

The two surveys are aimed at doctors and patients. The survey for doctors aims to assess the awareness of doctors on functional performance (/capacity – see further) decline and frailty related to ageing and their possibilities to prevent/delay the onset of these issues and/or mitigate their consequence – based on established principles and means. The survey for patients aims to assess the awareness, opinion and attitude of the population aged over 60 regarding healthy and active ageing.

## **Health Literacy on Functional Decline and Frailty Related to Ageing**

*Pilot Surveys for Doctors and Older Adult Patients*

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# Health Literacy on Functional\* Decline and Frailty Related to Ageing Pilot Surveys for Doctors and 60+ Older Adult Patients

## Introduction. Background

This initiative is part of the [European Innovation Partnership on Active and Healthy Ageing](#) (EIPAHA). It started as an individual commitment to contribute to 'Prevention of frailty and functional performance (/capacity – see further) decline' related to ageing and under the auspices of the EIPAHA, it became a more advanced endeavor under the framework of the [A3 Action Group on Prevention of frailty and functional performance \(/capacity\) decline](#).

The initiative will result in an assessment of the views, needs, benefits and barriers regarding health literacy (HL) on functional performance (/capacity) decline and frailty, related to ageing. The findings and the recommendations will constitute a unique tool to inform policies and decision-making at various levels.

### **The initiative is the result of voluntary work in partnership.**



***The present theoretical-methodological part is common for the two surveys. But each of the surveys will entail a different questionnaire, tailored to the target respondent, i.e. for doctors and respectively, for 60+ older adult patients.***

**Objectives:** The two surveys are aimed at doctors and 60+ older adult patients. The survey for doctors aims to assess the awareness of doctors on functional performance (/capacity) decline and frailty related to ageing and their possibilities to prevent/ delay the onset of these issues and/or mitigate their consequences\*\*.

The survey for patients also aims to assess the awareness, opinion and attitude of the population aged over 60\*\*\* regarding healthy and active ageing. The surveys build on the conceptual framework of the [European Health Literacy Project \(HLS-EU\)](#) \*\*\*\*.

\*There is – and therefore we stress on it – a factual and consequent, semantic difference between and individual's functional ("somatic"/ "neuro--myo--arthro--kinetic"– mainly of activities of daily living (ADLs)/ instrumental (IADLs) type, but also with necessary/ underpinning cognitive connections) *performance* – including with its age-related decline/ impairment – and his/her functional *capacity* (also including with its age-related decline/ impairment). So, these terms refer to two very closely inter-conditioned, but not identical, bio-functional categories/ states. Accordingly, as decided by the authors of these two pilot surveys, in order to avoid confusions within a complex and not very frequently approached domain, the focus of our endeavors/ questions within the questionnaires, will be on the easier to be observed/ assessed in real conditions of current medical (including for many outpatients) practice, i.e. on the functional performance and its decline, related to ageing.

\*\*Based on established principles and means.

\*\*\*Generally, the old age – "definition of an older or elderly person" – is considered to start after 60-65 years<sup>1</sup>. Currently, a significant/ disabling functional (/capacity) (/capacity) decline – with connected frailty – is to be determined in seniors over 70 years old, even over 75, beyond the third age<sup>2</sup>, and also in the more recently growing cohort of the centenarians, although there is "confirmed", in some relevant related works, the "65 as the age at which 'bodily and mental vigour begin to decline:"<sup>3</sup>.

One of our overall main goals in achieving and deploying these two pilot surveys, is also – through measuring the (health) literacy on functional (/capacity) decline and frailty, in older patients, in some European countries – to ultimately provide including a documented prerequisite/ basis for related, more coherent and efficient, integrated, preventive – medical/ social/ policy decision/ of advocacy. kinds – approaches/ endeavors.

Additionally, when establishing the lowest age of the population we target, there have to be considered, too, the so-called "transition in livelihood" ages: "occurred between the ages of 45 and 55 years for women and between the ages of 55 and 75 years for men"<sup>4</sup>.

Thereby, having in mind the two afore exposed dialectically antagonical rationale, we considered the smallest age of the people to be recruited in our survey for the older patients, to be 60+ years old.

