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D6.1 Experimentation of the model, its transferability and sustainability

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1 For **deliverables**: **R** = Report; **P** = Prototype; **D** = Demonstrator; **S** = Software/Simulator; **O** = Other
For **milestones**: **O** = Operational; **D** = Demonstrator; **S** = Software/Simulator; **ES** = Executive Summary; **P** = Prototype

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1. Introduction

1.1 Objectives

The primary objective of the Sunfrail project is to improve the identification, prevention and management of frailty and care of multimorbidity in community dwelling persons (over 65) of loco-regional settings of EU countries.

One of the sub-objectives is to assess the potential for the adoption/replication of the model in different European organizational contexts, and to identify the conditions for its sustainability and replicability.

To this end Reference Site (RS) partners has conducted experimentation on the application of the frailty model through a number of operational structures including existing frailty units, Living Labs, and other structures available in each participating region.

The experimentation has applied the outputs from WP5 which included the Sunfrail Tool and Good practices derived from other frailty tools/projects such as Risk Stratification, MACVIA Tool and Consenso project.

1.2 Development of Experimentation Plans

In October 2016 at the pre-planning stage RS partners presented their activities at a high level using PICO approach (P=Population I=Intervention C=Comparator O=Outcome). This later developed into individual experimentation plans which included activities, schedule, and deliverables of the experimentation phase. The plan also includes resource requirements; equipment and tools

In November 2016, each partner submitted an early draft of their Experimentation plans and there is good participation within this phase from partners ranging from Medical University of Lodz, Regione of Emilia Romagna, Campania Region, Liguria Region, University of Deusto, Occitanie Region and HSCB, Northern Ireland.

The plan was updated in February 2017 and the experimentation commenced in May 2017 and has been concluded in November 2017.

There has been full participation from RS partners in the experimentation phase, which covered both frailty and multimorbidity. Some partners undertook activities in the identification of frailty, others in management and prevention, whilst some focused on all aspects of prevention, identification and management.

2. Background

2.1 Sunfrail Model

The Sunfrail Model was developed based on a process of literature review and assessments conducted on Reference Sites' (RS) Health Systems and Health and Social Services on beneficiaries' perceptions and barriers to care. Further in-depth discussions with relevant stakeholders from the scientific community, policy makers and services providers facilitated the design of the Sunfrail Pre-Model of Care and related tools for the identification, prevention, management of frailty and care of multimorbidity.

The Model implies that the early identification of frailty and its risk factors can be done through a "multiple entry door system", in which professionals and carers may activate an initial "alert" for further professional/specialist and diagnostic investigation; or for activation of care pathways within the health, social and community-informal systems.

2.2 The Sunfrail Tool

To respond to the identified needs, *Sunfrail Tool for early identification of frailty and multimorbidity* has been designed by a multidisciplinary team of experts and need to be tested. The tool includes nine questions selected from evidence based tools already adopted in health services in the European Union and in the US, to identify frailty according to the bio-(physical), psycho (cognitive and psychological) and social domains

The Sunfrail Tool has been developed for early identification of frailty by health and social care professionals and community actors and by creating an alert and consequent activation of pathways by health and social care; or further diagnostic investigation by specialists.

2.3 Sunfrail Good Practices

The assessment of Sunfrail good practices on frailty and multimorbidity indicated a variety of strategies and approaches undertaken by RS. Some Reference Sites are focusing specifically on Population Risk Stratification, management strategies and actions - Macvia Frailty Observatory and CSW (Carsat); Risk ER (RER); PIP (Deusto) and Risk Stratification (HSCB Northern Ireland); although related services often give priority on the management of people at very high and high risk cases; thus with an higher probability of identifying individuals having already some forms of disability.

Some good practices are also related to early identification and prevention of falls (RER, Northern Ireland and Macvia), and of physical and cognitive decline; thus taking into consideration a population with lower risk profile. Other good practices are focusing on home and residential care; moving towards a disease oriented approach instead (e.g. Acute Care At Home-Northern Ireland; Maia-Macvia).

On the organizational aspects, identified good practices were on ICT supporting Tools (Persilaa, eCare network RER, others) and on professionals Training and Education needs (Macvia, Piemonte).

Overall, whilst attempting to fit the obtained GPs within a chronic care model, it would appear that the majority of GPs are mainly used for the identification and management of high and very high risks conditions, with a consequent higher burden on health care services and related costs. The application of the Sunfrail Tool complements these approaches, by allowing early identification of

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frailty in the population with medium-low risk, to orient a proactive strategies and actions based on prevention.

3. Aims of Experimentation

3.1 Testing the Sunfrail Model on Frailty and Multimorbidity

The Sunfrail project experimented on the Sunfrail Model on Frailty and Multimorbidity, by conducting a further assessment of some Good practices and assessing how the Sunfrail Tool can support the early identification of frailty and multimorbidity in different settings, in order to avoid hospitalization and disability. It is from the complementarity of these strategies and approaches that the Model provided suggestions to improve the identification, prevention and management of frailty and care of multimorbidity in existent health systems and services of EU countries.

The results showed how, based on different organizational settings Reference Sites (RS) can identify and manage frailty and multimorbidity within the designed conceptual frame and adopted tools (Sunfrail Tool and Good practices), and whether there is a need for improvement in services and existent pathways. It provided recommendation for the future applicability and replicability of the model, the good practices and the tools in other European settings.

3.2 Further Assessment of Sunfrail Good Practices:

The Sunfrail project performed a further appraisal of identified good practices (Risk-ER), in order to assess how they could fit and enrich the designed model of care.

3.2.1 Risk-ER

RER-ASSR has developed an innovative population-based model using longitudinal administrative databases (health and social care), that identifies the risk of hospitalization and Frailty for the resident adult population. Its objectives for the experimentation are (i) to apply a predictive model to identify patients at high risk of hospitalization and frailty; (ii) to create 'patient risk profiles' that provide information about high-risk patients to the general practitioners (GPs) and nurses in the Case della Salute (Community Health Centres-CHC); (iii) to assess the extent to which this model provide additional information useful for the identification of patients who may benefit for case management or disease management purposes; and (iv) to assess the quality of the health care provided through investigations on professionals and patients experiences regarding services (PACIC and ACIC).

3.3 Testing the Sunfrail Tool and obtaining confirmatory Tests of Responses

The testing of the Sunfrail Tool was aimed at verifying its applicability into the current professional practice. This test consisted of administering of the questionnaire by professionals and community actors, use of the flow chart, selection of pathways, assessment of professionals opinions and analysis of results obtained.

It has been implemented by R. Liguria, Univ. Federico II of Campania Region, University of Deusto, HSCB, Northern Ireland and Medical University of Lodz, Poland. In addition, R. Piemonte contributed to the experimentation by developing a model and a tool for Human Resources Development.

Reference Sites testing the Sunfrail Tool at secondary level facilities have confirmed the responses obtained from some items of the questionnaire by using specific confirmatory tests.

3.4 Testing the Sunfrail Tool within Other Projects and RS Good Practices

3.4.1 The Application of the Sunfrail Tool within the Consenso Project

Through the EU **CoNSENSo** project (COmmunity Nurse Supporting Elderly iN a changing Society- <http://www.alpine-space.eu/projects/consenso/en/home>); the Sunfrail Tool has been adopted also in other EU countries/Regions (France, Slovenia, Austria).

3.4.2 The adaptability and usability of the Sunfrail Tool within the Macvia RS tool (the Carsat-LR AHA grid by the Gerontopôle of Toulouse)

The adaptability and usability of the Sunfrail Tool was also tested an analysis of the data collected with the Macvia RS tool, a questionnaire which includes 8 out of the 9 questions defined by the SUNFRAIL project. The Macvia RS tool has the aim to orientate and accompany people at risk of frailty to appropriate health and social prevention pathways, according to their profile. Besides some socio-demographic information, the questionnaire is composed of 9 thematic items allowing the evaluation of cognition, mobility, personal care, relationship support, activities of daily life, social interaction, quality of life, resources and nutrition.

3.5 The Educational Model and Tools

Evidence regarding health and social care professionals' education concerning the concepts of frailty and multimorbidity is very poor. Specifically, the concept of frailty is commonly intended as referring to an acquired pathological status (population affected by at least one condition). Geriatric academic curricula, deal extensively with akin concepts and do specialize in the care of the elderly, but those usually are very 'institution/hospital/residential' oriented, whereas community dwelling citizens, older than 65 years, are apparently not specifically the final target of academic programmes, or only partially. This reflects the fact that prevention of a frailty status in the citizens hasn't been considered a priority by official academic programmes so far. As regard the field of nursing, most researches addressed the issue of how to attract and retain nursing students in the field of older people care, an issue that appears to be extremely relevant due to stereotypes associated with elderly and ageism. In fact, one of the main findings is the lack of trained professionals with appropriate skills for the care of older people (Ryan 2013, Bardach and Rowles 2012, Alsenany 2009) and this could affect the early detection of frailty. In many European countries, Geriatric/Gerontological Nursing or Older People Care are offered as Post Graduate Diploma (PGD) or at Master levels. According to Ryan et al (2013), in order to deliver integrated health care for seniors, and especially for frail seniors, a team approach and an effective collaboration among primary, community, emergency and hospital services is pivotal. To reach these outcomes, professionals must be trained in three broad areas of competencies: geriatrics, interprofessional practice, and inter-organizational collaboration (GiiC). As regards pharmacists' education, many experiences regarding subjects like medication review and simplification, prevention of inappropriate prescribing and so on, do already exist in EU countries. All these experiences underline that inclusion of pharmacists represents an added value to improve quality in the use of medicines in +65-population. The overview of academic-educational/training curricula in psychology on ageing about frailty and multimorbidity is rich and complex, although multifaceted and not very characterized only on the frailty among the different levels of education.

