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REPORT ON DATA OVERVIEW AND SUMMARISATION OF INTERVIEWS

Deliverable D.T1.1.3 and D.T1.1.4

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Content

Introduction

As people age, their health needs tend to become more complex with a general trend towards declining capacity and the increased likelihood of having one or more chronic diseases. Health services are often designed to cure acute conditions or symptoms and tend to manage health issues in disconnected and fragmented ways that lack coordination across care providers, settings and time.

With gradual improvement in health-care delivery services, life expectancy has increased and thus the percentage of the elderly population. It has been estimated that the number of people aged 60 and over will increase to 1.2 billion in 2025 and subsequently to two billion in 2050.[2] Further, by the year 2025, almost 75% of this elderly population will be living in developing nations, which already have an overburdened health-care delivery system.[2] These demographic transitions essentially require shifting the global focus to cater to the preventive health-care and medical needs of the elderly population.

An ageing population tends to have a higher prevalence of chronic diseases, physical disabilities, mental illnesses and other co-morbidities.

Health systems need to be transformed so that they can ensure affordable access to evidence-based medical interventions that respond to the needs of older people and can help prevent care dependency later in life.

Good practices that can positively influence the onset and progression of a chronic disease, or its gradual development and self-sufficiency of seniors are most relevant. Those are the ones that focus on prevention, screening and early diagnosis of diseases, treatment and care and those that support independent living and active aging. As an extensive approach to the provision of care, ie the introduction of measures that will only require additional material and human resources (such as the establishment of additional long-term care institutions, the expansion of bed capacity and the deployment of additional staff), is difficult to sustain, it is appropriate to focus critically on innovations using information and communication technologies that will help to improve the organization and the use of existing resources and can to some extent replace routine human work at the place of residence of the patient without always having to travel, eliminating human factors negatives, such as accuracy, early notification and recording of past events.

ICT can help elderly individuals to improve their quality of life, stay healthier, live independently for longer, and counteract reduced capabilities which are more prevalent with age. ICT can enable them to remain active at work or in their community. Independent living is the ability for older people to manage their life styles in their preferred environment, maintaining a high degree of independence and autonomy, enhancing their mobility and quality of life, improving their access to age-friendly ICTs and personalised integrated social and health care services. Ageing well is also about continued active and satisfying participation in social life and work, when ageing. In addition ICT can help to improve the working conditions for people working in the care sector and as such help to make care work more attractive in the future, where there will be much greater competition for the available workforce.

Executive summary

Deliverable 1.1.3. and 1.1.4. have been merged into one output for better clarity and also because of the description of the outputs is additionally identical in the application. These outputs are logically connected from the point of view of the needs of seniors and patients in the provision of health and social care.

The structure of the output is based on the needs of individual groups that use health and social services and are linked to individual digital solutions that are used in the project. All partner countries created a description of the health and social system and subsequently discussed individual digital solutions with relevant stakeholders from whom they received feedback. For the deliverable has not been created a single template, as is the case with other outputs within WPT1, due to the diversity of digital solutions, which cover a wide range of services from health to social and also covers a wide range of diseases that are otherwise specific to their approach to treatment using technologies, where some tools are only descriptive in setting up the service delivery process and some are for monitoring the patient's environment, or directly for monitoring physiological functions. If a single template was used, patients' needs could be eliminated that needed to be evaluated.

Also pandemic had a huge impact on how the data were collected, expecially from elderly patients/clients. In some cases needs of elderly had to be collected by proxy, simply because it was too risky to make face to face meetings. Some interviews were made by phone or teleconference, some of inteviews was made with family members, who talked about needs of their loved ones. Most of meetings were made separately, no big gatherings were allowed, so it was solved by meetings of two, max. of three persons at one time and place. Every partner described their individual approach in their part.

The results show that patients / clients in the age group 65+ in a few cases use smart mobile devices in the form of tablets or smartphones, but on the contrary, social service providers use these devices. It follows that these technologies can be an ideal tool for disease management of patients from the providers systemic point of view. The use of ICT tools leads to efficient data analysis, however, a large proportion of partners has still lack data structure in digital form, which is a great advantage of good practice from Bologna. From the interviews, the stakeholder shows that it is ideal to choose technologies that are easy to use for seniors and don´t disturb them, and at the same time have great added value for service providers.

The individual outputs summarize for the partner countries the needs of all stakeholders who use the selected technologies and at the same time what are the biggest barriers to the use of digital technologies in routine practice.

Global trends in the field of health and social services are characterized by the need to integrate services, strengthen the position of the patient, strengthen the role of prevention, education from an early age, increased role of communities and the patient's (client's) close surroundings, deinstitutionalizing of the

care and striving to keep the senior in his home environment. This is also evident from the current outputs of the project.

Regions have many the differences between the conditions of good practice and the country that intends to introduce it in:

- the knowledge and the practical way of providing care,
- the time in which the good practice can be implemented, but also begin to rank its effects
- administrative and political capacity, the ability to integrate the good practice into the strategic and action plans in healthcare and possibly other government departments
- political agenda, set priorities, and government programs
- costs and ability to finance good practice, including materials and human resources, the method of financing the operation, the state of economic security in a particular section to be addressed
- acceptability for the communities concerned, such as hospitals (management), physicians, nurses
- ability to monitor processes and outputs, provide transparency.

ICT Solutions address daily and independent living such as:

- Social communication: easy access to phone and video conversation, notably if enabled by broadband to stay in touch with family and friends, overcoming social isolation (in several countries over half of the 65+ are living alone)
- Daily shopping, travel, social life, public services: easy access over the internet to order goods online e.g. when reduced mobility makes physical shopping more difficult
- Safety (making sure entrance doors and windows are locked/closed when leaving the house or sleeping; checking for water or gas leaks; and turning all but one light off when going to bed, etc.)
- Reminders (memory problems tend to be associated to ageing and thus support may be needed in taking medication and fulfilling household tasks)
- User-friendly interfaces (for all sorts of equipment in the home and outside, taking into account that many elderly people have impairments in vision, hearing, mobility or dexterity)
- Telecare and telemedicine opens up new opportunities for providing medical care to the home and there are many new developments in ICT-based home care, including ways of monitoring wellbeing and providing a secure home environment
- Personal health systems include wearable and portable systems for monitoring and diagnosis, therapy, repairing/substitution of functionality and supporting treatment plans for individuals with a chronic disease – (e.g. heart disease and diabetes), complemented by telemonitoring and telecare, thus avoiding hospitalisation

- Support for people with cognitive problems and their carers to stay at home for longer and remain active for as long as possible, e.g. through cognitive training, reminders, GPS tracking etc.
- Support for more efficient workflows in care, by integrating health and social care through sharing information, monitoring and follow-up to interventions across different organisational and physical boundaries.

1. Czech Republic

1.1. Process of collecting information

Within 1.1.2. the project staff studied legislation, methodologies and the local situation and then visited the social department of the Faculty Hospital Olomouc, the social department of the Statutory City of Olomouc and three providers of health and social services. They spoke to two social workers of Faculty Hospital Olomouc (Dana Balutová and Eva Látalová), who work daily with patients discharged from the hospital who need follow-up home care. They spoke freely without scenarios about the process of identifying needs and then ensuring their security. They talked about the types of needs that patients have and how they are met. Then they talked with employees of three health and social services (Charita Olomouc (Jarmila Pachtová and Věra Leona Martinková), PoDos (Marie Dostálová) and Pomadol Olomouc (Martin Jirotka)) about home care procedures, about the needs of clients in this situation, when they are provided by a home health and social care. Also about the needs of family members, as service workers are in regular contact with them. They discussed the process of ensuring and providing services and the difficulties that the process brings. We also spoke with the staff of the City of Olomouc, Social Department (Zdislav Doleček, Ludmila Pokusová), and discussed their role in the process of supporting home care for frail seniors. All these contacts took place during the pandemic, so the meeting with the staff of the Faculty Hospital Olomouc and the individual service providers took place separately, the meeting with the staff of the municipality took place online. We have agreed in advance with the providers of home health and social services on possible cooperation in testing the developed tools.

1.2. The needs of seniors released from hospital to a domestic environment

1.2.1. A brief overview of the current situation regarding hospitalisation, discharge and subsequent care of frail seniors.

1.2.1.1. Hospitalisation

The senior (patient) enters the health facility most often due to deteriorating health, injury, or planned intervention, among other reasons.

The hospital (the University Hospital Olomouc, hereafter referred to as “FNOL”), after completion of its treatment, releases the patient to home care. If further hospitalisation is required, the senior most often goes to a specialised medical institution (hereafter referred to as “OLU”) for further treatment. Due to the cost of insurance payments, such facilities are under (further) pressure to shorten the length of hospital stays. Patients who cannot be dismissed, due to age and health considerations that render them unable to provide for their own basic needs in their home environments even with the assistance of family

or other available services, receive the so called "Social services provided in inpatient healthcare facilities".[1]

1.2.1.2. Before discharge

What follows is a brief description of common practice in specialised health facilities (Paseka, Moravský Beroun), hospitals and also in FNOL. All these facilities have their own social service department which provides counselling for discharged patients. Prior to discharge they determine:

a) whether the patient can return home with regard to:
   - accessibility
   - sufficient household aids (this concerns mainly basic items such as walkers, wheelchairs, handles in the bathroom and toilet, bath seats, shower stools, anti-slip mats etc.)

b) whether the patient has applied for a care allowance[2] (hereinafter referred to as "PnP"), which serves to determine services, assistance in accordance to degree of dependence, and help with submitting an application (often these tasks are passed on to providers of social services such as retirement homes), and when necessary increase in level of dependence, or disability card

c) whether they can remain home for the necessary period of time, or else require constant supervision

d) whether follow-up **home (nursing) care** or **social services** - especially nursing services, personal assistance, emergency care

e) whether they are lonely, to what extent the family is willing and able to help (shopping, running the household, cleaning)

At the end of the hospital or OLÚ stay, the discharging doctor will recommend home (nursing) care if the patient's state of health requires it. This is a request for a nurse, physiotherapist and/or caretaker to visit the patient's home, and is valid for 14 days. These visits are already arranged by the medical facility before the patient is released. Extension of home care beyond the initial 14 day period is decided on by a general practitioner, who will issue a new request in such cases. The period of home care can be extended indefinitely based on the needs of the individual in question, there is no time limit.

1 Act 108/2006 Coll., on social services, §52 (the service is provided for a fee, see section No. 505/2006 Coll., §18)

2 More information on PnP can be found in §7 Act108/2006 Coll., on social services

1.2.1.3. After discharge

After discharge, the senior (if necessary) can be provided with follow-up medical (nursing, rehabilitation etc.) and social services, or a combination of such services, ideally with the assistance of people around the senior (family, friends, neighbours).

Sometimes it is not possible to release a senior to home care, so they are instead transferred to a so called "social bed", and from there to one of various residential services.

Home health care[3] is provided in the patient's own social environment. 'Social environment' here means the patient's own place of residence or an alternate location that serves as a place of residence (for example social services facilities). This care takes the form of visiting caregivers and home care, which includes nursing care, rehabilitation and palliative care.

'Home health care' covers the following areas (among others):

- evaluating state of health – measuring blood pressure, blood sugar levels etc.
- administration of drugs, both injected and non-injected (insulin, painkillers, blood thinners etc.)
- treatment of skin defects (varicose ulcers, bedsores, postoperative wounds)
- prevention of bedsores
- hydration care, monitoring of fluid intake and output
- infusion therapy (treatment of pain, hydration)
- physical and mental activation/exercise
- taking blood and other biological material
- rehabilitation
- care related to permanent catheters, catheterisation, stoma treatment, application of enemas

In Olomouc, home health (nursing) care is provided by, for instance:

- Pomadol, Dobnerova 718,
- Charita Olomouc, Řepčínská 2
- AURA, Masarykova tř. 970
- SDOP OL, Mišákova 41
- DOP Pospíšilová Jana, Karolíny Světlé 1186/2a
- Fyzidop s.r.o., Fischerova 4 (in the BPS building)

3 Act No. 372/2011 Coll., on health services and conditions of their provision

Social services[4]

Social services - an activity or set of activities that provide assistance and support to persons for the purpose of social inclusion or prevention of social exclusion. Every person is entitled to free basic social counselling on options for solving or preventing unfavourable social circumstances. Unfavourable social circumstances are understood to include weakening or loss of capabilities due to age, unfavourable health conditions, the influence of adverse social circumstances, living habits and lifestyles that lead to conflict with society, socially disadvantaged environments, threats to rights and interest in criminal activity by other individuals, as well as other significant reasons. It should be emphasised that "social services" is a legislative term and cannot be applied to anything that does not comply with the relevant law (from registration to the manner and quality of services provided).

Social services are conventionally divided into the following categories:

1) outreach
2) outpatient
3) residential

Some services can be provided in all three forms.

Ad. 1)

a) **Care services** – outreach or outpatient services provided to persons who have reduced self-sufficiency due to age, chronic illness or disability, and to families with children whose circumstances require the assistance of another person or persons. These services are provided within a specific time frame in households and social service facilities and entail the following activities: assistance in managing routine tasks related to personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, provision of food or assistance in obtaining sufficient food, ensuring the household is run properly, mediation of contact with wider society. Providers in Olomouc include: POMADOL, s.r.o., Charita Olomouc, Sociální služby pro seniory Olomouc, p.o.

b) **Personal assistance** – outreach services provided to persons who have reduced self-sufficiency due to age, chronic illness or disability, and whose circumstances require the assistance another person or persons. These services are not time-limited and are provided in the natural social environment of the receiving person and in connection to the activities with which the person requires assistance. These services are intended to assist in providing the client with a high quality

4 Act 108/2006 Coll., on social services

of life in their natural environment. Without such personal assistance services, seniors or persons with a disability would in many cases have to live in a facility where they are cared for on a permanent basis. Personal assistants perform, or assist in performing, activities that the client would complete on their own if they were able. Personal assistance is a professional outreach service that is performed by paid employees.

c) **Emergency care** – outreach services that provide around the clock remote voice and electronic communication with persons who live in constant risk regarding their health or life in the event of a sudden deterioration in their state of health or capabilities. These services include the following basic activities: provision or mediation of emergency assistance in a crisis situation, provision of social therapeutic activities, mediation of contact with wider society, assistance in the assertion of legal rights and interests, and assistance with managing personal matters. The largest provider of these services in the Czech Republic is Život 90, but they are also available from a number of private entities (some of which only provide technological assistance) as well, such as Anděl na drátě, Chytrá péče, SeniAngel. The organisation Slezská diakonie Dorkas used to provide these services for a long period of time – however it closed down some years ago due to lack of interest.

Ad. 2)

a) **Relief services** – outreach, outpatient or residential services provided to persons who have reduced self-sufficiency due to age, chronic illness or disability, and who are already receiving care in their natural social environment; the aim of the service is to ensure the person or persons providing care are able to have sufficient rest. This service is largely absent in Olomouc and is only partially supplied by the Hospice at Sv. Kopeček and via "hospitalisation".

b) **Day service centres** – outpatient services for persons who have reduced self-sufficiency due to age, chronic illness or disability, and whose circumstances require the assistance of another person or persons. Day service centres provide assistance in managing the usual tasks of personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, provision of food or assistance in obtaining sufficient food, provision of social therapeutic activities etc.

c) **Day care centres** – outpatient services for persons who have reduced self-sufficiency due to age, chronic illness or disability, and whose circumstances require the assistance of another person or persons. Day care centres provide assistance in managing routine personal care activities etc. These services are intended to prevent premature institutionalisation of clients and to provide help/relief for their families. In Olomouc, such services are provided by Pamatováček, o.p.s. for people with reduced self-sufficiency who suffer from Alzheimer's disease or other forms of dementia.

