitive decline, causing low self-esteem or low levels of interpersonal control [7]. The impact of weak social relationships it is also found to be more harmful than not exercising and twice as harmful as obesity [7].

### 4.4 Challenges and Risk factors for "loneliness in old age"

#### The Risk Factors for Loneliness [4]:

- Living in rural area—being left behind when other migrate
- Poor functional status, particularly in IADLs and cognitive impairment
- Widowhood
- Being female—may be due to increased expressiveness and value on relationships
- Lower income and education—those at higher levels may have more resources/networks
- Urinary incontinence
- Subjective causes—illness, deaths, lack of friends, losses, etc.
- Depression
- Living alone
- Poorly understood by others
- Wisdom

Some of the challenges that elderly care homes and mobile care services have in regard to loneliness of the older adults are:

- Their staff needs to get educated about the risk factors of loneliness to better identify the persons in difficulty/emotional distress.
- The management should allocate resources to organise meaningful and enjoyable activities in order to promote participation and therefore social interaction between residents.
- Focus on each resident individually in order to identify emotions related to loneliness and hence provide emotional support or include the resident in activities with groups that have similar preferences and backgrounds.

## 5 Socio-political aspects and measures

Given the current socio-political state of the world due to COVID-19, all nations had to take general measures to ensure the safety all but emphasis was given to the vulnerable population. In this section, it is described the measures taken by the Cypriot Government and the challenges related to the older adults.

### 5.1 Special challenges posed by COVID-19

In the reality of COVID-19 pandemic, older adults are the most vulnerable. In Cyprus, the first wave was under control but the number of people infected by COVID-19 increased exponentially during the second wave. Social isolation is one of the core measures taken to reduce the spread of the virus, prevents family from interacting with their loved ones. These measures also had impact on taking away the pleasure of daily activities of older adults such as visiting neighbors, going for coffee and backgammon to the Cypriot traditional cafes “kafenio”. This resulted in losing their sense of belonging in the community and become lonelier than ever. Furthermore, in order to minimize the chance of infection of older adults, local authorities banned visitors to nursing homes and long-term care facilities, resulting in the residents of the units becoming more socially isolated. Thus, the residents experience stress and loneliness which worsen symptoms of dementia and depression, increasing the risk of death. Most of the people with dementia can't understand why their family stopped visiting them. This has a devastating impact on their psychology. They also express their need to see or at least contact their family members. Some nursing homes tried to find solutions with the use of technological devices to ease their stress and loneliness. It should be noted that the level of anxiety among the staff of the care homes also increased, as not only they have to take care of the wellbeing of their residents and worry about their condition, but they also experience the fear of becoming the reason spreading Covid-19 to the vulnerable population.

### 5.2 Current measures for older people during the pandemic

In Cyprus, the local authorities issued measures to protect the older adults and adjust them according to the current situation. During the first wave, the local authorities had issued a total lockdown of the country and lasted almost two months; allowing only the absolute necessary movement of the public. Then they gradually lift of lockdown measures as the numbers of new cases was reduced dramatically.

In November, there has been a rapid increase rate of daily new cases and the state has proceeded to strict measures in an effort to reduce the victims of Covid-19. The measures related to the protection of older adults were:

1. Businesses such as shops, banks, supermarkets and pharmacies will allow the entrance only to adults aged over 65 years old between their opening hour and 9:00am and also between 13:00-14:00.
2. Everyone should wear a mask both in indoor places but also outdoor places unless they are eating, drinking or smoking.
3. Attending church services and other religious premises is permitted provided that the protocols of hygienic behavior are upheld and no more than 75 people are attending.



## B) Networks, Tools and Measures

### 6 Existing Networks to prevent loneliness in old age

Cyprus is a small country where distances are small and the majority of retired people have an active role in the family structure. On a school day close to the time school finishes, the street is full of grandparents waiting to pick up their grandkids, take them home for lunch and care for them until their parents are off work. Grandparents cook, take kids to afternoon classes, shop groceries, and meet friends for coffee. All this activity has been put on hold for the past year due to Covid-19. So even active older adults suffer a negative impact from isolation and loneliness. Particularly people who live alone, are more disadvantaged.

All networks described below except the online tools paragraph, are under-operating or closed due to COVID-19, throughout 2020. Even when they are open, a large percentage of older people are reluctant to join due to Covid-19 and choose to stay at home. When a large percentage of the population is vaccinated and the government regulations are more relaxed, we expect these services to re-open. In the meantime, the need for a holistic digital tool is even more intense, as it is not only the frail older adults with mobility challenges who experience loneliness, but the entire older population.

#### 6.1 Initiatives, programs and projects

- **Community day-centers for older adults:** these centers are founded by communities with support from public funding and fund-raising activities and donations on an ongoing basis. They are run by a board usually comprised by different volunteers representing the community, whose president is the current mayor of that community. The board members are active, well-meant citizens, but often there is no professional know-how in these boards, to maximise resource allocation and program effectiveness. Despite this, the program managers, who are employees of the centers, have the scientific background and the professional skills to use the resources they are given in the best possible way. The centers are open weekdays morning hours, and provide an opportunity for socialising, learning, maintaining skills and cognitive fitness through activities, and stay healthy through basic monitoring and health-promotion activities. But perhaps their most important role is to combat loneliness and isolation, as many of the people attending would be home alone if the day care centers did not exist. We have seen many times people re-uniting with old school mates or making new friends through these centers.