\*\*\*\*The pilot surveys use the conceptual framework of the European Health Literacy Project (HLS-EU) to measure "how people access, understand, appraise and apply information to make decisions in terms of: general knowledge on the subject matter, health care, disease prevention and health promotion" [Executive summary (D17) of the final report to the European Commission, of the European Health Literacy Project (HLS-EU, 2009-2012) of the HLS-EU Consortium 2012 (Final report of HLS EU available [here](#))].

## Conceptual framework and methodology outlining

The conceptual framework of the questionnaires was derived from the conceptual model and definition developed by the HLS-EU, where HL is defined as "linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course."<sup>5</sup> Hence, this survey focuses on the ability of doctors and patients to find, understand, judge and use information to make decisions concerning the prevention of functional (/capacity) decline and frailty, related to ageing. Functional (/capacity) decline and frailty can be defined as outlined below and further, in the Annex.

**Definition(s) of awareness:** "Knowledge or perception of a situation or fact" or "Concern about and well-informed interest in a particular situation or development"<sup>6</sup>. "Knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience"<sup>7</sup>. Customized definition for health/ medical awareness: "having knowledge/ notion or conscious understanding of an event or medical subject" (J. v. d. Vliet).

**Definition of frailty:** *Frailty\** is "a state of increased ("secondary"<sup>8</sup>) vulnerability"<sup>8</sup> in older adults, "with multiple system impairments" and consequent decline "in physiological reserves", and functional "capacity"<sup>9</sup> (but, admissible, dialectically balanced<sup>\*\*\*</sup>, by "resilience", regarding the "ability to cope with everyday or acute stressors"<sup>9</sup> – see adding and comments below and further). It "carries an increased risk for poor health outcomes including falls, incident disability, hospitalization, and mortality."<sup>9</sup>

**Introductory outlining of functionality – performance and capacity:** An individual's **functional performance**, including with its age-related decline/ impairment, mainly refers to "somatic"/ "neuro--myo--arthro--kinetic" items, basically of **ADLs/ IADLs** type – but also with necessary underpinning cognitive connections – **whereas** his/her **functional capacity** (also including with its age-related decline/ impairment) is considered to be described – quantitatively, too – by the aerobic power<sup>11</sup>. So, as above emphasized, these terms address two very closely inter-conditioned, but not identical, bio-functional categories/ states. Defining **functional decline**, including – especially, according to our focus: in older adults – there is also important to be pointed out the difference between the theoretical capability/ declared by the elderly "in standard functional disability assessments" and their "actual performance in daily life (enacted)" "tenses"<sup>12</sup>. This is mainly due to the fact that "some people may compensate for underlying functional decrements by adapting to a modified daily routine (e.g., the use of assistive devices) in order to maintain the same level of performance in real life (enacted)" and/or with "social support", within "internal", respectively, "external" "compensatory strategies"<sup>9</sup>. On the other hand, it is to be noted that different pathological/ para-physiological disabling statuses and/or "various demographic factors/ variables" may also "influence" on self-reported activity restriction/ functional limitations at older ages" (e.g.: "higher for people with several types of limitations, especially orientation and physical controlling for such limitations", "increased with age beyond 70", "higher for men than women below 70", "higher in institutions than in households")<sup>13</sup>. Regarding the **functional performance** and **its related to ageing decline**, for instance, the Functional Independence Measure (FIM) instrument can measure them both – see further.

\*term with quite large/ growing recognition in the literature, although not yet unanimously accepted

\*\*with intricate – in "self-perpetuating"/ vicious circle – para-physiological/ clinical occurrences, usually matching an "aggregate" "in a hierarchical order" into "syndromal presentation" (notion outlined as "a group of signs and symptoms that occur together and characterize a particular abnormality")<sup>9</sup>

\*\*\*hence possibly being preventable and even reversible, especially in its early stages; therefore, it is likely rather (only) a "precursor of disability"<sup>10</sup>

"The conceptual model integrates three health relevant areas (health care, disease prevention, health promotion) and four information processing stages (access, understand, appraise, apply) related to health relevant decision-making and tasks." <sup>14</sup> Awareness is a 5<sup>th</sup> stage we have added – and it precedes the four information processing stages, being the usual "chronological" sequence of learning about a new information. To the three relevant above mentioned areas (healthcare, disease prevention, health promotion) we have added: general knowledge.