Ad. 3)

a) **Weekly care centres** – residential services for persons with reduced self-sufficiency due to age or disability, and for persons with chronic mental illness, and whose circumstances require regular assistance from another person or persons. This type of service is not available for seniors in Olomouc.

b) **Retirement homes** – residential services for persons who have reduced self-sufficiency, primarily due to age, and whose circumstances require regular assistance from another person or persons. These services include the following basic activities: provision of accommodation, provision of food, assistance in managing basic personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, mediation of contact with wider society, provision of social therapeutic activities, activation activities, assistance in the assertion of legal rights and interests, and assistance with managing personal matters. In Olomouc, these services are provided by SeneCura, and Domov seniorů Pohoda Chválkovice, p.o.

c) **Homes with special regime** – Homes with special treatment provide residential services for persons with reduced self-sufficiency due to chronic mental illness or substance abuse, and persons suffering senility, Alzheimer's disease or other types of dementia who have reduced self-sufficiency due to these illnesses, and whose circumstances require the regular assistance of another person or persons. The provision of social services within these facilities is adapted to the specific needs of such persons. These services include the following basic activities: provision of accommodation, provision of food, assistance in managing basic personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, mediation of contact with wider society, provision of social therapeutic activities, activation activities, assistance in the assertion of legal rights and interests, and assistance with managing personal matters. In Olomouc, these services are provided by SeneCura.

d) **Sheltered housing** - Sheltered housing is a residential service provided to persons who have reduced self-sufficiency due to disability or chronic illness, including mental illness, and whose circumstances require the assistance of another person or persons. Sheltered housing can take the form of either group or individual housing. These services include the following basic activities: provision of accommodation, provision of food, assistance in managing basic personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, mediation of contact with wider society, provision of social therapeutic activities, activation activities, assistance in the assertion of legal rights and interests, and assistance with managing personal matters. Provided by - Domov seniorů Pohoda Chválkovice, p.o., Sociální služby pro seniory Olomouc, p.o.

e) **Social services provided in health care facilities** – these are a special kind of residential social services that are provided in health care facilities to persons who no longer require inpatient care, but due to their state of health are unable to manage without the help of another person or

persons and therefore cannot be released from the health care facility[5] until assistance by someone close to them, by some other person, or the provision of outreach, outpatient or residential social services in social service facilities has been secured. These services include the following basic activities: provision of accommodation, provision of food, assistance in managing basic personal care, assistance with personal hygiene or provision of suitable conditions for personal hygiene care, mediation of contact with wider society, provision of social therapeutic activities, activation activities, assistance in the assertion of legal rights and interests, and assistance with managing personal matters.

These services should be provided until the assistance someone close to them, by some other person, or the provision of outreach, outpatient or residential social services in social service facilities has been secured. These services are provided by the Vojenská nemocnice Olomouc ("VNO", the military hospital), and for seniors from Olomouc, mainly by OLÚ Paseka – in part in Moravský Beroun. In the VNO however, these beds are not being used for their original intended purpose, and in reality have essentially become substitutes for retirement home beds due to a lack of capacity, and are occupied by seniors of around 90 years of age until their deaths.

Social activation services are not listed to the types of services above.

All listed services are paid. Payment is covered by regulation 505, mentioned in a footnote, which stipulates the price for accommodation, meals, and the maximum hourly rate for work.

In CZ is sophisticated system of health and social care, which sometimes does not communicate effectively, and sometimes health care is not arranged very well, for instance, nursing care in cases with valid health insurance contracts has a better starting point than care services.

Why do senior patients often end up going to hospital waiting rooms, when much of the work can be done by assistive technology, even though this will sometimes require intervention from an "outreach" nurse (nursing care), who is in addition able to take samples if the senior or their immediate friends/family are unable to. Although in theory this will increase nursing expenditure, in practice money is saved on social services connected to transportation and escorting of clients. This also reduces the risk of various infections being introduced to hospitals, as well as reducing the pressure on doctors and waiting times for acute cases...(analysis of test results can take place at less busy times and can be partially automated).

Olomouc lacks relief services, both residential and outreach. A makeshift remedy (based on pressure from family and relatives) to this deficit is delivered through the hospitalization of seniors, even though there are often no legitimate reasons for doing so and hospitals resist the practice. Outreach relief services – social workers who have "health" support available in the form of assistive technology (which in this case in fact need not be extra complicated, a phone is enough connected to an online nurse could alleviate this trend.

5 Act No. 372/ 2011 Coll., on health services and conditions of their provision (Act on Health Services).

Residential services would benefit from fall detection sensors and thermal cameras, among other devices, which would allow timely assistance to seniors in residential facilities, and at the same time these technologies would reduce the number of false alarm calls for help (especially for seniors with dementia, Alzheimer's disease etc.).

Although so called "social beds" in medical facilities are considered as more of a "transfer station", most often seniors remain in them until their deaths, while some move on to residential facilities, which frees up space.

Good practices that contribute to better integration of care can be operated even in the environment which is not yet formed by clear (national) strategy of integrated care. The GPs either improve management of healthcare services or quality of care or are strongly dependent on ICT. ICT is also not yet well established as an indispensable tool for innovation in Czech healthcare systems, which means that introduction of the GPs was not easy and in fact was driven by initiatives from the bottom, from the level of healthcare providers.

1.3. Discussion with stakeholders

A fully self-sufficient patient does not always leave the hospital gates, able to immediately return to the life he led before hospitalization. For some, it only takes a few days of peace at home to get used to taking care of themselves again or to adapt to the new conditions that prepared the illness or injury for them. However, other patients are not self-sufficient, or in fact they are not even treated, but they need different care than what an acute bed can provide them - whether it is rehabilitation, spa or terminal care.

In the Czech Republic, the length of hospitalization of patients in a medical facility is steadily decreasing than in previous decades because the hospital wants to release seniors from an acute bed as soon as possible due to limited funding for health care and because they need beds for other patients. However, this rapid process is a major disadvantage for seniors, who take longer to recover, rehabilitate and practice new skills. Therefore, much of what could have been provided at the time of hospitalization must be left to care at home or in a social care institution.

In the Czech Republic, the process of dismissal of seniors from hospital is very informal, dismissal procedures vary from hospital to hospital, in many hospitals they do not target a specific group of seniors, multidisciplinary teams do not formally exist, in most cases in acute wards they deal only with health. Self-sufficiency is determined by observation and communication, and information about patient care is not documented.

Doctors often urge social workers to help the fastest release of a geriatric patient to the home environment or to another medical or social facility. The family also often resists and afraid of quick release because they don´t want to take care of the senior or cannot take care.Social workers already design and provide appropriate health and social services in cooperation with patients and their families

during hospitalization. This includes assistance in processing applications for admission to residential facilities of social services (homes for the elderly, homes with special regimes), provision of field health and social services (home nursing care, personal assistance, etc.), ensuring admission to follow-up beds, respite and hospice care. Workers also help with the settlement of state social support benefits, material need, care allowances, provide social counselling and assistance in providing compensatory aids.

It is up to the social worker to be able to solve the process of planned dismissal of a senior to ensure the best choice for the senior. There are certain prerequisites that help a more efficient process. The process of planned discharge has individual phases and only some of the patients are included in it.

Patients at risk include, for example, patients who are self-sufficient, over the age of 65, suffer from chronic illnesses or have long-term consequences, have housing problems, suffer from psychiatric illnesses that limit their orientation and decision-making, and have medication problems, or if they have stoma, need subsequent rehabilitation treatment, have oxygen therapy or have cannulas. In the case of caring for a senior by a family, they should learn from the social worker not only about social services, but also about the financial support to which the caregiver or senior is entitled and how to apply for it. These are the care allowance and the allowance for compensatory aids. The health and social worker not only provides basic and professional social counseling, but also helps to provide some things (e.g. social services) if necessary.

When senior is dismissed, not only the social aspect of the senior is addressed, but also the medical aspect. Follow-up health care is provided (cooperation of a general practitioner or outpatient specialists, home nursing care, follow-up aftercare and rehabilitation care in a hospital for the long-term illnesses) and the method of discharge (whether the patient is removed from the medical facility by ambulance car, family member or leaves alone). Sometimes there may be a situation where the family does not want or cannot take care of the patient, so the health and social worker decides with the patient where he will be released after hospitalization. It offers the patient all the options that a senior can use. In order to better manage the adaptation process, it is important that the patient actively participates in the selection of the institution, the selection was wide and not forced into anything. These correct starting points prevent the translocation syndrome. A senior in this situation is often released into a nursing home, nursing home or special treatment home. When setting up a social care institution for the elderly, the health and social worker uses work with support networks.

1.3.1. Is there strategy for integrated care and how do healthcare providers cooperate? What are the problems?

- Weak continuity of social care with health care – divided system
- Problem of Olomouc region – no option for treatment of long-term chronically ill patients in the region after hospital discharge – usually for patients in need of aftercare – they need to be sent

and admitted to institution out of the region- not easy to get a spot without own activity and pressure – other option is to apply for home care provided by agencies

- After hospital discharge patient (or family member) receives his medical report and form for agency if he is cooperating
- Agency provides mainly health services - social service can be provided in addition to health service but not only social service
- University Hospital Olomouc calls the agency to inform them about discharged patient
- Sometimes agency is not able to catch the patient at home – agency calls hospital to inform it about
- It should be GP's task to propose and oversee aftercare for patient – problem is not enough GPs and unwillingness to do fieldwork
- Hospitals should have social beds so they can take care of patient who is no longer in need of hospital care but still needs aftercare – there is not capacity now

1.3.2. How are the payment for health and social services from citizen point of view settled?

- Healthcare is mostly covered by health insurance
- Health services provided by agency is covered by health insurance if prescribed by a physician
- It is also possible to apply for day care social services - cleaning, delivery, hygiene – paid services

1.3.3. Is there any support of innovations and what is the readiness for digital tools?

- Digital solution – fall prevention – emergency care – nurse should attends the manipulation and operation of solution – cooperation of senior patient is problematic – e.g. charging of device, data transfer
- Proposal – social care of frail patients should be based on volunteer work not on digitalisation – volunteering is easily acceptable care with social contact so seniors are not excluded - problem is not enough volunteers, because people in the Czech Republic usually work full time and do not have enough time
- Seniors can also use senior's clubs supported by Olomouc municipality, where the seniors have the opportunity to socialize – better than digital tools
- Very interesting is frailty index which should be transferred and tested in CR

1.3.4. Description of needs and barriers related to digital tool for patients discharged from hospitals

- Digitalization of data transfer after patient's discharge so the medical report doesn't travel physically but virtually
- Case manager – it would be good to test on few patient's cases how the system would work with case manager - case study which would include contact with physicians, family, social care worker – it would need to comply with GDPR – content of patient – calculation of costs for 4 – 6 patients
- Another problem and danger is decentralized drugs prescription
- In region are a lot of call centers or hot lines for seniors but they are decentralized so senior don´t know which one they should choose.
- Calculation and reimbursement of health and social care?
- Calculation of social care costs – services provided by social worker or nurse can be calculated according to procedures – existing financial evaluation of particular social procedure
- Calculation of care allowance – it takes from 3 months to 1 year - three-stage system of care allowance according to seriousness of the case – evaluated on the basis of medical report by reviewer and nurse – the decision is on the fixed period then is reviewed again
- Decompensation of patients – submission of a new request for an increase of care allowance
- No follow-ups what the care allowance is used for – if it is used to pay for the social care services or it remains in the family that cares for the patient
- Care allowance can be used in home care or in home for the elderly where the cost of care are higher so patient needs to apply for higher benefit
- Where does the patient call when he has problem? Usually it is GP or Ambulance - but mostly it is Ambulance even if not really needed – the cost of care is therefore more expensive

1.3.5. Do we have any preventive measures for citizens?

- Prevention plans for seniors – main problem is GDPR, senior's reluctance to confide – therefore there are no plans, not based on statistics
- Competence problems – nurse does not have competence to decide or set treatment
- Problem is responsibility of patients

Good practices that contribute to better integration of care can be operated even in the environment which is not yet formed by clear (national) strategy of integrated care. The GPs either improve management of healthcare services or quality of care or are strongly dependent on ICT. ICT is also not yet well established as an indispensable tool for innovation in Czech healthcare systems, which means that introduction of the GPs was not easy and in fact was driven by initiatives from the bottom, from the level of healthcare providers.

Screening of especially senior monitoring patients diagnosed with (chronic heart failure patients after a heart attack with newly diagnosed diabetes), using a telemedicine service enabling measurement of selected biomedical parameters remotely without the need of continuous assistance of medical staff. This allows the hospital to increase the quality of health care, to increase patient compliance and adherence to treatment without increasing the burden on hospital staff, number of beds, and creates conditions for reducing expected costs associated with late detection of comorbidity and impairment of the patient's condition. These methods are gradually validated through medical society (cardiology) and will become part of the routine care of patients in compliance with completed treatment protocols for respective diseases.

As most other European countries, the Czech Republic uses a universal health care system in which each citizen is provided with access to care for a mandatory monthly fee and co-payments that are proportional to monthly income; the unemployed and those 65± years of age are covered free of charge.

The most visible organization dealing with aging issues is the Czech Society for Gerontology and Geriatrics (http://www.cggs.cz). The society was originally established in 1958 (as the Czech Medical Association). It has established itself as the main advocate for improving quality of health care delivered to older adults in the Czech Republic. The society was instrumental in founding the Department of Gerontology and Geriatrics at the Medical School at Charles University in Prague in 1974 (Weber & Topinkova, 2012). The society was also involved in establishing geriatric medicine as an independent medical subspecialty in 1983. There are about 200 graduates of this program, although not all are actively working in the field, sometimes due to retirement.

Based on this relatively poor lifestyle profile of the Czech population, health promotion seems especially important to health and aging in the Czech Republic. One potential barrier to health promotion is relatively low expenditures on awareness of health promoting behaviours.

Understaffing of hospitals, unpaid overtime, and part-time salary equivalents for physicians working full-time have adversely affected the morale of Czech health care workers and doctors who subsequently threatened to move abroad or leave the profession completely.

Since 2006, long-term health and social care in the Czech Republic are financed centrally via state and local budgets essentially in the same fashion as health care in general.

The main institutions of long-term care delivery are thought of as residential care facilities (RCFs). These provide care at the level of (a) typical assisted living facilities, which includes senior centres, day care centres for patients living with dementia, and community-based care, and (b) nursing homes with a full range of health and social services. Long waiting lists exist at RCFs, creating a bottleneck of patients, particularly patients with dementia and cerebrovascular disease, who cannot be discharged from inpatient hospital care. The government has recognized availability of long-term care as an important issue and has pursued the instalment of long-term care delivery via the private sector.

1.4. Conclusion

During the interviews, 30 obstacles were defined, which appear to be the biggest slower of digitization in the Czech Republic. Although the Czech Republic has a strategy for electronic healthcare, it lacks legislative support. This results in inefficient sharing of medical records between individual social service providers. An important element is also ICT literacy, especially for general practitioners in remote parts of the Czech Republic, which is associated with higher age and poorer adaptability to ICT tools.

1. Insufficiently concrete conception of eHealth implementation in the Czech Republic. (there is only a framework of the National Strategy of eHealth of the Czech Republic 2016-2020, approved by the Government of the Czech Republic in November 2016; it is a document that will be further elaborated and will be followed by other actions).
2. Low level of ICT use for sharing medical documentation, especially among healthcare providers of different owners.
3. Negative experience with the IZIP project - electronic health book (influencing opinions on eHealth).
4. Good instrumentation in hospitals and outpatient clinics and a high degree of ICT use for the processing of medical information in hospitals and larger specialist outpatient clinics (ie within institutions).
5. Uneven use of ICT by general practitioners, resistance to ICT (also recorded in hospitals and outpatient clinics), low awareness of the abundance of telemedicine.
6. High age average of general practitioners and specialists in the Czech Republic.
7. Low health literacy of patients, low level of patient participation in decision-making about their health status.
8. Two times higher the average number of visits to healthcare facilities by patients than the EU average (ie heavy workload of healthcare facilities), a dense network of hospitals usually providing the same structure of health services.
9. Uneven levels of patient instruction in hospital discharge.