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As regards social workers' education and activity is rather context and country-dependent, but it is possible to find common features for an Interprofessional experimental course addressed to frailty detection and prevention.

Methodology

After this overview of existing models of education concerning frailty and multimorbidity, WP7 tried to set up, together with project partners, a short programme for an experimental course around the detection, prevention, and management of frailty and multimorbidity. The basis for the course content was the use of the Sunfrail Tool; therefore a 2-day experimental course was carried out in the months of July and September 2017.

The course was organised for a multi-professional audience: GPs, geriatricians, psychologists, nurses, physiotherapists, social workers, pharmacists and administrative staff were invited to attend the first 2 editions of the course.

An innovative teaching methodology was used: participants were invited to a constant interaction with the speakers, bringing their own professional experience as a basis for discussion and management of cases proposals' development. An expert in educational methodologies and theories applied the method of conceptual and causal mapping, in order to investigate the perception of frailty and multimorbidity management amongst the participating professionals.

Experts who developed the Sunfrail Tool were invited to teach the audience how to proficiently use the tool, in order to address potential final beneficiaries towards the appropriate support or care pathways.

In designing the educational model and tool, barriers and obstacles due to different contexts and cultures related to Sunfrail participating partner countries were also addressed. A context knowledge exchange was highlighted by showing videos shoot in the partners' experimental contexts, especially giving evidence to the different issues emerging in Northern Ireland. The participants were eager to gain more knowledge regarding their colleagues working in the Sunfrail partner regions and to exchange experiences and skills.

Further details on the Educational Model and Tool will be provided with the specific deliverable (D 7.1).

4. Experimentation Plan

4.1 Reference Sites involved

The following reference partners have been involved in the experimentation phase.

Table 1: List of Reference Partner involved in Experimentation Phase by Frailty and Multimorbidity

Experimentation Partner	Frailty	Multimorbidity	Notes
RER-ASSR	P, I, M	I, M	Sunfrail Risk-ER
CARSAT - Occitanie Region	P, I, M		Macvia RS tool
Medical University of Lodz	I	I	Sunfrail Tool
HSCB	P, I, M	I, M	Sunfrail Tool
Campania Region	I, M		Sunfrail Tool
University of Deusto	I		Sunfrail Tool
Liguria Region	P, I, M		Sunfrail Tool

P=Prevention

I=Identification

M=Management

From Table 1 above, it can be observed that five of the seven RS partners used the Sunfrail Tool developed as part of their experimentation and RER-ASSR and Occitanie Region utilised the Sunfrail Risk-ER and Macvia RS Tool respectively.

All of the RS partners conducted experimental activities within frailty and three RS partners (RER, UoL and HSCB) also included multimorbidity.

Tools were mainly used to **identify** frailty and multimorbidity across all the RS. Some RS (RER, CARSAT, HSCB & Liguria) used the tools as part of their **prevention** of frailty whilst others RS (RER, CARSAT, HSCB, Campania & Liguria) also used the tool in the **management** of frailty.

4.2 Settings and Operational Structures

Five partners across the Reference Sites (HSCB, R. Liguria, Federico II of Regione Campania, Medical University of Lodz, and Deusto) carried out an assessment exercise on the applicability of the Sunfrail Tool into the current professional practice which will in turn inform its replicability and transferability across Europe.

The Sunfrail Tool has been administered as a means for early identification of domains of frailty and to prompt the identification of care pathways among services available in the different organizational contexts.

One of the partners (RER-ASSR) conducted a further experimentation of the Sunfrail good practices used by reference sites for risk stratification and management purposes (Risk ER). Occitanie Region assessed the adaptability and usability of the Sunfrail Tool within the Macvia RS tool (the Carsat-LR AHA grid by the Gerontopôle of Toulouse).

Reference Sites have selected different experimentation settings based on their organizational structure. In some cases the administration of the tool has occurred within community and primary care settings, while based on specific organizational set-up whilst other RS have administered the tool within secondary care settings (outpatients departments).

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Further information on the settings, operational structures and human resources involved are reported on Table 2 below, followed by a short description of each of the respective RS partners.

Table 2: Settings, operational structures and human resources involved in the experimentation

Experimentation Partner and sample size	Primary health care	Community care	Secondary Care
RER-ASSR (6021) Risk Stratification	Organisation/settings: 6 Case della Salute (Community Health Centres): GPs, specialists, nurses, physiotherapists, social workers Target Beneficiaries: Patients/Citizens	Organisation/settings: Informal care givers organisation, voluntary associations Target Beneficiaries: Informal Care givers Patients	Organisation/settings: specialists and geriatricians Target Beneficiaries: Patients
Occitanie Region (206) Macvia Tool	Organisation/settings: Social workers (Carsat Languedoc-Roussillon) Target Beneficiaries: Senior citizens 65+	Not relevant	Not relevant
Medical University of Lodz (200) Sunfrail Tool	Not relevant	Organisation/settings: Third Year University, Healthy Ageing Academy Target Beneficiaries: Elderly > 60 years old Medical students Nursing home (nurses, care givers); beneficiaries are residents	Organisation/settings: Department of Geriatrics Target Beneficiaries: Patients and outpatients, their family, caregivers,
HSCB (127) Sunfrail Tool	Organisation/settings: GP Surgery Target Beneficiaries: Patients	Organisation/settings: Local community Groups Community Health Churches Day centres Social Centres Target Beneficiaries: Senior Citizens/ General public	Organisation/settings: Day Hospital ward Target Beneficiaries: Informal Caregivers (visiting patients in hospital)

Campania Region (111) Sunfrail Tool	Not relevant	Not relevant	Organisation/settings: Outpatients Hospital Geriatric Evaluation Unit Target Beneficiaries: Outpatient elderly people
	Organisation/settings: General Practice	Organisation/settings: Local groups Community Nurses and Social Workers	Organisation/settings: Outpatients Clinic Geriatric Care Dept. Galliera Hospital
	Target Beneficiaries Outpatient elderly people	Target Beneficiaries Outpatient elderly people	Target Beneficiaries Outpatient elderly people
University of Deusto (108) Sunfrail Tool	Not relevant	Organisation/settings: Leisure Centre in Emankor located in Bilbao Leisure centre monitors Target Beneficiaries: Elderly people attended by Emankor staff	Not relevant

4.2.1 Regione of Emilia Romagna (RER-ASSR), Italy

RER-ASSR Risk Stratification Model

The experimentation took place in 6 Community Health Centres (Case della Salute) where nearly 6000 people were identified through the risk profile algorithm (very high-high risk of hospitalization). Multidisciplinary interventions were activated for the management of chronic conditions, for the improvement of the compliance to therapies and the activation of social care. Family/carers and formal caregivers were involved in the personalized care plan. The outcomes were reduced hospital and emergency admissions for ambulatory sensitive conditions, due to improved pathways for early identification, prevention and care of frailty and management of multimorbidity within Primary Health and Social Care and related referral to secondary care.

4.2.2 CARSAT - Occitanie Region, France

Macvia RS tool has been tested within Carsat's premises, in a centre for retirees. The Concerted Service Window targets retirees and pre-retirees at risk of frailty, advising and orienting them towards appropriate services. This experimental project is held within the French Proximity Autonomy Plan, a joint initiative from the Public Health & Retirement Insurances, aiming at

coordinating their actions for the screening of people at risk of frailty. More than 1,000 older persons have been welcomed and accompanied since 2014.

4.2.3 Medical University of Lodz, Poland

Medical University of Lodz conducted their validation work of the Sunfrail Tool through examination of the older patients. The main beneficiaries of the experimental phase are the patients of the Department of Geriatrics. After examinations, the recommendations for the physical disability prevention were given (both for the patients and for caregivers or family members).

The aim of the study was to facilitate the activities to the potential stakeholders (for example: other geriatric centres, local authorities). The study also aimed to increase awareness connected with multimorbidity and the elements of frailty among politicians, stakeholders and students as well as promote healthy ageing and activating of the older people.

Medical University of Lodz also aimed to increase awareness connected with frailty and multimorbidity within the Third Year University, Healthy Ageing Academy amongst older people, family members, caregivers, local authorities as well as volunteers. It promoted healthy ageing, activation of older people as well and influencing of older people, both informal and formal carers as well as healthcare professionals.

