

Update of the consensus document on prevention of frailty in elderly people (2022)

This document has been updated in 2026. You can find the new document *Update of the consensus document on prevention of frailty and falls in elderly people (2026)*, via the following link:

https://www.sanidad.gob.es/areas/promocionPrevencion/envejecimientoSaludable/fragilidadCaidas/docs/actualizacionDoc_FragilidadyCaidas_persona mayor2026.pdf

Update of the consensus document on prevention of frailty in elderly people (2022)

This document has been approved by the Public Health Commission on 5th May 2022.

Suggested citation: Ministry of Health. Update of the consensus document on prevention of frailty in elderly people (2022). Madrid; 2022.

This document was drafted by the Working Group on Prevention of Frailty and Falls of the Health Promotion and Prevention Strategy of the National Health System.



Edita y distribuye:

© MINISTERIO DE SANIDAD
CENTRO DE PUBLICACIONES
PASEO DEL PRADO, 18. 28014 Madrid

NIPO en línea: 133-23-007-7

El copyright y otros derechos de propiedad intelectual de este documento pertenecen al Ministerio de Sanidad. Se autoriza a las organizaciones de atención sanitaria a reproducirlo total o parcialmente para uso no comercial, siempre que se cite el nombre completo del documento, año e institución

<http://cpage.mpr.gob.es/>

Update of the consensus document on prevention of frailty in elderly people (2022)



GOBIERNO
DE ESPAÑA

MINISTERIO
DE SANIDAD

Index

Abbreviations	7
Executive summary	9
1. Introduction	11
1.1. Strategic and legal framework	12
1.2. State of the Art Report on frailty	14
1.3. Socio-demographic data	18
1.4. Frailty and COVID-19	20
1.5. Methodology	20
2. Programme development proposal	21
2.1 Proposal for early detection and interventions related to frailty in primary healthcare	21
2.2 Frailty approach in hospital	32
2.3 Early detection of frailty in non-medical and community settings proposal	32
2.4 Implementation development	35
3. Assessment and monitoring	37
4. Bibliography	39
5. Annexes	50
Annex 1. Implementation assessment of the Consensus Document on Prevention of Frailty and Falls in Elderly People	50
Annex 2. Early frailty detection and assessment tools.	52
Annex 3. Screening and fall risk prevention proposal	58
Annex 4. Definitions	59
Annex 5. Authorship	61

Abbreviations

A&E	Accident & Emergency
AA	Active Ageing
AACC	Autonomous Communities or Regions
ADL	Activities of Daily Life
BDCAP	Primary Healthcare Clinical Data Base
CFS	Clinical Frailty Scale
CGA	Comprehensive Geriatric Assessment
CI	Confidence Interval
CMBD	MBDS (Minimum Basic Data Set)
EFS	Edmonton Frail Scale
EMR	Electronic Medical Record
EU	European Union
FI	Frailty Index
FPA	Frailty Prevention Approach
FTS	Frailty Trait Scale
FTS-5	FTS-5 Frailty Trait Scale-5
GS	Gait Speed
IADL	Instrumental Activities of Daily Living
ICOPE	Integrated Care for Older People
ICT	Information and Communication Technologies
ICU	Intensive Care Unit
m/s	Metres per second
MNA	Mini Nutritional Assessment
MNA-SF	Mini Nutritional Assessment - Short Form
NHS	National Health System
OSA	Overall Subjective Assessment
PHC	Primary Healthcare
Sec	Seconds
SHCN	Spanish Healthy Cities Network
SHPP	Strategy for Health Promotion and Prevention in the NHS (Spanish National Health Service)
SNHS	Spanish National Health Service
SOF	Study of Osteoporotic Fractures
SPPB	Short Physical Performance Battery
Td	Tetanus-Diphtheria
TUG	Timed Up and Go Test
UN	United Nations
WHO	World Health Organisation

Executive summary

In 2013 the Inter-territorial National Health System (NHS) Council approved the NHS's Strategy for Health Promotion and Prevention, aiming to improve health and prevent illnesses, injuries and disabilities. One of the five main activities prioritised was to prevent functional decline and promote health and emotional well-being in elderly people by strengthening the intervention coordination effect of health, social and community services. To fulfil this objective, the Frailty and Falls Prevention Working Group drew up the "Consensus document concerning the prevention of frailty and falls among elderly people" approved by the Inter-territorial Council of the NHS in 2014. This document focused on frailty approach, the importance of early diagnosis and the need for interventions within the health care system, especially in primary healthcare. Since then, the proposed measures have been implemented in several Autonomous Communities or Regions (AACC) and are in the process of being implemented in the remaining ones. The document needs to be updated according to the new data since a number of years have passed since its publication.

The update that follows proposes the recruitment of people aged 70 and over both in the health care sectors, mainly primary healthcare, and also within non-health care or community sectors with subsequent referral to health centres, with some specific characteristics that are described in the document.

To assess the people entering the programme, the Barthel Index is used to rule out the presence of any established moderate-severe dependency, as they will benefit from other specific programmes.

A fall risk assessment is then carried out together with a functional assessment with a performance tests, or FRAIL scale when these tests are not possible, which, if positive, detect the people with a high frailty risk, indicating in this case the specific interventions within the scope of a **Comprehensive Geriatric Assessment (CGA)**. As a result of these assessments, an individualised intervention, or therapeutic and care plan, will be drafted with the implication of the patient, including at least a multi-component physical exercise programme, nutritional recommendations and a medication review. Furthermore, depending on the results of the assessments, there may be other interventions that, while not specifically related to frailty, can improve the lives of people affected by frailty, for example promoting emotional well-being care or fall prevention. The development of such measures must be supported by the communities and their health care resources.

Evidence shows that a definitive diagnosis should be made using a test such as Fried's Frailty Phenotype, FTS-5 or the Frailty Index (FI), but given their low current use in primary healthcare and the difficulties in implementing them in some settings, it has been agreed that diagnostic confirmation should be done at a later date.

Sometimes it may be necessary to refer a patient to hospital for assessment, preferably in the geriatric ward when possible. Appropriate coordination between the different care levels is essential, with integrated, patient-centred care.

People with high frailty concerns should be reassessed every 6 months and non-fragile people should be reassessed every year. Healthy lifestyles programmes will be advocated for all the people who enter the programme through the "Comprehensive advice on lifestyles linked to community resources for adults".

The implementation of this update will be assessed at least every two years aiming that by 2025 at least 80% of the AACC will have introduced the programme.

1. Introduction

The ageing population and increasing longevity is one of the greatest achievements and constitutes a real challenge for the transformation of health systems to meet the new requirements of the population. The opportunities presented by this demographic transition are as vast as the contributions that an active and healthy ageing population can bring to society.

These opportunities will reflect the ability our society has to, as a whole, increase not only the life expectancy of the population, but also to ensure that the increased life expectancy is lived healthily.

Our country tops the list of countries with the longest life expectancy in the world, standing at 83.8 years in 2019 (86.6 for women and 80.9 for men)^[1], but other neighbouring countries are ahead of us in terms of life expectancy and good health^[2].

The present challenge is therefore to act on modifiable factors and interventions, such as frailty, to promote the maintenance of functional abilities and therefore contribute to limiting the development of disabilities or dependency.

The "Consensus document on the prevention of frailty and falls in the elderly people"^[3], approved by the Inter-territorial National Health System Council on 11 June 2014, was the first document that specifically gathered all the existing literature related to the management of frailty and falls. Its objective was to provide the guidelines to facilitate the detection and interventions concerning frailty and the risk of falls in the elderly people, to prevent and/or delay functional decline, as well as to promote health among people over 70 years old. The assessment of its implementation can be found in Annex 1.

The aim of this document is therefore to compile the available evidence gathered by the ADVANTAGE Joint Action^[4] to facilitate the early detection and management of frailty within primary healthcare (PHC), and facilitate the coordination with other healthcare levels and community resources involved in the care of elderly people. It contributes in terms of tackling frailty as a public health priority, as indicated in the "Roadmap for frailty approach"^[5] developed by the ADVANTAGE Joint Action and the Frailty and Falls Prevention Working Groups of the Strategy for Health Promotion and Prevention for the NHS (SHPP). The early detection and prevention of fall risks will be updated soon. Until then the previous document remains in effect^[3].

This document is intended for health professionals, professionals with management and policy-making skills, and professionals in other areas related with elderly people. These recommendations have a wide range of action, including the whole health system (public and private health centres, public health services,...), including a particular emphasis on PHC, socio-health-care systems, residential and community environment.

The SHPP frailty and falls prevention work group has been clear throughout the elaboration of this document underlining that it should contribute to the promotion of healthy ageing and be a person-centred care system. Its goal is to contribute to a uniform approach concerning frailty, improving its prevention, detection and management, emphasising that frailty is preventable, treatable and reversible.

1.1. Strategic and legal framework

This document is part of the Strategy for Health Promotion and Prevention of the National Health System (SHPP)^[6], approved during the plenary session of the Inter-territorial NHS Council on 18 December 2013, and drafted within the Strategy for Addressing Chronic Illness of the NHS framework^[7].

The SHPP provides the overall framework that allows the progressive development of interventions aimed at improving health and preventing illnesses, injury and disabilities. It has a comprehensive approach, focusing on life and fairness, taking into account the environment where people live their daily lives in order to promote health, protect and enable the maximum health potential and illness prevention taking into account the whole population. Not only does it address risk factors, but it also promotes protective and facilitating factors for health improvements, taking into account the strengths and capabilities of the people, the community and its "assets" in general.

This document also takes into account the legislative framework within the basic health law: Article 43 of the Spanish Constitution. Law 14/1986 of 25 April 1986, General Health. Law 16/2003, of 28 May, on the cohesion and quality of the National Health System (NHS). Law 39/2006, of 14 December, on the promotion of independence and care for dependent people, article 21 of which establishes the legal bases for the prevention of dependency and defines the regulations of 23 April 2013 and 25 July 2013 of the Secretary of State for Social Services and Equality. Royal Decree 1030/2006, of 15 September, which defines the National Health System's services and the procedures for updating them; Annex II includes the method towards promoting and preventing in health care services and, more specifically, for PHC, recognising this care level as the first and initial care level that guarantees overall and continuous care for all patients; throughout their lives, including health promotion and disease prevention measures, aimed at individuals, families and the communities, in coordination with other levels and areas involved, such as the social and educational systems. Law 33/2011, of 4 October, General Law on Public Health. Royal Decree-Law 16/2012 on urgent measures to guarantee the sustainability of the NHS and improve the quality and safety of its services, setting the essential care services of the National Health System, which determines the uniform preventive care measures throughout the country. Royal Decree-Law 7/2018 of 27 July on universal access to the National Health System (NHS).

It is also aligned with a number of international strategies and policies developed to address major health challenges such as the increase in ageing populations and the growing incidence of chronic illnesses.

The drafting of the document has therefore taken into account the global objective set in 2011 by the United Nations (UN) General Assembly regarding the prevention and control of non-transmissible illnesses, "25 by 25", which aims to reduce premature mortality associated with non-transmissible illnesses by 25% by the year 2025. As well as the 2030 Sustainable Development Agenda^[8], adopted by the UN in 2015, which includes Goal 3 "Good Health and Well-being" aimed at ensuring healthy living and promoting well-being. To reach this objective, the targets number 3.4, which calls for reducing premature mortality from non-transmissible illnesses by a third by 2030, through prevention and treatments, and promoting mental health and well-being. The Decade of Healthy Ageing 2020-2030^[9] has also been kept in mind, where older people will be at the heart of the plan that will bring together the efforts of all the actors involved in order to improve the lives of older people, their families and the communities. This is the second global strategy action plan of the World Health Organisation (WHO) on ageing and health, which follows up on the United Nations' Madrid International Plan of Action on Ageing which agreed to adopt a global Plan of Action "to respond to the opportunities and challenges of population ageing in the XXI century and to promote the development of a society for all ages". It follows the time-line of the 2030 Sustainable Development Agenda and the Sustainable Development Goals (SDGs)^[8].

The Decade of Healthy Ageing is based on the Global Strategy regarding Ageing and Health (2016-2030)^[10], which foresees multi-sectoral measures to introduce lifespan approaches focused towards healthy ageing in order to promote a longer and healthier life without any disabilities.

Management of frailty is closely in line with the objective of maintaining independence and autonomy as we get older. Set out in the policy and action guidelines proposed by the WHO, known as Active Ageing (AA)^[11], and Healthy Ageing^[12], it defines Healthy Ageing as the process of promoting and maintaining functional capacity (including a person's intrinsic capacities, the environmental conditions that can affect their abilities, and the interactions between the person and those conditions) that enable well-being during old age.

Furthermore, the European Union gave priority to the promotion of active ageing throughout life in the "Health 2020" strategy, and in the framework of the Third action programme of the Union concerning health between 2014-2020 with the development of ADVANTAGE Joint Action^[4]. This first joint action focused on frailty, with the participation of 22 Member States and 38 organisations led by Spain. Its objective was to define a common strategy for Europe, contributing to a uniform approach towards the prevention, detection, assessment and management of frailty, with the overall purpose of promoting healthy ageing. Among the main results of the ADVANTAGE Joint Action there is the Frailty Prevention Approach

(FPA)^[13] document, which includes the main findings of literature reviews, as well as clear and precise recommendations to implement these findings and address frailty, not only in terms of prevention, but also in terms of detection and treatment, in an effective and uniform manner across Europe.

The FPA is a handbook document for Europe to strengthen national capacities, to accelerate efforts, and to develop Healthy Ageing policies focusing on prevention and frailty approach. FPA recommendations are presented in ten work domains or work areas that include all the activities that should be undertaken by any relevant authority interested in frailty approach, as well as a theoretical justification, possible indicators and good practices examples.

In our country, ADVANTAGE results were expressed in the "Roadmap for Frailty Approach"^[5], drafted by the ADVANTAGE Joint Action and the SHPP frailty and falls Prevention Work Group. It was approved by the Public Health Commission in 2019. It includes six actions to be implemented in the coming years:

1. Making frailty a public health priority
2. Promote on a wide scale how to deal with frailty (including prevention, early detection among the population and surveillance/monitoring)
3. Promote management/addressing of frailty individually (including prevention, early individual identification, diagnosis and management)
4. Establish and continually improve an organized and coordinated care system frailty approach
5. Facilitate sustainably the training of professionals dealing with frailty and ageing (including professional training, pre-and post-graduate and continuous training)
6. Strengthen research capacities on ageing and frailty

In order to benefit not only the elderly, but society as a whole.

1.2. State of the Art Report on frailty

Frailty, a nosological condition with less than 25 years of recorded history, has gained increasing relevance and prominence in relation to population ageing and epidemiological changes. As a result, the main clinical manifestation consists of functional impairments and a large number of illnesses, emphasising on the importance of maintaining autonomy and functional abilities in spite of the illness itself.

Frailty has been defined many times. The most recent definition, established by the WHO and adopted by the ADVANTAGE Joint Action, defines it as "Frailty is an identifiable decline in physiological systems that results in decreased reserves, confers extreme vulnerability to stressors and increases the risk of a range of adverse health outcomes such as disability, institutionalization, hospitalization and death"^{[12][13]}. This definition focuses on functionality and not on the diagnosis of

the illness. A growing number of studies suggest that, among elderly people, this is the best predictor of adverse events such as falls, hospitalisation, disabilities and death, regardless of other parameters such as co-morbidities^{[13][14][15]}. It also has an impact on the management of chronic illnesses and enables the identification of high-risk groups needing social support or care^[13]. Given the challenges of an ageing population, and especially in the current context caused by the COVID-19 pandemic, there is a need to **re-direct the system to place the individual and the maintenance of functional abilities at the centre** of health care. The challenge is to promote the preservation of functional abilities by limiting the development of disabilities and dependency, addressing those factors that are modifiable and therefore subject to interventions, such as frailty.