10. Specific impacts of the health reimbursement system. care, in some cases leading to distortions in the way care is provided (eg private clinics around state hospitals carry out operations and operations that hospitals could handle but do not do for economic reasons).
11. Lack of doctors and nurses and other staff, especially in the border area.
12. Departures of doctors abroad - working conditions for young doctors are often not attractive in the Czech Republic.
13. Uncoordinated Internet information on diseases.
14. Increased interest of patients in alternative methods of treatment in some medical fields.
15. Health and social care reforms are not discussed at the appropriate level.
16. The Health Ministry's Health 2020 strategy is inspired by the WHO strategy, although it includes empowering the patient, but it does not propose new solutions for the elderly with chronic diseases.
17. The National Action Plan promoting healthy aging for the period 2013 to 2017 - is only marginally influenced by the EIP on AHA approaches to generational challenges in EU countries.
18. ICT standardization - is not yet in line with the situation in EU countries when sharing electronic health record (e.g. DASTA MZČR "standard"), awareness and availability of elements of telemedicine systems that would comply with IEEE standards is low.
19. Insufficient coordination and horizontal integration in healthcare in the care of chronically ill (PL - specialist - hospital), persistent problems at the interface of health and social care (both in institutions and at home), increasing demands on home health care.
20. Good level in acute care in many fields (eg cardiovascular disease). Coordination of various fields in the care of the patient is controlled mainly by medical companies.
21. Demanding models for the care of chronically ill (high quality care, but burdened by doctors), eg diabetes - only specialists.
22. Insufficient prevention - sometimes not attractive in terms of reimbursement, dismantling of some of the functions that in the past have contributed in a way to comprehensive patient care (eg clinical pharmacologist supervision of the range of medicines the patient is taking).
23. Problems in education - the fields are being abolished, the concept of education requires changes, the insufficient position of geriatrics in providing care
24. Dissatisfaction of professional associations - ČLK - including some reserved access to ICT.
25. Insufficient legislation for ICT in healthcare that would reduce the concerns and doubts of healthcare staff in the case of deployment of ICT technologies in care.

26. Lack of legislation and reimbursement system for border areas between health and social care, under-funded, without integration, improvisation in practice.
27. Continuing development of palliative care (mobile palliative care is still without specific legislation in 2017).
28. Insufficiently developed social care network in municipalities.
29. Almost unused screening for active searching of persons (seniors) to whom services (health and social) should be provided.
30. Continued resistance to the transparency of financial flows, particularly in the procurement of medical technology and medicines.

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2. Austria

The following chapter is dedicated to the needs of the older generation in Austria. First a brief overview explains the current situation regarding monitoring of elderly in Austria. In a further step, the method is described to assess the needs of the elderly. The last part is devoted to describe the needs of older people in Burgenland.

2.1. A brief overview of the current situation regarding monitoring of elderly in Austria

The Austrian health system offers numerous care and support options for sick (elderly) people:

- Outpatient medical care, which consists of the following health systems:
  - General practitioners, specialists and dentists (largest proportion)
  - Outpatient departments (provided by the health insurance companies and privat organisations)
  - Outpatient clinics in the hospitals
  - Other health professions such as occupational therapists and physiotherapists, midwives, speech therapists, etc.
- Inpatient medical care is provided by public, private non-profit and purely private hospitals.

In addition, sick (elderly) people can take advantage of the following services:

- Home visits from doctors: If a person is seriously ill or not mobile and bedridden, this person is entitled to a home visit by a doctor.
- Home nursing: The Samaritan Burgenland Department of Home Care and other organizations offer with the home nursing a competent care by qualified health and nursing staff and nursing assistants in the familiar surroundings of the persons concerned. A prerequisite, however, is the recognition of a care level, ie there must already have been a deterioration in the state of health.
- Senior Day care is aimed at old people and people in need of care with functional limitations or psychological changes who can no longer cope with everyday life alone and whose care at home on working days has already become problematic: outpatient services alone are no longer sufficient, but inpatient care would not be required.
- Assisted living homes offers elderly the opportunity to organize their everyday lives independently in barrier-free apartments and in combination with specific care services.
- 24h care offers elderly people professional care in their own environment around the clock.
- Nursing home is an institution in which people in need of care are housed all day (full inpatient) or only during the day or only at night (partial inpatient) and are cared for under the responsibility of professional nurses.

However, these offers are aimed exclusively at sick (elderly) people. For older people who live at home and are generally healthy, ie do not need intensive care, support or care, there are hardly any or no offers. The monitoring grid developed in this project is intended to change this. This tool enables an ongoing standardized observation of older people in order to recognize signs of a deterioration of the state of health as early as possible and to enable them to live at home for as long as possible.

In order to ensure a practical implementation, the needs of the elderly are taken into account when developing the monitoring grid. These are presented below.

But first, the methodology is briefly described how the needs of the elderly were ascertained.

2.2. Description of the methodology

The present chapter summarizes the needs of elderly and their family members. Qualitative interviews with the elderly and their relatives were actually planned. Due to the global Covid-19 crisis, no face-to-face meetings with the elderly could be organized and, accordingly, no interviews could be conducted. In order to still be able to map the needs of older people, two targeted workshops (D.C.4.1) were organized with 9 Residential Area Managers (RAM) of the Samaritan Burgenland Department of Home Care. One for the South and one for the North of Burgenland.

The Samaritan Burgenland Department of Home Care has a total of eight nursing homes in Burgenland. Furthermore, the Samaritan Burgenland Department of Home Care is responsible for further two nursing homes, one in Styria and one in Lower Austria (Lower Austria did not take part on the workshops). As Burgenland, Styria and Lower Austria are also federal states of Austria. Each nursing home is run by a Residential Area Manager. Due to many years of work with older people, RAMs can fall back on extensive experience and comprehensive knowledge. Because of this the RAMs were selected to assess the needs of elderly. In the following table you will find some background information about the RAM to underpin their experience:

RAM	Number of years as a caregiver	Number of years as a RAM	Number of years working for the Samariterbund
1	20	8	6
2	30	9	9
3	23	9	9
4	20	17	7
5	8	1	4
6	7	3 months	1,5
7	6	3	6
8	11	3	10
9	17	4	4

The 9 RAMs are responsible for the following nursing homes:

North of Burgenland

- Draßburg (36 residents)
- Neufeld (29 residents)
- Siegendorf (30 residents)
- Weppersdorf (29 residents)
- Lackenbach (35 residents)

South of Burgenland

- Olbendorf (29 residents)
- Großpetersdorf 66 (residents)
- Strem (58 residents)

Styria

- Kaindorf (93 residents)

At the time of interviews, all houses were fully occupied.

Guideline-based interviews were carried out during the workshops. Questions were for example:

- What needs of elderly have you been able to identify in your previous work with older people?
- What challenges do older people face in their everyday life?
- What needs do the family members have?

Open questions were chosen so as not to influence the RAMs and to get as much information as possible. The results of these interviews were discussed during the workshops. These were then summarized and discussed again with the residential area managers. The results are shown in the following chapter:

2.3. Mapping the needs and challenges of elderly

Elderly have as every other human diverse needs that have to be considered.

In addition to meet the

- **basic needs**, which include food, clothing and sleep, and
- **support in the household and in gardening** (heating, cleaning, cooking, cutting the lawn, …), they also have
- **aesthetic needs**. Everybody wants to be beautiful. The aesthetic needs also concern the need to have contact with arts.

But above all the following topics dominated during the discussion with the residential area manager:

- Social contact
- Self-determination
- Professional support

2.3.1. Social contact

Social isolation has a negative impact on physical and mental health of elderly. [6] It is considered a result of the elderly population's reduced social interactions - particularly with family, friends, and community networks - caused by their retirement, physical changes (cognitive and physical disabilities), inevitable loss of spouse or friends, and/or living alone or in institutions. [7]

During the discussion with the residential area managers, it quickly became obvious how important it is to maintain social contacts for the residents. Social contact combats social isolation and thereby contribute to a healthy psychological and physical condition.

Contact with familiar people such as **family** and **friends** plays an important role here. Regular visits and joint activities are very important for the elderly.

From March to May 2020, residents of nursing homes and assisted apartments were not allowed to receive visits from outside due to the corona situation. For safety reasons, neither friends nor family were allowed to visit the residents. The absence of the closest confidants was of course very difficult for some residents, others said they had found a second family within the new environment and were able to draw strength from it.

During this situation it became apparent that familiar people of course play an outstanding role in combating social situations, but the new environment has to be included as well. This affects both the **other residents** and the **caregivers**.

Older people want to be kept busy. According to their interests and their previous biography, which have to be included in the new everyday life, there are different approaches to fight social isolation together with the elderly:

- Joint activities, for example board and parlour games, to sit together for a cup of coffee or just gossip
- Excursions: Depending on their personal interests and experiences alone or in groups
- Accompany them to different activities

[6] Landeiro F. et al (2017): Reducing Social Isolation and Loneliness in Older People: A Systematic Review Protocol. BMJ Open 17; 7(5).
[7] Schulz P., Chen Yi-Ru Regina (2016): The Effect of Information Communication Technology Interventions on Reducing Social Isolation in the Elderly: A Systematic Review. J Med Internet Res. 28;18(1).

- etc.

In addition to maintain contact with relatives and friends as well as the rest of the residents and caregivers, it is also important to **integrate the residents into village life**. The residents of the nursing homes and assisted living homes of the Samariterbund, for example, receive regular visits from children of kindergartens and pupils. This is always a special highlight for the residents.

Neighbourhood help is an important concept that has received repeated attention recently. Neighbourhood help is primarily about helping each other, but also about older people helping each other. This shows the helping people that one is needed and can help. And part of the burden is relieved of the people receiving help. In Burgenland, this has become less and less in recent years. However, with new projects one tries to breathe life into the concept of neighbourhood help again.

How can the monitoring grid help?

Not only personal contact can help to counteract social isolation, technical instruments are also a helpful tool to combat social isolation. However, it must always be kept in mind that the use of technical means does not replace personal contacts.

The monitoring grid can help in two ways:

On the one hand, the weekly calls can promote social contacts between the residents by specifically referring to the organized activities during the conversation.

On the other hand, the weekly contact itself can already help to bring people out of social isolation or not to let them come into social isolation at all. The older people are looking forward to the calls. They feel taken seriously and important.

However, it should be noted that the calls must take place regularly. Clear structures and a stable environment play an enormously important role for older people. The calls should be scheduled on the exact day and time.

One of the results of the discussions with the residential area managers was that the introduction of the monitoring grid could be well received, especially by people who receive little visit and who are even younger (70-75 years old). Here, the monitoring grid could be an essential tool to combat social isolation as well.

2.3.2. Self-determination

In addition to maintain social contacts, it emerged from the discussions with the residential area managers that self-determination can also be classified as a dominant need.

Self-determination is a process that varies from person to person. It depends on what each person deems necessary and desirable in order to be able to create a satisfying and self-meaningful life.

Self-determination is both: person-centred and person-led. Self-determination means that the individuals and not the service provider decides where and with whom they want to live, what form of service they want and who provides it, how they want to spend their time.

It is important that a self-determined life is given to the residents. Among other things, this also means that they can make independent decisions on all issues affecting them.

This starts with small decisions such as “if the resident wants a carpet, then he should have it” - even if this entails an increased risk of falling. But larger decisions such as the regulation of finances, the place of residence and their own health should also be made independently if the health status of the resident allows it.

It is essential to weigh up self-determination and decision support. Residents do not want to be patronized. Supportive help to shape autonomy and self-determination is therefore becoming increasingly important. Skills should be preserved and supported.

If you support older people to live a self-determined life, other values / needs that are important for older people are also served. This includes **recognition**, **respect** and **appreciation**.

These are also essential needs of the elderly. In order to satisfy them, the residents should be given the chance to use their life experiences. An attempt should be made to create opportunities in which the existing interests are developed or new ones are awakened. It is important to maintain traditions and to involve the seniors in everyday activities. This can slow down the progress of aging weakness or other illnesses and contribute to the longest possible self-determined life.

How can the monitoring grid help?

Older people are called by specialist staff once a week.

Through these calls, a deterioration in the physical and mental state of health should be recognized in a reasonable amount of time and nursing measures can be taken at an early stage. This is to ensure that the elderly can live a self-determined and independent life at home for as long as possible.

In addition, the possibility of the residents calling for help from their side was also addressed during the discussions with the residential area management. This should be ensured by expanding the existing home emergency call. This also gives residents the opportunity to contact the nursing staff themselves. Especially when a person calls frequently, it becomes apparent that the person in question needs help.

2.3.3. Professional support

For residents in assisted living homes it is particularly important that professional support is provided. Medical and nursing care has to be guaranteed so that the patient **can feel safe**.

Professional support conveys a subjective feeling of security, which was repeatedly emphasized as an essential need during the discussions with the living area managers.

A supply of medication, medical aids and regular contact with the family doctor is important to the residents. They want to be able to rely on quick help in the event of an emergency.

In addition, the confidant should have a "face - something tangible". This enables the residents to build a relationship with the people around them, which is again an important need for the residents. This makes them feel safe and secure.

For the person of trust, it is essential to ensure a healthy relationship between privacy and offering assistance. The seniors want community, but at the same time are very keen to continue to live out their personal freedom and habits without restrictions.

How can the monitoring grid help?

The Monitoring grid is also part of professional support. Residential area managers contact the residents once a week and ask them different questions about their physical and mental health status.

If the monitoring grid in a next step will be extended to the entire Burgenland, it is important that the staff who contact the elderly, are trained very well. Since a broad field of knowledge is required, call agents have to have a wide range of skills. This ranges from care and empathy to rhetorical knowledge.

2.4. Challenges for the elderly

In addition to the needs, the fears that the older people could develop with the implementation of the monitoring grid were also addressed. Above all, the fear of a possible intrusion into privacy and the use of technology have emerged:

As already briefly mentioned, it is of course very important for older people to maintain their privacy, even if they no longer live in their own homes. Older people do not want to be monitored or "be glazed". From the very beginning, it is very important here to communicate to the residents and older people that it is not a question of surveillance, but merely of providing extended assistance so that they can live independently for as long as possible. This should also be included into the written informed consent.

In addition, the use and handling of technical tools can also be a challenge for the residents. It is essential to develop concepts for the use of digital tools right from the start. It has to be big and handy. Training and comprehensive information should not be neglected.

2.5. Mapping the needs of the family members

The result of the area manager’s discussion is, that there are following two main topics that dominate the needs of family members:

- Subjective feeling of security, which is guaranteed above all by sufficient information
- Professional support for their relatives

2.5.1. Subjective feeling of security

The subjective feeling of security was rated as very essential by all residential area managers. The relatives want "to know mother and father in safety".

Above all, the subjective feeling of security can be satisfied by sufficient information. The prerequisite for this is that it is honest information which is conveyed in regular discussions and is transparent.

The following information is described as particularly interesting for relatives:

- Information about the mental and physical health status of the resident
- Criteria for assisted living
- Clear definition of the services included
- Costs
- General information about care options and remedies

However, not only oral, but also written information, like folders and brochures, play an important role for relatives. This is essential because relatives are often overwhelmed in conversations and cannot absorb all of the information. This gives them the opportunity to read up on them at home and ask questions in further discussions.

Adequate information is important for relatives, as it serves as the basis for codecision. This is another important point in order to make relatives feel safe. Relatives want to be involved, and want to help, for example they like to bring home made pastries to events.

But information is not only important within the organization, the exchange with external professions such as physiotherapists or dietologists or other people affected is also essential for the relatives.

As already mentioned, relatives want “to know mother and father in safety”. This also means that someone is there for the resident on a regular basis, especially in crisis situations. However, the resident should not be monitored around the clock. A certain degree of privacy is to be granted to the resident.

How can the Monitoring Grid help?

Information is one of the main points in order to give relatives a subjective feeling of security. The monitoring grid can create exactly this feeling, through collecting information in order to prevent deterioration in health of the residents.

2.5.2. Professional support

Just as for the residents themselves, good medical and nursing care is of great importance for the relatives. The relatives expect care that is individually tailored to the resident and that guarantees a consistently high level of quality. Above all, the quality was repeatedly emphasized in the discussions. But the loyalty of the caregiver to the residents and the inclusion of the previous life story is also described as particularly important.

It is also important to the relatives that professional care allows flexible visit options. Relatives do not want to be tied to fixed visiting times. They want to be able to visit the residents whenever they find time for it.

How can the monitoring grid help?

Please see 2.3.3 Professional support

2.6. Conclusion

Austria offers numerous services for sick (elderly) people. This includes, for example, outpatient and inpatient care as well as house calls from doctors, home nursing, day care, assisted living homes, 24h care and nursing homes. There are no offers for elderly people who are concerned with recognizing a deterioration in their health and taking action. The monitoring grid developed in the present project is intended to ensure this. A deterioration in the state of health should be discovered as soon as possible and appropriate measures initiated. This should enable people to live independently at home for as long as possible.

In order to make the development of this tool as practical as possible, the needs of elderly in Austria were described in this document. Due to the Covid-19 crisis, no face-to-face interviews with elderly could be conducted. For this reason, qualitative, guide-based interviews with residential area managers were carried out as part of a workshop. The following dominant needs could be determined:

- Social contact combats social isolation and thereby contribute to a healthy psychological and physical condition.
- Self-determination means that the individuals and not the service provider decides where and with whom they want to live, what form of service they want and who provides it, how they want to spend their time. If you support older people to live a self-determined life, other values / needs that are important for older people are also served. This includes recognition, respect and appreciation.
- Professional support conveys a subjective feeling of security, which was repeatedly emphasized as an essential need during the discussions with the living area managers.