Older citizens from community participated in the courses connected inter alia with prevention of physical disability. Medical University of Lodz prepared lectures and trainings for older people, their caregivers, nurses, physicians that are going to increase the awareness of particular groups of stakeholders. Other professionals who are involved in the experimentation are Geriatricians, GPs and other healthcare professionals (nurses, dieticians, physiotherapists).

4.2.4 Health & Social Care Board (HSCB) Northern Ireland, UK

HSCB's main aim was to use Sunfrail Tool within the Southern Health & Social Care Trust (SHSCT)'s Health and Wellbeing directorate, using their Access and Information Unit to improve the overall provision of services for older people in the community by ensuring the correct pathways are available at various stages of frailty and multimorbidity. They also evaluated the effectiveness of the SUNFRAIL Tool to be used within a Northern Ireland context. The tool used both in community settings (Churches, social events, clubs) and some GP surgeries; was also used to promote awareness for older people of services available in their community that can respond to their health and social wellbeing needs. The Trust also used the Tool to identify gaps in service provision or pathways for older people and recommendations for improvements.

Separately a small number of informal carers visiting their relatives within a Day Hospital were also approached to participate in the validation of the tool. The purpose of targeting this group of people was to test acceptability and the possibility of early identification of frailty within this cohort.

4.2.5 Campania Region, Italy

Campania Region via Azienda Ospedaliera Universitaria (AOU) "Federico II", has used the Sunfrail Tool especially in secondary care services. The Sunfrail Tool was administrated in the "Geriatric Evaluation Unit" of AOU "Federico II" on a cohort of non-institutionalized elderly subjects after a Comprehensive Geriatric Assessment (CGA). The CGA also included the administration of the Italian version of the Frailty index (IFi), a modified version of Rockwood's clinical frailty index (Rockwood K

et al., 2005), consisting of 40 items, where, in order to better define “socioeconomic” and “nutritional” frailty, the item #24 (feel lonely) and item #39 (usual pace) has been substituted by Social Support Score (SSS) and by Mini Nutritional Assessment (MNA). The IFi has already been validated towards Fried’s phenotype of frailty on the outcomes of disability, mortality and hospitalization at 6, 12, 18 and 24 months of follow-up (Abete P et al., 2017). After the administration of the IFi and the Sunfrail Tool a linear regression analysis between these two tools has been performed and has showed a good linear correlation with an r value of 0.67.

4.2.6 University of Deusto, Spain

University of Deusto worked in conjunction with Emankor to raise awareness among elderly people and professionals about identification and care of frailty to have a more informed society and contribute to the design of new pathways, therapies and policies.

Emankor is a company that offers caregivers services and activities to promote health ageing to Basque social services and day centres. The commitment to the most disadvantaged people, acting against exclusion and encouraging social, labour and cultural integration of groups with special difficulties. It is an active member of the Basque Association of Geriatrics and Gerontology Zahartzarrea and has profound experience in developing projects focused on the ageing population including management of a network of day centres for ageing people in Bilbao where the experimentation will take place.

Specific objectives include using the Sunfrail Tool for early identification of frailty and develop a database of elderly patients attending in Emankor and gathering data related to frailty; activation of care pathways to manage and care of frailty people within the community (primary health care and social care services).

4.2.7 Liguria Region, Italy

Community – urban context (Central area of Genoa)

In line with the screening purpose for which the instrument was developed, Liguria Region used the Sunfrail Tool mainly in a sample of seniors living at home in Genoa, the capital city of Liguria Region. Specific objectives of the study were to test the applicability of the instrument in one of the oldest cities in Europe, to create a database to monitor the implementation of the planned interventions and their outcome, and finally to increase elderly people’s awareness of their potential ‘vulnerability’.

First of all, general practitioners were contacted by means of e-mails and phone calls, in order to encourage the participation of elderly subjects. After consultation with the GPs, two nurses and a social worker phoned the subjects to ask them to participate in the study. The Sunfrail Tool was administered by a trained nurse, while the confirmatory tests were performed by a different nurse, who was blind to the result of the screening questionnaire. At the end of the screening visit, the healthcare team (geriatrician, social worker and nurses) advised which interventions would be useful for the subject; these prescriptions were also communicated to the subject's GP. Liguria Region tested the Sunfrail Tool on a Population-based sample of people aged 65 years and over in three districts of Genoa

Around 300 people were contacted by the Local Project Groups, GP practices and through nurses and social workers. Of the 194 subjects evaluated in the present study about 92% were community-dwelling, while the remaining 8% were patients attending the Out-patient clinic of the Geriatric Care Department in Galliera Hospital for various reasons.

Community – rural context

Liguria Region also tested the implementation of the Sunfrail Tool within the areas where the Consenso project is implemented (it was administered by community nurses in home based settings of remote areas).

Overall Consenso collected roughly 2700 cases in particular in Liguria Region.

4.3 Professionals involved

Experimentation Partner	Professionals/Key players
RER-ASSR	<p>Primary Care: Health and Social Care Providers, professionals of Community Health Centres (GPs, specialists, nurses, physiotherapists, social workers)</p> <p>Community: Informal carers, beneficiaries, patients and voluntary associations.</p> <p>Secondary Care: Specialists and geriatricians</p> <p>Community and Voluntary services</p>
Occitanie Region	Social workers
Medical University of Lodz	<p>Geriatricians</p> <p>GPs</p> <p>Other healthcare professionals (nurses, dieticians, physiotherapists)</p> <p>Medical researchers</p>
HSCB	<p>Health Trainers</p> <p>Access & Information Staff</p> <p>Social Workers (on ward in Day Hospital)</p> <p>Community Pharmacist</p> <p>Physiotherapists</p> <p>Dementia Navigators</p> <p>Social Workers</p>
Campania Region	<p>Geriatricians</p> <p>Geriatric Nursing</p>
University of Deusto	Emankor Staff – mainly socio-cultural entertainers working in the elderly leisure centre
Liguria Region	<p>Nurses</p> <p>Social worker</p> <p>Geriatrician</p>

Table 3: Types of Professionals involved in Experimentation Phase

Table 3 above demonstrates the wide ranging, multidisciplinary professionals that were involved within the experimentation phase. These comprised of: GPs and geriatricians, nurses (community and geriatric), pharmacists, physiotherapists, dietitians, dementia navigators, social workers; as well

as non-healthcare professionals/community actors such as health information staff, trainers as well as volunteers from community and voluntary sector.

A variety of professionals and volunteers were actively involved in different steps of the experimental phase. Prior to using the tool, some healthcare professionals who had more experience with frailty undertook to deliver training to other healthcare and non-healthcare professionals on the meaning and use of the Sunfrail Tool. In a number of cases healthcare professionals were also the providers of service on the care pathways. Some others took on the role of screeners/administering the tool as well as orienteering/signposting beneficiaries to relevant care pathways. Some RS also involved medical researchers to analyse the use of the tool within their area and made suggestions on improvement.

4.4 Training Activities: Methods and Tools

During the experimentation phase, most RS carried out Training Activities on the application of the Sunfrail Tool for early identification and management of frailty and multimorbidity, using various educational methods and tools selected on the basis of the setting chosen and professionals identified.

For this purpose, WP7 developed a short guide to orient partners in their training activities.

The target audience of the training were healthcare and non-healthcare professionals involved in the Sunfrail Experimentation. The methodology and duration of the training depended on the settings and types of professionals. Some training sessions were organised as a meeting or information session. Others incorporated role-play/simulation tests for screeners to factor in the different settings (e.g. community) they would be operating from. One RS utilised webinar training style to reach a wider audience whereas another took the opportunity to target a specific audience such as incorporating lecture for students within their Health Department as well as their GPs during a conference.

It was acknowledged that training was essential for all RS – the key educational content covered were aimed at developing a better understanding and administering of the Sunfrail Tool, referring/signposting to the respective health/social/community care pathways/confirmatory tests. For some RS, the definition of frailty itself required further explanation and awareness-raising. In addition one RS collated a directory of services specifically for the project – this comprised of different Trust, community and voluntary services available in the locality to respond to the respective alerts.

As part of the experimental phase, WP7 developed and tested a multi-professional short training programme (Sunfrail Tool HR) aimed at enabling the social and health care professionals to apply the Sunfrail Tool. The tool focuses on frailty, multimorbidity and polytherapy in the older adults according to the BIO-PSYCHOSOCIAL MODEL and related domains (physical/biological, psychological, socio-economic). As a result of the multi-professional training, some Local Health Trusts and General Practitioners of Piemonte Region had requested to apply the Sunfrail Tool in their current professional practice.

4.5 Data collection and Analysis instruments

4.5.1 Good Practices:

Risk ER: The experimentation included the adult population of the Emilia-Romagna Region of Italy of the 6 Community Health Centres, and used an existing longitudinal administrative health and social care databases to identify the risk of hospitalization. Data were collected on Chronic Diseases/Multimorbidity, Pharmaceuticals, Specialist visits, Hospitalization, Home care, Emergency care, Adherence to Guidelines, Quality of care indicators.