Until very recently, there were no data on the **prevalence of frailty in Spain** and it became necessary to work using international data. Most of the available data were collected using Fried's Frailty Phenotype model, including the national data that was already available. The incidence increases exponentially with age and is more common in women than in men, with approximately a 2:1 ratio.

The prevalence of frailty in Spain is of 18% (95% CI 15-21%), according to a recent meta-analysis that included mostly individuals aged 65 years and over, being somewhat lower in local community studies 12% (95% CI 10-15%) and much higher in non-community settings 45% (95% CI 27-63%)^[16]. This data, together with the progressive population ageing in Spain, highlights the importance of frailty, as it is associated with age, which does not mean that it cannot be prevented, identified and reversed.

If we take into account the longitudinal studies carried out in Spain¹ using the frailty phenotype, the prevalence in the 70-75 age group is 2.5%-6%, in the 75-80 age group it is 6.5%-12%, in the 80-85 age group it is 15%-26%, and above 85 years old it is 18%-38%^[17].

It is therefore a syndrome with a high prevalence and potentially significant consequences, not only in terms of life quality, but also in terms of the **use of health and social resources**^[13], with a potential impact on the sustainability of these systems. According to data from the FRADEA study, in Spain, it's estimates show a yearly cost of around €2,500 for each frail person, double the cost of an elderly non-frail person^[18].

But the good news is that it is not inherent to the ageing process itself, but that it is **potentially reversible**, even spontaneously, especially in the early stages. **Early detection and diagnosis** of frailty is therefore essential. It has been proven to be effective and has validated resources available for this outcome^[13].

1 The ETES (Toledo Study of Healthy Ageing) in Toledo, PEÑAGRANDE in Madrid, FRADEA (Frailty and Dependency in Albacete) in Albacete, LEGANÉS in Madrid, FRALLE (Frailty in Lleida) in Lleida.

As for **early detection**, ADVANTAGE^[13] recommends the Short Physical Performance Battery (SPPB), Gait Speed (GS) or the FRAIL Scale as being the most widely used in this field, in addition to the Clinical Frailty Scale (CFS), Edmonton Frailty Scale (EFS), Inter-Frail, Prisma-7, Sherbrooke Postal Questionnaire or the Study of Osteoporotic Fractures (SOF) Index Scoring (SOF).

As for **diagnosis**, it recommends the Frailty Index-FI based on the cumulative model of frailty, Fried's Frailty Phenotype or the Frailty Trait Scale-Short Form (FTS-5), developed and approved in Spanish population that offers some advantages over the other two, including its better predictive capacity and the possibility to monitor the patient's evolution^{[13][19]}.

If no definitive screening and diagnostic methods are available, assessment methods should be chosen according to the characteristics of the population, the goals of the assessment and the clinical and health care context.^[20] ADVANTAGE suggests those that meet these four characteristics: quick to administer (less than 10 minutes), do not require special equipment, have been validated and are intended for detection.

Frailty decline has been shown to be effective and cost-effective in promoting longer and healthier lives. A comprehensive geriatric assessment (CGA) is recommended for its management, allowing a therapeutic and healthcare plan to be drawn up in consultation with the patient, tailoring interventions to their needs. Multi-factorial actions are more effective than individual ones and should focus on lifestyle choices, physical exercise, nutrition, chronic condition management and medication review to promote independence and prevent adverse events^[13].

In addition, **an integrated and interdisciplinary approach** is essential, starting in PHC and coordinated with social services, communities, intermediate care and hospital centres^[13]. WHO calls this concept the Integrated Care for Older People (ICOPE)^[21], which involves a comprehensive approach of the needs for each patient presenting or at risk of frailty and, of course, once they are disabled. This organisational model requires two essential factors: coordination between agents and levels of care and continuity of care across these levels. This will allow to adapt to the changing needs of patients with chronic and potentially disabling conditions, who will require various levels of care, both social and health care. Transitions within the health system and with other settings require special attention.

Figure 1: Integrated care and support model for the prevention and management of frailty.

Integrated model of care and support to prevent and manage Frailty



Source: ADVANTAGE JA. Used with consent

It should not be forgotten that a **life course perspective** is fundamental for the promotion of healthy ageing, through the promotion of healthy lifestyles, comprehensive lifestyle counselling starting before birth and throughout all stages of life, supported by community resources and promoting healthy living environments. An **equity approach** is also fundamental, taking into account that older people are a diverse group of people and that many of the social factors or their living conditions are particularly relevant for the promotion of healthy ageing and the preservation of their functional abilities. It is essential for everyone to be able to reach their full health potential, leaving no one behind.

To address frailty, it is also needed to **take gender approach into account** and to understand the differences between men and women in terms of ageing. Men live less longer, but with a higher life quality than women. It is also important to be aware of the need to fight against **ageism** or age discrimination, as it can have negative consequences on the health of older people^[22].

The **training of health-care professionals** and the development of **research** are key to this process^[13].

Although there were no scientifically proven interventions against frailty before, we have seen the publication of large scale studies in recent years which, using randomised clinical trials, and therefore providing the best possible evidence in clinical research. They have shown that interventions related to physical exercise programmes are able to prevent and treat frailty, both in external^{[23][24]} and hospita-

lised patients^[25], a particularly relevant group given the enormous impact of hospitalisation on the functional abilities of the hospitalised patients.

Overall, healthy, independent life span or, in WHO terms, "healthy ageing" is the priority to be pursued in ageing research, and knowledge about frailty is the most important and reliable tool to achieve this objective. Traditional research approaches often fail when working with such complex issues such as ageing and frailty because they are too simplistic. The collaborative and complementary multidisciplinary approach is the only way to respond to future challenges.

The **main challenges** when dealing with frailty and promoting healthy ageing in our country are presented in the above mentioned "Roadmap for frailty approach"^[5].

1.3. Socio-demographic data

Our country has one of the highest life expectancies in the world, which stood at over 83.8 years in 2019 (86.6 in women and 80.9 in men)^[1], although in the absence of functional limitations or disability, the number of years in good health, forecast at birth is of 69.4 for men and 70.4 for women. Other countries around us are ahead of us regarding the number of years in good health^[2]. The challenge is therefore to promote the preservation of functional abilities by limiting the occurrence of disabilities and dependence, acting on the factors that are modifiable and, therefore, subject to action, such as frailty.

According to data from 2019, in Spain 9,057,193 people (56.8% women) were aged 65 years old and over, representing 19.3% of the population^[26]. This figure is expected to reach 25.2% in 2033^[27] and 34.6% in 2066^[28]. Similarly, if this tendency is maintained, the dependency ratio (the ratio, in percentage, of the population aged under 16 years old or over 64 years old compared to the population aged between 16 and 64 years old) could go up from 54.2% currently to 62.4% in 2033^[27].

Figure 2 shows the pyramid population projections for Spain between 2018 and 2068^[27]

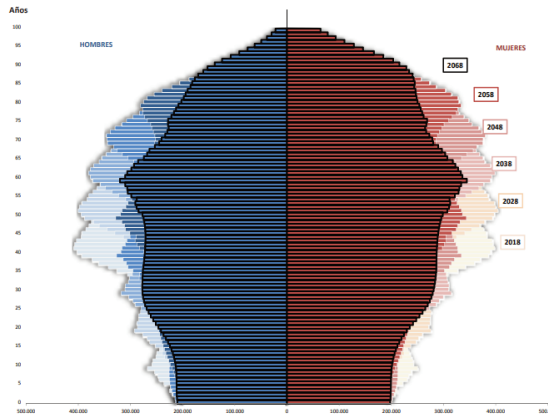


Figure 2 Population projections for Spain by sex and age, 2018-2068^[27]
Source: Population projections 2018. Office for National Statistics

In addition, the "ageing of ageing" is increasing, with 6.1% of the total population over 80 years old and 16,303 people over 100 years old^[26].

Elderly people represented 28.5% of the population in rural areas (<2,000 inhabitants) compared to 18.5% in urban areas, but in greater number in the latter (6,923,244 in urban areas, 770,580 in rural areas). There are differences between Regions. Those with more than 21% of elderly people are: Asturias, Castile and Leon, Galicia, Basque Country, Cantabria and Aragon^[26].

The usual form of living for older people is as a couple without anybody else (49.2% men, 32.3% women). 17.8% of all men and 31% of women live alone, slightly increasing in recent years, although to a smaller extent than in other European countries^[26]. It was estimated that 333,920 people lived in care homes, with a specific "over-ageing" characteristic compared to elderly people living with their families, with people aged 80 years old and over representing 79% of the total residential population, with an average age of 86 years old^[29].

In terms of their health, 45.4% of elderly people said their health was good or very good (52.3% men, 40% women), but they accounted for 45.9% of hospital discharges and 57.9% of hospital admissions, leading to longer hospital stays, especially among men. Before the pandemic, people over 65 accounted for 86% of deaths, of whom more were men than women^[26].

1.4. Frailty and COVID-19

The COVID-19 pandemic has caused an unprecedented health and social crisis, with a particular impact on elderly people. Frailty has been identified as a risk factor for the development of severe SARS-CoV-2 infections and death. COVID-19 has shown to be a weakening illness, not only because of its own effects, but also because of the mobility restriction measures that have had to be implemented, which led to the deterioration of functional abilities among elderly people. It should also be noted that frailty and other geriatric syndromes may present similar COVID-19 symptoms.

Therefore, a document was drawn up entitled "Recommendations on how to address frailty during a health crisis generated by COVID-19"^[30], which amended the Consensus Document^[3] for the situation generated by the COVID-19 pandemic, highlighting early detection in PHC as a key element of the response from which the rest of the actions will derive. In addition, it aimed to facilitate alternatives when face-to-face attendance within the health system is not possible, reinforcing support from community's resources with subsequent referral to the health system. Many of these recommendations will be integrated to this update.

1.5. Methodology

The drafting of this document has been the result of the work and discussions and consensus meetings of the SHPP Frailty and Falls Prevention Work Group, taking into account the most relevant and up-to-date scientific evidence concerning frailty.

2. Programme development proposal

The core element of this programme consists in early detection of frailty **among people aged 70 and over**, in **PHC or community settings**, with subsequent referral to the health system (primarily PHC, in coordination with hospital care when appropriate), followed by a specific intervention to reverse frailty or prevent its consequences.

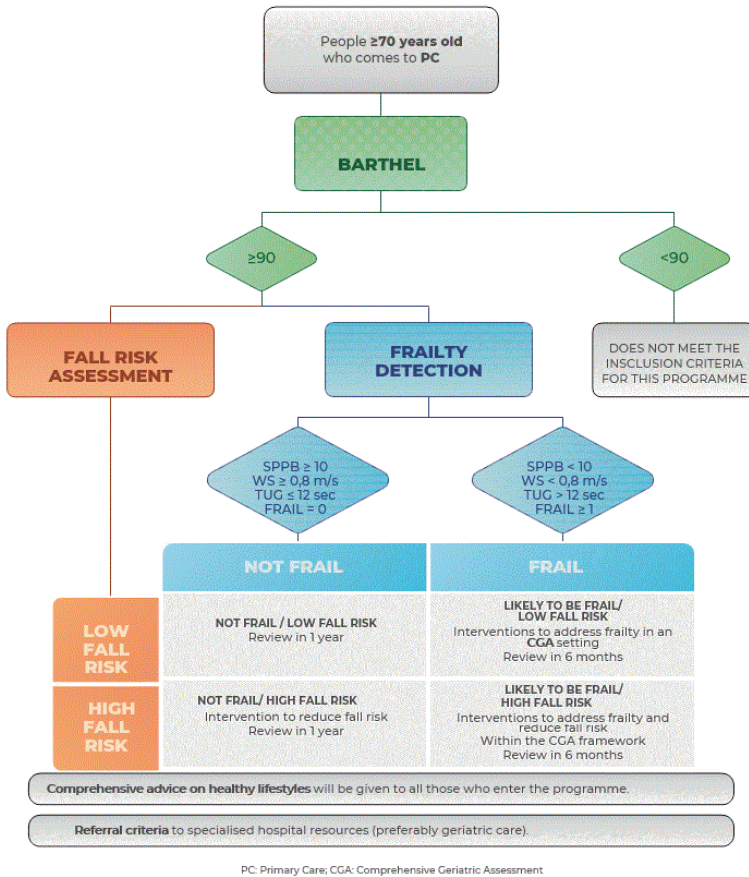
2.1. Proposal for early detection and interventions related to frailty in primary healthcare

The health system is the main resource for early detection of frailty and is essential for definitive diagnosis and follow-up.^[13] When face-to-face care is not possible, the use of the telephone or other technologies (remote care, video-calls, etc.) should be considered to maintain follow-up appointments, without forgetting in-person or home care whenever possible, or a combination of them.

Recruitment will be carried out, preferably in PHC, by nurses or, alternatively, by medical professionals.

- On a random basis for people aged 70 years and over who come in for any medical reason.
- Active detection, for people aged 70 and over, integrated in certain established programmes (e.g. "care programmes for patients or elderly people with chronic conditions" or by setting up procedures to provide care by telephone through regular calls when in-person care is not possible).

Figure 3: Algorithm for dealing with frailty in the health care environments.



Source: own document

The groups of people that should be included to the programme for early detection of frailty by performing the Barthel Index that assesses Activities of Daily Life (ADLs) (Annex 2) will be defined.

- Anyone with a Barthel Index score of 90 or above **will be included to the programme.**
- Those with a score of below 90 **do not meet the inclusion criteria for this programme,** as they will benefit from referral to other care programmes for illness or dependency, which are well established in all AACC, in accordance with the existing consensus that frailty is a prior condition before disability or dependency^[31].

In addition, **early detection of frailty is carried out using performance tests (Annex 2), as well as the fall risk assessment (Annex 3)** following the algorithm designed by the "Consensus document on the prevention of frailty and falls in the elderly"^[3] published in 2014, to which some adjustments have been made based on current evidence, as detailed hereafter.