- **Cyprus Alzheimer Association** has two day-care centers, targeting people with dementia. The centers have a double aim, at providing care and stimulation to the patients and respite to their family carers. Their function is similar to the community day-care centers, but with a special focus on the needs of dementia patients.
- **Lifetime learning classes:** The ministry of education provides morning and afternoon classes with a minimal fee for pensioners, on a variety of different subjects ranging from cooking and flower arrangements to philosophy, dance and IT skills. Some of them have students ranging from ages 18 onwards, which also makes it a setting for inter-generational contact and friendships to emerge.
- **Retired professionals' associations** (i.e retired teachers association), and social group associations (i.e Nicosia retired women's group), provide regular opportunities for socialising and volunteering to their retired members. Most members report that an important aspect which adds to their quality of life after retirement from active employment, is to be given the opportunity to offer to society, not just to receive care and services as older adults.
- For older men, hanging out the traditional local coffee shop or "**kafenion**" and playing backgammon is a favourite pastime, and a chance to engage in rigorous conversation and often debate over current events and politics.
- As far as **digital tools to combat loneliness**, there is little going on in Cyprus. Even though recently, largely due to COVID-19, there have been actions to increase ICT literacy among older ages, this has been achieved mainly relating to older adults abilities to complete necessary transactions (online banking, tax and levies payments, medical management) and shopping online to meet their needs from home, which is actually adding to the loneliness, as Cyprus is a small place and older people tend to meet acquaintances and socialise when they visit public services, the supermarket, the local coffee place etc. There is no tool specifically targeting loneliness which is being used. Some people are active on mainstream social media, mostly Facebook, and make video calls with their loved ones to make up for the lack of physical interactions. This is new for Cyprus, as the distances are small and people are used to physical meetings.
- **Active Assisted Living programme (AAL)** main focus is to foster the emergence of innovative ICT-based products, services and systems for ageing well at home, in the community and at work. Cyprus has been participating in a numerous project funded by the AAL. UCY SEIT Lab for example (P2 in the consortium), has participated in the AAL ConnectedVitality (CVN) project (<http://www.aal-europe.eu/connected-vitality/>). CVN developed 'the second-best connection', a video communication network, coined 'The ConnectedVitality Network', enabling immobile senior citizens to organize their social network and choose the activity and select levels of social interaction according to their individual needs, abilities and chosen lifestyle. The goal of the project was to develop a

technological answer to the growing problem of loneliness amongst elderly people in Europe, as for elderly, loss of a life partner or immobility problems greatly contribute to feelings of helplessness and isolation. Reconnecting to others has huge advantages, both emotional and practical. The development of the ICT- tool was grounded in firm scientific research. The tool itself was developed in close contact with end users to make sure it would really meet their requirements.

**UCY SEIT Lab (P2 in the consortium) and AGE CARE (P3 in the consortium)** currently participate in the GUIDed AAL project (<https://www.guided-project.eu/>), that will integrate existing open-source technologies, platforms and tools, as well as assemble a smart AR-enabled platform based on existing fully customizable hardware boards to offer a set of simple, plug-and-play, assisted-living (AL) services. Real users including primary (older adults), secondary (family members, healthcare professionals and network) and tertiary (i.e., care organizations) users will be involved throughout the project progress and assist in system design, integration, testing and evaluation. The Augmented Reality Healthcare Expert will be designed in such a manner that will be intuitive to use while at the same time it will tackle cognitive decline and forgetfulness. Prior to using the Augmented Reality Training Expert, older adults will have a one-to-one training session with the respective end-user organization and will be subsequently supported when in need with regular check-ups.

#### **Other AAL projects with Cypriot partners are:**

**ReMember-Me:** The ReMember-Me system will include daily sleep, activity and mood assessment, alternating-daily, short-assessment exercises; utilized as a subtle tool for the detection of cognitive decline, daily training and monitoring through meaningful exercises for older adults (i.e., socializing, playing cards, news reading, religious activities) and socialization through knowledge sharing with others

**MI-Tale:** Memories are important for dementia patients; they influence how they act and feel nowadays. However, for people around them, it is often hard to explore what is really going on in their beloved one's mind. MI-Tale develops a digital and interactive game to recall and record memories. This tool contains existing material such as historical pictures and video's, but also allows the user to add own material. In this way, it helps to discover what the elderly person is thinking and feeling and it promotes conversation among generations. Next, it allows players to complete a personal life-story book.

**iCAN:** iCan is about assisting the everyday life of senior adults. An online platform and application that focuses on intriguing seniors to occupy themselves with something that will help them remain active and self-assisted. iCan uses approachable technology, appealing to the average person of older age. The platform will be accompanied by a smart watch that will be wirelessly connected to the platform, measuring various biometrics and dynamically informing the wearer, as well as the platform and connected people such as family and doctors, for certain conditions and anomalies that may occur to the user. Home deliveries of various kinds such as medicines or other goods, a service through which someone may offer to provide escorting to seniors, taxis for people with

disabilities and smart gaming with a connected simplistic networking environment are among the features that make iCan unique. End-users of various backgrounds will help forming the real extend of those features while developing the platform.

## 6.2 Good examples for coping strategies

Dr Kyriazis (2020) from the National Gerontology Centre of Cyprus conducted a report regarding COVID-19 Isolation and Risk of Death in Elderly People in Cyprus recommended that a series of interventions by the local authorities in association with volunteers could provide initial support for vulnerable elderly [6].

**These recommendations**, which have been implemented to some extent, include:

- 1) Harness online and other digital technologies. In addition, address inequalities regarding access to such technologies. These platforms can be used not only for social networking, but also for cognitive exercises such as videogames, brain exercises and similar
- 2) Encourage more frequent telephone contacts by volunteers, for meaningful and supportive conversations and practical help for older people in need. This has been implemented by several municipalities during lockdown. Volunteers have been helping with both practical tasks (i.e shopping), and psychological support. This has been particularly helpful for people who don't have access to internet, or know-how to use it.
- 3) Deliver specialist psychological support and positive mental health initiatives. A task force of health visitors (mostly psychiatric nurses) has been deployed to visit patients with mental health diagnoses in the community. Usually these patients had standing appointments in community medical centers, but due to COVID-19, only urgent appointments were kept.
- 4) Physical activities. Specifically regarding previously active older people who are now isolated at home due to Covid-19 concerns. It is recommended A) Even light exercise instead of a totally sedentary life, has positive effects in reducing the risk B) Effective exercises should include a mixture of resistance, strength and balance exercises C) Technology (such as use of the internet, video games, media broadcasts or phone calls) may be useful in supporting these exercises programs. These programs could be presented without charge by television stations, within their sphere of their corporate social responsibility. Materia Group has been using videos found [here](#), developed for one of our AAL projects fraAgile, as exercise recommendations for our clients living in the community.
- 5) There is a need for a service whereby older vulnerable individuals will receive telephone calls from medical doctors and other healthcare professionals, in order to ensure good medical coverage at home. The calls should be initiated by the health professional and not by the patient. This has not been applied, but there are some ongoing AAL projects in which Materia Group participates, which address this need. Some of these projects are: [fraagiLe](#), [MedGuide](#) and [Remember-Me](#).