In addition to the needs, the fears that the older people could develop with the implementation of the monitoring grid were also addressed. Above all, the fear of a possible intrusion into privacy and the use of technology have emerged.

In the workshop not only the needs of the elderly, but also those of the family members were discussed. Two main topics dominate the needs of family members:

- Subjective feeling of security: The relatives want "to know mother and father in safety". The subjective feeling of security can be satisfied by sufficient information.
- Professional support for their relatives: Just as for the residents themselves, good medical and nursing care is of great importance for the relatives. The relatives expect care that is individually tailored to the residents and that guarantees a consistently high level of quality.

3. Slovenia

PROBLEMS AND NEEDS OF FRAIL ELDERLY, FAMILY MEMBERS AND CARETAKERS IN SLOVENIA – SUMMARIZATION BASED ON OUR EXPERIENCES

3.1. Process of collecting information

Participants (predominantly from health and social sector) were included in the adapted focus groups (16 participants, 4 men, 12 women) and settled in the location of the National institute of Public health – Murska Sobota unit. All participants were asked the same question and they all had the opportunity to answer or participate in the debate. As a precaution in the epidemic, the wearing of protective masks was recommended.

Questions for the focus group participants:

1. What are the basic needs of the elderly in the home environment after the end of hospital treatment?

2. What forms of assistance to the elderly are available after the end of hospital treatment?

3. How do the health and social sector work together after the end of the hospitalization?

4. The role of NGOs and civil society / volunteers in managing this issue?

5. How has the COVID-19 epidemic affected the current situation in assisting the elderly in their homes?

6. How do they see the role of digital technology in meeting the needs of the elderly?

7. The role of Health Promotion Centers in the field of prevention or frailty management?

Participants come from the following institutions:

- Health Center (community care nurse, Health Promotion Centers) - 4
- Center for Social Work -1
- Home for the Elderly - 3
- Pensioners' Association - 1
- Service provider for the elderly - 1
- NIJZ - 6

3.1.1. Demographic situation and needs of the elderly and their family members

Projections from the Statistical Office of the Republic of Slovenia show that the percent of the population aged 65 and over in Slovenia is expected to increase by at least 16% by 2060, to 33.4%. The fast-growing subgroup of the elderly population is exactly the group with the most pronounced frailty (80+ years), the share of which will increase to 14.1% of the population by 2060.

With ageing, the risk of developing certain diseases and conditions increases, which affect not only health and long-term care expenditure, but also the ability to live independently. In Slovenia, the share of highly disabled people in the total population is about 10 percent and increases with age. It exceeds the EU29 average in all age groups. At the same time, increasing the proportion of the population over the age of 85 will exacerbate the issue of dementia in particular.

Guidelines:

- Development of programs for the prevention of disabilities in the elderly: programs for the prevention of falls, physical exercise, the development of early rehabilitation and long-term care in the home environment;
- Regulation in the field of the most common age-related diseases (dementia, incontinence, diabetes and chronic wounds, oral health), including the creation of friendly communities and services that will increase the quality of life of patients and their loved ones;
- Early diagnosis of neuro-degenerative diseases;
- Development and use of advanced technologies in the fields of bionanosensory, robotics, photonics, satellite navigation and communication for monitoring the elderly and providing assistance for integrated and long-term home care;
- Developing measures and programs that will enable the elderly and old disabled people to be as independent as possible and fully included in all areas of life.

  For Slovenia, the indicator of healthy life expectancy is significantly worse than the average for EU citizens; on average, we spend only 58.7 years or 72% of our lives healthy (EU: 61 years or 76% of a life). Detailed analyzes of survey data revealed that the problem of healthy life years in Slovenia is largely associated with a very high proportion of disabilities in women (most likely in connection with frailty, which develops faster in women) and high inequalities in health or relatively poor health of less educated and socially weaker groups of the population, which in Slovenia are mostly related to risk factors (smoking, alcohol, obesity), lack of physical activity and consequently premature frailty. However, in order to prolong healthy life years (and reduce the prevalence of frailty) special attention should be given to the strengthening of the inter-sectoral policies for decreasing health inequalities.

3.1.2. Strategy for active and healthy ageing

In order to fully address the challenges of rapid population aging, the Government of the Republic of Slovenia adopted the Strategy for a Long-Lived Society in 2017, which sets the substantive framework for implementing the necessary changes. The document provides starting points for development, key emphases of the new paradigm, vision and goals, as well as proposals for possible guidelines. In doing so, Slovenia follows the international documents and initiatives on the topic of responding to demographic changes, to which it has acceded. Among the key ones is the Madrid International Plan of Action on Aging as a fundamental document at the United Nations level that addresses this issue. The strategy of a long-lived society is based on the concept of active ageing, that emphasizes activity and creativity at all stages of life, care for health, intergenerational cooperation and solidarity. This will ensure the well-being and quality of life of the population with an emphasis on intergenerational cooperation and awareness of the importance of quality aging.

Among the main orientations set out in the Strategy for a Long-Lived Society are: strengthening health throughout whole life-cycle, providing quality education to children from socially weaker backgrounds, reducing material deprivation (which must become a key goal of all policies), designing programs for the inclusion of the socially weaker in physical exercise programs and designing programs to raise public awareness of healthy eating and to ensure the availability of healthy food for the socially weaker.

The guidelines in Strategy for a Long-Lived Society also arise from the awareness that human rights are the same for everyone, regardless of age. The guidelines, which show the direction of the necessary adjustments and changes, are divided into four pillars, among which we highlight those that include ICT.

3.1.3. Using ICT for better inclusion of the elderly in society

Advances in the development of modern information and communication technologies (ICT) bring great benefits in all areas of life and work, but from the user's point of view it represents a great challenge for the elderly, as the gap between "digitally literate" and "digitally illiterate" is widening. This also poses a risk of increasing the intergenerational gap.

The use of information technology can increase the social inclusion of the elderly (access to information, services, communication with friends and family, inclusion in social networks, opportunities for learning and education, teleworking).

It can significantly increase their independence, facilitate and improve control over life and enable social contacts. It is therefore necessary to provide older people with access to ICT and arrange education and training regarding the use of ICT.

Guidelines:

- Increasing geographical accessibility to ICT and broadband coverage;
- Increasing digital literacy and e-knowledge of the elderly;
- Improving the affordability and usability of devices and services.

In Slovenia, the level of prevalence and use of ICT solutions is currently quite low. The reasons are mainly the lack of strategic planning, insufficient cross-sectoral and interdisciplinary integration, lack of appropriate business models and financing, and poor information of users. (Voljč, 2015)

When using ICT technology, while aging in the digital society, we face many challenges:

- Low digital illiteracy of the elderly population
- Ignorance, resistance and mistrust of users to new technologies
- The ever-faster development of technology that widens the digital divide
- Insufficient coverage and unequal access to technology and services according to geographical location
- Social isolation of a large number of older people in the home environment
- Lack of technical standardization and dispersion of solutions
- Exclusive design of a large number of services and devices
- An aging society and the associated growing shortage of formal care providers
- Overcrowding of informal careers
- Insufficient involvement of stakeholders in the design and implementation of new solutions and services
- Non-involvement of the elderly in the co-creation of solutions

3.1.4. Frailty situation

The percentage of citizens aged over 65 is expected to rise from 18 to 28% by 2060: the percentage of over-80s will increase from 5% to 12% during the same period. Weighted average prevalence of frailty in older persons living in the community is estimated to be 9.9% for frailty and 44.2% for pre-frailty.

The prevalence of frailty increases with age and covers 5% of the middle-aged population, and virtually all individuals over the age of 95. General prevalence of frailty is between 9.9% and 13.6%.

Frailty also presents economic burden for society. Prefrail and frail individuals use 17-151% and 45-469% more resources, respectively, than their non-frail counterparts.

Various aspects of frailty have been addressed by three major projects in which the National institute of public health – NIJZ has participated; PANGeA, AHA.SI and JA ADVANTAGE. Through project work, the capacity of knowledge, teams of employees and professional connections are built.

For the time being, systematic screening for age frailty is not performed in community health care in Slovenia. When assessing the need for nursing care, deviations in relation to individual life activity are identified in all visits, both curative and preventive. Further treatment is planned in collaboration with the personal physician of choice and other team members but is not standardized at the state level. Therefore, an agreement should be reached at the national level and a clinical path should be developed to address frailty in older people in Slovenia. Hence, all professionals dealing with frail older people would be brought together, because treating frail elderly requires a comprehensive multidisciplinary team approach and activities that contribute to improving mobility and functional capacity. A major obstacle for ensuring the safe and quality treatment of frail elderly (who will need further treatment at home after completing hospital treatment) is the lack of coordination upon their discharge from the hospital. Also, the current organization of professional services in the local environments does not allow twenty-four hours of availability and accessibility all days of the year. Access to the integrated health and social services is not guaranteed equally to all users. There are obvious differences in rights between users involved in institutional care and users who need integrated home care. It is necessary to establish a way of information exchange that will enable the coordination of all those involved in the care, treatment and care of patients in their homes, as well as in all other health and social institutions.

3.1.5. Value of ICT for quality of life of the frail elderly

Lifestyle enhancement ICTs may have direct profound effects on life quality in frail older persons. They may promote social interaction and communication, physical activity and exercise, nutrition, and support other activities of daily life. ICTs could be used to facilitate contact between patients and professionals and allow them to (safely) monitor patients in their daily environment or during exercising, and to provide patients the possibility to train in their home environment.

Supportive ICTs seem to be an important factor in reducing the level of frailty among the elderly as well. They mainly include monitoring of different data and activities (fall detection, kinematics, position, physiological data, etc.) and assistive technologies (for disabilities, home care). Monitoring one's activities with ICTs has been shown effective in achieving positive health attitudes, improved heath literacy and technical confidence. ICTs offer a variety of opportunities in terms of clinical purposes for which ICT can be used, technological tools that can be chosen, as well as in the way the services can be implemented into everyday practice. However, results suggest that acceptance and employment of these new technologies remain problematic, especially for older people.

In the field of telecare provided remotely for the elderly and for patients with chronic diseases/conditions, one of the most effective telecare intervention may be automated monitoring of vital signs (in order to reduce the use of health care). However, there is insufficient evidence on the cost-effectiveness of this intervention and on the effects of home security systems and home safety and security warning systems.

3.1.6. Clinical management of frailty

3.1.6.1. Joint Action ADVANTAGE

In Joint Action ADVANTAGE the field of the clinical treatment of frailty and differences in systems with regard to frailty management in EU countries were identified. Proposed model for the treatment of frail individuals introduces new activities in the existing structures of the Slovene health care system and propose development of new ones. It takes into account the requirement for a simple screening procedure depending on the needs of the individual, progressive individualisation, intensification, multidisciplinary and stepwise approach.

The ICT-based platform (My-AHA, 2016) will accurately detect identified risks in various elements of frailty in the near future using non-stigmatizing embedded sensors and data available from the daily living environment of older individuals. Upon risk detection, the platform will provide targeted ICT-based interventions with scientifically proven effectiveness, including verified offers of established medical providers and platform support (motivating users to participate in exercise, cognitive stimulation games and social networking).

Clinical management of frailty in EU Member States places Slovenia among the countries with a basic level of implementation, thus countries that do not have programs, instructions and interventions for the treatment of fragile elderly people that are based on CGA - comprehensive geriatric assessment and provide no specific interventions related to fragility. The highest level of implementation is achieved by three member states - United Kingdom (former), Belgium and Italy.

According to the results of JA ADVANTAGE, based on level of implementation of ICT, Slovenia is ranked among the countries with an appropriate level according to the individual level of ICT implementation, which means that there is occasional use of ICT/applications/tools to prevent or manage frailty.

Slovenia reported on video-supported exercises for frail seniors in residential communities and individual home environments. Given that existing expert and scientific findings point to greater use of ICT in healthcare and frailty management, this dictates the need for strategically oriented support for further research in this field, as well as addressing and promoting implementation and broader adoption of healthcare related ICTs.

3.1.6.2. Multimorbidity and frailty - “CHRODIS +” Joint action

JA “CHRODIS +” focused on approaches that will contribute to managing the growing burden of chronic diseases for individuals and health systems. Sixteen components across five domains were identified; one of them was »information system and technology«. It is necessary to provide e-data management for monitoring patient data, medical history, illness, symptoms, visits to medical institutions, medicines, etc. This allows different healthcare providers to share information about an individual patient, preferably using standardized tools and a similar diagnostic system.

3.1.7. Ageing and care of dependent elderly within the family

As Slovenia is unilaterally oriented towards the development of institutional forms of care, informal social networks, especially the family and kinship, as well as the neighborhood, have been the main burden in providing care for the elderly outside institutions in recent decades. Family members provide much more care compared to formal providers (mainly children, mostly daughters, partners and daughters-in-law). Their role is especially evident in supportive daily tasks in relation to basic daily tasks. Based on the results of the international EURHOMAP project, it has been estimated that informal assistants provide around 60% of care in most European countries. Based on the international research SHARE it is estimated that personal care or practical help outside one's own household is regularly provided by around 48,000 people and regular help with personal care by around 37,000 people in the same household. This makes Slovenia comparable to the countries of continental Europe (Austria, Belgium, France and Germany). Compared to the entire SHARE sample, Slovenian informal providers are specific mainly due to their poorer financial position and the fact that they mostly come from a rural environment.

Population ageing and other immediate demographic challenges require a new type of solidarity between generations. Today's average nuclear family lives apart from its elderly relatives, the frequency and quality of communication between the generations is relatively limited and thus the family cannot bear the burden of caring for the old family members by itself. Old people in general wish to stay in their own home environment until they die or at least for as long as possible. However, Slovenian data shows that, due to the concern from becoming a burden to the family and the lack of different types of non-institutional solutions, they choose going to old people's home over staying at home. The willingness of family to care is very high. Most frequent reasons for caring are emotional bonds, sense of duty and responsibility. The biggest problem is not the willingness to care but rather the ability to care. Based on ours and some other studies, we can assume that family care will be less available due to the lack of support services to family careers and social policy measures, rather than unwillingness to care. Possible solution is a combination of public care services with the services provided by non-profit voluntary organisations, informal carers and private providers care.

The study among Slovenian family carers of dependent old people has shown that the needs of family carers vary. They are related to the level of dependency of the old person and the characteristics of

the carer. 2/5 of family carers wish to have “more frequent visits from a district nurse” and “larger accessibility of home help services”. The fourth and fifth most expressed things that they miss are the “support from their relatives” and “the life they lived before taking over the caring responsibilities” (Hvalič Touzery 2007). The needs of family carers reflect the real situation regarding family care of elderly people in Slovenia.

The AHA.SI project partners also proposed a concrete strategic goal in the framework of the recommendations for the preparation of the Strategy for a Long-Lived Society, namely to recognize and improve the importance of informal providers and non-governmental organizations in the long-term care system as additional sources of service for the elderly and the implementation of the organized volunteering.

All above results, which national surveys and research have pointed out for many years – if the elderly need a slightly larger volume and intensity of help (30 hours per week and more), then their needs at home cannot be satisfied with system support and practically only choice left is to move to an institution for the elderly. The findings of the OECD, which together with the European Commission is implementing the project "Measuring social protection for older people with long term care needs", are similar. They report that care in the institution is accessible to the elderly in Slovenia on average regardless of their income and property and regardless of the level of their long-term care needs, while home care is less accessible to people with medium needs (c.c.a 20 hours of assistance per week) and practically inaccessible for people who need intensive care (more than 40 hours of assistance per week). In this context, the project promoters mainly problematize the legal limit on the maximum number of possible hours of assistance.

3.2. Discussion with the stakeholders

Following the example of an adapted focus group, all participants (c.c.a.20 participants from social and health sector, NGO and municipalities) highlighted the benefits of the information provided at the workshop and the interconnection and cooperation.