This conceptual model/ framework has been operationalized through specific questions within the questionnaire related to each of our two pilot surveys (for doctors and respectively, for 60+ older adult patients) and assessed (evaluation paradigm) through a 4-point self-reported scale, ranging from "very easy" to "very difficult" as well as having "don't know" (as an answer option).

"These areas and stages combined create a matrix measuring HL" <sup>14</sup> on functional decline and frailty, related to ageing.

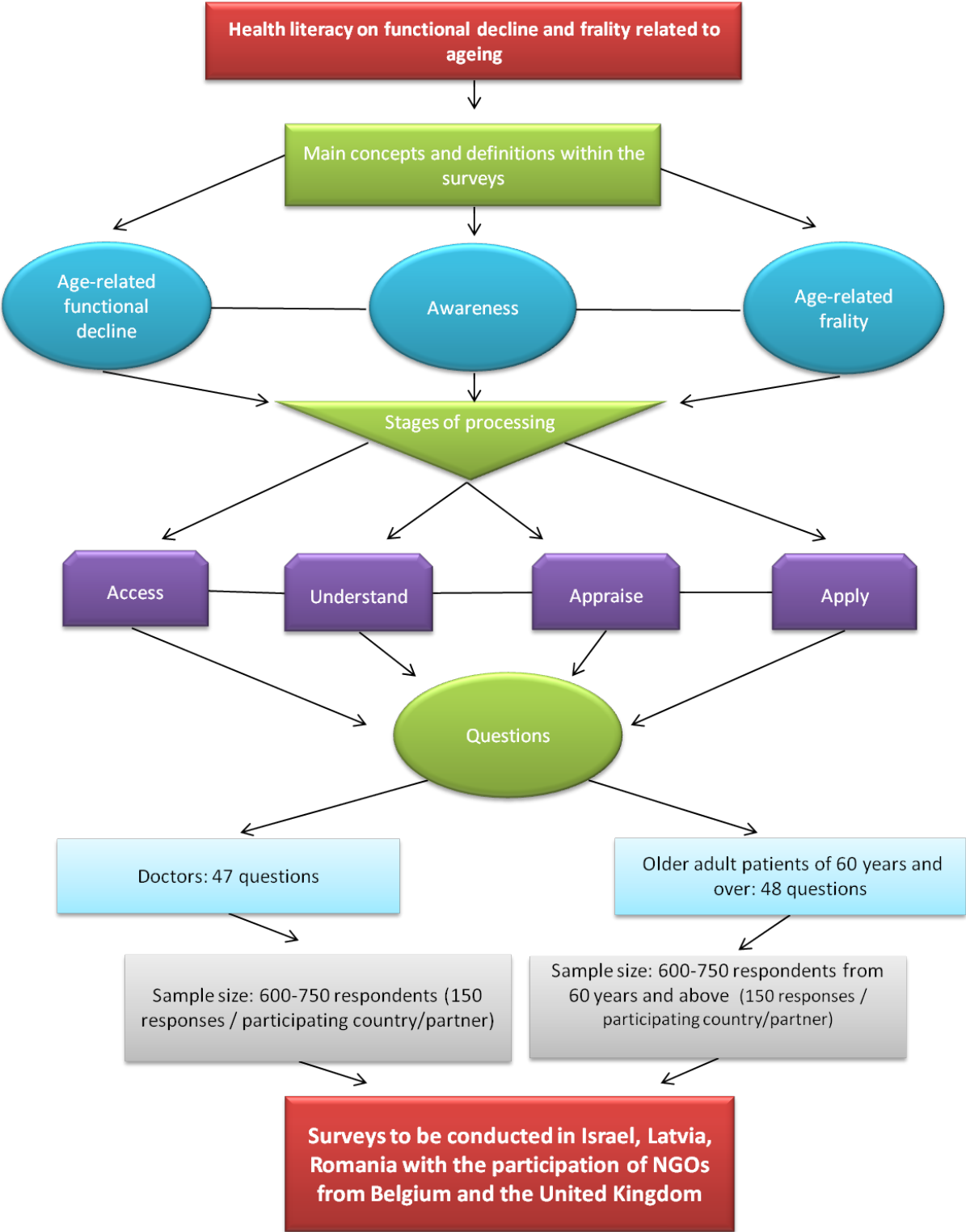
Figure 1 below depicts the main parts of this model.