- The preferred tests to be used will be:
 - o **The Short Physical Performance Battery (SPPB)**, validated and standardised in our settings^[32], which combines balance, Gait speed and standing up from a chair tests. A high frailty probability is assumed for individuals with an SPPB <10.
 - o **Gait Speed (GS)** across 4 metres. People with GS <0.8 m/s have a high frailty probability.^[33] Ideally, the test should be carried out over 6 metres, but the scientific evidence supports the possibility of carrying out the test over 4. Due to the feasibility of the test for organisational and spatial constraints in PHC, this 4 meter recommendation is maintained. Both are on an equal level as both allow classification of patients needing prioritised multi-component physical exercise interventions, through programmes such as VIVIFRAIL², which will be commented on further on.
- Other options to be used:
 - o **Timed Up and Go Test (TUG)**^[34]. Some publications have shown it to be a better fall risk prognosticator with a cut-off points above 20 and for frailty with cut-off points between 10-20. The cut-off point used in the previous document was ≥ 20 to determine a high frailty probability, although a cut-off point > 12 would seem more in line with the current literature available, and is therefore modified as part of this update.^{[35][36][37]} As an alternative, some multicomponent physical exercise programmes, such as the VIVIFRAIL programme, do not consider exercise in relation to frailty assessment within TUG, but do consider it in relation to the fall risk.
 - o **FRAIL scale**^[38]. It is recommended by ADVANTAGE^[13] and Fistera^[39] and has the advantage of being completed in less than two minutes in person or by telephone and does not require any space for its implementation. It assesses tiredness, endurance, mobility, multi-morbidity and weight loss. Each element is scored with 1 point if it occurs, and the total sum is obtained. Typically, scores of 1 or 2 have been used as indicator for pre-frailty and scores of 3 or more for frailty. However, a recent paper^[40] has shown that a cut-off point of 3 or more has a low sensitivity for detecting frailty in PHC according to the Fried's phenotype and the Frailty Index, and therefore this consensus paper favours a cut-off point for suspected frailty set at 1 or more.

If the person is unable to attend an appointment or if it is not possible to visit them at home, a performance tests or FRAIL test can be carried out via a telephone call or video-call with the help of a family member or carer who has been trained, through training videos, for example.

In short, those with SPPB <10, TUG >12, GS<0.8 or FRAIL≥1 will be considered to have a **high frailty risk**. And those with SPPB ≥10, TUG ≤12 GS ≥0.8 or FRAIL=0 will be considered as **non-fragile**.

As in any early detection programme, **the diagnosis should be confirmed** in the next stage with a specific frailty test. The tests recommended in this case are the Fried's Frailty Phenotype, the Frailty Trait Scale-5 (FTS-5) or the Frailty Index (FI), but these tests are not widely used in PHC. It was therefore agreed that the most feasible approach is to initiate interventions to address frailty during the CGA in people with abnormal early detection tests. The objective is to introduce the use of these diagnostic tests in PHC. If non-fragile people reach this point, they will also benefit from an CGA and individualised interventions. In any case, some studies^[40] have shown that initial detection with FRAIL followed by performance testing increases the specificity of procedures while decreasing their overall sensitivity, also reducing the proportion of people referred for interventions who should not benefit from it.

Fall risk assessment and interventions when necessary will be carried out as recommended in the previous document^[3], which will be updated soon (Annex 3).

Anyone who has been identified as having a high frailty probability should be prescribed the **proven effective frailty reversal measures based on a CGA**.

CGA is a multidimensional assessment instrument for elderly people. It is a dynamic and structured diagnostic process that makes it possible to detect and quantify the problems, needs and abilities of the elderly person in the clinical, functional, mental and social dimensions in order to develop, based on these, an interdisciplinary strategy for interventions, treatments and long-term monitoring in order to optimise resources and achieve the highest degree of independence and, ultimately, the highest quality of life^{[41][42][43]}. Its focuses on the functional assessment, this being considered to be the best way to assess the health condition of elderly people, rather than the consideration of their illnesses and impairments. Furthermore, CGA is one of the key pillars in the assessment and management of frail elderly people^{[44][45]}.

It has shown its usefulness in detecting newly diagnosed patients and managing them appropriately in the geriatric ward. It can also be of great use in PHC, when carried out with predetermined objectives, selecting the right people, and establishing interventions with adequate intensity. It may therefore be performed at any level of care, being fundamental in the assessment of frailty in PHC, where it should be carried out by the PC team with the collaboration of the patient and carers. Regarding the management of frailty, it allows the development of a diagnostic approach based on the source of frailty, an intervention or therapeutic and care plan

according to the needs of each person and the planning of interventions to preserve functional abilities, including interventions to acknowledge and understand the management required of frailty, non-pharmacological (physical exercise, nutrition, etc.) and pharmacological (medication review and compliance) interventions. Furthermore, it helps to address and manage other identified clinical problems, as well as the development of other recommended interventions, even if they do not have the specific requirements for frailty management. The therapeutic and care plan should be shared among all professionals caring for the elderly person, with the elderly person them self and their caregivers. Adequate information should be provided so that the person can make the best decisions based on their independence, maintaining control of their life regardless of their health condition, functional abilities or the environment in which they live.

Frailty diagnosis is not an end but a starting point for interventions through CGA. The following is a guide for its implementation within the framework of the management of frailty and some examples of the most commonly used assessment tools in our environment to facilitate its implementation in PHC, without trying to be exhaustive. It includes four areas or domains:

Table 1: Proposal for a Comprehensive Geriatric Assessment for frailty management in Primary Healthcare. Source: own document

1. FUNCTIONAL DOMAIN Includes assessment of functional abilities	
Assessment of Activities of Daily Life (ADL)	Barthel Index ^[46]
Assessment of Instrumental activities of daily life (IADL)	Lawton and Brody ^[47] , VIDA ^[48] Follow-up and monitoring in PHC can detect those with early and developing functional impairments
Physical activity assessment	Physical Activity Scale for the Elderly (PASE) ^[49] International Physical Activity Questionnaire (IPAQ) ^[50]
Complementary tests to those carried out previously	GS ^[51] , SPPB ^[32] , TUG ^[34]
2. PHYSICAL-CLINICAL DOMAIN It includes physical examination, anamnesis, assessment of complementary tests, evaluation of other illnesses or clinical conditions of special interest, with special attention to multi-morbidity, geriatric syndromes, review of medication, nutritional condition and preventive measures	
Assessment of multi-morbidity	Illness Count; Adjusted Morbidity Groups (AMG) ^{[52],[53]}
Geriatric syndromes: Urinary and faecal incontinence, constipation, acute confusional state, walking difficulties, unsteadiness and falls, sarcopenia	
Assessment of nutritional condition: nutrition, weight loss, obesity, anorexia, dysphagia, mouth condition, etc	MNA-SF ^[54] EAT-10 (dysphagia) ^[55]

Medication review and adjustment, especially of multi-medication, potentially inappropriate medication, compliance and prescription review	STOPP/START ^[56] (potentially inappropriate medication); medication count (multi-medication); Morisky-Green test ^[57] and e-prescribing (compliance)
Assessment of hearing and sight organs	Question on sight loss and whisper/hearing test ^[58]
Assessment of alcohol, tobacco and other drug use	
Vaccination status	Mainly flu, tetanus, pneumococcus and COVID-19
Pain assessment	EVA ^[59]
3. MENTAL DOMAIN It includes mental, psychological, affective or cognitive assessment (emotional well-being, quality of life, preferences/values, beliefs)	
Cognitive decline assessment	Pfifeifer ^[60] , MEC ^[61] , MMSE ^[62]
Depression assessment	Yesavage Geriatric Depression Scale (GDS) 15-point version or anamnesis focused ^[63]
Rest and sleep assessment	N° of hours/day, recovery effect, sleeping rhythm, insomnia
4. SOCIO-FAMILY DOMAIN It includes a social, psycho-social and psycho-familial assessment (social isolation, environment or carers).	
Social support <ul style="list-style-type: none"> • Family member or contact person in case they need help and if they live with them • Excess carer workload • External support at home 	Abbreviated Zarit Scale ^{[64][65]} (excess carer workload); TIRS (social risk indicator)
Social interactions and networks available, social support received by the patient	Socio-family Gijón scale ^[66] , MOS Social Support Questionnaire ^{[67][68]}
Recreational activities and involvements	
Risks faced within the environment and obstacles	
Use and availability of support and resources	
Felt or undesired loneliness	The MOS Social Support Questionnaire can help to assess loneliness, although it is not intended for this purpose ^{[67][68]}

At the end of the CGA, a review of the overall conditions and identification of the main elements to be addressed, focusing particularly on those that are potentially modifiable in order to develop specific and individualised interventions for each person. During the assessment, all appointments and tests that the patient may have done should also be taken into account. For some frail patients, seeing different specialists can lead to a confusion in medication, unnecessary and excessive tests, and even unnecessary appointments that tire the patient and carers.

There are some validated and digitalised PHC experiments, such as VALINTAN³, and some AACC have integrated CGA-type assessments in their electronic health records (EMR).

As a result of this assessment, **specific interventions to reverse frailty** will be scheduled in cooperation with the patient and their environment. Then, those based on clinical trials or meta-studies analysis are elaborated (Table 2). Multi-component interventions, that combine multiple interventions, have proven to be effective.

1. Multi-component physical exercise programmes^[13]

Physical exercise programme prescription, preferably multi-component, have proven to be effective both for prevention and management of frailty.^{[69][70][71][72]} These programmes, designed specifically for this purpose and based on the severity of frailty, are carried out through sessions of low-moderate exercise lasting 30-45 minutes, 3 times a week, which include aerobics, flexibility, balance and muscular endurance, during at least 8 weeks^[13]. The programme should preferably be carried out within the community, using available resources (retirement homes, sports centres or others, etc.)⁴. Activity is facilitated when it is carried out with other people, for example doing it with a partner, friends, etc^[73]. It is also possible to do it at home with the assistance of professionals, either in person or self-guided using Information and Communication Technologies (ICT), remote assistance or remote monitoring, or with the help of the people around them using printable or audiovisual resources to facilitate exercise⁵, or even at hospital^[74] or in care homes^[75].

The VIVIFRAIL multi-component physical exercise promotion programme is available^[76]. It is an international reference for community and hospital interventions aimed at preventing frailty and falls among elderly people and is already being implemented in several AACC. It includes

3 VALINTAN <https://www.valintan.com/>

4 Health care facilities map (Localiza Salud) <https://localizasalud.sanidad.gob.es/maparecursos/main/Menu.action>

5 Supportive resources for home-based interventions. Some national and autonomic initiatives provide videos to promote physical activity:

- Health Ministry <https://estilosdevidasaludable.sanidad.gob.es/actividadFisica/actividad/recomendaciones/videosEjercicios/adultos/home.htm>
- Andalusia https://www.enbuenaedad.es/inicio/salud/actividad_fisica y https://www.enbuenaedad.es/inicio/aprender_mas/apps_moviles/app-activate-55
- Extremadura <https://www.enbuenaedad.es/node/1532>
- Extremadura <https://elejerciciotecuida.com/index.php/video/video-consejo-ejercicio-fisico-en-casa>
- Castile and Leon <https://www.saludcastillayleon.es/AulaPacientes/es/estilos-vida-saludable/personas-mayores/ejerciciosprevencion-caidas> y <https://www.saludcastillayleon.es/AulaPacientes/es/estilos-vida-saludable/personasmayores/prevencion-caidas-personas-mayores>
- Navarre and Catalonia <https://www.apititude-net.com/es/>

printable, audiovisual resources and even an app to facilitate its use in various settings^{[74][77][78]}.

2. Nutritional recommendations^[13]

Adequate nutritional recommendations based on appropriate diet indicators^[79] and following the Mediterranean^{[80][81][82]} diet should be made as part of comprehensive lifestyle advice.^[83] Assessment using validated instruments such as the MNA-SF^{®[54]} are recommended. Other comprehensive assessment methods such as the Mini Nutritional Assessment (MNA[®])^[84] or the Overall Subjective Assessment (OSA) can be used as well, followed by advice on an appropriate nutrition plan to reverse frailty according to the results of the assessment.

The greatest benefits in preventing and managing frailty and sarcopenia are obtained following a protein-rich diet^[85], assessing the need for nutritional supplements when necessary, e.g. in case of poor diet or weight loss. The best available evidence is with high protein supplements, that may incorporate beta-hydroxy-beta-methylbutyrate (HMB)^{[86][87][88]} and/or leucine^{[89][90]}, preferably in combination with multi-component physical exercise programmes^{[91][92]}.

Vitamin D supplements should be considered for frail elderly people, people at risk of suffering from malnutrition or at risk of falls and for people with serum levels < 30 ng/ml (75 nmol/L). Doses should be 20-25 µg/day (800-1,000 IU/day)^{[87][89][93][94][95]}.

3. Medication review and adjustment, especially multi-medication, potentially inappropriate medication, compliance and over-prescription assessment^[13]

Frailty increases the risk of medication side effects and multiple-medication is associated with frailty and other adverse events in elderly people. It is therefore essential to review multi-medication use,^{[96][97][98]} especially when 5 or more medications are being taken.

In addition to the number of potentially inappropriate or not suitable medications,^{[99][98]} they should be taken off the prescription when necessary^{[98][100]}, as well as adjusting the treatment of co-morbidities to the frail state. There are tools and strategies to reduce the use of inappropriate medications, such as STOPP-START^[101] (Annex 2).

It is important to detect moderate or low medication compliance to avoid complications that can precipitate frailty, as well as to detect, for example, the need of pharmacy-prepared pill dispensers to prevent errors while taking medications. This assessment can be assisted by the information on the withdrawal of medication information provided by electronic prescription and using the compliance scales or questionnaires such as the Morisky-Green test^[57]. If non-compliance is detected, it is necessary to identify the different causes through an interview with a more exhaustive

assessment and put in place the subsequent corrective measures agreed with the patient.

The computerisation of prescriptions in the EMR is a great ally for the review of medication, thanks to which it is possible to detect redundancies, interactions, inappropriate prescriptions, adherence or compliance failures and, in short, it helps to ensure correct prescription, as well as to assess compliance.

They also have a high level of efficiency for:

4. Management of multi-morbidity and other geriatric syndromes detected in the CGA, with actions adjusted to the frailty state of the patient^[102]
5. Actions to prevent and treat cognitive decline^[103]
6. Assess ICT-based solutions to promote autonomy and independence at home^[104] ^[103]

Other interventions targeting other specific frailty risk factors, but without clinical trial or meta-analysis based evidence, can be found in table 2.

Table 2: Specific interventions to reverse CGA-based frailty. Source: own document

Frailty interventions based on the Comprehensive Geriatric Assessment (CGA)	
Risk factor interventions with evidence based on clinical trials and/or meta-analyses	Interventions on other risk factors associated with frailty but without clinical trial-based evidence and/or meta-analysis
Physical exercise, preferably multi-component [69][70][71][105][72]	Appropriate pain management [106]
Nutritional recommendations: Good diet quality ^[79] , following the Mediterranean diet, high protein diet ^{[80][81][82]} , assessment of the need for nutritional supplements (high protein, HMB ^{[86][87][88]} and/or leucine ^{[89][90]})	Advise patients with BMI > 35 kg/m ² a progressive and moderate weight loss of 0.5-1 kg/week or 8-10% of initial weight after 6 months, in order to achieve a final BMI between 30-35, always associated with physical exercise ^{[107][108][109]}
Review of multi-medication and potentially inappropriate medicines. Optimisation, harmonisation and/or reduction of medication prescriptions when indicated ^{[96][97][98][99][100]}	Eating foods with appropriate textures if dysphagia ^[110] , adequate hydration ^[111] and a supportive environment ^[112]
Review of the management of multi-morbidity and geriatric syndromes, with actions adjusted to the frailty condition ^[102]	Detection and management of anaemia ^[96]
Actions to prevent and treat cognitive decline ^[103]	Identification and management of depression ^[113] , sleep ^[114]
Assessment of solutions based on information and communication technologies to promote autonomy and independence at home. ^{[104][103][115]}	Assessment and promotion of emotional well-being, identifying and alleviating the effects of loneliness or social distancing, encouraging social interactions and community involvement. Intervention in unfavourable social situations
Assessment of vitamin D supplements in frail patients, people at risk of suffering from malnutrition or at risk of falls and with serum levels < 30 ng/ml. Doses should be 20-25 µg/day (800-1,000 IU/day) ^{[87][89][93][94][95]}	Fall prevention interventions
Consider referral to specialised hospital care (preferably Geriatric Medicine) ^{[116][117][118]}	Senses: hearing and visual impairment intervention ^{[119][120]}

Coordination between levels of care and integrated health systems, social services and within the community (Figure 1), always focusing on the person, and more specifically on the transition periods, should be promoted. Management and coordination teams or centres, focusing on vulnerable populations, can be crucial for this task.^[121] Also, support provided by electronic information tools, such as the NHS Digital Medical Record^[122], and care solutions supported by technology^[13].