Data collection and Analysis Methods: Retrospective healthcare utilisation analysis with multivariate logistic regression models, using a population-based longitudinal database of residents served by Emilia-Romagna health service, including information on demographics and on the utilisation of health services.

4.5.2 Sunfrail Tool

Data collected from the Sunfrail Tool was collated and entered onto a spreadsheet via SharePoint. RER-ASSR analysed the information collected and provided it to partners for further analysis and comments. RER-ASSR also performed the data control and analysis on the results obtained from confirmatory tests of the Sunfrail Tool performed by Lodz, Federico II of Campania Region and Liguria Region.

Depending on the aims and objectives of the experimentation, partners also collated other types of data for their own analysis. HSCB (through SHSCT) for example collated further information as part of a 6-week follow up with beneficiaries after their initial participation,

SHSCT's Advice and Information Unit conducted follow up telephone surveys with 26 of their 127 beneficiaries six weeks after the initial encounter. Each participant was asked 5 questions to discover what impact (if any) the signposting advice given during the initial screening had on the individual. The aim was to enable SHSCT to assess uptake of co-produced actions from each individual care plan, highlight any positive outcomes arising from taking part and identify any existing unmet need. In turn SHSCT hoped to ascertain the effectiveness of their current approach in identifying and preventing frailty in conjunction with the Sunfrail Tool.

The results showed that more than half (58%) of the 26 *beneficiaries* had taken up at least 1 of their person-centred Sunfrail care pathway recommendations. 20% with a sociological recommendation had taken up at least one action, 19% with biological recommendations had taken up at least one action and 33% with an economic recommendation had taken up at least one action. Advice taken up include taking up bereavement counselling after consultation with GP, attending local falls clinic as a result of disclosing a bad neck break and successful application for a blue disability car badge.

For those who hadn't taken up any actions – they either had misplaced the information and leaflets given to them or did not need further assistance at the present time. SHSCT were also able to demonstrate the importance of their Access and Information service. The project has helped to stress the significance of improving communication about, and access to the service, to the elderly population.

4.5.3 Macvia RS tool

The analyses are based on a database of 206 older persons. All the interviews were conducted over the phone or during face-to-face contacts. The eight questions of the Macvia RS tool that are also included in the SUNFRAIL tool, were analysed and codified as 0 (i.e., absence of the problem) or 1 (i.e., presence of the problem). In a subgroup of 64 individuals, quality of life was measured using a visuo-analogic scale ranging from 0 to 100. Chi-square and t-test models were performed to compare categorical and continuous variables. Where specifically mentioned, the analyses considered the Bonferroni's correction of the p value in order to take into account the multiple testing. A p value equal to 0.05 was otherwise considered to define statistical significance.

4.6 Experimentation Schedule

The RER-ASSR Good practice was conducted during February 2017 to September 2017.

The Experimentation of the Sunfrail Tool was implemented from February 2017 through to September 2017

Concerning Macvia RS tool, the 206 older persons have been interviewed by the CARSAT-CWS between June 2016 and June 2017.

5. Experimentation Main Results

5.1 Results and model

The Sunfrail project experimented on the Sunfrail Model on Frailty and Multimorbidity, by conducting a further assessment of some GPs and assessing how the Sunfrail Tool can support the early identification of frailty and multimorbidity in different settings, in order to avoid hospitalization and disability. It is from the complementarity of these strategies and approaches that the Model provided suggestions to improve the identification, prevention and management of frailty and care of multimorbidity in existent health systems and services of EU countries.

5.2 Further experimentation of Sunfrail Good Practices

5.2.1 Population based risk assessment (Risk-ER)

The Risk-ER algorithm identified the risk of hospitalization for the residents adult population >18 years old, a total of 3.765.891 people (1.805.615 men; 1.960.276 women). Amongst them, 100.470 were identified as a very high risk, and 124.589 were identified as a high risk of hospitalization. In both cases, more than the 50% of the patients were more than 85 years old; around 30% were between 75 and 84 years old. Among the very high risk patients, about 44% presented 5 or more chronic conditions; 94% presented 2 or more. Within the high risk patients, about 17% presented 5 or more chronic conditions; 84% presented 2 or more. The most frequent chronic conditions reported for both very high and high risk patients are cardiovascular; gastrointestinal; musculoskeletal; endocrine; neurological; psychiatric; respiratory; male genital system; tumours. About 83% of the very high risk and 71% of the high risk patients reported to assume a polytherapy.

Results of the Experimentation in 6 Community Health Centres

Out of the 6 Community Health Centres (Case della Salute) participating in the project experimental phase, a total of 6.021 people were identified number at high and very high risk of hospitalization (5,6% of the patients), corresponding respectively to 2568 patients at very high risk and 3453 at high risk of hospitalization.

The individual patients risk profiles were provided to the Community Health Centres teams comprised of general practitioners, nurses, social workers, specialists (diabetologist, psychiatrist, cardiologist, pulmonologist, etc.) with the collaboration and support of patients and voluntary associations from the territory.

As and when required, multidisciplinary interventions were activated for the management of chronic conditions, improvement of compliance to therapies and activation of social care. The team defined and implemented the most appropriate interventions according to the assessed conditions of frailty, as indicated in table 4 below:

Table 4: Multidisciplinary Interventions for the Management of Chronic Conditions

6 COMMUNITY HEALTH CENTRES (6021 patients)		
INTERVENTIONS	HIGH RISK PATIENTS TOT: 3.453	VERY HIGH RISK PATIENTS TOT: 2.568
Activation of social assistance interventions (loneliness conditions, poor family network, etc.)	266	154
NONE (already in charge)	1541	1222
Ambulatory visit to revise the therapeutic approach	80	74
Education/collaboration to improve compliance to therapy/care pathways	327	130
Revision of patient drug therapy	683	389
Activation of integrated home care	201	178
Pathways for integrated management of chronic conditions including lifestyles (nutrition, smoking; physical activity)	598	307

The main outcomes were improved pathways for identification, prevention and care of frailty for very high and high risk cases within Primary Health and Social Care, leading to reduced hospital and emergency admissions for ambulatory care sensitive conditions, as indicated in table 5.

Table 5: Reduced Hospital and Emergency Admissions for Ambulatory Care Sensitive Conditions (years 2015-2017)

Hospital and Emergency Admissions	2015	2017	Indicator of Outcome
Hospital admissions for chronic diseases (ambulatory care sensitive conditions)	3	2,2	- 0,76 hospital admissions / 1000 patients
Access in First Aid/Emergency	28,1	13,1	- 4,5 access / 1000 patients

Questionnaires on professionals and patients opinion (PACIC, ACIC)

An assessment of patients and Community Centres health professionals' opinion regarding care pathways for chronic conditions was performed.

The Patient Assessment Chronic Illness Care-PACIC was administered to 202 patients with the collaboration of patients associations (heart failure, diabetes, COPD, chronic renal failure). Using a frequency scale, patients were interviewed on their perception of the overall quality of the care received, including health promotion activities, counselling and support; interactions with health professionals; participation in the definition of care pathways; sustainability.

The health professionals' assessment (Assessment Chronic Illness Care- ACIC) was conducted through focus groups, involving general practitioners, nurses, social workers, health specialists, and

health managers. Professionals' opinion regarding the quality of health care delivery were explored, including the dimensions of organization of the Care System, Collaboration with the Third Sector, Support for Disease Self-management, Support for Clinical Decision, Organization of the Care Pathways, and Clinical Information System.

Data is currently being analysed.

5.3 Sunfrail Tool

5.3.1 Applicability in the current professional practice by professionals

The testing of the Sunfrail Tool was aimed at verifying its applicability into the current professional practice. It was administered by professionals and community actors in different settings: community, primary care and secondary care services (outpatients departments). The target beneficiaries were community-dwelling older subjects with low and higher level of education, living in urban and rural areas, not institutionalized and not presenting physical and mental disability. Reference Sites testing the Sunfrail Tool at secondary level facilities have confirmed the responses obtained from some items of the questionnaire by using specific confirmatory tests.

5.3.2 Main Findings

The main results obtained from the administration of the Sunfrail Tool in different settings are briefly summarized below. Further information will be available on the specific deliverable (D 4.2 Sunfrail Tool on Frailty and Multimorbidity).

Overall, the Sunfrail Tool testing included 651 beneficiaries, of which 34,1% belonging to the age group 65-74 and 65,9% to the age group 75-85. 57,14% were female and 42,86% male. 18.89% had a higher education level, 48,39% a medium and 32.72% were belonging to the low education level group.