Additionally, to the above issues which were identified in the Kyriazis report and addressed by the National Committee, a good example of coping practices was a movement of volunteers who undertook to write letters to older adults and deliver them to their doorstep, and a program for youth to older solidarity in which a young person from a community undertakes to check and take shopping to an older person they are matched with. These were pilot programs applied to a number of small communities, and have proven beneficial, despite the social distance measures.

### 6.3 Possible cooperation partners for the project

We believe that as Materia, our strongest network is with the primary users (older adults) and their family members. Other than our extensive current and alumni client database, a variety of organisations can be involved. Municipal day-care centers and Senior day clubs already have a long-standing collaboration with Materia, and cater to needs of older adults in the community. Since they are partially operating or closed due to COVID-19, their beneficiaries are without service during this time. Even when they will open again, every year they lose a portion of their clients due to worsening of their health condition and increase of their care needs. These people can continue to receive services through the Digi-ageing tool.

In a similar manner, retired persons associations, Retired professionals' associations and NGOs like the Cyprus Alzheimer's Association can also benefit as they will extend the number of members they are able to reach out to.

Materia Group has a long history of collaboration with a wide range of healthcare professionals who care for older adults in the public and private sectors. These include gerontologists, geriatricians, community nurses, speech therapists, psychologists, neurologists, psychiatrists, neuropsychologists, physiotherapists, music, art and drama therapists, and other disciplines, all of which identify loneliness as a key risk factor for serious health conditions. These health care professionals can be our spokespersons to get the word out and recommend the platform.

Materia Group has been closely collaborating with a wide range of private sector organizations, companies and stakeholders in Cyprus, Greece, Europe and Middle-East, including technology vendors and product and service providers who may have an interest as secondary stakeholders in the platform e.g. Noesis Cognitive Center & Tech Solutions Ltd, GJK HealthPharma Services Ltd.

UCY has a long collaboration with the Ministry of Health, Services for the Elderly of the Social Welfare Services, Department for Social Inclusion of Persons with Disabilities, Melathron Agonison EOKA and representation of the European Commission in Cyprus. These partners could also have an interest as secondary stakeholders in the Digi-Ageing platform.



## 7 Identification of “loneliness” – measures & tools

In order to decide what measures and tools are useful to identify loneliness, firstly we should understand the needs of older adults and the dangers of loneliness in Cyprus but also to recognise the needs and challenges of the health care sector regarding the preventing measures in loneliness in old adults.

### 7.1 Needs of older adults and the dangers of “loneliness in old age”

A study with 100 participants (elderly people) in Cyprus [9] showed that the most frequent diagnoses reported included diabetes mellitus, orthopaedic problems (such as osteoarthritis, total hip/knee replacement), cardiopulmonary problems, cerebrovascular accident and cancer. Hence, the following needs exist for these participants: measurement of vital signs (38%), check of glucose levels (34%), health counselling (39%), management of medicine prescription (13%), personal hygiene (31%), taking preventive measures (38%), modification of the environment (22%), vital signs (30%), wound care (9%), intradermal/intramuscular injections (16%), counselling (21%) and blood collection (30%) [9].

In terms of physical needs, the study [9] shows that men receive care/advice to eat and drink adequately (21%), while women to maintain their body temperature within normal range, by adjusting clothing and modifying the environment (35%). An important finding is that 51% of participants said that they did not receive care and advice regarding their psychological needs. Women (41%) reported the need for advice in order to deal with their emotions and be able to communicate with others in expressing these as well as their fears or opinions, whereas men (68%) reported the need for information about their health problems in order to use the services better.

Participants also stated (99%) to be very satisfied with their home care nurse and that they trust them. As a result, they feel comfortable to discuss their problems and needs with their home care nurse, which is a need by itself. However, participants also expressed the need for more home visits by their health carers and suggested that, if the number of home visits by carers increased, this would be very desirable, not only for them, but for everyone who needed it. Again, this is an indication that participants felt the need for communication with others (i.e. their health carers), for contact and care. Finally, participants suggested the increase of the number of home carers at a rate of 54%, 5% suggested more frequent home visits, while 39% suggested the need for other help as well (e.g. social care).

## 7.2 Needs of the health care sector to prevent “loneliness in old age”

In Cyprus [8] a study was conducted where home carers have been asked about the needs of the health care sector in Cyprus through focus groups. The carers mentioned that more health services are needed, as well as more professionals from different disciplines besides doctors (psychologists, physiotherapists, occupational therapists and not only doctors). In addition, they mentioned that there is no evaluation of quality and monitoring of their health care service from the Cypriot Ministry of Health. Last points mentioned were that a more “clear” hierarchy is needed and a better coordination between the carers and their supervisors, as well as the need to establish a legal framework for home caring.

On another dimension, Cyprus is among the countries in Europe with the lowest number of practising physicians per 100.000 inhabitants [17]. Although the private sector employs the majority of physicians, the public sector employs the majority of nursing staff. This shows the need for better staffing of the public health sector where the majority of elderly will seek help to.

With the current situation, a lot of elderly people are being isolated, hence there is a need for a service whereby older vulnerable individuals will receive telephone calls from medical doctors and other healthcare professionals, in order to ensure good medical coverage at home [18]. The calls should be initiated by the health professional and not by the patient.

The health care system alone cannot solve all of the challenges of social isolation and loneliness [19]; rather, the health care system needs to connect with the broader public health and social care communities to establish a firm connection to ensure better communication, treatment and quick response, in order to determine best practices and approaches: quality, funding, and research gaps. That is, the overall quality of the evidence base needs to be improved, adequate funding of research will be required, and research on major gaps in the current evidence base needs to be prioritized. Investment is needed to ensure that voluntary organisations can continue to help alleviate loneliness and improve the quality of life of older people, reducing dependence on costlier services [19, 20].