Referral from PHC to other healthcare professionals, preferably in geriatric medicine where there are the resources^{[116][117][118]} will be considered for patients if their CAG does not explain the frailty condition nor does it detect situations that are considered subsidiary to the management at other care levels, such as:

- Recent functional decline or frailty without obvious clinical causes.
- Acute confusional syndrome due to unclear causes or requiring hospital treatment.
- Recent cognitive impairment.
- High fall risk. When one of the following symptom is observed: two or more falls during the last year or a fall requiring significant/urgent health care or walking or balance disorder combined^[123].
- Difficult to manage multi-medications.
- Difficult to manage multiple comorbidities.

Referral to social services can also be considered for people who report feeling lonely or undesired loneliness, or who need specific attention.

Finally, all those who have entered the programme will be **monitored and re-evaluated**:

- For those with a **high frailty probability, follow-up visits will be scheduled after 6 months** to assess functional performances with performance tests and/or FRAIL scale, as well as to define and implement the proposed interventions, as long as the CGA does not recommend a shorter period of time. This evaluation will be carried out by repeating the same test used for the assessment or diagnosis, monitoring the score change over time (to see the degree of change in each of the tests, see Annex 2). It should be noted that multi-component physical exercise intervention settings using the VIVIFRAIL programme should be re-evaluated with a performance test after 12 weeks.
- In **non-fragile patients**, early frailty screening will be carried out **annually** and after any major health event, such as an admission or worsening of a chronic condition.

Every adult aged 70 years and over taking part in the programme will be given recommendations related to healthy lifestyles, in line with the "Comprehensive lifestyle advice in PHC linked to community resources in adult population",^[83] informing them of the available resources within the community⁴, as well as any other interventions that they may require according to their assessment. Information can also be found through the websites with information related to healthy lifestyles, such as those of the Ministry of Health⁶ or the AACC⁷.

It is strongly advised for recommendations to be backed up with written documents (printed or digital) to facilitate their implementation, taking into account the possible digital gap that may impede their implementation⁸.

6 Healthy lifestyles (sanidad.gob.es) <https://estilosdevidasaludable.sanidad.gob.es/>

7 Interesting links from Regions on the promotion of healthy ageing and the prevention of frailty and falls. https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Prevencion/EnvejecimientoSaludable_Fragilidad/EnlacesInteres_CCAA.htm

8 Additional guidance documents associated with this paper can be found on the website of the Health Ministry. https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/EnvejecimientoSaludable_Fragilidad/Fragilidadycaidas.htm

2.2. Frailty approach in hospital

Hospitalisation of frail elderly patients can lead to deterioration of functional and cognitive abilities, known as nosocomial disabilities^[124]. The frequency of nosocomial disabilities range between 5% and 60% in patients over 75 years old that are admitted to hospital. Up to 50% of cases of this disability begin due to hospitalisation, and it is estimated that two out of every three patients who suffer from it end up in a nursing centre or die within a year.

Frailty in hospitals (including A&E (accident and emergency) Emergency department, outpatient appointments, hospitalisation, rehabilitation centres, etc.) is very high, over 50% in every ward^{[20][125]}. An assessment of frailty and a proposal of interventions upon admission and discharge from hospital should therefore be carried out. Referral to specialised units, preferably geriatric medicine where possible, should be made when necessary.

Functional decline associated with hospitalisation is reversible in 80% of cases if preventive measures based on CGA are carried out upon admission, such as mobility, performance of ADL, nutrition, emotional support, counselling, etc. It has recently been demonstrated how multi-component exercise programmes lasting only 5 days for frail patients (average age of 88 year old) admitted to hospital for acute medical conditions can prevent and reverse the functional and cognitive decline associated with hospitalisation^{[74][126]}.

Interventions should also be extended after the patient's discharge, in application of the principle of continuous, coordinated and comprehensive person-centred care.

2.3. Early detection of frailty in non-medical and community settings proposal

Frailty screening and assessment of frailty in elderly people can be carried out in various community settings, using assessment tools that do not require specific training and do not include objective measurements. It is necessary to set up referral and reporting channels of frail cases from any community facility to the healthcare system, preferably PHC, to ensure that frailty diagnosis is confirmed and that appropriate measures are implemented.

In order to start this intervention proposal, it is essential for the programme to be well established in primary healthcare centres, and for health professionals to be familiar with it. It can be supported by inter-sectoral coordination tables of municipalities involved within the local implementation of SHPP, or any other local or regional inter-sectoral coordination mechanism for its design and development.

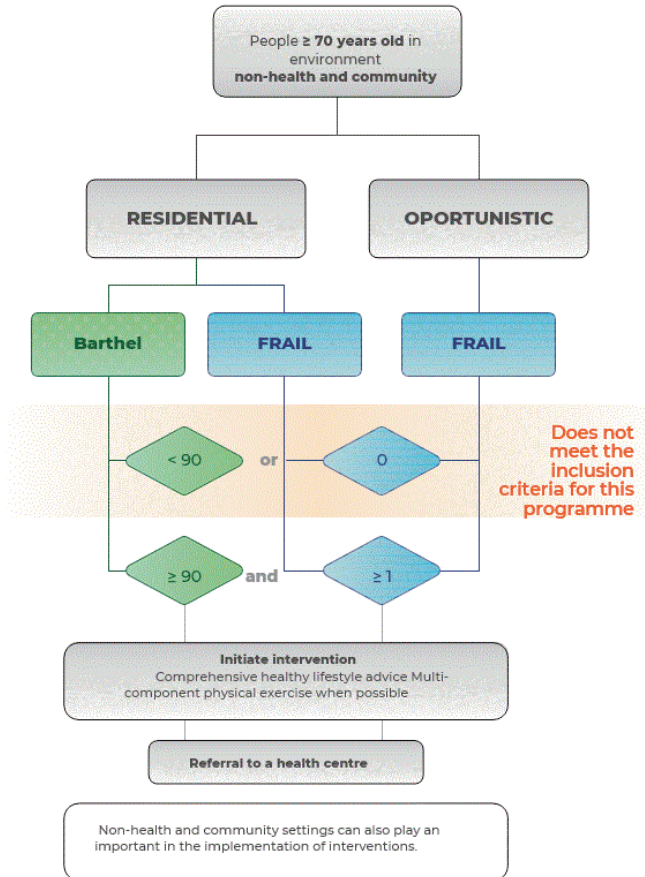
Three possible options are described:

- Active detection in care centres **where elderly people regularly go or live**, e.g. nursing homes, retirement homes, etc.
 - o They follow the same procedures as health centres, but use the FRAIL scale. (Barthel, FRAIL and fall risk assessment). If a high frailty probability is detected, interventions can be started with referral to a health centre for further assessment.
- On an opportunistic basis **in other facilities where elderly people frequently go**, e.g. chemists, community care centres, day care centres, disability centres, social centres, adult learning centres, patients' associations, etc.
 - o The FRAIL scale is used immediately. If ≥ 1 , according to present results^[40], it will be considered as a **high frailty probability**, for which it is recommended to start lifestyle advice (especially physical activity and diet) and to refer the patient to a health care centre.

Fall risk assessment could also be monitored. Some initiatives already exist where performance tests are also carried out in local chemist's shops prior to referral to health centres for cases with a high frailty probability or risk of falls ^[127]. This intervention will be developed in an upcoming update on fall management.

- The development of different technological methods of autonomous frailty assessment, such as **scales available on apps or official websites⁷ which can be self-completed by the patient** and can suggest an appointment with healthcare professionals in case of suspected frailty.

Figure 4: Algorithm for managing frailty in non-health and community settings.



Source: own document

In addition, **support from non-health and community settings** are essential to provide the recommended interventions for frailty approach.

- **Local environment.** Local authorities are developing multiple interventions in order to promote healthy lifestyles and prevent frailty. Some of them are framed within the local implementation of the SHPP^[128], within the Spanish of Healthy Cities Network (SHCN)^[129] or the elder friendly Cities and communities initiatives^[130], among others.
 - o The implementation of a multi-component physical exercise programmes for the prevention of frailty and falls is one of the Prioritised Action Interventions (PAI 3)^[131] of local implementation in SHPP. A very helpful tool, both for PHC professionals who prescribe interventions and for the general public, the Localiza Salud⁴ a health resources map.

- **Community networks.** Community health, coordination between the health system and the community, and awareness and use of health assets or resources, with the participation of the community, are essential^[132].
- **Socio-care centres (nursing homes).** Health teams from the corresponding health system are assigned to these centres, meaning that coordination must be reinforced between health staff of the social and healthcare centres (when available) and PHC professional teams, and with the geriatric services when appropriate. Socio-care centres are recommended to identify the degree of functional dependency, cognitive impairment and frailty of all residents.

Promoting physical activity within the centres themselves is recommended, encouraging the use of shared spaces, including outdoor areas and green areas. These are shared living spaces and areas that provide stimulation and the possibility of maintaining physical activity and carrying out multicomponent physical exercise^[133], adequate sun exposure, as well as interacting with other people, promoting an adequate functional abilities and emotional well-being. On the other hand, it should be kept in mind that going outside, even in a limited space (e.g. streets in urban areas), is healthy^[134].

- **Other non-residential community centres**
 - o Day care centres are a fundamental element in maintaining the functional capacity of elderly people, as well as providing support for their families.
 - o Social services: social service professionals could carry out early frailty detection, both in social centres and during home care, with subsequent referral to the health system. They can also support the implementation of interventions.
 - o Local chemists: they are key for monitoring and adjusting medication. Given their proximity and relationship with their clients, they are health workers to be taken into account in the detection of frailty. Experiences of this type are already being carried out in some AACC^[127].
 - o Other community care centres, disability centres, social centres, adult learning centres, patients' associations, etc., provided that the referral system to the health system is in place.

2.4. Implementation development

The implementation will be adapted to each territory according to its characteristics and context. Annex 1 describes the implementation progress of the previous Consensus Document^[3]. Progress has been inconsistent over the past few years. This update aims to reach $\geq 80\%$ national coverage by 2025 as initially planned.

Some implementation requirements remain in place, such as:

1. The need for organisational and technological health service adaptation.
2. Motivation of professionals:
 - An on-line course "Detection and Management of Frailty and Falls in the Elderly People"^[135] was launched, of which six sessions have so far taken place, with a total of more than 5,000 professionals having received training.
 - Consider including this programme as a strategic objective of PHC management plans in health services.
3. Improve and standardise the frailty register and its interventions.

The experience gathered over the years should be added to the above, to enhance the understanding of the programme for early detection and intervention regarding frailty, both by AACC central services and by PHC professionals themselves, as well as to support its implementation through successful experiences.

To guarantee an appropriate implementation of the programme, it is necessary that frailty care is considered as a health priority. The implementation or adaptation of this programme within the services is needed to ensure coordination between all care levels and sectors involved, such as health care (PHC, hospital), public health or social services, both at regional and municipal level. It is essential to ensure adequate operation of the programme within primary healthcare before implementing the detection and referral from community or non-health environments.

9 In **BDCAP**, regarding the tests mentioned in this document, only Barthel, Lawton and Brody and Morisky-Green are currently included.

10 To be reviewed soon. Some studies have linked an increased fall risk with GS <0.8 m/s or TUG > 20 seconds, with no clear relation between SPPB and FRAIL.

3. Assessment and monitoring

Follow-up and monitoring of the recommendations contained in this document is essential to evaluate their efficiency. This entails the registration of early detection activities, diagnosis when possible, as well as CGA and EMR interventions in a consistent and regular manner. This is one of the challenges when dealing with frailty because this condition does not have a unique identification system, which means that the register is not uniform throughout the country. Most AACC have data on morbidity, chronic patients and parameters related to functional or psychological conditions, but frailty is not yet registered in a generalised or uniform manner. This work group made a proposal towards the harmonisation of frailty register in 2017^[136], but further work is needed to improve it, as set out in the "Roadmap for frailty approach"^[5], adapting it to the current proposal.

The implementation of interventions will be evaluated, at least every two years, using the following indicators. Wherever possible, the data will be classified by age, sex, socio-economic status and AACC.

Process indicators

AACC will draw up their own questionnaire which will include, for the population aged 70 and over:

- Number of AACC that have introduced any of the performance tests (SPPB, GS, TUG) or FRAIL for the assessment of frailty in the list of services.
- Number of AACC that register in HC any of the performance tests (SPPB, GS, TUG) or FRAIL for the assessment of frailty in PHC.
- Number of AACC carrying out CGA for frailty assessment and intervention.
- Number of AACC that carry out a multi-component physical exercise programme to prevent or reverse frailty.
- Number of AACC that carry out some kind of nutrition intervention to prevent or reverse frailty.
- Number of AACC that carry out medication review to prevent or reverse frailty.
- Number of professionals taking the Health Ministry's on-line frailty course or other courses on frailty offered by AACC.

Data concerning the number of people with a given parameter and people with a given parameter per thousand, both among the general population and among people aged 70 years and over, shall be collected when possible. These data will

include the scales included within the Primary Healthcare Clinical Data Base (**BDCAP**)⁹ or the HC registries of AACC. Work will be pursued to further adapt it to the current proposal.

- Number of people for whom a specific test is performed (Barthel, FRAIL, SPPB, TUG, GS). Source: **BDCAP/AACC**.
- Proportion of people undergoing a specific test (Barthel, FRAIL, SPPB, TUG, GS) compared to the population aged 70 and over. Source: **BDCAP/AACC**.

Performance indicators

- Number of healthy years gained on life expectancy at 65 years old. Source: INE.

Whenever possible to be assessed by AACC.

- Proportion of people aged 70 and older with at least one performance test (SPPB, GS, TUG) or FRAIL scale with a high frailty probability score. Source: AACC.
- Proportion of patients classified as having a high frailty probability who recover between 6 and 12 months.
- Proportion of patients classified as non-fragile who have a high frailty probability after 12 months.

Research is another fundamental assessment method as a way to evaluate and increase programme implementation, as set out in the "Roadmap frailty approach"^[5], under action 6: strengthen research capacities related to ageing and frailty.

9 In **BDCAP**, regarding the tests mentioned in this document, only Barthel, Lawton and Brody and Morisky-Green are currently included.