The conceptual model for the questionnaires within the survey(s) was operationalized to cover five domains/ stages and sections:

- Awareness on the subject matter (functional decline and frailty related to ageing)
- Ability to access information concerning functional decline and frailty related to ageing
- Ability to understand information concerning functional decline and frailty related to ageing
- Ability to appraise information concerning functional decline and frailty related to ageing
- Ability to apply information concerning functional decline and frailty related to ageing

Accordingly, two sets of questions/ questionnaires were developed : one embedded within the related survey for doctors and one for 60+ older adult patients, respectively. The questions were developed by an expert panel from various disciplines such as: Gerontology & Geriatrics, HL, Physical & Rehabilitation Medicine, Rheumatology, Neurology, Psychiatry, Internal medicine, Cardiology, Orthopedics, Occupational Medicine, General Practice, other. Specific attention was given to ensure plain and simple wording – despite approaching a quite new and complex field – in the development of questions. The questionnaire for doctors has been conceived in English and will be used as such. The questionnaire for 60+ older adult patients will be translated from English (the original language of the surveys) into **four languages (Romanian, Latvian, French, Hebrew)** using translation-back-translation and in print format. Also, both kinds of questionnaires will be uploaded using an online questionnaire platform (SurveyMonkey).

Figure 1: Conceptual model of the HL functional decline and frailty related to ageing (mind map)



## Construction of indices regarding HL on functional decline and frailty related to ageing

The conceptual model is sustained by several indices. In each case, a dimension within the conceptual model is matched by a stage of processing and each index represents this conceptualization.

Following the literature on measuring scales for health surveys, the two surveys include several correlations in order to ensure construct validity as well as criterion validity to a high degree.

The types of answer options enable statistical analysis in the sense that both surveys may include, too, for calculations, models such as: ordinal integrated (instead of numerical) – median (inter-quartile) frequency of correct answers, dispersion instead of variance, Somer’s delta instead of Pearson correlation coefficient – or binary (frequency of yes answers) and also, possibly, refinements based on weights of items within the questionnaires<sup>15,16</sup>. Following the survey analysis methodology in healthcare, provided by Ian McDowell, the construct of these two surveys reflected on construct validity and reliability making sure appropriate correlations, are in place<sup>17</sup>.

<b>Structure of the questionnaire for doctors</b>	<b>Structure of the questionnaire for 60+ older adult patients</b>
<i>The questionnaire for doctors consists of <b>47</b> questions</i>	<i>The questionnaire for 60+ older adult patients consists of <b>48</b> questions</i>
Each questionnaire consists of one general and five specific sections:	
<ul style="list-style-type: none"> <li>• General personal information on the respondent</li> </ul>	
<ul style="list-style-type: none"> <li>• Awareness concerning the concepts of functional decline and frailty related to ageing</li> </ul>	
<ul style="list-style-type: none"> <li>• Access information on functional decline and frailty related to ageing</li> </ul>	
<ul style="list-style-type: none"> <li>• Understand information on functional decline and frailty related to ageing</li> </ul>	
<ul style="list-style-type: none"> <li>• Appraise information on functional decline and frailty related to ageing</li> </ul>	
<ul style="list-style-type: none"> <li>• Apply information on functional decline and frailty related to ageing</li> </ul>	

### Sampling

It is estimated that 150 respondents from each participating country and/or related NGO will satisfy the statistical requirements of sampling.

Thereby, a sample size of 600 responses (from the participating countries and NGOs) will ensure normally the identification of a 7% (or more) significant difference between two proportions, when one of them is 25% or less. (The signification level is supposed 0.05, the power 0.8.). Considering the aforementioned number of participant institutions, hopefully the sample size could be 750 respondents to each of the two questionnaire.



- For the survey addressed to doctors, the above mentioned participating countries and NGOs will recruit each 150 doctors. Additionally, the survey will be launched online, thus hopefully increasing the number of respondents.
- For the survey addressed to 60+ older adult patients, the same participating countries and NGOs will recruit, each, 150 patients. Additionally, new partners may support to ensure a wider recruitment and also, hopefully, other countries and/or related NGOs, would join our international collaborative endeavor, increasing the number of respondents.
- Data will be stored in two ways:
  - o For the online questionnaire, it will automatically be stored within the Survey Monkey.
  - o For the printed questionnaires, it will be sent back by each participating country and collected within the CPME Secretariat.