The range of interventions for alleviating loneliness and social isolation can be grouped into one-to-one interventions, group services and wider community engagement [20]. Those that look most effective include befriending, social group schemes and Community Navigators.

There is a vital need for health and social care statutory services to work alongside the third sector to help tackle the problem successfully. Adequate resourcing is needed to ensure that voluntary organisations can continue to provide, and expand, these services for older people in communities [19, 20].

There is also a need to train individuals as instructors and provide the necessary infrastructures to utilize online and other digital technologies and address the issue of inequalities regarding access to such technologies (restriction of access due to various reasons, not familiar with the current technology standards, not able physically due to disabilities or eye conditions) [18]. These online

platforms will be used not only for social networking, but also for cognitive exercises such as videogames, brain exercise and similar.

Finally, it is desirable to enlist more volunteers to be able to assist anywhere possible, e.g. more frequent telephone calls to elderly for meaningful and supportive conversations and practical help for elderly people in need [18, 19].

### 7.3 Methods and Tools to identify and measure loneliness

- **Berkman–Syme Social Network Index**

The Berkman–Syme social networking Index focus around the adult that is general and measures social integration versus isolation by taking a look at marital status, regularity of connection with other people, involvement in religious tasks, and involvement in other club or company activities (Berkman and Syme, 1979). This measure ended up being recommended for addition in electronic wellness documents (EHRs) being a way of measuring social isolation by way of a previous institute of medicine committee (IOM, 2014).

- **The Revised UCLA Loneliness Scale**

The Revised UCLA (R-UCLA) Loneliness Scale is just a 20-item, self-administered questionnaire that has been a typical dimension of subjective loneliness (Russell, 1996). The three-item UCLA Loneliness Scale was created for usage in phone studies by which questions are posed towards the individual being evaluated (Hughes et al., 2004;).

- **Three-Item UCLA Loneliness Scale**

The three-item scale is getting used commonly both in research and medical settings in the us as a quick evaluation of loneliness.

- **De Jong Gierveld Loneliness Scale**

The de Jong Gierveld Loneliness Scale can be a questionnaire that is 11-item to evaluate both general loneliness and two certain kinds of loneliness (de Jong Gierveld and Kamphuis, 1985; see dining dining dining Table 6-1). This scale includes two subscales: a three-item loneliness that is emotional (aimed at loneliness as a result of not enough an in depth, intimate relationship) and a three-item social loneliness subscale (aimed at loneliness because of the not enough a wider social networking) (de Jong Gierveld and Van Tilburg, 2006). Just like the R-UCLA Loneliness Scale, the size of this tool may be difficult to use within large studies. Because of this, a shortened 6-item scale comprising two associated with the 3-item subscales inside the initial 11-item questionnaire has been used (de Jong Gierveld and Van Tilburg, 2006; Weiss, 1974; see dining table 6-1).

### ▪ **Cornwell Perceived Isolation Scale**

Cornwell and Waite (2009) calculated observed isolation by developing a scale that is nine-item combines indicators of perceived lack of social help and of loneliness. The initial six things originated in asking individuals listed here questions: “How usually is it possible to start as much as your household if you wish to speak about your concerns?” and “How usually is it possible to use them for assistance when you have a problem? ” (Cornwell and Waite, 2009). These exact same concerns had been then expected once more with regards to people they know then pertaining to their spouse or partner. The past three products result from the three-item UCLA Loneliness Scale (described above). The authors standardized each item and averaged scores, with a higher score indicating greater perceived isolation for this scale.

In [15], four questions are recommended to capture different aspects of loneliness:

#### The three-item UCLA Loneliness scale:

*1. How often do you feel that you lack companionship?*

Hardly ever or never, Some of the time, Often

*2. How often do you feel left out?*

Hardly ever or never, Some of the time, Often

*3. How often do you feel isolated from others?*

Hardly ever or never, Some of the time, Often

#### The direct measure of loneliness

*How often do you feel lonely?*

Often/always, Some of the time, Occasionally, Hardly ever, Never

According to [15], the reason for asking the four questions together is that the stigma of loneliness may mean that people underreport their feelings if asked directly and the other questions help us understand other aspects that contribute to a person’s feelings of loneliness.

In [15], it is discussed that two measures exist that meet many required criteria in loneliness indicators, and the authors suggest using both direct and indirect measures of loneliness where possible. According to them, this enables measuring responses on a scale that has been assessed as valid and reliable, as well as allowing the respondent to say for themselves whether they feel lonely, providing further insight into the subjective feeling of loneliness for different people [15]. The recommended measures of loneliness for adults are similar to the above listed measures.



## 7.4 Methods and Tools on preventing loneliness

According to a research [9], older adults already use existing digital tools in the form of smartphone applications to combat the effects of isolation due to the COVID-19 pandemic. The research categorizes the apps in 6 categories, as shown in Figure 1: Social Networking, Medical: telemedicine, Medical: prescription management, Health & Fitness, Food & Drink, and Visual & Hearing impairment.

