

MODEL OF HEALTH AND CARE SERVICES FOR FRAIL ELDERLY

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1. Overview

“The niCE-life project aims to foster social inclusion and care coordination of frail elderly (...) through development of transnationally applicable model of health and care services for frail elderly (...) by using progressive key enabling technologies (...) to prevent frailty, enhance quality of care and support their independent living, social contacts and assistance continuity after hospital discharges.”¹

In order to achieve this goal, all project partners involved carried out extensive data research to find out the status quo in every partner region. For mapping status quo, we inspired in these approaches:

- MAFEIP - Framework for Monitoring and Evaluation of the European Innovation Partnership for Active and Healthy Ageing
- EIP AHA - European Innovation Partnership on Active and Healthy Ageing
- MAST (The Model for Assessment of Telemedicine)
- Momentum - European Momentum for Mainstreaming Telemedicine Deployment in Daily Practice
MAST - Model for Assessment of Telemedicine
- Scirocco - Self-Assessment Tool SCIROCCO is an online self-assessment tool to assess a region's readiness for integrated care.

We mixed fractions of those approaches and models to map the status quo of health and social care and the possibilities of developing models and tools in partner regions. It was very challenging to scale up all those informations and inputs, because in covid time all work was done remotely.

Project is based on good practice of Bologna's E-care network. E-care was developed over the years as a network of citizens, associations, institutions, and professionals, providing a relational and support ecosystem to frail elderly people. The issue of financial sustainability of the health and social welfare system, in the phase of ongoing demographic revolution, has stimulated the creation of a service that aims to encourage the permanence of frail elderly citizens at home to prevent the onset of frailty or dependency and to improve their quality of life by fighting social isolation through the use of appropriate IT technologies.

The mapping included interviews with social service providers, seniors and caregivers, as well as workshops with stakeholders and other actors in the silver economy, including a valorisation workshop with participants working on similar topics within other projects and teams. We also explored other, already developed solutions to the project's key question and subsequently proposed a draft model. Then, in the technical part, the designed and developed tools were pilot tested and then we worked on the final model solution. This work was also done remotely, and we discussed the model in regular video meetings for work package 4, which we then fine-tuned by working together on Teams. Out of several proposals, this final model, based on the international Clinical Frailty Scale, was selected as the most appropriate.

The project niCE-life seeks to respond to the challenge of an ageing European population. It develops tools to support the quality of life of frail elderly people, with special attention to people suffering from neurodegenerative diseases in all stages. Some of the tools developed can bring a better quality of life not only to the elderly person himself, but also to his family or other informal as well as formal caregivers. These tools may by their nature support the frail elderly or his environment throughout his life, at all stages

¹ niCE-life (2019): Application Form. Page 2.

of decline in functional capacity and an increased likelihood of suffering from one or even more chronic diseases, some tools will best support the frail elderly at a particular stage of his life when he needs a certain pre-determined level of support for his life.

The tools developed within niCE-life are addressing medical record keeping, information sharing between professionals and care providers; remote care, remote consultation and remote monitoring of an older person's health and safety, data analysis, including with machine learning technologies, and the use of data to improve the effectiveness of treatment and care.

The scale was developed from the Canadian Study of Health and Aging, and considers the things that most often go wrong as age-related health deficits accumulate. It predicts adverse health outcomes in a variety of settings, including acute care. It provides a summary tool for clinicians to assess frailty and fitness. It evaluates specific domains, including comorbidity, function, and cognition, to generate a frailty score ranging from 1 (very fit) to 9 (terminally ill). Scale focuses on items that can be readily observed without specialist training, including mobility, balance, use of walking aids, and the abilities to eat, dress, shop, cook, and bank; scoring should match the description, and should not be based solely on the pictures that accompany each level.

Level 1- Very Fit: People who are robust, active, energetic, and motivated. These people commonly exercise regularly. They are among the fittest for their age.

Level 2 - Fit: People who have no intense disease symptoms but are less fit than level 1. Often, they exercise or are very active occasionally, e.g., seasonally.

Level 3 - Managing Well: People whose medical problems are well controlled, but are not regularly active beyond routine walking.

Level 4 - Living with Very Mild Frailty: While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed-up” and being tired during the day.

Level 5 - Living with Mild Frailty: These people usually have more evident slowing and need help in higher-order instrumental activities of daily living (IADLs) such as finance, transportation, heavy housework, medications. Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, and housekeeping.

Level 6 - Living with Moderate Frailty: They need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing, and might need minimal assistance with dressing.

Level 7 - Living with Severe Frailty: is characterized by progressive dependence in personal ADLs. Completely dependent on personal care from whatever cause (physical or cognitive). Even though they seem stable and not at high risk of dying (within six months). People living with severe frailty can be mobile. Progressively taking to bed—but not being largely bedfast—is the hallmark of the progression of severe frailty.

Level 8 - Living with Very Severe Frailty: These patients are completely dependent, approaching the end of life. Typically, they could not recover even from minor illnesses. A frail person often takes to bed for weeks, prior to dying. This is either heralded by an identifiable episode, such as an infection, or the person just slips away, commonly after some days of reduced oral intake. Very severely frail people who die without a single apparent cause typically follow such a trajectory, commonly with little pain or even distress, often, except impaired bowel function.

Level 9 - Terminally Ill: Approaching the end of life. This category applies to people with a life expectancy of under 6 months, which are not otherwise evidently frail. This level is notable for being the only level in which the current state surpasses the baseline state. The terminally ill person might have been operating

at any frailty level at baseline. On the CFS card, a person in this category is pictured seated in a chair, reflecting the fact that many older adults who die with a single system illness, have a reasonable level of function until about the very end. In case a terminally ill person is completely dependent for personal care at baseline, they will be scored as Level 8.

In our model, we classified the nine levels of CFS into three levels of support need and we have matched each frail elderly person's condition with tools that can support them to remain in their natural community for as long as possible, or make it easier for caregivers to do their job.

Low need of help includes Clinical Frailty Scale level 1 - 4.

Moderate level of support need includes CFS 5 - 6.

High level of support need includes CFS level 7 - 9.