5.3.2.1 The Sunfrail Tool enables identification of frailty risk alerts in the population over 65 of community dwelling settings

As described in the Table 6 below, Sunfrail Tool enabled the identification of frailty risks in the population over 65 y.o. The higher proportion of frailty risk factors (alerts) applies to Polypharmacy (50,54%), Functional (53.3%), and Cognitive Decline (49.62%) items in different settings. In particular, a high proportion of these frailty alerts is found also in Community - Primary Care Settings, in population without evident signs of disability or unknown by services (at low-medium risk for disability).

D6.1 Experimentation of the model, its transferability and sustainability

Questions	Total n=651	Secondary Care (Outpatient) (n=161)	Primary Care n=363	Community n=127
	%	%	%	%
1- Do you regularly take 5 or more medications per day?	50,54	65,22	42,7	54,33
2- Have you recently lost weight such that your clothing has become looser?	24,58	36,02	21,76	18,11
3- Your physical state made you walking less during the last year?	53,3	64,6	46,83	57,48
4- Have you been evaluated by your GP during the last year? (NO)	12,29	10,56	11,85	15,75
5- Have you fallen 1 or more times during the last year?	30,57	42,86	29,48	18,11
6- Have you experienced memory decline during the last year?	49,62	60,87	55,37	18,9
7- Do you feel lonely most of the time?	26,57	31,06	26,72	20,47
8- In case of need, can you count on someone close to you? (NO)	7,83	8,7	9,37	2,36
9- Have you had any financial difficulties in facing dental care and health care costs during the last year?	14,75	22,98	14,88	3,94

Table 6: Breakdown of responses by question and by healthcare setting

As described in fig. 1 below, a higher proportion of frailty risk factors (alerts) has been found in beneficiaries with age group 75-85. The relationship is statistically significant especially for cognitive decline, functional decline and polypharmacy.

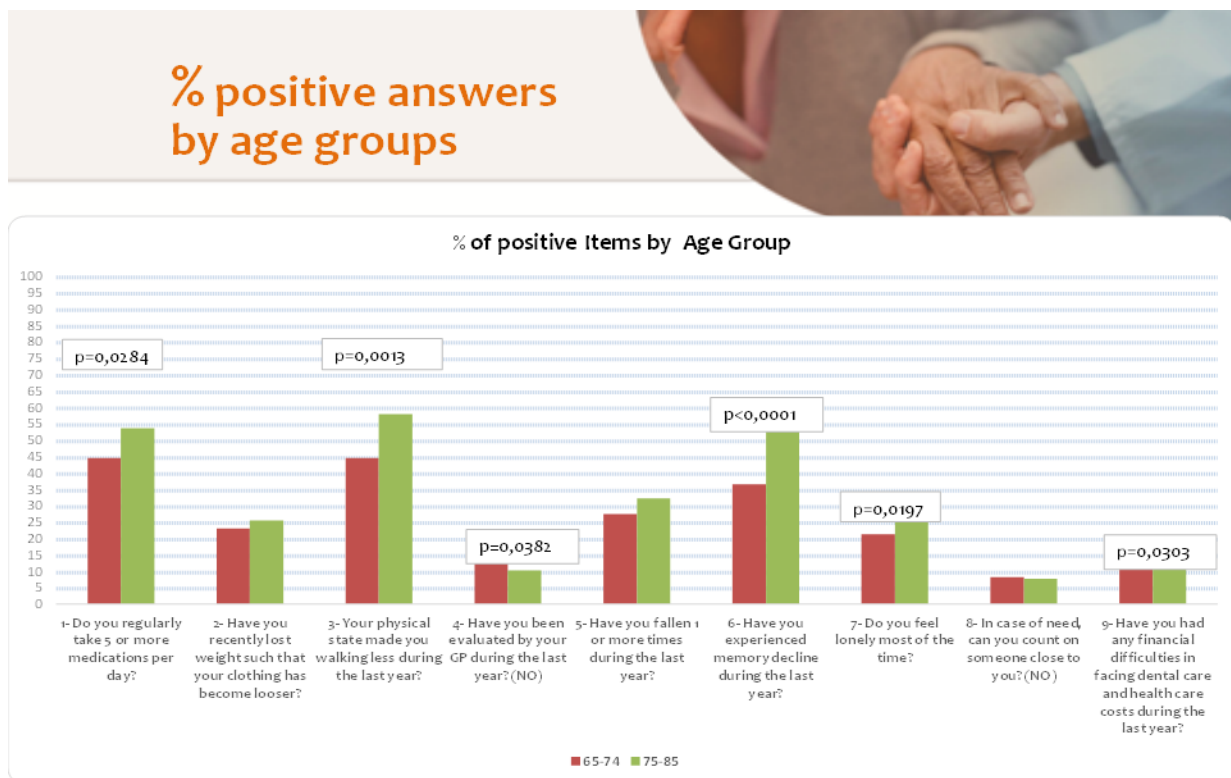


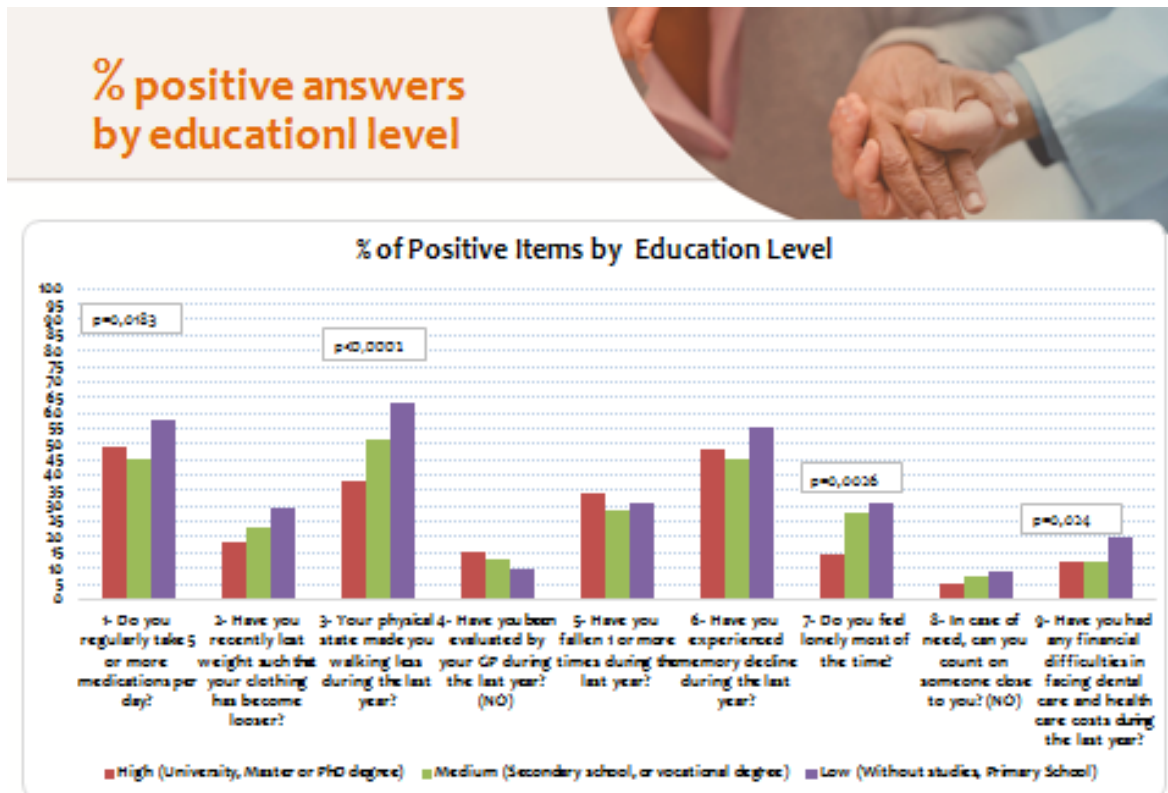
Figure 1: Breakdown of positive items by question and by Age Group

In particular, women have a higher prevalence of frailty alerts than men for Polypharmacy, Functional Decline, falls and feeling lonely.

5.3.2.2 The Sunfrail Tool allows identification of the population with major risk for equity

As described in fig. 2 below, beneficiaries with a lower education level have a higher prevalence of frailty alerts and may have greater financial difficulties of access (risk for inequalities). The relationship is statistically significant especially for functional decline, followed by feeling lonely, polypharmacy and financial difficulties.

Figure 2: Breakdown of positive items by question and by Education Level



5.3.2.3 Frailty alerts identified are confirmed by Specialist's tests

The frailty alerts generated by some Sunfrail Tool items (Q1, Q3 and Q6) were confirmed by specialist's tests (n. of medications, gait speed, MMSE). The differences between mean values obtained (yes and no), results statistically significant for Q1, Q3 and Q6.

5.3.2.4 The Sunfrail Tool supports the selection of existent pathways of care, fostering the integration between services (health, social, community)

As the Sunfrail Tool has been used in different settings and by different healthcare professionals and community actors, RS have identified and utilised different existent pathways of care ranging from further diagnostics assessments, proactive interventions and social support.