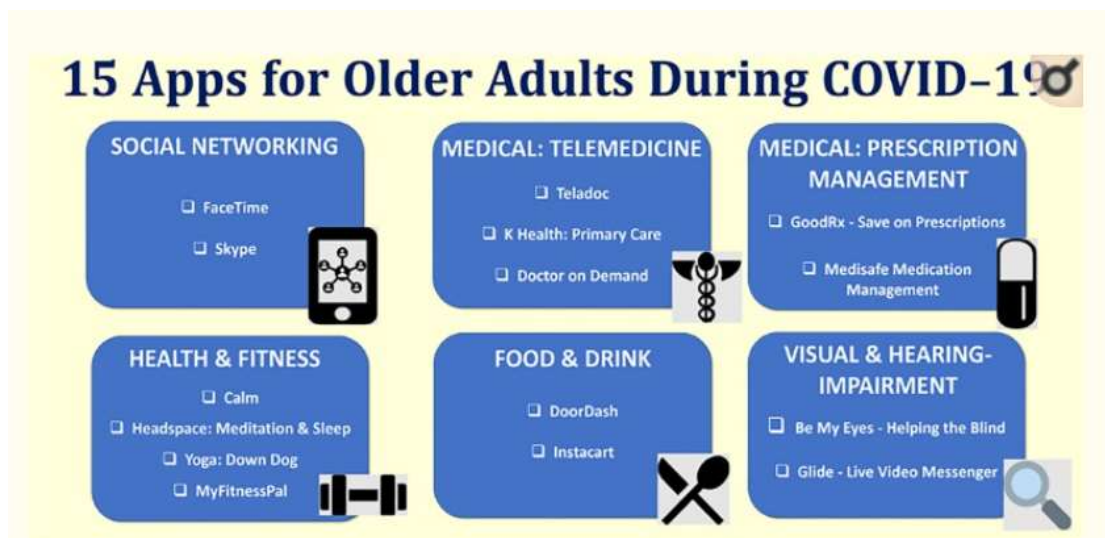


Figure 1: 15 smartphone apps for older adults to use daily while in isolation due to the COVID-19 pandemic (retrieved from [9])

In [10] the + Simple platform is discussed that groups content (news, procedures, social networks and pages of interest). Older adults were trained to use the tool through a 2-hour course. The aim was to promote elderly adults' social inclusion through a digital literacy process [10]. The training involved 40 Digital online Classrooms. Moreover, 106,550 tablets with the "+ Simple" platform were delivered to people over 60 years of age.

Guided Access Mode [11] is an app that supports older adults in their asynchronous communication with family and friends. The technology required an adaptation period but was a feasible communication tool. Use increased perceived social interaction with ties, but increased social connectedness (meaningful social interaction) was only reported by participants with geographically distant relatives [12]. In addition, the sense of well-being and confidence with technology was also enhanced.

Social networking sites (SNS) such as Facebook (and Webcams) Twitter, can assist in creating and maintaining social relationships essential in contributing to the wellbeing of seniors [12]. Reduced mobility and geographical distance from family can cause loneliness among seniors. SNS can aid in overcoming these obstacles by allowing seniors to maintain involvement with their family and friends, despite their immobility or distance from them. In addition, technology such as video

conferencing can also help older adults overcome mobility challenges that come with aging by staying connected [12].

WhatsApp is an app that can be perceived as user-friendly with a clean and simple to use design, meaning that groups that are normally excluded from using it, (e.g. older people) are able to use it [13]. In [13] it is supported that, by enhancing its usage further from just exchanging messages, it is much more likely that elderly will adhere to health advice they receive via this channel, as well as being much more likely to pay attention to any incoming messages from medical experts.

Connect2affect [14] is a new initiative that aims to create a network of resources that meets the needs of anyone who is isolated or lonely. Helps build the social connections older adults need to thrive. It requires taking an assessment quiz to establish the necessary next steps to each unique individual.

## 7.5 Digital tools as an opportunity

An idea would be to utilize large touch screens where older adults would be able to see clearly what is displayed and interact easier with the User Interface (UI), instead of focusing on mobile screens where a large number of elderly people are still unfamiliar with and unaware of how to use them.

## C) Learning about "loneliness"

### 8 Education, further training and awareness rising

As it was described, loneliness is enduring phenomenon that is associated with a lot of negative implications in the quality of life of the human race. We concluded that only after continue raising awareness, establish training in the home cares and educating the healthcare professionals; this phenomenon will stop rising and hopefully it will start descending among the older adults. This section describes the existing current measures in education and training programs available in Cyprus to prevent loneliness but also the challenges and main gaps in training and educating healthcare professionals.

#### 8.1 Gerontological findings on the phenomenon of loneliness

No studies were found in this topic for Cyprus. Therefore, we searched for international studies and found the following studies and information.

Ong, Uchino and Wethington (2018) compared studies between the continents (USA, Europe and Asia) and concluded that the prevalence of loneliness among older adults varies across studies as a function of the (a) measure of loneliness used, (b) populations studied, and (c) age group and sample sizes considered. Nevertheless, in all continents the phenomenon of loneliness on older adults is significant to justify national measures to prevent this phenomenon [5].

It is highlighted the importance of all types of health professions and carers that are involved in care of older adults to be educated regarding such important issues such as loneliness and social isolation. Some examples on how the health professions could be education are: through various types of education, including direct care worker education, lifelong learning by health professionals and direct care workers, and public educational campaigns [7].

#### 8.2 Current measures in education and further training programs to prevent loneliness

There are training programs regarding social isolation targeted to immigrants, asylum seekers and young adults in Cyprus.

There is also available the Adult Education Centers that provides general adult education in Cyprus within the framework of providing lifelong learning opportunities.

Nevertheless, there are no specific training programs to prevent loneliness in older adults in Cyprus. This highlights the importance of this project and how helpful could the outcomes be.

### 8.3 Main learning gaps regarding “loneliness”

As it was mentioned in the previous section, there are no training programs to prevent loneliness in older adults in Cyprus. In fact, the teaching curriculum in the universities in Cyprus for the different healthcare professionals does not include any modules in regards to loneliness.

This issue is also identified in international articles and books and they suggest recommendations to close this gap. They provide recommendations in order to incorporate into the education of health professionals training on how to prevent loneliness. Literature highlights the importance of education in developing a workforce that can understand and address social factors and also recommends the incorporation of competency-based curricula on social care into health professions and continuing education programs [7].

Additional suggestions from National Academy of Sciences [7] is the establishment of national training programs in geriatrics such as the Geriatrics Workforce Enhancement Program (GWEP) funded by the Health Resources and Services Administration, provide another potential opportunity for improving education and training on social isolation and loneliness in older adults.