4. Bibliography

1. Ministerio de Sanidad. Esperanzas de vida, 2019 [Internet]. 2019; Available from: https://www.sanidad.gob.es/estadEstudios/estadisticas/inforRecopilaciones/ESPERANZAS_DE_VIDA_2019.pdf
2. Instituto Nacional de Estadística. Esperanza de vida en buena salud [Internet]. 2019; Available from: https://www.ine.es/ss/Satellite?L=es_ES&c=INESeccion_C&cid=1259926378861&p=%5C&pagename=ProductosYServicios%2FPYSLayout¶m1=PYSetalle¶m3=1259924822888#:~:text=G%C3%A9nero%20de%20Eurostat.,Esperanza%20de%20vida%20en%20buena%20salud,de%20mortalidad%20y%20de%20morbilidad
3. Ministerio de Sanidad, Servicios Sociales e Igualdad. Documento de consenso sobre prevención de fragilidad y caídas en la persona mayor [Internet]. 2014; Available from: http://www.msbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Fragilidad/FragilidadyCaídas_personamayor.pdf
4. Advantage JA [Internet]. [Cited 2022 mar 17]; Available from: <https://www.advantageja.eu/>
5. Ministerio de Sanidad, Consumo y Bienestar Social. Hoja de ruta para el abordaje de la fragilidad. [Internet]. 2019; Available from: https://www.msbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Fragilidad/Fragilidad_Hoja_ruta_Abordaje.pdf
6. Ministerio de Sanidad, Servicios Sociales e Igualdad. Estrategia de promoción de la salud y prevención en el SNS [Internet]. 2014; Available from: <https://www.msbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/estrategiaPromocion-y-Prevencion.htm>
7. Ministerio de Sanidad, Servicios Sociales e Igualdad. Estrategia para el Abordaje de la Cronicidad en el Sistema Nacional de Salud [Internet]. 2012; Available from: https://www.sanidad.gob.es/organizacion/sns/planCalidadSNS/pdf/ESTRATEGIA_ABORDAJE_CRONICIDAD.pdf
8. Naciones Unidas. Objetivos de Desarrollo Sostenible (ODS) [Internet]. Available from: <https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/>
9. World Health Organization. Decade of healthy Ageing 2020-2030. [Internet]. 2020. Available from: https://www.who.int/docs/default-source/decade-ofhealthy-ageing/final-decade-proposal/decade-proposal-final-apr2020-es.pdf?sfvrsn=73137ef_4_19
10. World Health Assembly, 69. (2016) . The Global strategy and action plan on ageing and health 2016–2020: towards a world in which everyone can live a long and healthy life. World Health Organization. <https://apps.who.int/iris/handle/10665/252783>
11. World Health Organization. Active ageing: a policy framework. [Internet]. 2002; Available from: <https://apps.who.int/iris/handle/10665/67215> <https://apps.who.int/iris/handle/10665/67215>
12. World Health Organization. (2015) . World report on ageing and health. World Health Organization. <https://apps.who.int/iris/handle/10665/186463>
13. Frailty Prevention Approach (FPA) [Internet]. ADVANTAGE JA; 20 19. [Cited 2021 ene 24]. Available at: <https://www.advantageja.eu/images/FPA-Core-ADVANTAGE-doc.pdfref>

14. Abizanda P, Romero L, Sánchez-Jurado PM, Martínez-Reig M, Alfonso-Silguero SA, Rodríguez-Mañas L. Age, frailty, disability, institutionalization, multimorbidity or comorbidity. Which are the main targets in older adults? *J Nutr Health Aging* 2014;18(6):622-7.
15. Hewitt J, Carter B, Vilches-Moraga A, Quinn TJ, Braude P, Verduri A, et al. The effect of frailty on survival in patients with COVID-19 (COPE): a multicentre, European, observational cohort study. *Lancet Public Health* 2020;5(8):e444-51.
16. O’Caoimh R, Galluzzo L, Rodríguez-Laso Á, Van der Heyden J, Ranhoff AH, Lamprini-Koula M, et al. Prevalence of frailty at population level in European ADVANTAGE Joint Action Member States: a systematic review and meta-analysis. *Ann Ist Super Sanita* 2018;54(3):226-38.
17. Abizanda Soler P, Rodríguez Mañas L. *Fragilidad en el anciano*. Barcelona: Elsevier España; 2020.
18. García-Nogueras I, Aranda-Reneo I, Peña-Longobardo LM, Oliva-Moreno J, Abizanda P. Use of Health Resources and Healthcare Costs associated with Frailty: The FRADEA Study. *J Nutr Health Aging* 2017;21(2):207-14.
19. García-García FJ, Carnicero JA, Losa-Reyna J, Alfaro-Acha A, Castillo-Gallego C, Rosado-Artalejo C, et al. Frailty Trait Scale-Short Form: A Frailty Instrument for Clinical Practice. *J Am Med Dir Assoc* 2020;21(9):1260-1266.e2.
20. Oviedo-Briones M, Laso ÁR, Carnicero JA, Cesari M, Grodzicki T, Gryglewska B, et al. A Comparison of Frailty Assessment Instruments in Different Clinical and Social Care Settings: The Frailtools Project. *J Am Med Dir Assoc* 2021;22(3):607.e7-607.e12.
21. Organización Panamericana de la Salud. Guía sobre la evaluación y los esquemas de atención centrados en la persona en la atención primaria de salud [Internet]. 2020 [Cited 2022 mar 17]; Available from: https://iris.paho.org/bitstream/handle/10665.2/51973/OPSFPLHL200004A_spa.pdf?sequence=5&isAllowed=y
22. World Health Organization. Questions and answers/Ageing: Ageism [Internet]. Available from: <https://www.who.int/news-room/questions-and-answers/item/ageing-ageism>
23. Trombetti A, Hars M, Hsu FC, Reid KF, Church TS, Gill TM, et al. Effect of Physical Activity on Frailty: Secondary Analysis of a Randomized Controlled Trial. *Ann Intern Med* 2018;168(5):309-16.
24. Rodríguez Mañas L, Laosa O, Vellas B, Paolisso G, Topinkova E, Oliva Moreno J, et al. Effectiveness of a multimodal intervention in functionally impaired older people with type 2 diabetes mellitus. *J Cachexia Sarcopenia Muscle* [Internet] 2019 [Cited 2022 mar 24];10(4):721-33. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6711410/>
25. Martínez-Velilla N, Casas-Herrero A, Zambom-Ferraresi F, Sáez de Asteasu ML, Lucia A, Galbete A, et al. Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial. *JAMA Intern Med* 2019;179(1):28-36.
26. Pérez Díaz, Julio; Abellán García, Antonio; Aceituno Nieto, Pilar; Ramiro Fariñas, Diego. “Un perfil de las personas mayores en España, 2020. Indicadores estadísticos básicos”. [Internet]. Madrid: 2020. Available from: <http://envejecimiento.csic.es/documentos/documentos/enred-indicadoresbasicos2020.pdf>
27. Instituto Nacional de Estadística. *Proyecciones de Población 2018* [Internet]. 2018; Available from: https://www.ine.es/prensa/pp_2018_2068.pdf

28. Instituto Nacional de Estadística. Proyecciones de Población 2016-2066. [Internet]. 2016; Available from: <https://www.ine.es/prensa/np994.pdf>
29. Rogelio Pujol Rodríguez AAG Pilar Aceituno Nieto, Isabel Fernández Morales, Diego Ramiro Fariñas. Una estimación de la población que vive en residencias de mayores. [Internet]. Envejecimiento en Red. INE; Available from: <http://envejecimientoenred.es/una-estimacion-de-la-poblacion-que-vive-en-residencias-de-mayores/>
30. Ministerio de Sanidad. Recomendaciones para abordaje de la fragilidad en situación de crisis sanitaria generada por la COVID-19. [Internet]. 2021; Available from: https://www.mscbs.gob.es/profesionales/saludPublica/prevPromocion/Prevencion/EnvejecimientoSaludable_Fragilidad/docs/COVID19_Fragilidad.pdf
31. Abellan van Kan G, Rolland Y, Bergman H, Morley JE, Kritchevsky SB, Vellas B. The I.A.N.A Task Force on frailty assessment of older people in clinical practice. *J Nutr Health Aging* 2008;12(1):29-37.
32. Guralnik JM, Ferrucci L, Pieper CF, Leveille SG, Markides KS, Ostir GV, et al. Lower extremity function and subsequent disability: consistency across studies, predictive models, and value of gait speed alone compared with the short physical performance battery. *J Gerontol A Biol Sci Med Sci* 2000;55(4):M221-231.
33. Abizanda P, López-Torres J, Romero L, Sánchez PM, García I, Esquinas JL. Valores normativos de instrumentos de valoración funcional en ancianos españoles: estudio FRADEA. *Aten Primaria* 2011; doi:10.1016/j.aprim.2011.02.007.
34. Podsiadlo D, Richardson S. The timed «Up & Go»: a test of basic functional mobility for frail elderly persons. *J Am Geriatr Soc* 1991;39(2):142-8.
35. Abizanda P, Romero L, Sánchez-Jurado PM, Atienzar-Núñez P, Esquinas-Requena JL, García-Nogueras I. Association between Functional Assessment Instruments and Frailty in Older Adults: The FRADEA Study. *J Frailty Aging* 2012;1(4):162-8.
36. Savva GM, Donoghue OA, Horgan F, O'Regan C, Cronin H, Kenny RA. Using timed up-and-go to identify frail members of the older population. *J Gerontol A Biol Sci Med Sci* 2013;68(4):441-6.
37. Jung HW, Kim S, Jang IY, Shin DW, Lee JE, Won CW. Screening Value of Timed Up and Go Test for Frailty and Low Physical Performance in Korean Older Population: The Korean Frailty and Aging Cohort Study (KFACS). *Ann Geriatr Med Res* [Internet] 2020 [Cited 2022 mar 24];24(4):259-66. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7781966/>
38. Morley JE, Malmstrom TK, Miller DK. A simple frailty questionnaire (FRAIL) predicts outcomes in middle aged African Americans. *J Nutr Health Aging* 2012;16(7):601-8.
39. Martín-Lesende I, Gorroñoigoitia A, Abizanda P, Justo S. Persona mayor frágil: detección y manejo en atención primaria. *Guía Fisterra* [Internet] 2020 [Cited 2021 feb 26]; Available from: <https://www.fisterra.com/guias-clinicas/persona-mayor-fragil-deteccion-manejo-atencion-primaria/>
40. Rodríguez-Laso Á, Martín-Lesende I, Sinclair A, Sourdhet S, Tosato M, Rodríguez-Mañas L. Diagnostic accuracy of the frail scale plus functional measures for frailty screening. *BJGP Open* [Internet] 2022 [Cited 2022 may 10]; Available from: <https://bjgpopen.org/content/early/2022/05/05/BJGPO.2021.0220>
41. Kane RA, Bayer AJ. Assessment of functional status. In: Pathy MSJ, editor. *Principles and practice of geriatric medicine*. 2nd ed. Chichester: John Wiley & Sons; 1991. p. 265-71.

42. Rubenstein LZ. Geriatric Assessment: An Overview of Its Impacts. *Clin Geriatr Med* [Internet] 1987 [Cited 2022 mar 25];3(1):1-15. Available from: <https://www.sciencedirect.com/science/article/pii/S0749069018308231>
43. Laurence Z. Rubenstein. *Geriatric Assessment Technology*. Springer Pub Co; 2004.
44. Pedro Abizanda Soler y Leocadio Rodríguez Mañas, eds. "Tratado de Medicina Geriátrica. Fundamentos de la atención sanitaria a los mayores". 2a ed. Madrid: Editorial Elsevier; 2020.
45. Pedro Abizanda Soler y Carlos Cano Gutiérrez, eds. "Medicina Geriátrica. Una aproximación basada en problemas. 2a ed. Madrid: Editorial Elsevier; 2021.
46. Mahoney FI, Barthel DW. Functional evaluation: the Barthel index. *Md State Med J* 1965;14:61-5.
47. Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *The Gerontologist* 1969;9(3):179-86.
48. Martín Lesende I, Mendibil Crespo LI, Martínez Blanco I, Porto Hormaza B, Maray Gondra B, Aguirre Basaras N. Validez predictiva del cuestionario VIDA considerando pérdida funcional, institucionalización o muerte en pacientes pluripatológicos. *Rev Esp Geriatr Gerontol Ed Impr* [Internet] 2020 [Cited 2022 mar 25];25-8. Available from: <https://pesquisa.bvsalud.org/portal/resource/pt/lbc-196149>
49. Washburn RA, Smith KW, Jette AM, Janney CA. The Physical Activity Scale for the Elderly (PASE): development and evaluation. *J Clin Epidemiol* 1993;46(2):153-62.
50. Booth M. Assessment of physical activity: an international perspective. *Res Q Exerc Sport* 2000;71 Suppl 2:114-20.
51. Abizanda Soler P, López-Torres Hidalgo J, Romero Rizos L, Sánchez Jurado PM, García Noguera I, Esquinas Requena JL. Valores normativos de instrumentos de valoración funcional en ancianos españoles: estudio FRADEA. *Aten Primaria* [Internet] 2012 [Cited 2022 mar 24];44(3):162-71. Available from: <https://www.sciencedirect.com/science/article/pii/S0212656711002459>
52. Monterde D, Vela E, Clèries M. Los grupos de morbilidad ajustados: nuevo agrupador de morbilidad poblacional de utilidad en el ámbito de la atención primaria. *Aten Primaria* [Internet] 2016 [Cited 2022 mar 25];48(10):674-82. Available from: <https://www.elsevier.es/es-revista-atencion-primaria-27-articulo-los-grupos-morbilidad-ajustados-nuevo-S0212656716302104>
53. Arias-López C, Rodrigo Val MP, Casaña Fernández L, Salvador Sánchez L, Dorado Díaz A, Estupiñán Ramírez M. Validación del poder predictivo de los Grupos de Morbilidad Ajustada (GMA) respecto de otras herramientas de estratificación de la población. *Rev Esp Salud Pública*. 2020; 94: 3 de julio e202007079.
54. Kaiser MJ, Bauer JM, Ramsch C, Uter W, Guigoz Y, Cederholm T, et al. Validation of the Mini Nutritional Assessment short-form (MNA-SF): a practical tool for identification of nutritional status. *J Nutr Health Aging* 2009;13(9):782-8.
55. Burgos R, Sarto B, Seguro H, Romagosa A, Puiggrós C, Vázquez C, et al. Traducción y validación de la versión en español de la escala EAT-10 (Eating Assessment Tool-10) para el despistaje de la disfagia. *Nutr Hosp* [Internet] 2012 [Cited 2022 mar 25];27(6):2048-54. Available from: https://scielo.isciii.es/scielo.php?script=sci_abstract&pid=S0212-16112012000600034&lng=es&nrm=iso&tlng=es
56. Hernández Perella JA, Mas Garriga X, Riera Cervera D, Quintanilla Castillo R, Gardini Campomanes K, Torradella Fàbregas J. Prescripción inapropiada de fármacos en personas mayores atendidas en un centro de Atención Primaria según los criterios

STOPP-START. *Rev Esp Geriatria Gerontol* [Internet] 2013 [Cited 2022 mar 25];48(6):265-8. Available from: <https://www.elsevier.es/es-revista-revista-espanola-geriatria-gerontologia-124-articulo-prescripcion-inapropiada-farmacos-personas-mayores-S0211139X13001200>

57. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. *Med Care* 1986;24(1):67-74.
58. George PP, Lun P, Ong SP, Lim WS. A Rapid Review of the Measurement of Intrinsic Capacity in Older Adults. *J Nutr Health Aging* [Internet] 2021 [Cited 2022 mar 31];25(6):774-82. Available from: <https://doi.org/10.1007/s12603-021-1622-6>
59. Vicente-Herrero MT, Delgado-Bueno S, Bandrés-Moyá F, Ramírez-Iñiguez-de-la-Torre MV, Capdevilla-García L, Vicente-Herrero MT, et al. Valoración del dolor. Revisión comparativa de escalas y cuestionarios. *Rev Soc Esp Dolor* [Internet] 2018 [Cited 2022 mar 25];25(4):228-36. Available from: https://scielo.isciii.es/scielo.php?script=sci_abstract&pid=S1134-80462018000400228&lng=es&nrm=iso&tlng=es
60. Pfeiffer E. A short portable mental status questionnaire for the assessment of organic brain deficits in the elderly. *J Am Geriatr Soc* 1975; 23: 433-41. Versión española tomada de: González-Montalvo JI, Alarcón-Alarcón MT, Salgado-Alba A. Valoración del estado mental en el anciano. En: Salgado A, Alarcón MT. Valoración del paciente anciano. Barcelona: Masson; 1993. p. 73-103.
61. Lobo A, Ezquerro J, Gómez-Burgada F, Sala JM, Seva Díaz A. El minexamen cognoscitivo: un «test» sencillo, práctico para detectar alteraciones intelectuales en pacientes médicos. *Actas Luso Esp Neurol Psiquiatr* 1979; 7: 189-201.
62. Bermejo F, Morales JM, Valerga C, del Ser T, Artolazábal J, Gabriel R. [A comparison between 2 abbreviated Spanish versions of mental status assessment in the diagnosis of dementia. Study data on elderly community residents]. *Med Clin (Barc)* 1999;112(9):330-4.
63. Martí D, Miralles R, Llorach I, García-Palleiro P, Esperanza A., Guillén J, Cervera AM. Trastornos depresivos en una unidad de convalecencia: experiencia y validación de una versión española de 15 preguntas de la escala de depresión geriátrica de Yesavage. *Rev Esp Geriatr Gerontol* 2000; 35: 7-14.
64. Vélez Lopera JM, Berbesí Fernández D, Cardona Arango D, Segura Cardona A, Ordóñez Molina J. Validación de escalas abreviadas de zarit para la medición de síndrome del cuidador primario del adulto mayor en Medellín. *Aten Primaria* [Internet] 2012 [Cited 2022 mar 25];44(7):411-6. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7025946/>
65. Zarit SH, Reever KE, Bach-Peterson J. Relatives of the impaired elderly: correlates of feelings of burden. *The Gerontologist* 1980;20(6):649-55.
66. González DC, Caicoya AM, Sánchez AF, García VA, González JVG, Palacios ED, et al. Evaluación de la fiabilidad y validez de una escala de valoración social en el anciano. *Aten Primaria Publ Of Soc Esp Fam Comunitaria* [Internet] 1999 [Cited 2022 mar 25];23(7):434-40. Available from: <https://dialnet.unirioja.es/servlet/articulo?codigo=7528058>
67. Sherbourne CD, Stewart AL. The MOS social support survey. *Soc Sci Med* 1982 1991;32(6):705-14.
68. Revilla Ahumada L, Luna del Castillo J, Bailón Muñoz E, Medina Moruno I. Validación del cuestionario MOS de apoyo social en Atención Primaria. *Medicina de Familia (And)* Vol. 6, N.o 1, abril 2005.

69. Jadcak AD, Makwana N, Luscombe-Marsh N, Visvanathan R, Schultz TJ. Effectiveness of exercise interventions on physical function in community-dwelling frail older people: an umbrella review of systematic reviews. *JBIC Database Syst Rev Implement Rep* 2018;16(3):752-75.
70. Suikkanen S, Soukkio P, Aartolahti E, Kääriä S, Kautiainen H, Hupli MT, et al. Effect of 12-Month Supervised, Home-Based Physical Exercise on Functioning Among Persons With Signs of Frailty: A Randomized Controlled Trial. *Arch Phys Med Rehabil* 2021;102(12):2283-90.
71. Cadore EL, Rodríguez-Mañas L, Sinclair A, Izquierdo M. Effects of different exercise interventions on risk of falls, gait ability, and balance in physically frail older adults: a systematic review. *Rejuvenation Res* 2013;16(2):105-14.
72. Izquierdo M, Merchant RA, Morley JE, Anker SD, Aprahamian I, Arai H, et al. International Exercise Recommendations in Older Adults (ICFSR): Expert Consensus Guidelines. *J Nutr Health Aging* 2021;25(7):824-53.
73. Izquierdo M, Duque G, Morley JE. Physical activity guidelines for older people: knowledge gaps and future directions. *Lancet Healthy Longev* [Internet] 2021 [Cited 2022 mar 31];2(6):e380-3. Available from: [https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568\(21\)00079-9/fulltext](https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(21)00079-9/fulltext)
74. Martínez-Velilla N, Casas-Herrero A, Zambom-Ferraresi F, Sáez de Astear ML, Lucia A, Galbete A, et al. Effect of Exercise Intervention on Functional Decline in Very Elderly Patients During Acute Hospitalization: A Randomized Clinical Trial. *JAMA Intern Med* 2019;179(1):28-36.
75. Cadore EL, Casas-Herrero A, Zambom-Ferraresi F, Idoate F, Millor N, Gómez M, et al. Multicomponent exercises including muscle power training enhance muscle mass, power output, and functional outcomes in institutionalized frail nonagenarians. *Age Dordr Neth* 2014;36(2):773-85.
76. <https://vivifrail.com/es/inicio/> [Internet]. Available from: <https://vivifrail.com/es/inicio/>
77. Barrio Cortes J, Guevara Guevara T, Aguirre Cocha KP, Rodríguez Mañas L, Pérez Rodríguez R. [Positive Project: maintenance and improvement of intrinsic capacity involving primary healthcare and caregivers through a home monitoring system and a telematic services platform.]. *Rev Esp Salud Pública* 2021;95:e202110157.
78. Martín Lesende I, Acosta Benito MÁ, Goñi Ruiz N, Herreros Herreros Y. [Vision of the management of frailty in Primary Health Care.]. *Rev Esp Salud Publica* 2021;95:e202110159.
79. Hengeveld LM, Wijnhoven HAH, Olthof MR, Brouwer IA, Simonsick EM, Kritchevsky SB, et al. Prospective Associations of Diet Quality With Incident Frailty in Older Adults: The Health, Aging, and Body Composition Study. *J Am Geriatr Soc* 2019;67(9):1835-42.
80. Ghosh TS, Rampelli S, Jeffery IB, Santoro A, Neto M, Capri M, et al. Mediterranean diet intervention alters the gut microbiome in older people reducing frailty and improving health status: the NU-AGE 1-year dietary intervention across five European countries. *Gut* 2020;69(7):1218-28.
81. Wang Y, Hao Q, Su L, Liu Y, Liu S, Dong B. Adherence to the Mediterranean Diet and the Risk of Frailty in Old People: A Systematic Review and Meta-Analysis. *J Nutr Health Aging* 2018;22(5):613-8.
82. Kojima G, Avgerinou C, Iliffe S, Walters K. Adherence to Mediterranean Diet Reduces Incident Frailty Risk: Systematic Review and Meta-Analysis. *J Am Geriatr Soc* 2018;66(4):783-8.

83. Ministerio de Sanidad, Servicios Sociales e Igualdad; Consejo integral en estilo de vida en Atención Primaria, vinculado con recursos comunitarios en población adulta [Internet]. 2015 [Cited 2022 mar 17]; Available from: https://www.mscbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Consejo_Integral_EstiloVida_en_AtencionPrimaria.pdf
84. Guigoz Y. The Mini Nutritional Assessment (MNA) review of the literature--What does it tell us? *J Nutr Health Aging* 2006;10(6):466-85; discussion 485-487.
85. Mendonça N, Hengeveld LM, Visser M, Presse N, Canhão H, Simonsick EM, et al. Low protein intake, physical activity, and physical function in European and North American community-dwelling older adults: a pooled analysis of four longitudinal aging cohorts. *Am J Clin Nutr* 2021;114(1):29-41.
86. Peng LN, Cheng YC, Yu PC, Lee WJ, Lin MH, Chen LK. Oral Nutritional Supplement with β -hydroxy- β -methylbutyrate (HMB) Improves Nutrition, Physical Performance and Ameliorates Intramuscular Adiposity in Pre-Frail Older Adults: A Randomized Controlled Trial. *J Nutr Health Aging* 2021;25(6):767-73.
87. Chew STH, Tan NC, Cheong M, Oliver J, Baggs G, Choe Y, et al. Impact of specialized oral nutritional supplement on clinical, nutritional, and functional outcomes: A randomized, placebo-controlled trial in community-dwelling older adults at risk of malnutrition. *Clin Nutr Edinb Scotl* 2021;40(4):1879-92.
88. Oktaviana J, Zanker J, Vogrin S, Duque G. The Effect of β -hydroxy- β -methylbutyrate (HMB) on Sarcopenia and Functional Frailty in Older Persons: A Systematic Review. *J Nutr Health Aging* 2019;23(2):145-50.
89. Abe S, Ezaki O, Suzuki M. Medium-Chain Triglycerides in Combination with Leucine and Vitamin D Increase Muscle Strength and Function in Frail Elderly Adults in a Randomized Controlled Trial. *J Nutr* 2016;146(5):1017-26.
90. Martínez-Arnau FM, Fonfría-Vivas R, Buigues C, Castillo Y, Molina P, Hoogland AJ, et al. Effects of Leucine Administration in Sarcopenia: A Randomized and Placebo-controlled Clinical Trial. *Nutrients* 2020;12(4):E932.
91. Fiatarone MA, O'Neill EF, Ryan ND, Clements KM, Solares GR, Nelson ME, et al. Exercise training and nutritional supplementation for physical frailty in very elderly people. *N Engl J Med* 1994;330(25):1769-75.
92. Dent E, Morley JE, Cruz-Jentoft AJ, Woodhouse L, Rodríguez-Mañas L, Fried LP, et al. Physical Frailty: ICFSR International Clinical Practice Guidelines for Identification and Management. *J Nutr Health Aging* 2019;23(9):771-87.
93. Marcos-Pérez D, Sánchez-Flores M, Proietti S, Bonassi S, Costa S, Teixeira JP, et al. Low Vitamin D Levels and Frailty Status in Older Adults: A Systematic Review and Meta-Analysis. *Nutrients* [Internet] 2020 [Cited 2022 mar 25];12(8):2286. Available from: <https://www.mdpi.com/2072-6643/12/8/2286>
94. Bruyère O, Cavalier E, Buckinx F, Reginster JY. Relevance of vitamin D in the pathogenesis and therapy of frailty. *Curr Opin Clin Nutr Metab Care* 2017;20(1):26-9.
95. Park Y, Choi JE, Hwang HS. Protein supplementation improves muscle mass and physical performance in undernourished prefrail and frail elderly subjects: a randomized, double-blind, placebo-controlled trial. *Am J Clin Nutr* 2018;108(5):1026-33.
96. Palmer K, Vetrano DL, Marengoni A, Tummolo AM, Villani ER, Acampora N, et al. The Relationship between Anaemia and Frailty: A Systematic Review and Meta-Analysis of Observational Studies. *J Nutr Health Aging* 2018;22(8):965-74.

97. Hung CD, Yang CC, Lee CY, Hu SCS, Chen SC, Hung CH, et al. Polypharmacy Is Significantly and Positively Associated with the Frailty Status Assessed Using the 5-Item FRAIL Scale, Cardiovascular Health Phenotypic Classification of Frailty Index, and Study of Osteoporotic Fractures Scale. *J Clin Med* 2021;10(19):4413.
98. Cooper JA, Cadogan CA, Patterson SM, Kerse N, Bradley MC, Ryan C, et al. Interventions to improve the appropriate use of polypharmacy in older people: a Cochrane systematic review. *BMJ Open* [Internet] 2015 [Cited 2022 mar 25];5(12):e009235. Available from: <https://bmjopen.bmj.com/content/5/12/e009235>
99. Saeed D, Carter G, Parsons C. Interventions to improve medicines optimisation in frail older patients in secondary and acute care settings: a systematic review of randomised controlled trials and non-randomised studies. *Int J Clin Pharm* 2022;44(1):15-26.
100. Ibrahim K, Cox NJ, Stevenson JM, Lim S, Fraser SDS, Roberts HC. A systematic review of the evidence for deprescribing interventions among older people living with frailty. *BMC Geriatr* 2021;21(1):258.
101. Delgado Silveira E, Muñoz García M, Montero Errasquin B, Sánchez Castellano C, Gallagher PF, Cruz-Jentoft AJ. Prescripción inapropiada de medicamentos en los pacientes mayores: los criterios STOPP/START. *Rev Esp Geriatria Gerontol* [Internet] 2009 [Cited 2022 mar 25];44(5):273-9. Available from: <https://www.elsevier.es/es-revista-revista-espanola-geriatria-gerontologia-124-articulo-prescripcion-inapropiada-medicamentos-pacientes-mayores-S0211139X09001310>
102. Vetrano DL, Palmer K, Marengoni A, Marzetti E, Lattanzio F, Roller-Wirnsberger R, et al. Frailty and Multimorbidity: A Systematic Review and Meta-analysis. *J Gerontol A Biol Sci Med Sci* 2019;74(5):659-66.
103. Yu R, Leung G, Woo J. Randomized Controlled Trial on the Effects of a Combined Intervention of Computerized Cognitive Training Preceded by Physical Exercise for Improving Frailty Status and Cognitive Function in Older Adults. *Int J Environ Res Public Health* [Internet] 2021 [Cited 2022 mar 25];18(4):1396. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7913348/>
104. Kim H, Jung YI, Kim GS, Choi H, Park YH. Effectiveness of a Technology-Enhanced Integrated Care Model for Frail Older People: A Stepped-Wedge Cluster Randomized Trial in Nursing Homes. *The Gerontologist* 2021;61(3):460-9.
105. Sadjapong U, Yodkeeree S, Sungkarat S, Siviroj P. Multicomponent Exercise Program Reduces Frailty and Inflammatory Biomarkers and Improves Physical Performance in Community-Dwelling Older Adults: A Randomized Controlled Trial. *Int J Environ Res Public Health* 2020;17(11):E3760.
106. Lin T, Zhao Y, Xia X, Ge N, Yue J. Association between frailty and chronic pain among older adults: a systematic review and meta-analysis. *Eur Geriatr Med* 2020;11(6):945-59.
107. Yuan L, Chang M, Wang J. Abdominal obesity, body mass index and the risk of frailty in community-dwelling older adults: a systematic review and meta-analysis. *Age Ageing* 2021;50(4):1118-28.
108. Afonso C, Sousa-Santos AR, Santos A, Borges N, Padrão P, Moreira P, et al. Frailty status is related to general and abdominal obesity in older adults. *Nutr Res N Y N* 2021;85:21-30.
109. Yin YH, Liu JYW, Fan TM, Leung KM, Ng MW, Tsang TY, et al. Effectiveness of Nutritional Advice for Community-Dwelling Obese Older Adults With Frailty: A Systematic Review and Meta-Analysis. *Front Nutr* [Internet] 2021 [Cited 2022 mar 25];8. Available from: <https://www.frontiersin.org/article/10.3389/fnut.2021.619903>