As described in Fig 3 below, beneficiaries with biological and neuro-psychological alerts were generally referred for further assessment or diagnostic investigation. The alerts of the biological domain brought to recommended specialist/diagnostic evaluation and the alerts of the neuro-psychological nature to psychological and cognitive support.

On the other hand community actors referred beneficiaries to visit their GPs where appropriate for further diagnostic assessments and/or preventative actions.

In terms of preventative activities, physical exercise and counselling and promotion was suggested to a good proportion of beneficiaries.

For socio-economic alerts, responses vary based on the RS service delivery. In some cases pathways were suggested based on the needs and services available: health insurance and social action organisations, retirement services, prevention and examination centres, family allocations offices.

In Northern Ireland for example, GPs utilised “social prescribing” model whereas in other cases beneficiaries were signposted to individualised information about community social activities within the locality e.g. elderly clubs, lunch clubs, Men’s Sheds.

In cases of those who did not generate any alerts, a “Sunfrail directory” comprising of health, community and voluntary services to raise awareness of frailty and encourage preventative actions.

Figure 3: Positive items and suggested pathways



In summary, the Sunfrail Tool demonstrates it supports selection of existent pathways of care, and due to its biological, psychological and socio-economic approach fosters integrated care between services (health, social, community).

5.4 Assessment work of Professionals and Community Actor Opinion the Use of the Sunfrail Tool

The assessment of professional and community actor opinion on the use of the Sunfrail Tool was performed between the months of October and November 2017 in the reference sites of Lodz, HSCB, Deusto, R. Liguria, Fed. II of Campania by administering a short questionnaire, with the aim to assess:

1. Whether the tool is suitable to identify the domains of frailty and to activate care pathways;
2. Whether it is easily understandable and applicable during the daily professional/care practice;
3. Whether it needs to be modified/improved and how.

The questionnaire included closed and open end questions and was completed in English. HSCB processed the answers and provided the data to RER-ASSR for the analysis.

24 people were interviewed: 6 from Lodz; 2 from HSCB; 2 from Deusto; 8 from Campania and 6 from Liguria. 17 were Health Professionals and 6 Community Actors; 1 did not answer the questions.

MAIN KEY FINDINGS

- The tool is a friendly instrument, easy to apply; its questions are simple to understand and encourage a more in-depth dialogue. Thanks to the short “application time” it is non-invasive and allows the use in everyday practice.
- The training is proved to be useful and important for both health professionals and community actors, in particular to clarify the conceptual model based on the multi-domains of frailty; the care-pathways to be suggested/activate and the information on how to access the different territorial services.
- The tool can help identifying early frailty conditions, to be explored with further interventions / assessments. When approaching the beneficiaries it is important to pay attention to the cultural and social context of application.
- The tool can improve beneficiaries’ awareness, encouraging them to move from a “disease” oriented vision to a proactive and preventive approach.
- It is important to map the local network of services and community resources, in order to activate sustainable and accessible care pathways.

5.5 Results on the Application of the Model and tools for Human Resources Development

A short experimental course focussing on the application of the Sunfrail Tool was carried out for a multi-professional audience involving GPs, geriatricians, psychologists, nurses, physiotherapists, social workers, pharmacists and administrative staff.

Professionals appreciated the content and the participatory methodology used. They declared to have acquired a major awareness on the gaps existing between different ideas and concepts of frailty and agreed on the importance of frailty detection and prevention and to work on professional exchange and integration. They considered the course very useful in their work contexts and would recommend it to their work colleagues.

The main findings confirmed that an innovative interprofessional course for health and social care professionals about the detection, prevention, and management of frailty should have the following features:

1. Explain the multidimensionality of frailty according to the bio-psycho-social model of Sunfrail, and enhancing the reversibility of this condition;
2. Addressing professionals from the health and social services;
3. Helping professionals to recognize frailty in the final 'beneficiaries' and to address it by using the resources available in the existing public services;
4. Training of community actors is fundamental to detect frailty in its early stages, also for those that do not reach professionals or services;
5. To develop an informal context for the administration of the Sunfrail Tool, helping the contact between beneficiaries and the investigator.

Overall the experimental course provided WP7 with very useful information about elements that are missing from the standard educational programmes for health and social care professionals, but also with elements that can be at hand for informal community activities.

5.6 Results on the Application of the Sunfrail Tool within other good practices and projects

5.6.1 Macvia RS tool: the Carsat-LR AHA grid by the Gerontopôle of Toulouse

The retrospective use of the Sunfrail Model in the experimental project held within the initiative of the French Proximity Autonomy Plan confirms that the theoretical and methodological construct of the Sunfrail Tool is already used in services/initiatives to describe the risk-profile and provide support to community-dwelling older persons. The instrument is therefore reliable and designed by taking into account questions widely used in the scientific literature to measure frailty in older persons.

Data collected showed that participants reporting slow gait speed, recent history/fear of falls, and economic issues presented significantly lower levels of quality of life compared to those having these items scored as absent. The analyses showed also that the weight of these items might be different according with the modification of the individual's quality of life. These findings are quite consistent with previous literature evidences, and should be replicated in different settings and countries to be further deepened.

The secondary retrospective analysis showed a lack of agreement between the positive items of the Sunfrail questionnaire and the services that the Carsat-LR personnel allocated to the person. This can be explained as follow: lack of a predefined decisional algorithm; allocation based on subjective negotiations between the individuals and the professionals; use of the questionnaire predominantly for screening purposes. In all cases, the Sunfrail Tool may help to induce and standardize the choice of more appropriated pathways of care; and to guide health professionals in allocating resources.

In conclusion, the Sunfrail Tool can be modelled and implemented in a relatively easy and consistent way in already ongoing services devoted to the prevention of disability in the elderly. These findings may support a larger scale diffusion of the instrument across Europe and help the already ongoing clinical and social practices in the prevention and management of frailty.

5.6.2 Results from the Application of the Sunfrail Tool within the Consenso Project

The Sunfrail Tool has been also adopted in other EU countries/Regions (France, Slovenia, Austria), through the EU CoNSENSo project (COmmunity Nurse Supporting Elderly iN a changing Society- <http://www.alpine-space.eu/projects/consenso/en/home>). Its results shown in the tables below confirm the adaptability and replicability of the tool in different settings, especially primary care and community.

Table 7: Comparison of Sunfrail Tool and Consenso

Sunfrail Tool Items	Total n=651	CONSENSO n=300
	%	%
1- Do you regularly take 5 or more medications per day?	50,54	44,00
2- Have you recently lost weight such that your clothing has become looser?	24,58	20,33
3- Your physical state made you walking less during the last year?	53,3	46,00
4- Have you been evaluated by your GP during the last year? (NO)	12,29	33,33
5- Have you fallen 1 or more times during the last year?	30,57	22,00
6- Have you experienced memory decline during the last year?	49,62	48,00
7- Do you feel lonely most of the time?	26,57	10,33
8- In case of need, can you count on someone close to you? (NO)	7,83	1,33
9- Have you had any financial difficulties in facing dental care and health care costs during the last year?	14,75	18,67

5.6.3 Results from the Application of the Sunfrail Tool within pilot study in Dutch community-dwelling older people

The objective of this study was to determine the associations between the SUNFRAIL tool and the Tilburg Frailty Indicator (TFI), disability and indicators of health care utilization.

Methods: A questionnaire was sent to 241 community-dwelling elderly aged 70 years and older living in the Netherlands, of whom 156 completed the questionnaire (response rate 64.7%). The TFI was used to assess total frailty and frailty in each domain (physical, psychological, social). The Groningen Activity Restriction Scale (GARS) was used to measure disability in ADL and IADL. Five indicators of health care utilization were used: visit to a general practitioner, hospital admission, receiving personal care, receiving nursing care, and contacts with health care professionals. We used the Pearson correlation coefficient to determine the associations between the SUNFRAIL tool and the other variables.

Results: The mean age of the participants was 77.1 years (SD 5.0). The SUNFRAIL tool total, and the biological and neuropsychological domains were associated with the TFI total and the physical, psychological and social domains, and with disability in ADL and IADL. In addition, the SUNFRAIL tool total and the biological domain were associated with four and five indicators of health care utilization, respectively. The SUNFRAIL neuropsychological domain was only associated with contacts with health care professionals and the socio-economic domain with none of these indicators.

Conclusion: This pilot study has shown that the SUNFRAIL tool was associated with the TFI, disability and many indicators of health care utilization. The tool is a promising instrument to measure frailty in older people.

6. Main Findings

6.1 Testing the Sunfrail Model on frailty and multimorbidity

The Sunfrail Model facilitates the integration between Reference Sites strategies and Good practices. Some good practices are focussing on population risk stratification for the identification and management of high risk and very high risk cases, while others are related to the early identification and prevention, thus taking into consideration a population with lower risk profile. By targeting cases of low and medium risk (interesting the majority of the population), the Sunfrail Tool complements these strategies and approaches with proactive and preventive interventions aimed at avoiding hospitalisation and disability. It is from the complementarity of these strategies and approaches that the Sunfrail Model provides an orientation to existent health systems and services.