Furthermore, the establishment of accredited Certifications that are addressed in social isolation and loneliness would be additional motivation for health professionals. As it is described by the National Academies of Sciences (2020), the development of a certification exam related to preventing and treating social isolation and loneliness could be either as a stand-alone exam or by including items related to this topic on a currently existing gerontologic exam [7]. The certification would be a potential opportunity for emphasizing the importance of this area and attracting more health professionals to educate their selves.

## 9 Glossary of terms for the Digi-Ageing project

Term	Definition/Description
<b>Active Ageing</b>	<p>Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age. Active ageing applies to both individuals and population groups. It allows people to realize their potential for physical, social, and mental well-being throughout the life course and to participate in society according to their needs, desires and capacities, while providing them with adequate protection, security and care when they require assistance.</p> <p><b>SOURCE:</b> Active Ageing: A Policy Framework. A contribution of the World Health Organization to the Second United Nations World Assembly on Ageing, Madrid, Spain, April 2002.</p> <p><a href="http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf">http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf</a></p> <p>Active ageing is about adjusting our life practices to the fact that we live longer and are more resourceful and in better health than ever before, and about seizing the opportunities offered by these improvements. In practice it means adopting healthy life styles, working longer, retiring later and being active after retirement.</p> <p><b>SOURCE:</b> "New Paradigm in Ageing Policy", European Commission,</p> <p><a href="http://ec.europa.eu/employment_social/soc-prot/ageing/news/paradigm_en.htm">http://ec.europa.eu/employment_social/soc-prot/ageing/news/paradigm_en.htm</a></p>
<b>Ability to Benefit</b>	<p>The point at which an adult qualifies for selected programs or services based on achievement results. Assessments approved by OAEL may be used to establish an "ability to benefit" and may result in an individual's acceptance or rejection for programs or services based on assessment scores.</p> <p><b>SOURCE:</b> Adult Education, Glossary,</p> <p><a href="http://www.doe.virginia.gov/instruction/adulted/glossary.shtml">http://www.doe.virginia.gov/instruction/adulted/glossary.shtml</a></p>
<b>Adult Education</b>	<p>Adult Education services or instruction below the post-secondary level for individuals:</p> <ul style="list-style-type: none"> <li>• who have attained 16 years of age;</li> <li>• who are not enrolled or required to be enrolled in secondary school under State law;</li> <li>• who lack sufficient mastery of basic educational skills to enable them to function effectively in society;</li> <li>• who do not have a secondary school diploma or its recognized equivalent, and have not achieved an equivalent level of education; or (e) who are unable to speak, read, or write the English language.</li> </ul> <p><b>SOURCE:</b> Glossary of Adult Education Terms,</p>

	<a href="http://www-tcall.tamu.edu/docs/04esguide/glossary.htm">http://www-tcall.tamu.edu/docs/04esguide/glossary.htm</a>
<b>Adult Basic Education (ABE)</b>	<p>Programs and services that target adults functioning below the ninth-grade level based on an approved assessment.</p> <p><b>SOURCE:</b> Adult Education, Glossary,</p> <p><a href="http://www.doe.virginia.gov/instruction/adulted/glossary.shtml">http://www.doe.virginia.gov/instruction/adulted/glossary.shtml</a></p>
<b>Age Discrimination</b>	<p>Inappropriate behaviour (social pressure, restriction of rights) to people of all ages (young, middle and older) based on age stereotypes.</p> <p><b>SOURCE:</b> Mikulionienė S. 2011. <i>Socialinė gerontologija</i>. Vadovėlis. Vilnius: Mykolo Romerio leidybos centras. [Social gerontology: textbook]</p>
<b>Age Norms</b>	<p>Age-related behavioural rules, expectations, and standards governing the interaction of people. Age norms describe roles and behaviour, which are (not) acceptable and (un)desired for people of certain age.</p> <p><b>SOURCE:</b> Mikulionienė S. 2011. <i>Socialinė gerontologija</i>. Vadovėlis. Vilnius: Mykolo Romerio leidybos centras. [Social gerontology: textbook]</p>
<b>Ageing (of) Population</b>	<p>An ageing population is defined as a population in which the number of elderly (65+) is increasing relative to the number of 20–64-year-olds.</p> <p><b>SOURCE:</b> Population Europe: The Network of Europe’s Leading Demographic Research Centres. Available at: <a href="http://www.population-europe.eu/Library/Glossary.aspx">http://www.population-europe.eu/Library/Glossary.aspx</a></p>
	<p>Aging of population (also known as demographic aging, and <u>population aging</u>) is a summary term for shifts in the age distribution (i.e., age structure) of a population toward older ages.</p> <p><b>SOURCE:</b> Gavrilov L.A., Heuveline P. “Aging of Population.” In: Paul Demeny and Geoffrey McNicoll (Eds.) <i>The Encyclopedia of Population</i>. New York, Macmillan Reference USA, 2003. <a href="http://www.galegroup.com/-servlet/ItemDetailServlet?-region=9&amp;imprint=000&amp;titleCode=M333&amp;type=4&amp;id=174029">http://www.galegroup.com/-servlet/ItemDetailServlet?-region=9&amp;imprint=000&amp;titleCode=M333&amp;type=4&amp;id=174029</a></p>
<b>Assessment</b>	<p>Methods of measuring learner progress, including state approved assessments, non-approved testing, staff evaluation, and self-reporting of learners.</p> <p><b>SOURCE:</b> Adult Education, Glossary,</p> <p><a href="http://www.doe.virginia.gov/instruction/adulted/glossary.shtml">http://www.doe.virginia.gov/instruction/adulted/glossary.shtml</a></p>
<b>Distance Learning</b>	<p>The learner has been matched with a teacher, tutor, or volunteer with whom he/she has regular interaction with regard to the content of the distance learning curriculum, and who provides support throughout the distance learning experience. Distance learning is characterized by all of the following:</p> <ul style="list-style-type: none"> <li>▪ A separation of place and/or time between the learner(s) and the instructor.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ The use of standardized curriculum.</li> <li>▪ The delivery of education or training that employs technology in at least one of the following four categories: <ul style="list-style-type: none"> <li>• Computer Technology, such as the Internet or CD-ROM.</li> <li>• Video Technology, such as videoconferencing, cable, satellite linkage, and videotapes.</li> <li>• Audio graphic Technology, such as radio and audiotapes.</li> <li>• Telephone Technology, such as teleconferencing.</li> </ul> </li> </ul> <p>Support by a tutor, including help with content and assistance with technology, on line, on the telephone, or in person.</p> <p><b>SOURCE:</b> Adult Education, Glossary,  <a href="http://www.doe.virginia.gov/instruction/adulted/glossary.shtml">http://www.doe.virginia.gov/instruction/adulted/glossary.shtml</a></p>
<b>Educational Activities</b>	<p>The activities of educating or instructing; activities that impart knowledge or skill.</p> <p><b>SOURCE:</b> <a href="http://dictionary.reference.com/browse/educational+activity">http://dictionary.reference.com/browse/educational+activity</a></p>
<b>Generations</b>	<p>The concept of generations is widely used in different ways:</p> <ul style="list-style-type: none"> <li>▪ <i>age groups</i> or individuals at given life stages, such as youth, adulthood and old age;</li> <li>▪ <i>historical generations</i>, defined as birth cohorts with particular characteristics (i.e., Baby Boomers);</li> <li>▪ <i>family generations</i> – that is family-based roles and structures (i.e., grandparent, parent, child, grandchild).</li> </ul> <p><b>SOURCE:</b> Hagestad, G.; Uhlenberg, P. 2007. The Impact of Demographic Changes on Relations Between Age Groups and generations: A Comparative perspective. Schaie, K.W.; Uhlenberg, P. (Eds.) Social Structures: Demographic Change and the Well-Being of Older Adults. Springer Books, New York, p. 239-261.</p>
<b>Gerontology</b>	<p>Gerontology is a multidisciplinary science studying ageing from biological, psychological, and social perspectives.</p> <p><b>SOURCE:</b> Phillips, Judith; Kristine Ajrouch, and Sarah Hillcoat-Nalletamby. Key concepts in social gerontology. London: Sage Publications, 2010. p. 118.</p>
<b>Healthy (Active) Ageing</b>	<p>Healthy ageing is the process of optimizing opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination and to enjoy an independent and good quality of life.</p> <p><b>SOURCE:</b> Healthy Ageing, EU-funded project 2004 – 2007.  <a href="http://www.fhi.se/Documents/English/International/conference-documentation/Healthy-ageing-project.pdf">http://www.fhi.se/Documents/English/International/conference-documentation/Healthy-ageing-project.pdf</a></p> <p>Healthy ageing describes the ongoing activities and behaviours you undertake to reduce the risk of illness and disease and increase your physical, emotional and mental</p>