110. Cichero JAY. Age-Related Changes to Eating and Swallowing Impact Frailty: Aspiration, Choking Risk, Modified Food Texture and Autonomy of Choice. *Geriatr Basel Switz* 2018;3(4):E69.
111. Kawakami Y, Hamano J. Changes in Body Mass Index, Energy Intake, and Fluid Intake over 60 Months Premortem as Prognostic Factors in Frail Elderly: A Post-Death Longitudinal Study. *Int J Environ Res Public Health* 2020;17(6):E1823.
112. Moon JH, Huh JS, Won CW, Kim HJ. Living and eating alone on depressive symptoms by physical frailty status: A cross-sectional study based on the Korean Frailty and Aging Cohort Study. *Arch Gerontol Geriatr* 2022;98:104570.
113. Ng TP, Nyunt MSZ, Feng L, Feng L, Niti M, Tan BY, et al. Multi-Domains Lifestyle Interventions Reduces Depressive Symptoms among Frail and Pre-Frail Older Persons: Randomized Controlled Trial. *J Nutr Health Aging* 2017;21(8):918-26.
114. Pourmotabbed A, Boozari B, Babaei A, Asbaghi O, Campbell MS, Mohammadi H, et al. Sleep and frailty risk: a systematic review and meta-analysis. *Sleep Breath Schlaf Atm* 2020;24(3):1187-97.
115. Rainero I, Summers MJ, Monter M, Bazzani M, Giannouli E, Aumayr G, et al. The My Active and Healthy Aging ICT platform prevents quality of life decline in older adults: a randomised controlled study. *Age Ageing* 2021;50(4):1261-7.
116. Mazya AL, Garvin P, Ekdahl AW. Outpatient comprehensive geriatric assessment: effects on frailty and mortality in old people with multimorbidity and high health care utilization. *Aging Clin Exp Res* 2019;31(4):519-25.
117. Cruz-Jentoft AJ, Daragjati J, Fratiglioni L, Maggi S, Mangoni AA, Mattace-Raso F, et al. Using the Multidimensional Prognostic Index (MPI) to improve cost-effectiveness of interventions in multimorbid frail older persons: results and final recommendations from the MPI_AGE European Project. *Aging Clin Exp Res* 2020;32(5):861-8.
118. Ekdahl AW, Alwin J, Eckerblad J, Husberg M, Jaarsma T, Mazya AL, et al. Long-Term Evaluation of the Ambulatory Geriatric Assessment: A Frailty Intervention Trial (AGE-FIT): Clinical Outcomes and Total Costs After 36 Months. *J Am Med Dir Assoc* 2016;17(3):263-8.
119. Gonzales-Turín JM, Rodríguez-Laso Á, Carnicero JA, García-García FJ, Rodríguez-Mañas L. Relationship between self-reported visual impairment and worsening frailty transition states in older people: a longitudinal study. *Aging Clin Exp Res* 2021;33(9):2491-8.
120. Tian R, Almeida OP, Jayakody DMP, Ford AH. Association between hearing loss and frailty: a systematic review and meta-analysis. *BMC Geriatr [Internet]* 2021 [Cited 2022 mar 29];21(1):333. Available from: <https://doi.org/10.1186/s12877-021-02274-y>
121. Ministerio de Sanidad, Servicios Sociales e Igualdad. Guía metodológica para integrar la Equidad en las Estrategias, Programas y Actividades de Salud. Versión 1. [Internet]. 2012. [Cited 2022 mar 14]; Available from: https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/promocion/desigualdadSalud/jornadaPresent_Guia2012/docs/Guia_metodologica_Equidad_EPAs.pdf
122. Ministerio de Sanidad. Historia Clínica Digital del Sistema Nacional de Salud [Internet]. [Cited 2022 mar 17]; Available from: <https://www.sanidad.gob.es/profesionales/hcdsns/home.htm>
123. Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. Summary of the Updated American Geriatrics Society/British Ge-

- riatrics Society clinical practice guideline for prevention of falls in older persons. *J Am Geriatr Soc* 2011;59(1):148-57.
124. Martínez-Velilla N, Herrero AC, Cadore EL, Sáez de Asteasu ML, Izquierdo M. Iatrogenic Nosocomial Disability Diagnosis and Prevention. *J Am Med Dir Assoc* 2016;17(8):762-4.
 125. Gómez Jiménez E, Avendaño Céspedes A, Cortés Zamora EB, García Molina R, Abizanda P. Frailty prevalence in hospitalized older adults. A systematic review. *Rev Esp Salud Pública*. 2021; 95: e202110158.
 126. Casas-Herrero Á, Sáez de Asteasu ML, Antón-Rodrigo I, Sánchez-Sánchez JL, Montero-Odasso M, Marín-Epelde I, et al. Effects of Vivifrail multicomponent intervention on functional capacity: a multicentre, randomized controlled trial. *J Cachexia Sarcopenia Muscle* 2022.
 127. Junta de Andalucía. Consejería de Salud y Familias. Proyecto Numa [Internet]. [Cited 2022 mar 17]; Available from: https://www.numaweb.es/wp-content/uploads/2019/07/NUMA_Presentacion-_General.pdf
 128. Ministerio de Sanidad, Servicios Sociales e Igualdad. Guía para la implementación local de la Estrategia de Promoción de la Salud y Prevención en el SNS. [Internet]. 2015 [Cited 2022 mar 17]; Available from: https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/Guia_implementacion_local.pdf
 129. Federación Española de Municipios y Provincias. Red Española de Ciudades Saludables (RECS) [Internet]. Available from: <http://recs.es/>
 130. Instituto de Mayores, y Servicios Sociales. Ciudades y comunidades amigables para las personas mayores [Internet]. Available from: https://ciudadesamigables.imserso.es/ccaa_01/index.htm
 131. Ministerio de Sanidad. Convocatoria de Ayudas a las Entidades Locales 2021 [Internet]. 2021 [Cited 2022 mar 17]; Available from: <https://www.sanidad.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/ConvocatoriaAyudas.htm>
 132. Cassetti V, López-Ruiz V, Paredes-Carbonell JJ, por el Grupo de Trabajo del Proyecto, Adapta GPS. Participación comunitaria: mejorando la salud y el bienestar y reduciendo desigualdades en salud. Zaragoza: Ministerio de Sanidad, Consumo y Bienestar Social-Instituto Aragonés de Ciencias de la Salud; [Internet]. 2018; Available from: https://portal.guiasalud.es/wp-content/uploads/2019/01/GPC_579_Guia_Adapta_Participacion_-Comunitaria.pdf
 133. Courel-Ibáñez J, Pallarés JG, García-Conesa S, Buendía-Romero Á, Martínez-Cava A, Izquierdo M. Supervised Exercise (Vivifrail) Protects Institutionalized Older Adults Against Severe Functional Decline After 14 Weeks of COVID-19 Confinement. *J Am Med Dir Assoc* 2021;22(1):217-219.e2.
 134. Slater SJ. Recommendations for Keeping Parks and Green Space Accessible for Mental and Physical Health During COVID-19 and Other Pandemics. *Prev Chronic Dis* [Internet] 2020 [Cited 2022 mar 29];17. Available from: https://www.cdc.gov/pcd/issues/2020/20_0204.htm
 135. Ministerio de Sanidad. Curso: Detección y Manejo de Fragilidad y Caídas en las Personas Mayores [Internet]. Available from: https://www.sanidad.gob.es/ca/profesionales/saludPublica/prevPromocion/Estrategia/PlanCapacitacion/Curso_Fragilidad.htm
 136. Ministerio de Sanidad, Servicios Sociales e Igualdad. Consenso sobre prevención de fragilidad y caídas en el SNS Registro en la Historia Clínica Electrónica de Atención

- Primaria. [Internet]. Available from: https://www.sanidad.gob.es/ca/profesionales/saludPublica/prevPromocion/Estrategia/docs/Fragilidad/FragilidadCaidas_Registro.pdf
137. Pola Ferrández E, Zuza Santacilia I, Gil Tarragato S, Justo Gil S, Campos Esteban P, López Franco MA. Promoción del envejecimiento saludable a través del abordaje de la fragilidad. *Rev Esp Salud Pública*. 2021; 95: 4 de junio e202106095.
 138. Shah S, Vanclay F, Cooper B. Improving the sensitivity of the Barthel Index for stroke rehabilitation. *J Clin Epidemiol* 1989;42(8):703-9.
 139. Garcia-Garcia FJ, Gutierrez Avila G, Alfaro-Acha A, Amor Andres MS, De Los Angeles De La Torre Lanza M, Escribano Aparicio MV, et al. The prevalence of frailty syndrome in an older population from Spain. The Toledo Study for Healthy Aging. *J Nutr Health Aging* 2011;15(10):852-6.
 140. Cabrero-García J, Muñoz-Mendoza CL, Cabañero-Martínez MJ, González-Llopis L, Ramos-Pichardo JD, Reig-Ferrer A. Valores de referencia de la Short Physical Performance Battery para pacientes de 70 y más años en atención primaria de salud. *Aten Primaria* [Internet] 2012 [Cited 2022 mar 29];44(9):540-8. Available from: <https://www.sciencedirect.com/science/article/pii/S0212656712000923>
 141. Kwon S, Perera S, Pahor M, Katula JA, King AC, Groessl EJ, et al. What is a meaningful change in physical performance? Findings from a clinical trial in older adults (the LIFE-P study). *J Nutr Health Aging* 2009;13(6):538-44.
 142. Kiel DP, Falls in older persons: Risk factors and patient evaluation. Uptodate, 2014.
 143. An evaluation of the effectiveness of a multi-modal intervention in frail and pre-frail older people with type 2 diabetes--the MID-Frail study: study protocol for a randomised controlled trial-PubMed [Internet]. [Cited 2022 abr 5]; Available from: <https://pubmed.ncbi.nlm.nih.gov/24456998/>
 144. Graham JE, Ostir GV, Kuo YF, Fisher SR, Ottenbacher KJ. Relationship between test methodology and mean velocity in timed walk tests: a review. *Arch Phys Med Rehabil* 2008;89(5):865-72.
 145. Peters DM, Fritz SL, Krotish DE. Assessing the reliability and validity of a shorter walk test compared with the 10-Meter Walk Test for measurements of gait speed in healthy, older adults. *J Geriatr Phys Ther* 2001 2013;36(1):24-30.
 146. Cruz-Jentoft AJ, Baeyens JP, Bauer JM, Boirie Y, Cederholm T, Landi F, et al. Sarcopenia: European consensus on definition and diagnosis: Report of the European Working Group on Sarcopenia in Older People. *Age Ageing* 2010;39(4):412-23.
 147. Perera S, Mody SH, Woodman RC, Studenski SA. Meaningful change and responsiveness in common physical performance measures in older adults. *J Am Geriatr Soc* 2006;54(5):743-9.
 148. Junta de Castilla y León. Consejería de Familia e Igualdad de Oportunidades Gerencia de Servicios Sociales. Plan estratégico de Castilla y León contra la soledad no deseada y el aislamiento social para el periodo 2022-2027. [Internet]. Available from: <http://participa.jcyl.es/forums/938193-plan-estrat%C3%A9gico-contra-la-soledad-no-deseada-y-el>

5. Annexes

Annex 1. Implementation assessment of the Consensus Document on Prevention of Frailty and Falls in Elderly People

The collective effort to overcome the challenges posed by frailty, AACC have played a vital role in the implementation of actions for the prevention of frailty and falls in elderly people. According to the last review in 2019^[137], 15 AACC had initiated some activities, such as professional training (9 AACC), creation of a working groups dedicated to frailty (8 AACC), incorporation into health plans, care for elderly people, frailty or chronicity and/or incorporation of the Consensus Document^[3] into their local strategies. At least 4 AACC had implemented the algorithm in full and were implementing it, 4 had included it included in their range of services, 4 had the project ready for inclusion into their range of services as soon as possible. In all of them, the COVID-19 pandemic was a major obstacle for its progression including all AACC that had not yet started the implementation.

Regarding the implementation of interventions to prevent frailty and/or falls, 13 AACC have implemented some kind of physical activity programme, mostly in health centres, sports centres and elderly people's centres; 7 have implemented multi-component physical exercise programmes; and 14 AACC have carried out medication reviews (12 of them applied the STOPP/START criteria).

In all AACC, assessment and advice about healthy lifestyles was provided, including advice on physical exercise, diet, prevention of falls, alcohol consumption, smoking and advice on emotional well-being.

Because of the growing prevalence of frailty, AACC have made an effort to facilitate the logging of activities carried out regarding frailty approach. A total of 11 AACC have created a section or specific area within the EMR to implement the programme for frailty and fall prevention. A total of 15 AACC have collected the data concerning functional assessment conducted, as well as for the assessment for fall risk. Furthermore, in 16 of the 17 AACC, at least one frailty and/or falls prevention intervention was recorded, such as medication review, assessment and advice on healthy lifestyles or physical activity.

AACC were also involved in raising awareness on frailty through initiatives and projects related to the promotion of active and healthy ageing (7 AACC) or events, forums and other events and activities aimed at raising awareness and sharing the information on the prevention and management of frailty (12 AACC).

AACC reported the training of health and non-health professionals involved, and the presence of multiple strategies related to ageing and frailty, as the main contributors to the implementation of the consensus on prevention of frailty and falls. They also indicated that the creation of multidisciplinary working groups and support groups from other relevant sectors have contributed to the implementation.

As the main obstacles to their implementation, AACC highlighted the lack of resources to develop multi-component physical activity programmes, the need to improve coordination between the health system and community resources, the work overload of health professionals, and the need to improve equal access to multi-component physical activity programmes. The pandemic has also limited the prioritisation of frailty prevention in the various communities.

Annex 2. Early frailty detection and assessment tools

The evidence supporting the use of early detection and assessment tools can be found in the previous Consensus Document^[3]. The following provides a description of them for easier review.