6.1.1 Risk-ER

A further experimentation of Sunfrail Good practice (E.g.: Risk-ER), was conducted to stratify the population at high and very high risk of hospitalization and to identify pathways for the management of chronic conditions, to improve the compliance to therapies and to activate social care by multidisciplinary teams of Community Health Centres; leading to reduced hospital and emergency admissions for ambulatory care sensitive conditions.

6.1.2 Sunfrail Tool

From the experimentation it has been demonstrated that the Sunfrail Tool has a high degree of flexibility and replicability to be used across the different healthcare settings with different operational structures. The experimentation has also demonstrated that it can be administered by both healthcare professionals as well as non-healthcare professionals.

The Sunfrail Tool allows for identifying frailty risk alerts in the population over 65 of community dwelling settings. The most frequent alerts were on functional decline, cognitive decline and polypharmacy items in all settings. In community and primary care settings the alerts generated were particularly significant, for the high prevalence identified, and as the testing was done on a target population without evident signs of physical and cognitive disability; indicating the overall capacity of the tool to detect frailty risks in the general population (at low-medium risk for hospitalization and disability).

Therefore, the Sunfrail Tool on its own or in conjunction with confirmatory tests has shown that it is able to support the early identification of frailty and multimorbidity across the different frailty domains.

The experimentation also shows good coherence between the Sunfrail Tool responses and identified pathways. If pathways of care/take up of social services are followed through by health and social care professionals and beneficiaries themselves it is likely that inappropriate hospitalisation and disability can be avoided. The Sunfrail Tool also had the potential to highlight gaps in service provisions for frailty in response to question/s where alert/s had been raised.

Follow up work with a small number of beneficiaries as mentioned in 4.5.2 has shown that beneficiaries who have taken up suggested services have had a positive experience.

6.1.3 Constraints

The experimentation phase has also highlighted some constraints with the Sunfrail Tool. Firstly some of the questions especially questions relating to cognitive, psychological and social domains can be perceived to have a stigmatizing effect which may impact on the accuracy of the responses provided. As such it requires professionals and community actors' individual judgement and appropriate skills in order to build trust and overcome this by using a different approach such as a guided conversation. Appropriate training of interviewers is therefore essential.

There is also the effect of the types of settings and professionals/community actors' judgment on suggested pathways. Sunfrail Tool administered in secondary care settings tend to influence the pathways selected leading to more specialised investigations especially in response to alerts related to bio-physical domain. Professionals involved therefore will need to be trained on the importance of a multidisciplinary approach through levels of care.

In contrast social and community responses to questions dealing with social isolation and loneliness may be harder to assess and access; and in many cases are limited to availability of services within the locality. The availability of services directories connecting community, health and social services may help to overcome this problem.

Overall, the assessment of interviewers opinion on the use of the Sunfrail Tool (see 0) indicate that the Sunfrail Tool is a friendly instrument, easy to apply, improving beneficiaries' awareness on their conditions and on services available.

6.1.4 Some positive Outcomes

In Northern Ireland, HSCB's main aim was to use Sunfrail Tool to improve the overall provision of services for older people in the community by ensuring the correct pathways are available at various stages of frailty and multimorbidity.

At the start of the project in February 2017, in preparation the Southern HSC Trust's Advice and Information staff compiled a "Sunfrail directory" comprising of Trust, community and voluntary sector services that are targeted at preventing, identifying or managing frailty. This directory was used to signpost older people to services available within their community in response to the alerts generated by the Sunfrail Tool.

A separate 1 day frailty training workshop was organised in March 2017 involving staff who will conduct screening as well as those who provide services. This enabled all staff to gain a better understanding of: 1) frailty from the different bio-psycho-social domains, 2) relevance of services such as preventing falls through balancing classes, community pharmacist medication reviews, role of dementia navigators; as well as 3) how to use the tool in particular in a community setting.

In March 2017 screeners began to use the tool to engage with beneficiaries in a number of community, social and GP settings. This helped to raise awareness of frailty with older people in general and in some cases identify at an early stage, risk factors for frailty such as loneliness and decrease in physical activities. It also helped to promote existing services for older people such as falls prevention and balancing classes, walking groups, social clubs etc... Finally the Trust used the tool to identify any gaps such as services to deal with malnutrition.

D6.1 Experimentation of the model, its transferability and sustainability

At the end of the experimentation phase, in October 2017 the Trust organized a dissemination event to invite all beneficiaries who took part in the event to hear the results as well as to participate in activities that was relevant to preventing or managing frailty. This event further reinforced the key message that frailty can be preventable when identified early, and that promoting social interaction and physical activities can help to mitigate against the risk of frailty.

The positive experience of the Trust has drawn the attention of the Department of Health in terms of policy making on frailty. Similarly Public Health Agency Northern Ireland who has been tasked with commissioning services for older people, will be focusing on identification, prevention and management of frailty and multimorbidity.

7. Communication Strategy

In terms of ensuring that there is wide communication about the Sunfrail project and the experimentation phase, there have been a number of presentations made at international, national and regional event. Of note are international presentations to the EIP-AHA B3 Integrated Care Action Group in Brussels (November 2016), to Members of European Parliament in the ENVI Committee of the European Parliament (November 2017) where SUNFRAIL was presented as a success story of the 3rd Health Programme. A presentation of Sunfrail has been made also to the Italian Minister (December 2017), as part of a dissemination event of the Joint Action on Frailty Advantage.

At a national level, there also have been numerous poster presentations, workshops and lectures to a diverse range of stakeholders from healthcare professionals, politicians, civil servants, commissioners, policy makers at various Department of Health as well as final beneficiaries – older people and their caregivers.

The range of communication activities was used to raise awareness on the various aspects of the Sunfrail project including the Sunfrail Tool and the experimentation itself. It was also used to verify impact of model comparing Sunfrail to existing tools and models. Other RS partners also disseminated early results of the experimentation to influence strategic thinking of commissioners and policy makers which in turn will impact on sustainability and replicability of the Sunfrail project beyond the completion of the project in February 2018.

8. Stakeholders Involvement (equity and sustainability)

Stakeholder involvement is essential in terms of ensuring equity and that the Sunfrail project, tools, deliverables, outcomes and findings are utilised and sustained after its completion.

Throughout the project different stakeholders have been engaged and involved in order that the objectives of the project are well understood, the results/learning shared, which will in turn be used to impact policy and practice.

For example in Campania Region, Federico II University Hospital established a multi-sectoral working group of professionals from different healthcare organizations (Geriatricians, General Practitioners, Pharmacists, management experts and community referents) to discuss the SUNFRAIL model and to implement the experimentation plan within their region. The working group has been involved in defining the concept of frailty of the SUNFRAIL project, and has been also involved the main institutional stakeholders of the Campania region.

Similarly, the Polish Society of Family Medicine invited researchers from Medical University of Lodz to organize training for GPs about Sunfrail Tool. This demonstrates the importance of knowledge about frailty and multimorbidity to the primary care sector.

To build on the results obtained from the Sunfrail Model and Tool, Emilia Romagna region has decided to conduct a further pilot study on the validation of the Sunfrail Tool in Primary Care settings.

The Italian Geriatric Society have already expressed positive opinion of the endorsement of the Sunfrail Tool.

As a result of the multi-professional training activities conducted in Piemonte, GPs and Local Health Trusts requested to adopt the Sunfrail Tool.

Reference Sites institutional involvement have also been promoted through the collaboration with the European Union Geriatric Medicine Society (EUGMS) working group on “Frailty in older persons”.

There was also exchanging of experiences with FOCUS (Frailty Management Optimization Through EIP AHA Commitments and Utilization of Stakeholders Input) project which purpose is to critically reduce the burden of frailty in Europe. Through the exchange they are going to include Sunfrail Tool to their research.

In Northern Ireland, there has been information session held with the NI branch of the British Geriatric Society to outline the aims and objectives of the project. Further meetings have been held with Department of Health (DoH) and with the Public Health Agency (PHA) to influence policy-making and commissioning of services for older people. This has in turn resulted in a commitment to investigate, review and utilise some, if not all of the outputs from the Sunfrail project.

The experimentation in Northern Ireland took place in Craigavon town which is an urban area. Beneficiaries who participated in the community setting in the main were recruited from local events for older people. Most of the social and community services listed within the Sunfrail directory are located within the town.

D6.1 Experimentation of the model, its transferability and sustainability

Taking into account equity issues for the future post-Sunfrail, there is recognition that those who reside in rural areas may have difficulties in accessing social and community services. Similarly when compiling a similar directory in these rural areas the Trust may find that the range of services to meet the needs of beneficiaries may not be available.

The results of Sunfrail Tool also showed that level of education does have a co-relation with levels of frailty. This aspect too needs to be taken into consideration in terms of managing health inequalities and focusing on areas of deprivation.