	<p>health. It also means combating illness and disease with some basic lifestyle realignment that can result in a faster and more enduring recovery.</p> <p><b>SOURCE:</b> <a href="http://www.seniors.gov.au/internet/seniors/publishing.nsf/Content/Healthy+ageing">http://www.seniors.gov.au/internet/seniors/publishing.nsf/Content/Healthy+ageing</a></p>
<b>Independent Living</b>	<p>Living at home without the need for continuous help and with a degree of self-determination or control over one's activities.</p> <p><b>SOURCE:</b> A Glossary of Terms for Community Health Care and Services for Older Persons, Ageing and Health Technical Report, Volume 5, WHO Centre for Health Development, 2004.</p> <p><a href="http://whqlibdoc.who.int/wkc/2004/WHO_WKC_Tech.Ser._04.2.pdf">http://whqlibdoc.who.int/wkc/2004/WHO_WKC_Tech.Ser._04.2.pdf</a></p>
<b>Individual Ageing</b>	<p>A process whereby people accumulate years and progressively experience changes to their biological, social and psychological functioning as they move through different phases of the life course.</p> <p><b>SOURCE:</b> Phillips, Judith; Kristine Ajrouch, and Sarah Hillcoat-Nalletamby. <i>Key concepts in social gerontology</i>. London: Sage Publications, 2010. p. 12.</p>
<b>Learning Activities</b>	<p>Any activities of an individual organized with the intention to improve his/her knowledge, skills and competence.</p> <p>The two fundamental criteria to distinguish learning activities from non-learning activities are:</p> <ul style="list-style-type: none"> <li>▪ the activity must be intentional (as opposed to random learning), so the act has a predetermined purpose;</li> <li>▪ the activity is organized in some way, including being organized by the learner himself/herself; it typically involves the transfer of information in a broader sense (messages, ideas, knowledge, strategies).</li> </ul> <p><b>SOURCE:</b> Classification of Learning Activities – Manual. European Communities, 2006.</p>
<b>Older Senior Citizens / The “Fourth Age”</b>	<p>Older seniors are the group of people who are traditionally called the elderly. They are believed to be in the phase of their lives during which their physical, mental and social capacities and contributions to society gradually fade away. While we previously believed that people entered this group at retirement, we have now learned that this group consists of people in their eighties and nineties. We speak of the “older seniors” or the “fourth age.”</p> <p>The Fourth Age is characterized as a period of increasing frailty. Frailty is not just a series of diseases, but more the natural ageing process linked to becoming weaker and losing the possibility to overcome diseases and social problems. Thus, old age is also characterized by a number of medical and social problems. Old age ends with the death of the person.</p>