## Data analysis

Once the data is collected both from Survey Monkey and via the participating countries and/or related NGOs, the analysis will be performed with the support of a statistician.

## Ethics

All respondents are informed about the aim of the survey and how the results will be used and disseminated. Every respondent, previous to answering the questionnaire, will be asked to fill in and sign a customized informed consent form (displayed on Survey Monkey).

## Workplan

<b>Launch of the surveys:</b> <b>31.03.2014</b>				
<b><i>Pre-testing, validation of questionnaires:</i></b> <b>15 – 30.03.2014</b>				
<b><i>Dissemination to existing (and hopefully new) partners:</i></b> <b>April – May 2014</b>				
<b>Belgium (NGO)</b>	<b>Latvia</b>	<b>Israel</b>	<b>Romania</b>	<b>UK (NGO)</b>
<b>DOCTORS SURVEY</b>				
150	150	150	150	150
<b>60+ OLDER ADULT PATIENTS SURVEY</b>				
150	150	150	150	150

<b>Network approach dissemination plan</b> <i>April – May 2014</i>		
<b>EIPAHA A3 Action Group on Prevention of Frailty and Functional Decline</b>	<b>European Commission</b>	<b>EU project consortia regarding HL on functional decline and frailty related to ageing</b>
<b>COLLECTION OF PRELIMINARY RESULTS</b> <b>June 2014</b>		
<b>ANALYSIS OF PRELIMINARY RESULTS</b> <b>July–September 2014</b>		
<b>REPORT ON FIRST FINDINGS OF THE TWO PILOT STUDIES REGARDING HL ON FUNCTIONAL DECLINE AND FRAILITY RELATED TO AGEING</b> <b>October 2014</b>		

## **Outcomes and main deliverables**

The main outcome of the pilot surveys is a report with findings regarding HL on functional decline and frailty (HLFDF) related to ageing, for doctors and 60+ older adult patients.

The report aims to constitute an informative support for future development on HLFDF at EU/international level, including for a large scale study on the matter.

The main deliverables to sustain this outcome are:

1. Dissemination plan
2. Collection of results and statistical analysis
3. Discussion and main recommendations emerging from the results.

## **ANNEX: Definitions of frailty and of functional performance and capacity – including decline – in the elderly population: 60+ years old**

*“Frailty is one of those complex terms – like independence, life satisfaction, and continuity – that trouble gerontologists with multiple and slippery meanings”*

*SR Kaufman – The Social Construction of Frailty (cited by<sup>18</sup>)*

In order to facilitate an as correct as possible understanding of such a rather complex subject matter – upon which there is not yet a general consensus among specialists – aside the definitions already presented at page 5, we shall also provide, below, some main quotations from the literature (this information is complementary to the background and conceptual framework and methodology outlining sections of these two surveys):

**MODELS:** descriptions or analogies that are used to help us visualize something that typically cannot be directly observed.

**DEFINITIONS:** statements expressing the essential nature of something.

**CRITERIA:** operational definitions that outline the characterizing traits of an entity.

There are **overlaps** and **connections** across the various **models**, **definitions**, and **criteria** proposed for **frailty**. Some investigators have suggested **all three** – a model, a definition derived from the model and explicit criteria **for recognizing frail older persons**<sup>18</sup>.

Rather similar terms, used over time, are for instance: “chronic sick/ elderly sick”<sup>19</sup>, and “debilitated geriatric patients”<sup>20</sup> – supporting the generally accepted “natural” link between ageing, age-related (mainly chronic) diseases, functional (performance/ capacity) decline/ “declined fitness of the aged”<sup>21</sup>, connected frailty “and inactivity” – including sedentarily life style – and consequent dependency<sup>8</sup>.

## **FURTHER DEFINING INPUTS**

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**Starting** from “non-frail” (that refers to an older adult being in a state of non detectable impairment of his/her clinical-functional performance or capacity), in the literature there have been identified “categories” of frailty, such as: “pre-frail”, “frail”, including with its (main) related “sub-domains”: **physical** and **cognitive**<sup>9,22,23</sup>.