Policy makers and services planners should also pay a specific attention on ageing population *inequalities*. At the same time, planning services with a multi-sectoral and integrated approach will help to provide more efficient responses across services and sectors and to save resources.

9. Future Recommendations

9.1 Bridging the GAP between services provision and Utilization

It is important to bridge the gap between service provision and utilisation by considering beneficiaries need for independent life, and working on their awareness of risk factors and on preventive activities and services available, involving families, associations, circles, pharmacies. At the same time it is necessary to work with professional's knowledge of frailty, team work approach, and services integration.

9.2 Fostering Beneficiaries/Community involvement

The follow-up work with beneficiaries enabled healthcare organisation to gain better understanding of how and why community and social services offered were not taken up or followed through. Feedback from those community actors administering the tool more so in community settings, suggests an approach more akin to a guided conversation with beneficiaries in particular on questions that pertain to cognitive, psychological and social domains.

Through stakeholder involvement and engagement activities, it is possible to raise awareness of the Sunfrail Tool - in turn, of the risk factors of frailty and that frailty is reversible with older people in the community. Instead of focusing on deficits, the use of a health and well-being promotion, asset-based approach, as demonstrated by the dissemination events of partners with beneficiaries, can help in bridging the gap between service provision and utilisation of services.

Annexe

PICO Model

Program Goal (2 sheets per goal)	Activities	Experimentation Team	Resource required
<p><Please state goal of experimentation here></p>	<p>Population/Target Beneficiaries: Please indicate who the target beneficiaries are.</p> <p>Size: Indicate how many beneficiaries will be targeted</p> <p>Operational Structure/Setting: Indicate in what operational structure or setting the experimentation will take place.</p> <p>Intervention: Please describe the actions you will carry out as part of the experimentation</p> <p>Training: Please indicate how will be conducted</p> <p>Comparator: Please indicate if there is a comparator e.g. other frailty tools</p>	<ul style="list-style-type: none">List all members of experimentation team	<ul style="list-style-type: none">List types of resources required e.g. staff, equipment, tools

Program Goal	Short-Term Outcomes	Long-Term Outcomes	Tools, data collection and analysis
<p><Please state goal of experimentation here></p>	<ul style="list-style-type: none"> Please list any short term outcomes e.g. feedback on the applicability and transferability of Sunfrail screening tool 	<ul style="list-style-type: none"> Please indicate any long term outcomes <p>Stakeholder Involvement</p> <p>Equity Please indicate how you will address equity issues as part of stakeholder involvement</p> <p>Sustainability Please indicate how you will consider sustainability as part of stakeholder involvement</p>	<ul style="list-style-type: none"> Please indicate what types of tools, data collection and analysis you will be doing as part of this.

Experimentation Template



SUNFRAIL WP6

Experiment the Model Plan

Version History

Date	Version	Author	Description

Approval History

Name	Title	Signature	Date

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Document Overview

Purpose of this document

This plan outlines the plan for the experimentation phase of the SUNFRAIL model. It defines the main characteristics of the experimentation model and identifies the activities, schedule, and deliverables of the experimentation phase. The plan also includes resource requirements; equipment and tools.

Terms and Abbreviations

[List any abbreviations or jargon terms that are used in the document. It should be borne in mind that the document has a primarily non-technical audience.]

Term/Abbreviation	Meaning
EP	Experimentation Partner
HCP	Healthcare professional
PoC	Proof of Concept
PM	Project Manager

Scope of experimentation

In this section please define the scope of the experiment by clearly stating which aspect of the SUNFRAIL integrated model on frailty and care of multimorbidity (prevention, identification and management) will be tested and the reason why this aspect is your choice for experimentation.

Which aspect of the model will the experimentation focus on:

Focus of Experimentation	Prevention (P), Identification (I), Management (M), Others (O)
Frailty	
Multi-morbidity	
Both	
Others	

Please provide a SUMMARY of the experimentation such as:

- state the reason for the experimentation
- list the activities, services, features or tool/s you plan to include in the experimentation
- state how you expect them to perform and the environment where the functions will be experimented.
- describe the areas of functionality, services, features or tool/s that the experimentation affects, and note to what extent they are affected, and in which situations they are affected
- outline how the experimentation will be evaluated, what types of data to be collected and how these may be analysed.

From a sustainability perspective, it would be useful to consider and describe how you expect to proceed after the experimentation is complete looking at what would success mean.

Experimentation Objectives

Please state the objectives of the experimentation in this section. Where possible please use the objectives to identify criteria for measuring the success of your experiment.

Experimentation Design/resources

Please outline the design of the experimentation and list all key resources, including their role in this section.

Where possible please indicate the rationale for your selection – this will enable all partners to understand the reasons for your design and choice of resources.

Settings

Settings	Rationale
See example below: Primary Care Secondary Care Community Care Others (please specify)	

Operational Structures

Please indicate operational structures for experimentation and indicate the rationale for selecting this operational structure. Please also indicate location or environment if already known.

Operational Structure	Rationale
See example below: Frailty Units Living Labs Residential facility Community Group Others	
Location/Environment	

Experimentation Target/Beneficiaries

Please provide details of who the experimentation target/beneficiaries are. If there are other “indirect” beneficiaries e.g. support workers who needs to be trained as part of the experimentation please include these as associate beneficiaries.

Where possible please indicate the role they will have during the experimentation phase.

Resource	Rationale for the resource and Role
See example below: Patients Family/carers	

Formal caregivers Staff Community and voluntary agencies	
Estimated sample size	.

Responsibilities:

Please provide details of what the expectation is from the target/beneficiaries e.g. attend appointments, undergo test etc..

Expectation is to attend clinic/service and/or have discussion with community navigator re community/voluntary services available

Experimentation Team

Please provide details of who will conduct the experimentation and the operational setting/structure they will be based in. Please indicate the role they will have during the experimentation.

Resource	Rationale and role
See example below: GPs Nurses Allied Health Professionals Social worker Community navigator	

Responsibilities:

Please provide details of what the expectation is from the experimentation team e.g. conduct assessment, conduct testing using equipment, tools, etc..

Experimentation tools and HR implications

Please list any equipment/tools required (include technical resources as well as support resources during training) and rationale for their inclusion.

Resource	Rationale for the resource and Role
See example below: Equipment Tools (please describe e.g. Chronometers etc.) Guidelines for capacity	

improvements New Pathways Others Also see Appendix A – Training Plan	
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Data collection and analysis instruments

Please provide details of the specific measurements and data that will be collected to determine how the experimentation is progressing, level of success and to support any evaluation activities.

Resource	Rationale for the resource and Role
<p>See example below:</p> <p>Types of data to be collected Qualitative or quantitative Data collection tools e.g. via instruments? How analysis is to be done Use of existing health info Use of Questionnaires/FGDs How will outcome to be shared Accessibility rather than utilisation</p> <p>Also consider Sustainability – suitable measurements e.g. engagement with local authorities, relationship for further development</p>	

Experimentation Schedule

Key Experimentation Stages and Activities

Activities	Expected Start Date	Expected Completion Date	Responsible	Actual Start Date	Actual Completion date
<p>To include:</p> <p>Commence Experimentation Training and awareness Ethical approvals Deployment of tool/s Data collection Review, analyse and validate Produce evaluation report</p> <p>Also include: Key milestones Any risk/issues Assumptions</p>			<p>Experimentation Participants Experimentation Team</p> <ul style="list-style-type: none">- Technical- Training- Clinical- Others		
Stakeholder Analysis, Engagement and Communication Plan			Comms Team		

Appendix A – Training Plan

[This section is included for appendices as required. Replicate the section if more appendices are needed. Remember to update the Table of Contents for the document to pick up the change.]

Trainer:

Training description:

Training session dates:

Training participants:

Training materials (including responsible) -i.e.: Manuals, FAQ:

Training rooms:

Training equipment requirements (identify responsible for providing equipment):

Appendix B - Communication Strategy

Audience	Information to be communicated	Responsible	Objective	Medium	When?
Experimentation Team	-Experimentation planning activities -Experimentation execution progress -Experimentation findings	PM	Inform them of the experimentation plan and activities being carried out, what is needed from them, what activities they need to perform and when,	TBD. I.e. emails and meetings	TBD
Experimentation participants	- What will be experimented, experimentation objectives, how the experimentation will be conducted, who are the points of contact for support, timeframe, training dates and tools to be used during experimentation	PM	Inform the experimentation participants of the activities they will take part in. Additionally, inform them about how their findings will be evaluated.	TBD. I.e. emails, meetings	TBD
Experimentation Team - technical	- What will be experimented, objectives, solution characteristics, technical tasks before, during and after experimentation is completed	PM	Inform them of the experimentation plan, what is needed from them, what activities they need to perform and when	TBD. I.e. emails, meetings	TBD
Wider structures impacted by the experimentation	Functions, Services, features, or tools being experimented on.	PM	Communicate the ideas, functions, service, features, tools being experimented their statuses. Staff can find out about progress of experiment.	Website, newsletter	Website to be updated fortnightly - TBD