	<p><b>SOURCE:</b> Text Analysis Report (V2.10), “Technology and the Elderly in the Popular Media,” SENIOR project, Deliverable D1.2, pg. 9. <a href="http://globalseci.com/wp-content/uploads/2009/02/d12-text-analysisreport2.pdf">http://globalseci.com/wp-content/uploads/2009/02/d12-text-analysisreport2.pdf</a></p>
<p><b>Middle Age</b></p>	<p>The term “middle age” was a concept popularised in the 1960’s to indicate a grey area between adulthood (30-40 years old) and retirement (affecting those 65 years and older). “Extended middle age” is now the term commonly used to indicate a continuation of this period but a change in circumstances (e.g., retirement). During extended middle age, the main physical and mental abilities remain unaltered though the person is ageing and gradually forced into the role of the senior citizen. As such, he or she is better profiled in terms of desired activity patterns, job opportunities, desired life habits, desired conditions rather than medical and social needs.</p> <p>The “fourth age” applies to older senior citizens, people in their eighties and nineties. In this period, practically all people show substantial losses in physical mobility and cognitive functioning.</p> <p><b>SOURCE:</b> “Ethics of e-Inclusion of Older People,” Senior Discussion Paper No. 2008/01, April, 2008. <a href="http://www.cssc.eu/public/Ethics%20of%20e-Inclusion%20of%20older%20people%20-%20Bled%20%20Paper.pdf">http://www.cssc.eu/public/Ethics%20of%20e-Inclusion%20of%20older%20people%20-%20Bled%20%20Paper.pdf</a></p>
<p><b>Quality of Life</b></p>	<p>Is “an individual’s perception of his or her position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept, incorporating in a complex way a person’s physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features in the environment.” (WHO, 1994). As people age, their quality of life is largely determined by their ability to maintain autonomy and independence.</p> <p><b>SOURCE:</b> Active Ageing: A Policy Framework. A contribution of the World Health Organization to the Second United Nations World Assembly on Ageing, Madrid, Spain, April 2002. <a href="http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf">http://whqlibdoc.who.int/hq/2002/WHO_NMH_NPH_02.8.pdf</a></p>
<p><b>Social Exclusion</b></p>	<p>Social exclusion is a social process, built on social inequalities and leading to the marginalisation of individuals and groups as regards societal goals. Social inequalities (related to a series of factors: gender, ethnicity, age, education, employment, income, professional status, housing, family structure, disability, geographical location, etc.) are the basic roots of social exclusion. Exclusion is defined in relation to a goal: in the case of this project, the development of the information society / knowledge society (digital exclusion or e-exclusion). Exclusion occurs when individuals or social groups are left behind or do not benefit from equal opportunities to achieve societal goals.</p> <p><b>SOURCE:</b> Analytic Framework – eInclusion and eAccessibility Priority Issues, eInclusion@EU Project: Strengthening eInclusion &amp; eAccessibility Across Europe, Deliverable 1.1, October 2004.</p>

	<p><a href="http://www.empirica.com/themen/einclusion/documents/eInclusion_Analytic-framework.pdf">http://www.empirica.com/themen/einclusion/documents/eInclusion_Analytic-framework.pdf</a></p>
<b>Social Inclusion</b>	<p>The process which ensures that those at risk of poverty and social exclusion have the opportunities and resources necessary to participate in economic and social life, securing a standard of living that is considered acceptable in the society in which they live.</p> <p><b>SOURCE:</b> Social Protection, Social Inclusion Glossary: Key terms explained, European Commission,  <a href="http://ec.europa.eu/employment_social/spsi/docs/social_inclusion/glossary_en.pdf">http://ec.europa.eu/employment_social/spsi/docs/social_inclusion/glossary_en.pdf</a></p> <p>Social inclusion is not only the symmetric counterpart of social exclusion, aiming at including those who are at risk of exclusion. The process of social inclusion relies on three dimensions: (1) overcoming the disadvantages resulting from social inequalities, in order to avoid exclusion processes; (2) harnessing the opportunities offered by the targeted societal goals, in order to reduce existing inequalities and improve the quality of life in society; (3) fostering participation and empowerment in upcoming societal processes, in order to improve individual and collective expression, civic commitment and democratic participation.</p> <p><b>SOURCE:</b> Analytic Framework – eInclusion and eAccessibility Priority Issues, eInclusion@EU Project: Strengthening eInclusion &amp; eAccessibility Across Europe, Deliverable 1.1, October 2004.</p> <p><a href="http://www.empirica.com/themen/einclusion/documents/eInclusion_Analytic-framework.pdf">http://www.empirica.com/themen/einclusion/documents/eInclusion_Analytic-framework.pdf</a></p>
<b>Social Gerontology</b>	<p>Social Gerontology is a branch of gerontology, studying “social aspects of ageing”. It combines the knowledge on ageing (process), age (criteria) and older persons (population category) produced by different social sciences: sociology, demography, economics, social policy, social work, education science, gerogogics, etc.</p> <p><b>SOURCE:</b> Phillipson, Chris. Ageing. Cambridge: Polity Press, 2013, p.5.</p>
<b>Vulnerable Groups</b>	<p>Groups that experience a higher risk of poverty and social exclusion than the general population. Ethnic minorities, migrants, disabled people, the homeless, those struggling with substance abuse, isolated elderly people and children all often face difficulties that can lead to further social exclusion, such as low levels of education and unemployment or underemployment.</p> <p><b>SOURCE:</b> Social Protection, Social Inclusion Glossary: Key terms explained, European Commission,  <a href="http://ec.europa.eu/employment_social/spsi/docs/social_inclusion/glossary_en.pdf">http://ec.europa.eu/employment_social/spsi/docs/social_inclusion/glossary_en.pdf</a></p>
<b>Third and Fourth Age</b>	<p>In the sociological tradition third and fourth ages are “phases of the life course identified in terms of functions and roles”. The third age is “the period for personal</p>

achievement and fulfilment". The fourth age is "a time of dependence, decrepitude and death".

**SOURCE:** Phillips, Judith; Kristine Ajrouch, and Sarah Hillcoat-Nalletamby. *Key concepts in social gerontology*. London : Sage Publications, 2010. p. 213; 215.



## 10 Literature & Sources

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## 11 Collection of links

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2. <https://fraagile.eu/>
3. <http://medguide-aal.eu/>
4. <https://www.rememberme-aal.eu/>



TITLE

**DIGI-AGEING – overcoming loneliness**

PROJECT ID

2020-1-AT01-KA202-078084

PROGRAMM

Erasmus+ KA2 Strategic Partnerships

START DATE 01-10-2020

END DATE 31-07-2023

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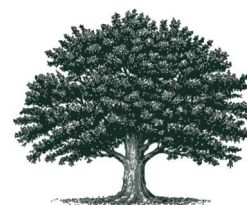
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