Participants highlighted pressing issues, exchanged good experiences/approaches and gave initiatives or proposals in the following priority areas:

- Increasing the participation of the elderly in programs of Center for health promotion programs (community approach)
- Better payment discipline of users of social welfare services,
- Decreasing social isolation of the elderly during COVID 19 pandemic measures,
- More intensive recruitment of volunteers (members of pensioners' associations)
- Promoting volunteering,
- Adapting current services to the needs of the elderly,

- Differentiation of users and services,
- Adequate financing of care/assistance at home, which reduces the current increase in inequality among the elderly population of Slovenia, given the different capacities of municipalities
- Urgent need to establish or strengthen the coordination of care for the elderly after hospitalization.

3.3. Conclusions

Slovenia is facing an intensive population ageing and its effects on society as a whole, such as the sustainability of the existing pension system, changes in the labor market, employment and retirement policies, impacts on the sustainability of the social transfer system and the growing need for reform. The impact of aging on the health care system has been apparent for many years.

During the COVID-19 epidemic, the greater vulnerability of the elderly and, on the other hand, the limitations of the health care system, were particularly highlighted.

The ongoing epidemiological situation has shown, among other things, the benefits of using digital technologies, contactless cooperation, telemedicine and communication with healthcare professionals through modern ICT.

A certain level of digital literacy, both for health professionals and users, is essential for the use of ICT. The results of the EHIS 2014 survey show a decline in digital literacy with age. About two-thirds of people over the age of 65 use the Internet less than once a week (Krajnc Nikolić, 2020).

The challenges for Slovenian society regarding the use of digital technologies for health are multifaceted; we highlight only those that are the most relevant to the project:

- The need to raise the digital literacy of older people and health professionals,
- Strengthening e-health, m-health and telemedicine services,
- Increasing the availability of ICT tools that support independent and safe living in the home environment
- The need to diversify services that allow staying in the home environment as long as possible.

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4. Italy

4.1. Summarisation of qualitative interviews in the Province of Bologna

Here, we are describing our recent organisation practice aiming to obtaining some interviews also addressed to fight the COVID pandemia.
Frailty depends on many factors which affect senior people in many different ways, eCare service's goals are prevention and support.

During the Health Emergency caused by the Pandemia COVD-19 virus, the e-Care service activated several support services in collaboration with the e-Care network in the territory.

In the ordinary operation, the e-Care service has a target of seniors with different levels of autonomy that impact on their ability to use the technology:

1. Most people older than 80 years are affected by physical diseases. When they have a disability they stay at home alone or with a caregiver (senior too). They often live in buildings without lifts and with steps and staircases. So, they can be reached by phone only and their main activity is watching television.
2. People aged between 70 to 80 years can use ICT but they are not experts. They have a smartphone or a tablet but they are unable to surf the Internet. They use e-mails, sometimes skype with their grandchildren, messages like whatsapp, sometimes facebook. The Internet is not accessible everywhere. Internet connection is weak in the mountains (Appennins) and also in the peripheral areas of the towns. If they can walk they often attend libraries, cinemas, theatres and social entertainments like courses and laboratories.

eCare reaches and monitors the first group through the operators of the contact centre once a week (or every 10 days). This group is composed of females for about 86% of the population over 80, and females alone for about 82% of them. Males are alone for about 59%. 25% of e-care users live with self-sufficient people, caregivers. Often caregivers are old people or working adults. During the day 88% of them watch television, 69% cook their meals, 54% listen to the radio. Home and, at last, garden is the center of daily life. They only go out for grocery shopping or ambulatory visits.
e-Care cannot assist people with dementia.
During the Pandemia the population group with highest risk of contagion and death was related to the elderly people. It has been organized a specific monitoring system and it has been offered the necessary information and reassurances. In this period, the eCare service cared not only of the users who were already in charge, but also all elderly people considered very fragile by the Department of Public Health. The prolonged lock-down phase, which included emergency measures taken at national level, caused the closure of many services, such as the day centres for the elderly and disabled, aimed to help the most vulnerable ones and took them off the opportunity to keep contact with friends, family and local and regional services.

To face this situation, the Municipality of Bologna (the Mayor is for us the first stakeholder because in Italy mayors are responsible for the public health of their citizens) in agreement with LHA BO, decided to activate the Monitoring Plan of alone elderly (Piano di Monitoraggio anziani in solitudine M.A.I.S), which usually is active during the periods of summer and winter to combat climate emergency and prevent the worsening of health and social conditions of over 75 frailty people. The Department od public Health has identified the seniors to be monitored on the base of the value of their Index of frailty.

Furthermore, the Municipality of Bologna decided, to include in the e-Care services all people identified and reported by the Territoriality Social Service that were in need of care and frequent monitoring of their healthy condition and also needed support services, such as delivery home of drugs and food.

The users who needed frequent care and have been reported and listed by e-care service during the health emergency, can be divided into four main categories:

- Frail families, where the old person is often the caregiver of his/her half and /or disabled son/daughter who needs psychological help and service support;
- Elderly people 50% self-sufficient, alone, who are able to manage their own daily activities with the help of social services;
- Very frail people who are totally alone, not self-sufficient who need a continue intensive monitoring and a full assistance;
- Adult / elderly people cared by the CSM (Mental Health Centre) and disability area who need special assistance and monitoring.

The Monitoring Plan of alone elderly (Piano di Monitoraggio anziani in solitudine M.A.I.S), of COVID-19 health emergency involved about 30 volunteers.

Although originally the Plan had homogeneous aims and operating methods for the entire duration (10 March -31 May 2020), we can clearly distinguish two different phases, in which we were forced to modify the target population as their needs have been changing and evolving as a consequence of the continuing pandemic.

The Plan involved the voluntary associations on the territory.

The defined actions involved four associations which call to frail elderly people. But currently volunteers are elder as well so we couldn't involve them in this COVID time because they are at risk too. We only can involve them for calling.

They cannot deliver food or medication. They have to stay at home.

the Mayor established an agreement with the biggest food companies and the most important association (AUSER). The Mayor asked young and adult citizens to offer help to deliver grocery shopping.

He received answers by 600 people. The AUSER association selected people and taught them how to act on safety. The agreement establishes that a volunteer would be linked with a little number of seniors.

At the same time Lepida and LHA taught to senior volunteers using an online system to contact frail elderly people.

The phone calls planned for the Plan have been organized in two phases.

Indeed, with the persistence of the emergency the Municipality of Bologna and LHABO decided to make a second turn of calls, with the aim to have all the elderly people monitored.

First phase (March- April) involved all very old and frail people.

Second phase (April – May) involved a larger group of volunteers, especially young unemployed people. This allowed to monitor a second group of old people, with a lower index of frailty.

Because the duration of the pandemic was longer than expected and the possibility of meeting in presence is still not recommended, it was decided to test the ability to use the digital devices of the elderly and that of their caregivers, with the aim to include this kind of support services within the digital tool YouBOS.

During the call they remember seniors to respect the WHO's rules and underline the need to stay at home absolutely. Furthermore, volunteers give to seniors some telephone number to contact directly nurses service, social assistance, local policy, emergency service, without going out or above all without going to emergency room or medical ambulatories. In very short time, days LHA BO and Lepida, have realised the following actions:

- acquired from the General Register Office a list of 2000 people with very high frailty who live alone over than 75 years old, and another list with seniors with the same age but with high frailty, about 2000 to 4000 people in total.
- built a software module to support the interviews of seniors and record the answers on a web platform
- wrote the conversation that every volunteer has to follow
- taught volunteers the right approach to take during the conversation and how to record the result of the interviews.

During the call, the volunteers tried to understand the health condition from a physical and mental point of view, in order to support people for foods, medications, and sanitary information. When necessary the nurses' service is alerted, and an operator recalls the senior who needs advice or help.

Frequently frail old people need to talk to someone who represents friendship or they need reassurance.

E-Care operators were not able to contact about 400 people because their telephone numbers were wrong or nobody answered. E-Care operators communicate this list to social services in order to investigate deeper. After this check the list of people unknown to social services where checked by the nursing care service. At the end of the process 40 people result unknown to social and nursing services. These names

were communicated to each general practitioner. Municipality and LHA worked together until all components of the frail group were checked.

In this pandemia e-Care Service accepts to support also psychiatric o disabled patients who need to speak with a friendly voice. In 10 days the service accepted more than 200 people, in a month 400.

The main questions of the interviews which we have been made from 15th of April to 31st of May 2020, were the following:

Greetings, presentation as municipality and question about the status of wellness

Are you Mister/Mrs XX, are you a caregiver of Mister/Mrs XX? If the interviewed (phone responders) are caregivers there are the same questions about them: age, relatives/friends or not, hours spent with seniors.

Which daily activities are difficult for you at this time?

To go shopping or acquire medications is a struggle for you actually?

If you need help, do you know anyone to call? If you need help you can call us. I give you numbers to have information about health services, social services, accompany and others services

Did you note these telephone numbers?

Remember some important behaviour in order to fight COVID: wash your hand frequently, stay at home, use face masks….

From where do you have information (radio, TV, newspapers, Internet, social network)?

- Do you use mobile currently?
- Does your mobile surf on the Internet?
- Have you got a smartphone?
- Do you sent messages on social media and chat groups like whatsapp?
- Have you got a computer?
- Have you ever had a video call with a son or a nephew?
- Would you like to learn using the digital?

The results of the interviews have been distinguished in 3 groups based on the target of the responders.

Number of phone calls done: total #1.025

Number of seniors found: first group > 75 with very high frailty #196, second group with high frailty #106

Numbers of caregivers living with the elderly found # 370

Questions	Caregivers (% of total caregivers)	1st group - very high frailty (% of total seniors with very high frailty)	2nd group - high frailty (% of tot. seniors with high frailty)
Receive Information from TV TV + Newspapers	40% 12%	66% 17%	48% 30%
Use mobile % yes	73%	41%	66%
Use smartphone %yes	59%	15%	25%
Use whatsapp %, yes	57%	10%	21%
Have a computer % yes	25%	17%	4%
Use of video calls % yes	43%	6%	10%
Will to learn %Yes	12%	13%	13%

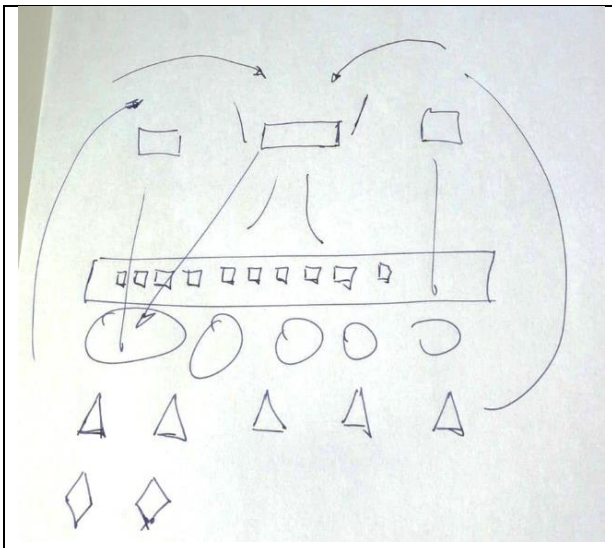
An interview with Romano Prodi, economist and politician and a further meeting with managers of LHA BO

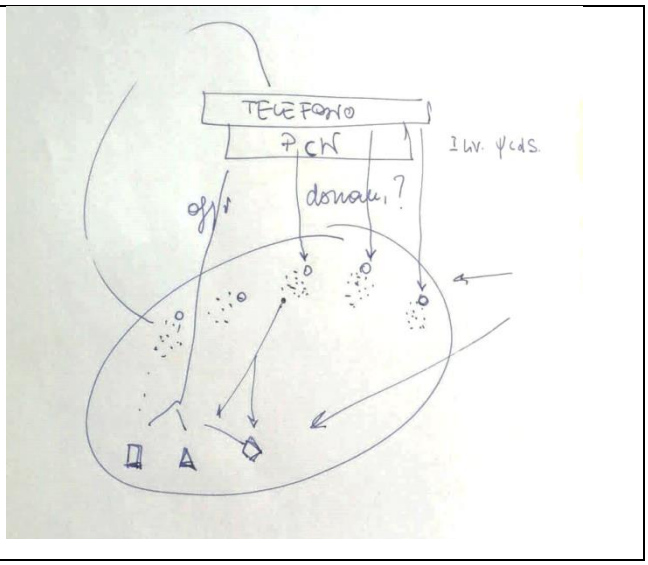
On the 25th of May LHA BO organized a discussion inviting Romano Prodi who lives in Bologna and who is over 80 years old. He is a very important economist, one of the past Presidents of the European Commission (1999-2004), he served twice as Prime Minister of Italy. The topic of the discussion was: A specific idea of mental health and community. Directors of principal departments were invited. In this particular epidemic contest economic inequalities risk to increase tremendously, so frailty and disabilities are going to intensify. Competition will prevail over solidarity. In order to prevent mental diseases LHA BO and municipalities could promote bonds and can study to build neighbourhood's networks. In this case identity is the very important value, not only for citizens but also for communities.

The following meeting with the chief of the Mental Health Department and the chief of Health District of the town of Bologna, discussed how Prodi's suggestions could be?
Doctor Angelo Fioritti is a psychiatrist and Doctor Fausto Trevisani is an epidemiologist.
In Bologna there are about 6 experimental projects for different targets of pathologies. Caregivers and patients need to know and access the social and health services, actually.
During an experimental project, spontaneous leaders appear. These leaders become important references for frail people, indeed they can link needs and services. Our Institutions must give value and recognize these roles because they are willing to promote wellness. Above all Institutions would educate and qualify them, technically and politically. A leaders' network is advantageous. Most of them are informal, for example tobacconists know gambling risks, or hairdressers know well gender violence, and condo's managers know frailty problems. BUT how could we engage those influencers? Each project would be able

and should identify their own to be engaged.. We have to imagine a community tutors' job career and we have to build the professional training course.

Here below some drawings of the director of the Mental Health Department, Angelo Fioritti, representing the complexity of the roles and relationships between citizens and institutions.





4.2. The contextual framework of GPS tracking implementation for older people with MCI

Before proceeding with the presentation of the evidence gathered on the needs expressed by the elderly, with forms of MCI, their families and practitioners, it is useful to define the framework related to the phenomenon and the behaviours that will be transversally central within the technological ecosystem under construction in the niCE Life project.

4.2.1. The end user profile

First it is essential to consider the cognitive status and functionality profile of the end users that are willing to use the GPS tracking device.

The older people included will have more than 65 years with early symptoms of MCI associated with minor chronic diseases conditions.

Considering the frailty syndrome that include MCI niCE Life Project will embrace a wide range of frailty conditions with a specific focus on MCI target. Researchers have found evidence that one of the most effective forms of prevention against MCI is for an individual to control their blood pressure (DeCarli, 2003). In fact, the results of a 4-year study found that lowering the systolic blood pressure of individuals with factors of high cardiovascular risk lowered their risk of developing MCI by 19% (MDedge, 2018). Exercising on a regular basis, avoiding smoking and heavy drinking, losing excess

weight, limiting caffeine, reducing stress, and eating a diet low in fat, cholesterol, and sodium all have been shown to reduce blood pressure (Mayo Clinic, 2018).

Based on the above elements, ISRAA's team has adopted a user approach in which the priority element of analysis has been that of security in its twofold meaning: physical and psychological guaranteed by the use of a device aimed at spatial tracking and geolocation. At the same time, however, given the changed circumstances in the medium-long term characterized by the Covid-19 pandemic, other characteristics and functionalities that may be perceived as necessary by the direct users of the technology (the elderly), their families and dedicated social and health care personnel were examined.

4.2.2. The methodology for the users' needs gathering

4.2.2.1. The older target

Based on the local ISRAA's care services dedicated to older living in the following settings:

- Nursing home
- Cohosuing
- Private home (using home care delivery)

It has to be stressed that the involved seniors were identified within the services that ISRAA offers on the territory. This organisation currently supports 600 seniors with dementia disease in home care and 850 living in 4 nursing homes. The seniors involved in the nursing home live in the elderly residence "Casa Albero Salce" (https://www.israa.it/le-residenze/casa-albergo). This facility currently hosts 125 self-sufficient and 42 non-self-sufficient older people. It is located in the medieval centre of Treviso and provides several activities of cultural animation alongside daily care.

Participants from cohousing live inside the "Borgo Mazzini Smart Cohousing". BMSC is the new cohousing project of ISRAA. This new neighbourhood based on solidarity is the result of a participative urban regeneration process: a place where people of all ages can fulfil their life plans. BMSC is also located close to the nursing home "Casa Albero Salce"(https://www.israa.it/home-bmsc).