“In the **absence of a gold standard**”, an “operational” definition largely accepted of **frailty is that of Fried’s et al.:** “as meeting three out of five phenotypic criteria indicating compromised energetics”<sup>9</sup> (“adding cognitive impairment to frailty improves” ...“the operational definition of frailty, because it increases the risk of adverse health outcomes”<sup>22</sup>

More specifically, **Fried's et al. phenotypic/ physical criteria are:** "unintentional weight loss (10 lbs in past year), self-reported exhaustion, weakness (grip strength), slow walking speed, and low physical activity." ("There was overlap, but not concordance, in the co-occurrence of frailty, comorbidity, and disability. This frailty phenotype was **independently predictive** –over 3 years – of incident falls, worsening mobility or ADL disability, hospitalization, and death"), and, as a transition to the concept of the **pre-frailty category:** "**Intermediate frailty status**, as indicated by **the presence of one or two criteria**, showed **intermediate risk of these outcomes as well as increased risk of becoming frail over 3–4 years** of follow-up"; its " overall prevalence "increased with age and was greater in women than men". This "potential standardized definition", with "concurrent and predictive validity", "also finds that there is an intermediate stage identifying those at high risk of frailty."<sup>24</sup>

## ABOUT PRE-FRAILTY

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"Weakness" might represent "a clinically meaningful indicator of increasing vulnerability at a relatively early stage of the frailty process, when preventive intervention could be easiest to implement and theoretically most effective ... as it seems to be the most common first manifestation ... it begins in midlife ... been attributed to the loss of muscle mass and muscle quality referred to as sarcopenia, resulting from anatomic and biochemical changes in the aging muscle – and (followed by) ... slowness, and low physical activity ... whereas, in large majority, transitions to frailty involved adding exhaustion and/or weight loss." Therefore, "... by the time someone experiences weight loss or exhaustion, it may be too late to implement frailty interventions."<sup>9</sup>

Regarding **overall prevalence of frailty** (for "randomly selected community-dwelling individuals"), in a quite large population-based survey, comprising 10 **European** countries, this was: **17%**, and **pre-frailty: 42.3%** – in 65+ years old persons, with higher values in its South than North<sup>25</sup>.

## ADDITIONAL NOTE ON FRAILTY

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Although they are, basically – considering important characteristics/ otherness/ nuances in between – outlined as **different** physiological/ para-physiological and (rather) likewise, nosological, entities: ageing (and consequent), functional decline, pre-(respectively)/ frailty and chronic (non-communicable) diseases/ illnesses (including – characteristic for the elderly – multi-/ poly-morbidity<sup>26</sup> and disability – all the latter aimed to appear more and more seldom and/or later in the life course, with slower and/or less severe evolution, this overall, representing a most important global target of the European Commission, within its "health-in-all policies"<sup>27</sup> strategy: to increase, on average, the healthy lifespan/ number of healthy life years – HLY or "disability-free life expectancy"<sup>28</sup> – by two years for the European citizens, till 2020<sup>29</sup> – and to which is subsumed our actual endeavor) **are all closely connected**<sup>24,30-34</sup>. Hence, their approaches entail many conceptual and practical/ methodological **overlaps, neither possible nor necessary to be completely avoided**; and, despite in literature there can be found "entity specific definitions", not rarely some **afferent terms** (and

related **evaluation instruments** – see also further ) are, at least partially, **superimposed** (as it may be observed including in the afore presented definitions).

Accordingly/ moreover, related "various adaptations" are "often motivated by **available measures in specific studies rather than meaningful conceptual differences**"<sup>9</sup>. Thus, of additional, clarifying help: including "Future development of tools for the assessment of physiologic reserve and analysis of their relations to behavioral mal-adaptations" – but, at the same time, useful/ reliable ones –, it might be "necessary to better define and quantify "**reserve**" and "**resilience**" – the **hallmarks of frailty**"<sup>9,35,36</sup>.