Barthel Index^[46]

Table 3: Barthel Scale. Source: own document based on Mahoney et al ^[46]

BARTHEL INDEX	
	Assessment
Eat	
Independent	10
Needs help to cut meat or bread, spread butter, etc	5
Dependent	0
Wash	
Independent: able to wash themselves entirely in the shower or in the bath	5
Dependent	0
Get Dressed	
Independent: able to put on and take off clothes without help	10
Needs help, but does at least half of the task alone in a reasonable amount of time	5
Dependent	0
Eat	
Independent	10
Needs help to cut meat or bread, spread butter, etc	5
Dependent	0
Wash	
Independent: able to wash themselves entirely in the shower or in the bath	5
Dependent	0
Get Dressed	
Independent: able to put on and take off clothes without help	10
Needs help, but does at least half of the task alone in a reasonable amount of time	5
Dependent	0

	Assessment
Get ready	
Independent: includes washing face and hands, combing hair, applying make-up, shaving, etc.	5
Dependent	0
Bowel movement (assesses the previous week)	
Continent: no incontinence events	10
Occasional: one incontinence events, needs help to administer enemas or suppositories	5
Incontinent	0
Urination (assess the previous week)	
Continent: no incontinence events	10
Occasional: at most one incontinence event within 24 hours; needs help with catheter or collector	5
Incontinent	0
Using the toilet	
Independent: uses the toilet, chamber pot or bedpan without help and without staining or smearing	10
Needs a little help to take off and put on clothes, but cleans up after themselves.	5
Dependent	0
Moving (armchair/bed)	
Independent	15
Minimal physical assistance or verbal supervision	10
Needs a lot of help (trained person), but can sit without help	5
Dependent: needs a hoist or help from two people; cannot sit still	0
Walking	
Independent: walks alone for 50 metres, can use a walking stick, crutches or walking frame without wheels; if using a prosthetic limb, is able to take it off and put it on	15
Needs physical assistance or supervision to walk 50 metres	10
Independent in wheelchair without assistance or supervision	5
Dependent	0
Climbing stairs	
Independent to go up and down a floor without supervision or help from another person	10
Needs physical help from another person or supervision	5
Dependent	0

Their results, when assessing the degree of dependency for ADL, are established according to Shah et al.^[138] as follows:

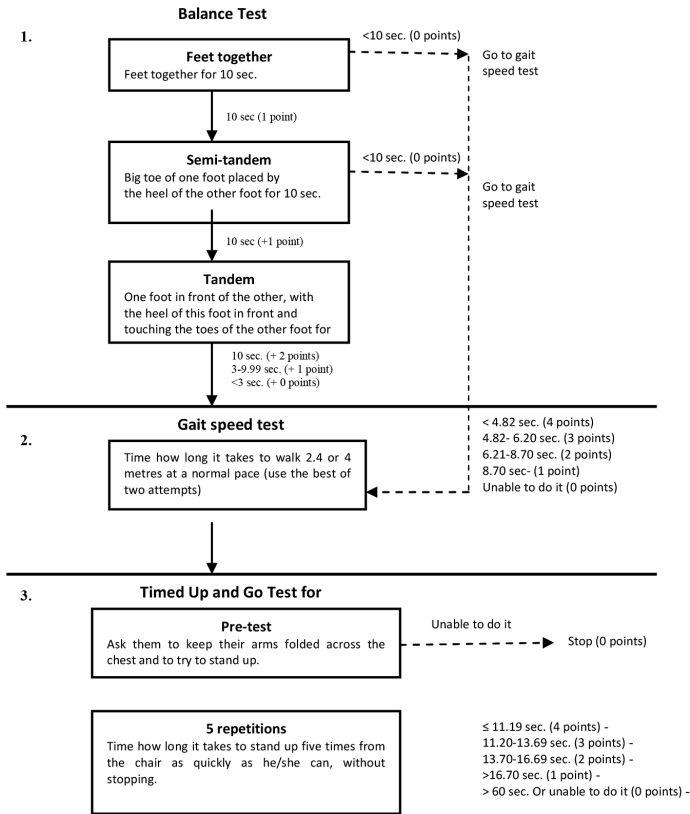
- Low dependency (91-99),
- Moderate dependency (61-90),
- Severe dependence (21-60),
- Full dependency (0-20).

Short Physical Performance Battery (SPPB)^[32]

It involves three tests: balance (in three positions: feet together, semi-tandem walking and tandem walking), gait speed (over 2.4 or 4 metres) and getting up and sitting on a chair five times. It is very important to respect the order of the tests, because if we start with the sitting, the patient may get tired and give falsely low results for the following two tests. The average duration procedures is between 6 and 10 minutes.

The standard values for the Spanish population are based on several studies, in population cohorts^{[51][139][140]} and in primary healthcare. The total SPPB score is the sum of the three sub-tests, and ranges from 0 (worst) to 12; changes of 1 point have clinical significance^{[141][32]}. A score below 10 suggests frailty and a high disability risk, as well as a high fall risk^[142]. The following provides an outline and execution protocol for the tests:

Figure 5: Diagram of the SPPB test implementation.



Source: Rodríguez Mañas L, et al^[143]

Gait speed (GS)^[51]

It entails asking the person to walk a distance of 2.4, 4, 5, 6 or 10 metres at their usual gait speed, although it can be adapted to a distance of 3 or 4 metres for its use in PC^{[144][145]}. The most widely used cut-off points for determining the risk threshold are usually between 1 and 0.8m/sec, the latter being the most widely used cut-off value in different studies and consensus recommendations^[146]. The test takes between 2 and 3 minutes to be carried out. For speeds over 4 metres, the interpretation data gives 0.05 m/s as a minor significant change, and 0.1 m/s as a substantial change^[147]. This 4-metre test is the one which has been most validated amongst the bibliography.

Timed Up And Go Test "TUG"^[34]

It consists of measuring the time it takes for a person to get up from an armchair, walk 3 metres, turn around, return to the chair and sit down. The test has to be done once as a practice run and then twice while being timed. Procedure time is of 1-2 minutes. Some publications have shown it to be a better prognosticator for fall risk with cut-off points above 20 and for frailty with cut-off points between 10-20. The cut-off point used in the previous document was ≥ 20 to determine a high frailty probability, although a cut-off point > 12 would seem more in line with the current literature available, and is therefore modified as part of this update^{[35][36][37]}.

FRAIL scale^[38]

Validated and user-friendly scale. It is made up of 5 simple questions, each relating to a specific domain (Tiredness, Endurance, Walking, Co-morbidities and Weight Loss). Each element is scored with 1 point if it occurs, and the total sum is obtained. Typically, scores of 1 or 2 have been used as indicator for pre-frailty and scores of 3 or more for frailty. However, a recent paper^[40] has shown that a cut-off point of 3 or more has a low sensitivity for detecting frailty in PA according to Fried's phenotype and the Frailty Index, and therefore this consensus paper favours a cut-off point for suspected frailty set at 1 or more.

- **Tiredness: "How much time did you feel tired over the last 4 weeks?"**

1 = All the time,
2 = Most of the time,
3 = Some of the time,
4 = a bit of the time,
5 = Never.

Answers "1" or "2" are marked as 1 point and all others as 0 points.

Baseline prevalence = 20.1%.

- **Endurance: "Do you have any difficulty going up 10 steps without taking a rest on your own, or without any help?"**

1 point = Yes,
0 points = No,

Baseline prevalence = 25.5%.

- **Walking: On your own and without the use of walking supports, do you have any difficulty walking several hundred metres?"**

1 point = Yes,
0 points = No,

Baseline prevalence = 27.7%.

- **Co-morbidities: for 11 illnesses, the question asked is: “Has a doctor ever told you that you have [insert illness]?”**

The illnesses are: hypertension, diabetes, cancer (other than minor skin cancer), chronic lung disease, heart attacks, congestive heart failure, angina pectoris, asthma, arthritis, strokes and kidney illnesses.

0 points = 0-4 illnesses,

1 point = 5 to 11 illnesses.

- **Weight loss: “How much do you weigh with your clothes on, but without shoes? [Current weight] “and “One year ago in (MONTH, YEAR), how much did you weigh without shoes and with your clothes on? [Weight 1 year ago]“. The weight change percentage is calculated as follows: $[(\text{weight 1 year ago} - \text{Current weight}) / \text{weight 1 year ago}] * 100$.**

Percentage change > 5 (representing 5% weight loss) is scored 1 point and <5% 0 points,

Baseline prevalence = 21.0%.

Annex 3. Screening and fall risk prevention proposal

Attached to this document is a summary of the "Consensus document on the prevention of frailty and falls in the elderly" (2014) proposal^[3]. It will soon be updated on the basis of the new available information.

Falls risk assessment:

- Have you suffered a fall in the last year that required any medical attention?
- Have you suffered two or more falls last year?
- Do you have any significant walking problems? (the answer to this question will be considered as positive if the frailty screening test results are abnormal)¹⁰

Following fall risk assessment, the individual will be ranked as low or high fall risk.

- **People with low fall risk**

Those with negative answers for all three early detection questions.

- They will be offered the same assessment and advice on regular physical activities and healthy eating offered to non-fragile people, as part of the comprehensive advice on healthy lifestyles.

A new fall risk assessment will be carried out every year.

- **People with high fall risk**

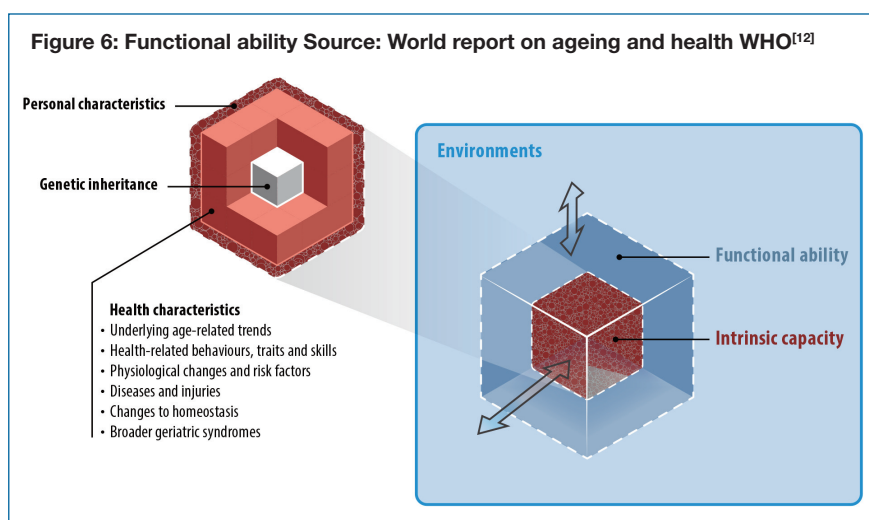
Those with positive answers to any of the three early detection questions.

- o They will be provided with a preventive intervention focusing on three components:
 - Multi-component physical exercise programme (balance and physical strength, aerobic resistance, flexibility), integrated into the programme for frailty prevention.
 - Medication review: focusing on the review of medications that have a negative impact on people with a fall risk according to STOPP/START criteria. Medications include: benzodiazepines, neuroleptics, first generation antihistamines (chlorpheniramine, diphenhydramine, hydroxyzine, promethazine, etc.), vasodilators and long-term opioids.
 - Review of risks at home through +/- check-lists, assessment of the home opportunistically during home visits by staff from the centre (nursing, social work...).

10 To be reviewed soon. Some studies have linked an increased fall risk with GS <0.8 m/s or TUG > 20 seconds, with no clear relation between SPPB and FRAIL.

Annex 4. Definitions

- **Functional ability:** includes health-related factors that enable a person to be and do what is important for them^[12]. It consists of:
 - o the intrinsic capacities of the person to combine all of the physical and mental capacities that a person has.
 - o the environmental characteristics that affect these capabilities, including all the external factors that are part of an individual's life, including their own environment, people and their interactions, attitude and values, health and social policies, the systems that support them, and the services they provide.
 - o and the interactions between both ("intrinsic capacities" and "the environment").



It would therefore be a mistake to assume that all elderly people are vulnerable and to treat them as a homogeneous group being solely identified by their age, without an individual risk assessment based on the functional abilities of each individual.

- **Introgenic Nosocomial Disability:** functional and cognitive impairment associated with hospitalisation^[124].
- **Ageism:** Age discrimination covers stereotypes and discrimination against people or groups of people because of their age. It can take various forms, such as judgemental attitudes, discriminatory practices, or institutional policies and practices that reinforce these stereotypical beliefs^[22].
- **Active ageing:** optimization of health opportunities, participation and security aimed at improving people's life quality as they age^[12].

- **Healthy ageing:** promotion and maintenance of functional capacity enabling mental well-being in old age^[12].
- **Frailty:** progressive age-related deterioration of physiological systems leading to a decline of intrinsic capacities, which result in increased vulnerability to stress factors and increases potential health threats^[12].
- **Undesired loneliness:** is the feeling a person perceives as a negative situation that generates ill feeling, interferes with their life goals and does not allow them to develop a meaningful and fulfilling life. It is a negative and unpleasant subjective experience resulting from a cognitive evaluation in which there are discrepancies between social relations desired by the person and those they actually have.^[148]

Annex 5. Authorship

Working Group on Prevention of Frailty and Falls Elderly People of the Health Promotion and Prevention Strategy of the National Health System

Rosana Patrocino Polo Region of Andalucía
Rosario Rodríguez Martínez Region of Andalucía
Salvador Saiz Oria Region of Andalucía
Susana Rodríguez Gómez Region of Andalucía
Oliva Ladrero Blasco Region of Aragon
Ana Clavería Tabuena Region of Aragon
Delia Peñacoba Maestre Region of Asturias
Margarita Gayá Janer Region of the Balearic Islands
María Consuelo Company Sancho Region of the Canary Islands
José Ramón Rodríguez Borges Region of the Canary Islands
Manuel Galán Cuesta Region of Cantabria
Francisco Jose García García Region of Castile-La Mancha
Begoña González Bustillo Region of Castile and Leon
Maria Teresa Jimenez Lopez Region of Castile and Leon
Eulalia Roure Cuspinera Region of Catalonia
M^a de Rosario Moreno Bernal Region of Ceuta
José M^a Sánchez Romero Region of Ceuta
Rosana Peiró Pérez Region of Valencia
Joan Quiles Izquierdo Region of Valencia
Eulalio Ruiz Muñoz Region of Extremadura
Manuela Bobadilla del Pozo Region of Extremadura
Ana Belén Cruces Maneiro Region of Galicia
Silvia Suárez Luque Region of Galicia
María Asunción Bermejo Díaz Region of Galicia
José Antonio Pinto Fontanillo Region of Madrid
Juan Rico Bermejo Region of Madrid
Maribel Montoro Robles Region of Melilla
Francisco José Aguilar González Region of Melilla
Aurora Tomás Lizcano Region of Murcia
Olga Monteagudo Piqueras Region of Murcia
Nerea Egües Olazábal Region of Navarre
Maite Calvo Yanguas Region of Navarre
Mari Luz Peña González Region of the Basque Country
Raquel Pérez Zuazo Region of La Rioja

Jesús Santianes Patiño Spanish Society of Primary Healthcare Doctors (SEMER-GEN)

Iñaki Martín Lesende Spanish Family and Community Medicine Society (semFYC)

Álvaro Casas Herrero Spanish Geriatric Medicine Society (SEMEG)

Pedro Abizanda Soler Spanish Geriatrics and Gerontology Society (SEGG)

Natalia Teixidó Colet Federation of Primary Healthcare Community Nursing Associations (FAECAP)

Jorge López Gómez Community Nursing Association (AEC)

Leocadio Rodríguez Mañas Centre for Biomedical Research in Fragility and Healthy Ageing Network (CIBERFES)

Cristina Alonso Bouzón Expert (Coordination ADVANTGE JA)

Ángel Rodríguez Laso Expert (ADVANTGE JA Coordination)

External review:

Mikel Izquierdo Redín Public University of Navarra

Coordination

(General Sub-Directorate of Health Promotion and Prevention. General Directorate of Public Health. Ministry of Health)

Elena Pola Ferrández (Tragsatec)

Inés Zuza Santacilia

Sara Gil Tarragato

Laura Sol Palacios Domínguez

Soledad Justo Gil

The objective of this document is to compile the evidence generated since the publication of the "Consensus document on prevention of frailty and falls in the elderly" (2014), in order to facilitate early detection of frailty and its management in the primary care setting, and to facilitate coordination with other levels of care and community resources involved in the care of the elderly.

In turn, it contributes to positioning the approach to frailty as a public health priority of the Prevention and Health Promotion Strategy of the Spanish NHS.

This document is aimed at health professionals, management and policy-making competencies persons and professionals in other areas related to the elderly. The scope of these recommendations is broad, including the entire healthcare system, with a special focus on primary care, the social and health care system, residential care and the community.



GOBIERNO
DE ESPAÑA

MINISTERIO
DE SANIDAD

www.sanidad.gob.es