Finally, the involved elderly people who still live at home were selected among those who are assisted by ISRAA homecare services. In particular, some seniors involved are supported at home by the CSD (Centro Specialistico per le Demenze - Specialised Centre for Dementia), which currently runs, in cooperation with the local health service, the SAPAD service - Servizio Alta Protezione Alzheimer Domiciliare - dedicated to people suffering from neurodegenerative diseases, in particular Alzheimer's, and their families. The SAPAD service is part of the multiple services offered by ISRAA through the Alzheimer Network, coordinated by the Specialist Centre for Dementia, and provides a package of psycho-educational home-based interventions, i.e. interventions aimed at helping those who care for people with dementia on a daily basis.

The team has adopted a blended methodology composed of a set of interviews (15) and 2 sessions of ethnomethodological participatory observation (Bronisław Malinowski, 1929).

At a general level, the activities carried out in the framework of this deliverable concerned these subjects:

TARGET	number of partecipants	interviews	ethnomethodological observation
older people			
Cohousing	8	8	8
Nursing Home	2	2	
Private home	5	5	5
informal caregivers			
Relatives	8	8	
Formal caregivers			
nurse	2	2	
social workers	2	2	
educational trainer	1	1	

Method and implementation procedures

Starting from what was done in 1929 by Malinowski, ethnographic observation was developed in the 1990s in the United States by San Diego University, by Norman (1991) in particular, who perfected the Distributed Cognition approach to the world of codesign. It is inspired by the socio-cognitive models of Vygotsky, first, and then of Leont'ev (1978), in which the meaning of the subject's actions and his learning linked to the artefacts must be understood in the socio-cultural context in which he acts.

Given the aims of the survey foreseen in the Nice Life project in relation to the needs of the elderly and their social surroundings to be grasped in the context of daily life, we made use of this ethnomethodological observational approach thanks to which it was possible to grasp the meaning attributed to the single unit of behavioural analysis within the dynamic that binds the user-agent in relation to the performance of his/her activities. The focus was placed on the analysis of how the person acted to achieve their goals in relation to the physical and social environment within which the user-agent constructs and attributes meaning and value according to the context in which he/she is placed.

The ISRAA professionals, specifically the educational trainer involved in the project, was prepared for the use of the observational methodology in the field, which was implemented by means of special in-person sessions alongside the elderly involved and piloted both in the context of their private homes (5) and in the context of Cohousing (8).

Implementation of the ethnomethodological observation

After a first illustration to the seniors and their families about the aims and the phases of the observational moment, the ISRAA professional took part in the sequence of the daily routines normally carried out in the morning, in the afternoon and in the evening by the seniors targeted by the project.

On the operational level, the expert asked specific questions about the purpose, frequency and way in which the person organised his/her movements and communications to his/her family members and/or to the ISRAA service to which the person normally refers. It is in this scenario that we tried to understand which information was of greater interest to the elderly person himself, to the formal and informal caregivers, trying to understand which were the most significant variables, for the care of his own health, useful to monitor in order to increase the sense of security and perceived usefulness by the three actors involved.

After the observation period of two days, the ISRAA team analysed the emerged elements and then asked specific ex-post questions to the elderly, the family members and the sociomedical staff who took part in the participatory phase of the expert's presence (in the cohousing).

The users engaged in the data gathering was 8 older residents living in the ISRAA's "Borgo Mazzini Smart Cohousing" facilities, 2 living in an ISRAA's nursing home and 5 living in their private home in Treviso area, aged at 75 (average) with conserved functional abilities, and with early symptoms of MCI detected by the psychologists.

First the team asked to each user, in an informal setting the following questions:

- What kind of information about your health would you find useful to access and in what format?
- In which situations would you like to use a device that let ISRAA's team and your relatives to be able to find and rescue you if needed?

Afterwards the answers has been analysed using the content analysis method (Kerlinger, 1986) to identify the main relevant needs. Subsequently, the ISRAA's team has spent two days along with older (living in the cohosuing) during the daily life observing their behaviours, needs and just asking when, why and how they wanted to have a device that could help them monitor their health parameters and make them traceable when they went out on the town.

4.2.2.2. The informal caregivers target

About the informal caregivers the ISRAA's team has interviewed a sample of 8 relatives that are used to look after the older residents. The interview has been done via a phone call asking:

would you like to know immediately, even automatically, if your relative had gotten lost or something serious had happened to him/her?

How would you feel if you could receive an automatic alert on your phone to inform you of any critical situation that may have happened to your relative?

4.2.2.3. The practitioners target

In terms of care workers, 5 professionals working at the nursing home have been identified: 2 social workers, 2 nurses and one educational trainer who has been asked via a phone interview:

How would you like to monitor the older people you work with?

What advantages and disadvantages do you see in having tools that can track the movements of older people who manifest forms of MCI?

4.2.3. The needs detected

Based on the study conducted according to the methodology reported above, here are described the relevant findings that will be used to set up the GPS tracking tool into the broad design of niCE Life digital platform.

4.2.3.1. The older's needs

The following is a summary of the significant elements that emerged from the investigation:
What kind of information about your health would you find useful to access and in what format?

Respondents believe that it is particularly useful to have tools to remind them if, when and which medications to take; to be able to easily detect their blood pressure and to call for help if they need it. They consider it useful to be able to be tracked and located only when they want to enable this function while respecting their privacy.

Would you like to influence your actual and future care by personalising the service/treatment you are receiving or will receive?

In which situations would you like to use a device that let ISRAA's team and your relatives to be able to find and rescue you if needed?

Older are mainly in favour of the use of instruments for tracking movements when travelling to the city for journeys other than the usual and in any case greater than one kilometre (on average), provided that they are able to enable the organisation to track them and, if necessary, to inform their family members.

The participatory observation, conducted within the cohousing site, highlighted the need to use any technological supports by inserting them within structured routines currently based on the use of paper tools even in 70% of cases, in the presence of a smartphone. The functionalities that appear to be of greatest interest are: to be able to have easy reminders, to be able to call one's family members easily, to know one's pressure in a simple and reliable way and to launch a request for help in those

environments where staff call buttons are not present or easily reachable as in the bathroom and in other rooms not near the living room.

4.2.3.2. The informal caregivers' needs

The results of the telephone interviews conducted by ISRAA staff with family members highlighted the following needs:

- would you like to know immediately, even automatically, if your relative had gotten lost or something serious had happened to him/her?

7 out of 8 wants to know immediately if something happens to their loved older. Mainly they would like to be informed with a direct phone call sent via the older device and 2 out of 8 prefer to be informed by ISRAA's staff.

- How would you feel if you could receive an automatic alert on your phone to inform you of any critical situation that may have happened to your relative?

6 out of 8 say they would feel anxiety and concern but at the same time they would be comforted to know exactly where their loved one is.

4.2.3.3. The practitioners' needs

Finally, the practitioners, that who were interviewed reported the follow findings:

How would you like to monitor the older people you work with?

They all agree on the opportunity to receive the notifications throughout their smartphone so to make it easier to get the remote control and, in case, to call for further help and coordinating specific actions and procedures.

What advantages and disadvantages do you see in having tools that can track the movements of older people who manifest forms of MCI?

The main pro is to be in the position to oversee the level of safety of the older clients and, in case, to quickly call for help and support.

On the other hand, practitioners are concerned about the risk to get many alerts (included the false ones) that could happen for technical or behavioural reasons. In that sense the trustworthiness of the technical solution and the quality of the device is one of the prior elements of interest.

5. Poland

5.1. Problem and needs of people with dementia, their family members and care givers

This chapter presents the needs of people with dementia, their family members and carers (at home and in institutions). Due to the Covid-19 pandemic, face-to-face meetings with family members of people with Alzheimer's disease could not be organised and interviews could not be conducted. In order to collect the necessary information, two workshops of the staff of the nursing home, which is part of the Alzheimer's Centre, was organised.

During the first workshop, open questions were asked, trying to gather as much information as possible and to present in the best way possible the problems concerning both the care of persons with dementia diseases and those related to health services in Poland. The people taking part in the workshop (5 people) are staff with many years' experience of working with people with dementia and in social care. The material from the interviews was then transcribed, summarised and a second workshop was organised to discuss the results. There was also an opportunity to clarify some issues.

Alzheimer's Social Welfare Home in City of Warsaw is a co-educational facility for 120 chronically somatically ill persons, especially those suffering from dementia, including Alzheimer's disease. The object of its activities is to provide 24-hour care and support for chronically somatically ill people, especially those suffering from dementia, including Alzheimer's disease. The scope of provided services includes: round-the-clock care, nursing and caring activities, provision of food (three meals a day, including diet), health care, psychological, pastoral and social care. In addition, improvement treatments are offered, occupational therapy is carried out, and national excursions are organised. In order to provide greater comfort to its residents, the Social Welfare Home offers them laundry, tailoring and hairdressing services.

The Social Welfare Home also provides visits of the primary care doctor - on the premises of the facility, helps the resident to arrange specialist consultations in clinics and, as far as possible, on the premises of the Home. As far as possible, residents of the Social Welfare Home of Alzheimer's Centre take advantage of screening tests offered by the National Health Fund (for hearing disorders, osteoporosis, breast or cervical cancer). When necessary, patients undergo a full range of diagnostic and therapeutic examinations under the National Health Fund (hospital and spa treatment).

Diagnosis

The first key need is access to a quick and reliable diagnosis.

Families circulate in search of dementia disease specialists.

In smaller agglomerations, there is virtually no facility providing diagnostic and rehabilitation care for people with dementia.

Offer of therapeutic activities and prevention of social isolation

The second problem, following the diagnosis of dementia, is access to specialist rehabilitation and therapeutic centres which address their offer to this particular group of seniors. It is important that the offer should be prepared for each group of patients due to the different stages of the disease. There is a need for at least one such centre in each city district and at least one in each municipality in smaller agglomerations. Senior Citizens' Clubs and Third Age Universities are not able to meet the needs of people with dementia as, aware of their deficits, they withdraw from situations threatening ridicule and social exclusion.

Activation of the patient in an advanced stage of the disease - therapy at home

Another challenge for families burdened with dementia diseases is the care and activation of the patient at home. Families strongly seek for help in terms of a therapist to the patient at home. Insufficient knowledge about the disease and management of the patient significantly hinders the selection of activities and exercises appropriate for persons in a more advanced stage of the disease. A solution could be services, groups of associated therapists for patients with dementia. Also guides and trainings for legal guardians as well as those employed and employed to assist the patient.

Temporary facilities - hostels for the sick

A significant group of carers cannot imagine handing their sick loved one over to permanent institutional care. Centres offering specialised care, together with a therapeutic offer, would allow respite periods for carers and at the same time could familiarise the patient with the situation of care outside the home.

24-hour centres and wards for people with dementia

There is still a lack of facilities that meet the conditions necessary for patients with dementia. Hence, the lack of trust of carers to place their loved one in an institution where the staff is not sufficiently prepared and without the necessary knowledge on dementia. A factor that further complicates the situation is the high cost of functioning centres, which many families cannot afford.

Support for carers of people with dementia

1. Organised Support Groups - sharing experiences, good contacts;
2. training in care, communication and nursing
3. consultation points operating 7 days a week, in offices and by telephone:

    - Psychiatric consultations

    - Psychological consultation

    - Legal consultation

This is a very important element of support for the carer who, in surprising or urgent situations, needs to seek advice on how to proceed with the patient.

COVID - 19 situation

It should be noted that the situation of patients with dementia has long been difficult, and it is getting worse with the increase in the incidence of the disease in the group of seniors and at increasingly younger ages. In addition, the year 2020, under the banner of Pandemic COVID - 19, is an exceptionally difficult year, because measures for the benefit of patients in all areas, i.e. concerning diagnosis, treatment and therapy, have been severely restricted. Lack of mobility and social contact has had a very negative impact on patients and their carers. Patients hospitalised and in 24-hour centres were deprived of visits from relatives, and this isolation often resulted in withdrawal from life, rapid deterioration of their health and high mortality rates. The offer of psychological telephone consultations to support carers during this difficult time proved to be an extremely important factor.

5.1.1. Analysis of patients according to the stage of the disease

Among patients with dementia, 3 groups can be distinguished in terms of the stage of the disease and the resulting capabilities of the patients.

1. The first stage are patients with low intensity of symptoms. They are independent people who live alone and cope well with everyday life activities. Due to memory deficits, however, they begin to withdraw, from social contacts in order to mask the symptoms. They are aware that something has changed, they don't accept it and they deny among their relatives that something wrong is happening. They put a lot of effort into maintaining their independence and self-reliance. This stage is often accompanied by depression and mood disorders.
2. The second group are patients with moderate severity of symptoms. They need support from loved ones, help with simple and more complex daily activities. Here there is often a need for additional support - care at home, but above all therapeutic group activities to activate and maintain cognitive and social functions at the current level.
3. The third group are patients with advanced deficits. Here, a full range of round-the-clock support is needed, from validation therapy to nursing and palliative care.

5.1.2. A brief overwiev of the current situation in dementia care

The current situation with regard to dementia care is difficult and requires, above all, improvement in terms of public awareness of the issue.

There is a shortage of specialised facilities, but also of qualified staff. Training courses on the specific features of dementia diseases and working with patients are highly recommended. It would be very enriching to exchange with foreign communities in the UK, Germany or Spain, where this type of care is very well developed and organised.

In addition to the training of carers and therapists for people with dementia, an important factor is the estimation of salaries for this professional group, due to the huge psychological burden and risk of professional burnout. Currently, there is home care, but no hospice for people with dementia in the palliative phase. Carers are sent away from oncology hospices because they are not able to care for these patients.

5.1.2.1. Home care

Home care in Polish conditions usually falls to the spouse or children of the sick person. It is rarely the case that the whole family is involved and that the members of the family divide the duties equally between themselves. This leads to a very difficult situation for the delegated carer, who in the case of a spouse is usually elderly. In this situation, the primary carer neglects his or her own needs, his or her health deteriorates and the level of psychosocial functioning significantly decreases. If the main carer is one of the children, he/she then neglects his/her own work and often disrupts the functioning of his/her own family. This is why it is so important for the carer to be able to benefit from unpaid or low-cost care in order to relieve the burden on themselves and maintain their personal life and health at a good level.

5.1.2.2. Institutional care

Older people often have to cope with several illnesses at the same time, and the risk of developing dementia, including Alzheimer's disease, increases with age. People affected by these diseases require specialist care and therapy, which can only be provided by specialist institutions.

Institutional care in Poland consists mainly of Social Welfare Homes, Day Care Centres and private Care Centres.

The object of the activities of Social Welfare Homes is to provide round-the-clock care and support for lonely, chronically somatically ill persons, and in the case of Alzheimer's Centre especially for persons suffering from dementia, including Alzheimer's disease. The range of services provided includes: 24-hour care, nursing and care activities, provision of food (three meals a day, including diet), health care, psychological, pastoral and social care. In addition, improvement treatments are offered, occupational therapy is carried out, and national excursions are organised. In order to provide greater comfort to its residents, the DPS offers them laundry, tailoring and hairdressing services. The Social Welfare Home also provides visits of the primary care doctor - on the premises of the facility, helps the resident to arrange specialist consultations in clinics and, as far as possible, on the premises of the Home. As far as possible, residents of Alzheimer's Centre take advantage of screening tests offered by the National Health Fund (for hearing disorders, osteoporosis, breast or cervical cancer). When necessary, patients undergo a full range of diagnostic and therapeutic examinations under the National Health Fund (hospital and spa treatment).

In Poland, social welfare homes, depending on who they are for, are divided into the following types of homes, for:

1) the elderly;

2) Chronically somatically ill persons;

3) Chronically mentally ill persons;

4) adults with intellectual disabilities

5) children and young people with intellectual disabilities;

6) physically disabled;

7) alcohol addicts.

The aim of the activities of the Day Care Centre is to provide the widest possible support to the sick and their families by creating safe and friendly conditions for them to improve their well-being and increase their level of independent functioning in their environment. The range of services provided includes: care from 8 a.m. to 4 p.m., provision of three meals a day, psychological and social care, rehabilitation and therapy and pastoral care.

There are no specialised Centres in the whole of Poland. Often, the material situation does not allow the family of a dementia patient to take advantage of such a form of assistance. It is important that the emerging centres take into account the difficult conditions of seniors and can also provide an offer for the poorest families.

An example of such a modern facility is the Alzheimer's Centre, which in its activities and tasks combines the activities of Day Care Centre and Social Welfare Home.