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Additionally, including as regards the largely referred to, ADLs/ IADLs, "different disability rating scales can have a dramatic impact on prevalence estimates of disability in older populations"<sup>37</sup>. An important perspective – practically useful, too – including with a specific related assessment tool: Metabolic Equivalent (METs – see further) on the functional capacity, refers/ covers also, synthetically, the capabilities of the circulatory, respiratory and metabolic/ energetic, functions, to logistically support the "neuro-myo-arthro-kinetic apparatus" in achieving current physical tasks". From this perspective, **functional capacity is considered to be quantitatively described by the aerobic power**<sup>11</sup>.

## MAIN RELATED EVALUATION INSTRUMENTS

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The "Functional Independence Measure(ment – FIM™) "is the most widely accepted functional assessment measure in use in the rehabilitation community. The FIM(™) is an 18-item ordinal scale, used with all diagnoses within a rehabilitation population. It is viewed as most useful for assessment of progress during inpatient rehabilitation"<sup>38</sup>.

The FIM instrument refers to a scale that is used to measure one's ability to function with degrees of independence objectified and quantified from 1 ("Total Assist") to 7 ("Complete Independence") - based on the ability to perform operational activities such as (motor): self -care, sphincter/s control, transfer/s, locomotion and (cognitive): comprehension, expression, social interaction or memory, among other (totally 18), detailed, items. Usually, a FIM score is "collected within 72 hours after admission to the rehabilitation unit, within 72 hours before discharge, and between 80 to 180 days after discharge".

FIM has been proved to be an excellent tool for the assessment of functional status including in ageing people, focusing on the burden of disability, the patient's progress and his/her rehabilitation outcomes. The FIM scale consists of 18-items, each of it possible to be ranked from 1 ("Total assist needed) to 7 ("Complete independence – timely, safely"/no disability)<sup>39,40</sup>. More specific, accordingly, a normal/ completely independent person should sum up:  $18 \times 7 = 126$  points, conversely, a patient in very severe health/ clinical-functional (/capacity) state, needing "total assist" (the subject can achieve less than 25% of a tested task), could be quantified with  $18 \times 1 = 18$  points. This enables, we consider, the judgment that every 18 points gain of score (including for its means) on a FIM scale should, in figures, document the mathematical objectification of achieving one degree of (independence, respectively dependence) improvement; e.g.: from the degree 2 ("maximal assist" –

placed, on this scale, within the “complete dependence” level) to degree 3 (placed within its upper/better level of: “moderate assist”). Conversely, specifically, the “threshold” of 18 FIM points loss, from normally (126 points – level 7) to level 6 (“Modified independence” – “devices”) could be, reasonably considered to indicate a functional decline corresponding to pre-frailty. Furthermore, two thresholds of 18 FIM points each loss, leading to the level 5 (of slight dependence) could be assimilated to a functional (/capacity) decline that indicates frailty.

A more detailed – but also more difficult to be currently used/ time-consuming – variant of the FIM is the “Functional Assessment Measure (FAM)<sup>41</sup>: aside the content of FIM, it includes also other 12 items: swallowing, of mobility psycho-cognitive/ emotional, socio-community interaction type etc. Another assessment tool used in geriatric approaches of the functional independence capability is the Barthel index<sup>39</sup>.

As explained above, our two pilot surveys do not focus on the functional **capacity**; thereby in the following paragraphs, we shall only **quote** some main aspects (just for a brief related completion of their background): “The **metabolic equivalent (MET) concept** represents a simple, practical, and easily understood procedure for expressing **the energy cost of physical (numerous household and recreational) activities as a multiple of the resting metabolic rate. One MET is defined as the amount of oxygen consumed while sitting at rest and is equal to 3.5 ml O<sub>2</sub> per kg body weight x min.** The energy cost of an activity can be determined by dividing the relative oxygen cost of the activity (ml O<sub>2</sub>/kg/min) x by 3.5.” ... “For instance, a person participating in a game of tennis with only a slight change from normal state would be exercising at approximately 4 METS. A patient showing slight perspiration, accompanied by increased breathing, would be exercising at 6 METS. However, a person who shows heavy perspiration and heavy breathing while performing would be working at 10 METS.”