5.2. Discussion with stakeholders

Summarisation and qualitative overview of gathered information and data about patients/frail elderly behaviour, care takers and family members needs and available resources.

The following obstacles were defined during the discussion:

1. Like other countries, Poland faces the challenges of a rapidly ageing population.

   Not long ago, Poland was the youngest demographic country in the European Union, but the ongoing process of ageing of the Polish population (as evidenced by the low fertility rate, natural loss, increase in life expectancy, median age of the population and increase in the proportion of people aged 80+) is forecast to lead Poland to a leading position among demographically old countries. Poland is once again entering a period of depopulation, similar to that of 1997-2007, but this time it will be a permanent trend.

2. An insufficiently concrete and complete concept for the implementation of eHealth in Poland. But there are some steps already made or in progress. There is no single legal act dedicated to telemedicine. The provisions are scattered in various acts concerning the health care system. Opinion: The existing legislation is insufficient.
3. Low level of use of information and communication technologies for sharing medical records, especially among providers of different owners. There are only pilots. There is no EHR at the national level. Such systems operate only at regional level - in some countries and to a rather limited extent (e.g. only public institutions under the same entity have access). There is no information flow system. Discussions and plans for data transfer have been going on for many years, mainly in the field of e-capacity. Data transfer only on a case-by-case basis under the provisions of GDPR.
4. Good instrumentation in hospitals and outpatient clinics and a high degree of use of information and communication technology to process medical information in hospitals and larger specialist clinics (i.e. Inside the institution).
5. Inadequate staffing in hospitals. Costly care in hospitals too few beds in geriatric wards.
6. Lack of a continuous process of developing the m-health framework (clinical mobile applications used in healthcare) in Poland. In Poland, the systems are in the process of implementation, currently the following programmes operate on the patient.gov.pl platform:

   - E-wus (a programme that checks whether a person has health insurance)

   - E-prescription

   - E-visit

   - E-referral

   - Receiving a coronavirus test result

   These can be used after logging in to IKP (Individual Patient Account), provided that the patient has set up a trusted profile, which in the case of older people is difficult to do, as is downloading and setting up mobile applications on the phone. Nursing homes do not have access to them as they are dedicated only to individual recipients and not to institutions.
7. Poor coordination between outpatient and inpatient care, lack of collaboration between different health professionals, needs improvement. According to social workers, care is chaotic and there are limited opportunities to exchange views with their medical counterparts.
8. The model of assessment of frail people implemented in our country - disability jurisprudence is insufficient. There are studies such as testing the Tilburg Frailty Indicator (TFI). It has proven to be accurate and reproducible for assessing frailty syndrome in the Polish population. The Polish adaptation of the TFI proved to be a useful and quick tool for assessing frailty, but was not used at all.

9. Health and social care reforms are not discussed at the appropriate level. Division of competences between different actors leads to non-centralised, lengthy processes.
10. The current health care system does not meet the standards of a geriatric approach - universality, quality, accessibility and comprehensiveness of meeting complex needs Instead, it fosters: polypharmacy, lack of coordination of treatment of older people, discrimination in diagnostic and treatment procedures on the basis of age. Geriatric care as services provided by geriatricians is practically non-existent.

    Development strategy:

    - creation of a comprehensive care system

    - educating staff for the geriatric care system
11. Increasing the level of education can be helpful in reducing the prevalence of disability among older residents. Increasing access to health care aimed at rapid diagnosis of chronic diseases, frailty and well-planned treatment and rehabilitation seems to be a reasonable preventive tool. Especially when we are talking about frailty, which causes many health problems.

    - Establishing a network of geriatric clinics, wards, outpatient clinics and geriatric consultant posts in hospital units, long-term care and Social Welfare Homes.

    - Giving special importance to geriatrics in the interim period of 10 years, through an active policy of the Ministry of Health for the development of geriatrics and preferential contracts of the National Health Fund with geriatric institutions accredited on the basis of Geriatric Standards.

    Insufficient coordination and horizontal integration of health care in the care of the chronically ill (PL - specialist - hospital), persistent problems at the interface between health care and social care (both in institutions and at home), increasing demands on home health care.

    Insufficient prevention and public knowledge about prevention.

    Problems in education - the concept of education requires changes, expansion of the area of prevention. Use of knowledge is knowledge, which means weakness.

There are three main levels of social/health care in Poland. Mainly we can say about social care that the government administration performs control functions, defines the standards of provided services and designates funds for tasks delegated to local governments. And local government in Poland is the social welfare contractor and they are provider of care. The management of the public health system is divided between the Minister of Health and three levels of territorial self-government. It has been suggested that this delays response to problems. The health departments are part of the regional governments. Facilities include clinics; hospitals; sanatoriums, rest homes and spas; and ambulance services are mostly private. The Ministry of Health still plays a key role in determining health policy.

The basis of health care system is the primary “General practitioner”, who is most commonly a specialist in family health. They are responsible for conducting treatment and taking preventive actions for assigned patients. If sickness requires the intervention of a specialist, the first contact doctor issues referral to hospital or other health care unit. Referral is not needed for oncology, gynaecology, psychiatry, dentistry or sexually transmitted diseases. Not all dental treatment is covered by the health insurance scheme.

According to Polish Constitution everyone has a right to have access to health care. Citizens are granted equal access to the publicly funded healthcare system. In particular, the government is obliged to provide free health care to young children, pregnant women, persons with disability and to the elderly. Patients who are uninsured have to pay the full cost of medical services. Private healthcare use is very extensive in Poland. It is because of the fact that those, who has private insurance are not waiting so long for health services as those, who have regular public insurance. This fact can cause a problem especially for seniors who do not have money to spare for extra private insurance. For example, when they are waiting for a joint replacement and the procedure is scheduled so late that in the meantime the muscles weaken due to insufficient movement.

Care tasks in the form of care services and specialist care services are carried out in a stationary, semi-stationary (daily) mode and the environment mode (in the place of residence). They are mainly carried out by the district and commune self-government which carries out its tasks through social welfare organisational units or commissions them to specialised non-governmental organisations, religious associations, as well as commercial subcompanies.

5.2.1. Is there a strategy for integrated care and how do health and social care providers work together? What are the problems?

- There is National Health Programme 2016-2020, National Development Strategy 2020, Warsaw's Social Strategy - Strategy for Solving Social Problems for 2009-2020, Development Strategy of the Capital City of Warsaw until 2030 but there is no “real” strategy for integrated care.
- Weak continuity of social care with health care – divided system.
- Fragmentation of help into several levels explains the slow progress in tackling important and longstanding problems and imbalances. We still have high hospital bed numbers in spite of hospital debt. And related to this, society still relies on hospital care compared to community-based care.
- Both insufficient staff in hospitals (doctors and nurses) and preference of inpatient care continues even everyone is aware of this imbalance.
- The government has committed to increase the share of public health spending to at least 6 % of GDP by 2024 from 4,6 % in 2017 (a lower share of GDP to health than in most EU Member States). This will be an opportunity to address growing health challenges and to address long-term

challenges and structural imbalances. Health – is already about 6 % (data from 2019), social spending about 16%.

- Health care providers are public and non-public health care providers. These teams of people, assets created and maintained to provide health services and health promotion can be e.g. a hospital, a therapeutic rehabilitation centre, a clinic, a medical diagnostic laboratory, a dental prosthetics and orthodontics laboratory or a sanitary and epidemiological station.
- The right to care services is determined by the President of the City of Warsaw in the form of administrative decisions, based on a community interview conducted by a social worker of a social welfare centre under whose jurisdiction the place of residence of a specific person in need of help remains.
- The adult day care homes provide assistance for families. Adult day care services are limited to 5 days per week and no more than 12hr per day. Older adults with cognitive impairment and mental disorders or patients with dementia are eligible to use adult day care homes. Care is provided free of charge and includes various therapeutic workshops and classes. In 2008, less than 1% of the Polish population aged 65 and older received long-term care in an institution setting; in comparison, the OECD average is 4.2%. The proportion of elderly living in long-term facilities is still low mainly because individuals rely on families for informal care which brings burden to the families without appropriate help from government.

5.2.1.1. How are the payment for health and social services from citizen point of view settled?

- Healthcare is mostly covered by health insurance but it can be co-financed from private insurance, what will help with the earlier date of professional examinations, operations, etc.
- Not everyone has money for private insurance.
- Poland has social assistance benefits. These are benefits in cash and in kind, which help people to overcome hardship cases. Social assistance also offers benefits like social work, care services, board and service in a social assistance home. A number of services are provided by the city, region or district - a three-tier system we wrote about, which is further divided into self-government and state administration.
- The Social Insurance Fund is a special purpose state fund. It was established on 1 January 1999 by virtue of the Act of 13 October 1998 on the social insurance system. The Fund is administered by the Social Insurance Institution.

5.2.1.2. Is there any support of innovations and what is the readiness for digital tools?

- E-prescription, e-referral, e-dismissal, patient's account are all elements of digitization in the health care system in Poland.

- Video consultations or telemedicine solutions are already beginning to be implemented in the Polish health care system but existing legislation is insufficient.
- Another step is the introduction of electronic medical records. Already begun in the Opole region, in 2021 they should be introduced across the country.
- An example of an innovative solution that will be implemented is a virtual assistant, thanks to which the patient will be able to quickly find the right unit and a doctor who will take care of his illness.
- Seniors can also use senior's clubs supported by local government, where the seniors have the opportunity to socialize – prevention from frailty due to social isolation. Ministry of Labour and Social Policy established funds to support programs for promoting "active aging."
- Another emerging technological tool is genomic testing which assesses the likelihood that a patient will become ill with a specific disease such as cancer or diabetes.

5.2.1.3. Description of needs and barriers related to digital tool for patients discharged from hospitals

- Digitalization of data transfer and sharing those data – already tested in Opole region.
- Bad coordination between ambulatory and inpatient care, needs to be improved.
- Unresolved problem of the poor financial results of public hospitals.
- The long-standing overcapacity of acute hospital beds: recent efforts to incentivize hospitals to provide more ambulatory care for outpatients are welcome and new innovations can be helpful.
- Shortage of long term beds is severe and needs to be addressed and coordination between the health and social care sectors should be improved.
- Inequalities in health outcomes and access: given the existence of large socioeconomic disparities in health outcomes.

5.2.1.4. Do we have any preventive measures for citizens?

- The negligent role of disease prevention and health promotion compared with curative care: the existing care model remains heavily centred on curative care.
- But some things exists, through the implementation of programmes as below (nationwide programmes available and implemented in Poland): Breast cancer prevention program (mammography), Cervical Cancer Prevention Programme (cytology), Tuberculosis prevention programme, Programme of prenatal tests, Cardiovascular disease prevention programme, Toxic-to-disease prevention programme (including COPD), Colorectal cancer prevention program.

- Problem is responsibility of patients.
- Two themes were developed. The first emphasized both the positive everyday and more effortful strategies used by individuals to counter frailty; these included the adoption of healthy lifestyle behaviours, social engagement and shared experiences. Stakeholders perceived that older adults, even frail ones, might benefit from engaging in meaningful activities to build resilience against frailty. The second examined formal interventions delivered by health and social care professionals.

5.2.1.5. Description of the needs and barriers associated with digital tools for patients with dementia and their carers.

Modern technologies and advances in the development of the information and communication field bring with them not only enormous benefits in all areas of life, but also challenges, especially for older people and dependants.

The use of information technologies can increase independence and autonomy and remove barriers to communication or improve quality of life, but can also pose the risk of increasing intergenerational barriers.

The factors influencing the identification and priority of the target group in the planned actions in relation to the implementation and use of the digital tool are mainly

- age

- progressive ageing of the population

- disease entity.

The development of dementias, including Alzheimer's disease, is closely linked with age and with the ageing of the population. Alzheimer's disease is a progressive primary degenerative brain disease that results in the loss of nerve cells and the connections between them through the deposition of pathological substances in the brain. The disease manifests itself by deficits in cognitive functions, of which memory impairment is the key symptom. Other cognitive deficits include language impairment, difficulties in performing activities of daily living such as dressing, inability to recognise objects and impaired critical thinking. Alzheimer's disease is chronic and progressive. This means that the cognitive impairment that occurs becomes progressively worse as the disease progresses and learning becomes impaired.

There are many physical, psychological and social factors including obesity, malnutrition, inappropriate lifestyle, loneliness and a lack of involvement in social activities that predispose older adults to frailty. Membership of more formal groups including seniors' clubs, the University of the Third Age and volunteering schemes are viewed as an effective means of preventing frailty. Those activities are often supported by local authorities and provided by NGOs.

Based on this relatively poor lifestyle profile of the Polish population, health promotion seems especially important to health and aging. One potential barrier to health promotion is relatively low expenditures on awareness of health promoting behaviours.

Screening of especially senior monitoring patients diagnosed with frailty, using a telemedicine service enabling measurement of selected biomedical parameters remotely without the need of continuous hospitalization. This can help the hospital improve the quality of health care, increase patients' mental well-being without repeat visits and adhere to treatment without increasing the burden on hospital staff, reduce beds and create conditions for reducing the expected costs of late detection of comorbidities and harm.

Understaffing of hospitals affected the morale of Polish health care workers and doctors who subsequently threatened to move abroad.

According to the Organization for Economic Co-operation and Development (OECD), Poland has one of the lowest life expectancies at birth among European Union countries.

5.3 Conclusion

During the interviews, those obstacles were defined:

1. Similar to other countries, Poland is facing challenges of rapidly aging population.
2. Insufficiently concrete and whole conception of eHealth implementation in Poland. But there are some steps done or in progress already. There is no single legal act dedicated to telemedicine. The regulations are scattered across different health care system laws. Opinion: existing legislation is insufficient.
3. Low level of ICT use for sharing medical documentation, especially among healthcare providers of different owners. There are only pilots. There is no EHR on a national level. Such systems operate only at regional level - in some country and to a rather limited extent (e.g. access to it is only available to public institutions, subject to the same entity). There is no information flow system. Discussions and plans for data transfer have been underway for many years, mainly in terms of e-capacity. Data transfer only in individual cases on the basis of RODO rules.
4. Good instrumentation in hospitals and outpatient clinics and a high degree of ICT use for the processing of medical information in hospitals and larger specialist outpatient clinics (i.e. within institutions).
5. Lack of staff in hospitals. Expensive care in hospitals too much beds and hospitals in depts.
6. No ongoing process for creation of framework for mHealth (clinical mobile applications, used in health services) in Poland.

7. Bad coordination between ambulatory and inpatient care, no cooperation of various healthcare providers, needs to be improved. According to social care professionals, care is disjointed and there are limited opportunities to exchange views with their medical counterparts.
8. Assessment model for frailty people implemented in our country - disability case-law is insufficient. Some studies existed like testing Tilburg Frailty Indicator (TFI). It showed to be valid and and reproducible for assessment of frailty syndrome among a Polish population. The Polish adaptation of the TFI proved a useful and fast tool for assessing frailty but it not used in general.
9. High utilization of hospital inpatient care.
10. Health and social care reforms are not discussed at the appropriate level. The division of competencies between the various actors leads to non-centralized lengthy processes.
11. An increase the level of education may be helpful in reducing the prevalence of disability among the elderly inhabitants. Increasing access to health care, aimed at rapid diagnosis of chronic diseases, frailty and good well-timed treatment and rehabilitation, seems to be a reasonable action preventing tool. Especially when talking about frailty, which cause a lot of health issues.
12. Insufficient coordination and horizontal integration in healthcare in the care of chronically ill (PL - specialist - hospital), persistent problems at the interface of health and social care (both in institutions and at home), increasing demands on home health care.
13. Insufficient prevention.
14. Problems in education - the concept of education requires changes, extend the area of prevention. Use of knowledge like knowing what frailty means.

6. Slovakia

6.1 Methodology and data collection

Because of Covid-19 pandemic situation the procedure of relevant data collection was very restricted. Despite the planned direct communication (personal interviews) with patients/frail elderly, their family member and care takers the project staff used following methodology:

1. *Desktop research* - collecting data from existing resources in starting phase to get general overview and relevants inputs for qualitative interviews with stakeholders. We used Internal Desk Research to generate information internally within the organization and also External Desk Research (Online Desk Research in form of collecting data available online on internet and Government published data - legislation, national strategies, social and economical aspects);
2. *Interviews with stakeholders* – qualitative interviews within several meetings (personal and online also) with Ms Alena Halčáková, Head of Department of Social Affairs at Petržalka Municipal District of Bratislava - Capital city of Slovakia (27.04.2020, 20.05.2020) and with Ms Soňa Chanečková, Director of Social Care and Services Center in Petržalka (27.04.2020, 29.04.2020, 18.05.2020). The interviews were followed by email correspondence.

6.2 Current situation of patient/frail elderly care in Slovakia

Health care and social services in the Slovak Republic are two separate systems with minimal coordination and interconnection. Each of these systems is governed by its own legislation and standards. Despite the fact that in Slovakia there is not a unified system of long-term integrated care, the services that are traditionally part of it are provided fragmented in three areas of support. These are the area of social services, the area of health care and informal care (within the system of compensation of severe health disabilities). The provision of long-term care is perceived primarily in the system of social services and in informal care in the form of a care allowance. In the field of healthcare, long-term care is focused primarily on chronic patients.

1. ***Health care***: The Ministry of Health of the Slovak Republic is the central body of state administration, which is responsible for elaboration of health policy and legislation, regulation of health care provision, management of state health programs, participation in health education management, management of national health registries, determination of scope of basic health care package paid from public insurance, defining health indicators and setting minimum quality criteria for health care services. In 2003, competencies in the area of price regulation were transferred to the Ministry of Health. In addition, the state owns university hospitals, teaching hospitals, specialized national institutes, sanatoriums and the largest health insurance company. This leads to a conflict of interest, as the state determines and regulates the legal framework in which several institutions owned by the state (eg. one health insurance company and several health care providers) operate.

2. ***Social care***: The Ministry of Labor, Social Affairs and Family of the Slovak Republic is responsible for the organization and financing of the social care system. The social care system and the health care system have developed separately, as a result of which their organization and funding system differ, although many of the services they provide are practically identical.

3. ***The role of self-governing regions***: As part of the decentralization of state administration, some local competencies and responsibilities were transferred to eight self-governing regions of Slovakia. The responsibility of self-governing regions includes issuing permits for the operation of medical facilities, appointing ethics commissions, approving biomedical research in outpatient clinics, storing medical records after the provider's termination and ensuring representation during the temporary suspension of the provider's permit or license. The Ministry of Health of the Slovak Republic decides on appeals against decisions of self-governing regions. Self-governing regions also help to supplement the network of providers if they find a deteriorating availability of health care in the region, for example by appointing a doctor in case patients have problems getting or finding appropriate treatment.

Individual types of services (health and social) that a senior/frail elderly can use

- General, faculty, university and specialized hospitals provide acute health care. Patients receive daily medical and nursing care, accommodation and food;
- Long-term health care is provided by established health care facilities: hospitals or wards of the long-term sick, nursing homes, home nursing care agencies and hospices;
- Social services are also provided within the scope of the municipality: nursing service, day hospital, relief service, nursing service facility, facility for the elderly;
- Social services provided within the scope of the local government: facility for the elderly and specialized facilities.

Strategy for integrated care

- In December 2013, the Government of the Slovak Republic approved the Strategic Framework for Health Care for the period 2014-2030 prepared by the Ministry of Health of the Slovak Republic. It is a basic document that determines the direction of health policy in the medium and long term. The primary motivating factor of its creation is the effort to implement measures to increase the quality and efficiency of health care provided and improve the health status of the population.
- Another strategic material is the Strategy of Long-Term Social and Health Care in the Slovak Republic, prepared by the Association for the Protection of Patients' Rights of the Slovak Republic under the supervision of the Office of the Slovak Government Office for Civil Society Development and in cooperation with the Ministry of Health and the Ministry of Labor, Social Affairs and Family. The ambition of the strategy is to initiate a public debate to reach a society-wide consensus on the setting and implementation of measures that will be the mainstays of systemic long-term care for all citizens.

- Within social care (at the national level), the Ministry of Labor, Social Affairs and Family of the Slovak Republic prepared the Strategy for the Deinstitutionalisation of the System of Social Services and Substitute Care in the Slovak Republic and the document National Priorities for the Development of Social Services for 2015–2020.
- Primary health care is organized in outpatient clinics (network of primary health care outpatient clinics) in the field of general medicine as a general practitioner for adults, in the field of pediatrics (or adolescent medicine) as a general practitioner for children and adolescents, in the field of gynecology and obstetrics and in field of dentistry.
- As part of primary outpatient care, doctors act as so-called “gatekeepers”, who also aim to dampen patients' exaggerated demand for institutional health care. Since April 2013, a system of mandatory recommendations (so-called exchange cards) has been reintroduced in Slovakia, which GPs issue to patients before they visit specialists.
- Every citizen and patient in Slovakia has the right to freely choose a doctor, i.e. a health care provider. This follows from the patient's rights in the provision of healthcare. The choice of doctor according to the medical district (place of permanent residence of the patient) is therefore not obligatory. The patient can also have a doctor from another circuit. However, if the patient does not have a specific health care provider, it is possible to register with a doctor according to the so-called health district to which the patient belongs. It is possible to find out which doctor the patient belongs to through the relevant self-governing region or through the electronic service Informing citizens about their affiliation to the health district.

Payment for health and social services

- Health insurance companies that provide public health insurance have the status of payers in the Slovak healthcare system. Health insurance companies are responsible for the collection of health contributions and the purchase of health care. Permits for health insurance companies are issued by the Office for Health Care Supervision.
- In the case of social services, fundings are provided by the Ministry of Labor, Social Affairs and Family of the Slovak Republic.
- Health care for the patient is free of charge and provided on reimbursed base. If the health care is provided at the request of the insured patient, he pays for it by himself.

Preventive measures for citizens to maintain their health and wellbeing

- The Ministry of Health of the Slovak Republic provides prevention including primary prevention (preventive health care, vaccinations) and secondary prevention (screening, disease monitoring). Health support by the Ministry of Health of the Slovak Republic represents measures aimed at improving lifestyle (reduction of alcohol consumption, smoking, insufficient physical activity, unhealthy eating) and addressing risk factors in the environment (environmental, socio-economic

factors, family environment). Mental disorders, which are currently a serious problem, are not currently receiving enough attention in Slovakia.

- In Slovakia, there are several national programs related to disease prevention, but according to the Ministry of Health of the Slovak Republic, coordination and monitoring of programs is failing. Examples of programs are the National Program for the Prevention of Obesity, the National Program for the Prevention of Cardiovascular Diseases, the National Program for the Prevention of HIV / AIDS, or the National Mental Health Program.

Support of innovations and usage of digital tools

- eHealth: The Ministry of Health of the Slovak Republic established the National Center for Health Information (NCZI) of the Slovak Republic as a state subsidized organization responsible for health informatisation (e-Health), standardization of health information systems and collection, processing and provision of health statistical information, as well as for library information services from medical sciences and healthcare. NCZI operates national health registries. The center is also responsible for the administration of the National Health Portal, which includes the functions of electronic prescription and medication, the electronic health book of the citizen and the system of electronic ordering from health care service providers. The main priority is the integration of these individual functions into one functional unit with a high level of safety. Fundings of 0.41 % of health contributions collected by health insurance companies are dedicated for financing the national health information system.
- Telemedicine: In February 2020, the National Center for Health Information (NCZI) launched a project to support telemedicine in the Slovak healthcare system.

6.3 Current situation of patient/frail elderly care in Bratislava - Petržalka

According to a projection of the development of Petržalka's population up to 2030, the proportion of people aged 65 and above will increase from nearly 10% to over 30%. At the same time, the proportion of the population of productive age will see a significant decrease, from over 80% at present to under 60%, with 210 senior citizens (people aged 65 and over) to every 100 people aged under 15. For these reasons, Petržalka can expect to face a great challenge over the next few years, consisting in dealing with the dynamic ageing of its population. One of the interesting features about the population of Petržalka, and one that is important from the point of view of social services is the fact that there is a higher proportion of single, and above all, divorced people.

The following strategic documents have been developed at regional / local level: 1. The concept of the development of social services in the competence of the Bratislava self-governing region for the years 2018 – 2023; 2. Community plan for the development of social services in the Bratislava – Petržalka city district, 2018-2022.

A) Social Care and Services Center in Bratislava - Petržalka

Petržalka is the founder and operates the Social Care and Services Center, within which the following social services for frail elderly and seniors are provided:

1. Nursing service facility - located on Mlynarovičová street 23 and Vavilova street 18. They provide social services for a certain period to an adult natural person who is dependent on the assistance of another natural person if he or she cannot be provided with care services. The total capacity of both devices is 50 clients;
2. Nursing service with its registered office on Vavilovova street 18 is provided to a natural person, who is dependent on the assistance of another natural person, in particular in self-service activities, care for your household and basic social activities;
3. The transport service is provided to a natural person with a severe disability dependent on individual transport by personal motor vehicle or person with an unfavorable state of health with limited mobility. Dependence for individual transport it is proved by an opinion issued by the relevant labor office, social affairs and the family in order to compensate for the social consequences. Shipping service has been provided for the citizens of Petržalka since 2017.
4. The relief service shall be provided to a natural person who is caring for a person with a disability disabled if he is unable to perform custody. Relief service may be provided for a maximum of 30 days in a calendar year. Its purpose is to enable necessary rest for the carer.

The current situation does not ensure sufficient capacity, especially in the care service facility. Today, a maximum of 50 frail elderly/seniors can be housed in facilities. Demand far exceeds capacity.

Social Care and Services Center in Bratislava – Petržalka provides services to individual clients and closely co-operates with Department of Social Affairs at Petržalka Municipal District of Bratislava - Capital city of Slovakia and University Hospital Bratislava - St. Cyril and Method Hospital in Petržalka also. The center is taking care of clients (seniors and patients discharged from hospital) for a limited time - max 12 months - and thus provides a nursing care. Based on health conditions the clients are afterward placed in a care facility with a long-term health service.

B) University Hospital Bratislava (UNB) - St. Cyril and Method Hospital in Petržalka

The UNB provides services in form of social work for patients discharged from hospital. Social work in a medical facility is a part of comprehensive medical-preventive care for a person. Its goal is to improve the living situation of people who, without the help of society, are not able to solve it on their own. It is performed through social services - professional and service activities performed by social nurses employed by UNB.

Social nurses propose optimal social measures, or help patients and their relatives to implement measures, lead patients to active self-help, propose and implement appropriate social assistance. They provide basic, professional counseling to people in need of help, to people who have been reported by

the attending physician, or other competent staff of the department or clinic, respectively. They also represent the patient, if necessary, on the basis of his authorization at the authorities, cooperate with the authorities in resolving the social situation. Social nurses help to solve the patient's problems arising from an unfavorable health condition, they also help to solve social, economic, psychological, family and other problems. They are in contact or are looking for contact with the patient's family members, or they are in contact with people who represent the patient's natural social environment. Social nurses are detecting and verifying anamnestic data, contributing to the completion of the overall history (medical, social, family, work, personal ...) of the patient. They diagnose social problems, plan intervention, perform social therapy and evaluation. They communicate with the patient, positively influence and motivate him in solving his social problems and health problems in co-operation with general practitioner, specialist and other healthcare professionals.

6.4 Discussion with stakeholders

Factors influencing the **identification and prioritization of target groups** (seniors and patients discharged from hospital) in connection with the planned use of the digital tool are as follows:

a) *Age* - the primary orientation should be to the oldest age groups, as up to 90% of people with 75+ feel health restrictions on daily activities. Prioritization increases with age. The age group 75+ years was chosen precisely because of the relatively high prevalence of health restrictions, which tend to increase with age. At the same time, it turns out that this is the age zone where placement in residential facilities is most common;

b) *Loneliness* - primary orientation to persons living alone without daily contact with family members (i.e. persons without spouse, persons without children or with children living at a greater distance) with lower priority persons living in a household with persons engaged in gainful activity outside the residence, i.e. they are employed and outside working place during working hours. Loneliness alone does not usually justify the provision of a service in a residential facility, but we often encounter pressure from relatives to place an older family member in a residential facility in addition to economic motives, so to speak, "for sure";

c) *Reception of social services* - the combination of the simultaneous provision of social services with the provision of social services of the AP-Nurse digital tool proves to be appropriate for several reasons: removing barriers to the use of technological equipment through trained caregivers or day workers. At the same time, in individual cases, the need / necessity of providing e.g. care services on weekends and at night, and the level of satisfaction of needs in the home environment is increasing. E.g. degree of dependency 3-4 where it is already possible to consider the suitability of providing a service in a residential facility, it is possible under individually favorable conditions to be compensated by several field / outpatient and additional services in accordance with the law. In the case of care services, it is also possible to consider the establishment of emergency services for caregivers who would provide

services on the basis of a dispatch initiative outside the standard hours of providing care services (e.g. at night, on weekends);

d) *Financial need* - primary prioritization of persons whose income limits them in receiving social services. This is one of the main barriers, in addition to concerns about technology (its operation, its functions - unwanted surveillance / eavesdropping), financial inaccessibility. The free provision of such a service to all persons, which can be proved by a certificate from the attending physician, is currently not realistic in any municipality or city.

The highest weight in the evaluation should be the age factor (with a progressive increase in points depending on the age reached) and the loneliness factor.

There is a **lack of field social services/work in the Bratislava- Petržalka** for older age groups of its inhabitants. Based on detailed analyzes of the current situation, experience from pilot activities and especially the real existing conditions and possibilities, there are 2 topics which should be implemeneted:

1. *Usage of electronic monitoring and emergency tools/services for seniors (so-called electronic bodyguard)* - Monitoring and signaling the need for assistance is defined in the Act on Social Services No. 448/2008 Coll., - and on the amendment of Act No. 455/1991 on trade business, as amended. Act No. 448/2008 Coll. paragraph 12 defines among the types of social service also social services using telecommunication technologies, which are: A) Monitoring and signaling the need for assistance and B) Crisis assistance provided through telecommunications technologies;

2. *Strengthening of volunteering resp. volunteers in the system of field social services provided by seniors at the local level* - Meeting the need to provide social services for the elderly will become increasingly difficult for the local government in the near future. On the one hand, there is an increase in demand for services and, on the other hand, financial and human resources are limited. In this situation, it is necessary to reach for non-traditional and hitherto untapped opportunities that would help meet the needs of the elderly. One of the possibilities allowed by the Slovak legislation is the use of volunteer work. It should be noted that this option has not been used in a targeted manner so far, although in some indications it is possible to speak of volunteering in the case of some Petržalka activities.

6.5 Needs and barriers related to digital tool for patients and frail elderly

Needs identified by care providers:

- Involvement of qualified staff with several years of experience
- Good orientation in the field of new technologies
- Further education and training

- Closer cooperation with general practitioners and specialists (including usage of e-health/m-health)
- Purchase of modern technologies and fast internet for facilities
- Support (legislation, technical assistance) by regional/national bodies

Needs identified by clients (frail elderly, seniors, patients):

- Development of tool(s) operating on free-of-charge principle
- Usage of very simple devices
- Personal interaction and communication (principle of loneliness)
- Involvement of family members and relatives
- Preferencies for motion monitoring devices and SOS bracelets incl. call centre support
- Independent living in home enviroment

Identified barriers:

- Low trust to electronic devices (big brother syndrome)
- Very low interest for usage of paid services caused by limited financial resources of frail elderly/seniors
- Missing legislation and regulation on local/regional/national level
- Central coordination and willingness to cooperate from side of all relevant bodies
- Client´s dependence on nursing and care services provided by external institutions
- GDPR regulations
- Digitalization of data transfer and reliable/secured data sharing
- Limited financial resources (public) and lack on financial alternatives (non-public sources)
- Loneliness, isolation, fear – current problems of elderly people
- Missing technical infrastructure for e-Health/m-Health

6.6 Conclusion

These priorities have been idenfified during the interviews:

- Strengthening the individual care for the frail people (seniors, people with diseases, frail elderly).
- Increasing the quality and availability of social services for seniors (mostly free-of-charge services).
- Reduction of social exclusion of target groups.

- Development of new competences, expertise and technical solutions and care models for local use.
- Significantly strengthening the field social services/work in the near future.
- Digitalisation of health/social care facilities (purchase of ICT equipmnet and provision of trainings for staff).
- Adaptation of national/local legislation and preparing local action plans and strategies for practical implementation.
- Gaining trust from target groups for participation in activities.
- Active involvement of family members and relatives.
- Targeted communication and dissemination (KISS principle).
- Obtaining additional financial resources for planned activities (investment to our future).

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