As exemplification, on a 5-level classification (adapted by the authors after – quoted by them: Ref. 2, McArdle et al., Exercise Physiology: Energy, Nutrition, and Human Performance, Lea & Febiger, 1986), in men the “physical activity in terms of exercise intensity”, ranges from “Light” (1.6-3.9 METs) to “Unduly heavy” (10.0- and over, METs) and in women – from “Light” (1.2-2.7 METs) to “Unduly heavy” (7.6- and over METs). Generally, “activities requiring an energy expenditure of 8 METS and above are considered to be of high intensity.” Moreover, “For example, a 40-year-old, 70-kg male whose **maximal aerobic power** is measured at 21 ml O<sub>2</sub>/kg/min (1.5 l/min O<sub>2</sub> or 105 W) would have a **functional capacity** equivalent to 6 METS (21 ml O<sub>2</sub>+3.5 ml O<sub>2</sub>=6 METS). This could then be interpreted to the patient that he/she has achieved a rate of energy expenditure equal to 6 times resting metabolic rate. On the basis of normative data, this value would be classified as poor. This patient could be classified as Functional (capacity) Class 2”. “Normative data for cardio-respiratory fitness for males aged 30-49 ranges, on 5 levels, too, from: “Excellent” (> 15 METs) to “Poor” (<7).

“In spite of its limitations: “larger” vs. “smaller” persons and/or with differences “in percent between body fat and **lean body mass (LBM)**” – that varies, including with ageing – o. n.); “energy expenditure values for a given activity vary not only according to body size, but also level of fitness, skill, and whether or not the activity is performed in a competitive situation”; the fact that it is not exclusively clinically assessable (o. n.) – **the MET concept provides a convenient method to describe the functional capacity or exercise tolerance of an individual as determined from progressive exercise testing and to define a repertoire of physical activities in which a person may participate safely, without exceeding a prescribed intensity level.**”<sup>11</sup>

The Cumulative Illness Rating Scale – CIRS/ m(modified)CIRS are five degrees scales, reliable/ valid quantitative tools<sup>42</sup>/ indexes/ instruments<sup>26</sup>/ indicators for assessing the "health status"<sup>43</sup> "in a primary care/ family practice context"<sup>26</sup> "in hospitalized elderly patients"<sup>44</sup>, including "among frail older institution residents"<sup>43</sup> and also "the clinical burden of several medical problems in the same patient (multimorbidity"<sup>26</sup>), thus being possibly – including with CIRS for Geriatrics (CIRS-G) – "useful in developing differential illness profiles associated with mortality, hospitalization/ re-hospitalization<sup>44</sup>, and disability"<sup>43</sup>.

Another evaluation instrument, respectively "of change in physical frailty" is the "Clinical Global Impression of Change in Physical Frailty", that consists of "six intrinsic domains (mobility, balance, strength, endurance, nutrition, and neuromotor performance) and seven consequences domains (medical complexity, healthcare utilization, appearance, self-perceived health, activities of daily living, emotional status, and social status)"<sup>45</sup>.

Last but not least, there has to be mentioned ("a tool that would be both predictive and easy to use"): "the Canadian Study of Health and Aging (CSHA) 7-point Clinical Frailty Scale, that extends/ evaluate it from "1. Very fit — robust, active, energetic, well motivated and fit; these people commonly exercise regularly and are in the most fit group for their age", to "7. Severely frail — completely dependent on others for the activities of daily living, or terminally ill"<sup>46</sup>. There could be important to also know – and better: to even assess – "behavioral precursors to the development of frailty"<sup>9</sup> such as "life space mobility" (/assessment – LSA)<sup>47</sup> respectively "life-space diary"<sup>48</sup>, because "changes in real life may reflect net impact of declining reserve, taking into account the balance between internal physiologic capacity and external challenges older adults experience in daily life" ... Thus, "...it is theorized that constriction of life space is a marker of declines in physiologic reserve and that constriction of life space itself could lead to decreased physical activity and social engagement, accelerated de-conditioning, and exacerbated decline in physiologic reserve, directly contributing— as these processes progress—to the development of clinical frailty and subsequent mortality"<sup>9</sup>.

Finally, an assessment tool quite easy to be used (also in the real conditions of a current medical practice – for many outpatients, too), in order to measure the gait speed, including in older adult patients, may be the "Timed 10-Meter Walk Test (T10-M WT)"<sup>49</sup>.

For a resembling purpose can be used also the Six-Minute Walk Test (6M WT)<sup>50,51</sup>.

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