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Health promotion and prevention of risk – actions for seniors

Pro-health 65+

WP4 Health status and life-style of older population

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Main tasks of WP 4

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- Complexity of health status of older cohorts: chronic diseases and multi-morbidity.
- Comprehensive health status analysis - two groups of indicators: objective (life expectancy, causes of mortality and morbidity, multi-morbidity, functional limitations and degree of disability) and subjective (health self-assessment, quality of life and general well-being).
- Health status determinants across life cycle of the elderly: income and social position, family relations, place of residence.
- Health related life style of the elderly.

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Main tasks of WP 4

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- Current and accumulated life-time effect of healthy living, life style choices determined by social position and a selection bias of premature mortality.
- The analysis of behavioral health determinants will use two groups of indicators and will be based on available cross-sectional and panel data.
- The analysis will take into account the impact of traditions as well as regional differences and differences between urban and rural areas. Behavioral patterns explaining sound differences in the health status of the elderly in Eastern and Western Europe will also be addressed.
- Policy oriented analysis will cover EU 28 countries (total) and selected representative countries.

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Definitions of healthy ageing

All developed definitions are based on multidimensional approach, differences concern:

- the content of proposals,
- hierarchy of used dimensions
- as well as using objective or subjective predictors of healthy ageing.

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Several definitions describing the meaning of the healthy ageing or successful ageing have been developed in the last decades, based on different perspective (medical-gerontological, psychological, sociological) proposed by gerontologists or geriatricians, additionally supported by the meaning of “healthy ageing” described from the point of view of older people (lay persons).

After review of existing state of scientific literature the following categories of definitions of healthy ageing can be classified:

1. Classical definitions, based on medical model of ageing
2. More precise definitions of healthy ageing based on medical/gerontological perspectives
3. Assessment of clinicians - based on objective indicators and subjective assessment
4. Age of survival/ longevity
5. Definitions involving psychosocial dimensions of ageing

6. Psychological perspective

7. Ageing as a process of continuous adaptation

8. Special attention on social life

10. Lay people definitions older people description of meaning of healthy/successful ageing

11. Cross-cultural differences in defining healthy, successful ageing

12. Definitions depending on specific groups of older people

13. Healthy ageing as the good quality of life multidimensional models

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Classical definitions, based on medical model of ageing,

Continue approach showed by Rowe and Kahn's proposal (successful aging as including three main components: low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life).

Later created definitions mention lack of disability as a significant indicator of healthy ageing as well as stress on free of clinically significant cognitive impairment and depression symptoms (Britton 2008, Hamid 2012, Li, Wu Jin 2006, Weir et al 2010, Meng 2014, Doyle 2012).

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More precise definitions of healthy ageing based on medical/gerontological perspectives

Many definitions of healthy ageing pay attention not to the absence of important diseases, but mostly on absence of disability in daily living activity (ADLs), or no more than one difficulty of seven measures of physical functioning, cognitive functioning and being actively engaged (Hamid 2011, Arias-Merino 2012).

Assessment of clinicians and self-reported information

Precise special conditions mostly based on clinical assessment.

Ibrahim, Cohen and Ramirez (2010): measure of successful aging consisted of the summed score (range = 0-6) of the three domains comprising six indices: avoiding disease and disability (with following indices: absence of specific diseases, no smoking, body mass index < 30, and no untreated hypertension, no disabilities in Basic Activities of Daily Living), high cognitive and physical function (dementia rating scale with score 130 or more points and IADL with 25 or more points), and engagement with life (with following indices: 3 or more basic activities and 3 or more instrumental (i.e., helps or gives advice to others) linkages and / or working and / or does heavy and light housework).

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Newman et al (2003) operationalized successful aging as no prior diagnosis of cancer, an absence of cardiovascular disease (CVD), no chronic obstructive pulmonary disease (ChOPD), no reported difficulty with any activities of daily living (ADL), and a modified MMSE score in the 80th percentile or higher. Maintenance of successful aging over time was defined as remaining free of cancer, CVD, ChOPD, or new and persistent physical disability or cognitive decline (Newman et al 2003).

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Age of survival/ longevity

Survived to age 70 years, but did not meet the remaining criteria were defined as usual agers (Tyas, Snowdon, Desrosiers, Riley, & Markesbery 2007). In some definitions the age of survival was mentioned (Edwards 2010) – survival to age 80yrs, or older in absence of major chronic diseases and good mental health (Hodge et al 2014, Depp, Jeste 2006, Hung, Kempen 2010).

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Definitions involving psychosocial dimensions of ageing

Additionally to physical and psychological dimension of social support, measured by personal interaction with neighbors, relative and friends has been involved as well as the frequency of engaging in intensive exercises and activity , and the frequency of out-of-town travelling (Lee, Lan, Yen 2012). The role of active engage, social network and psychological trait, (Jeon 2012) as well as the spiritual dimension, have been perceived as the indicators of healthy ageing sense of life (Flood 2005).

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Psychological perspective

Healthy aging also was defined based on measures of global cognitive function, short-term memory, basic and instrumental activities of daily living, and self-rated functions also voiding Alzheimer's pathology and brain infarcts (Montross, Deep, Daly, Reichstadt et al 2006, Phelan 2004).

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Ageing as a process of continuous adaptation.

Avramov and Maskova (2004) mentioned individually designed combination of continuous labour-market participation, active participation in domestic tasks (including care of other), active participation in community life (voluntary work and active leisure activities), hobbies, sports, travel and creative activities.

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Special attention to social life

Among different dimensions Kahana, Kahana and Kercher (2003): valued social activities and relationships, which allows to social rather than psychological indicator of continued meaningfulness in late life; or social/productive engagement (having paid job, volunteer work, frequencies of social support from family, friendship, economic security (self-rated current financial condition, economic sufficiency during retirement) Similar aspects can be found in definition created by Hilton, Gonzalez, Saleh, Maitoza, & Anngela-Cole (2012), Iwamasa and Iwasaki (2011), Maniecka –Bryła (2008), Rossen, Knafl and Flood (2008), Nguyen (2014), Litwin (2005).

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Cross-cultural differences in defining healthy, successful ageing

Some cross-cultural agreement in regard to the most important characteristics of successful ageing as well as optimal functioning in multiple aspects of one's life comprised of both universal and culture-specific elements (Iwamasa and Iwasaki 2011; Hilton et al (2012).

Older Japanese, older Americans, Tahi older people, old Australians.

Fernández-Ballesteros at al (2010) concluded that elders from different cultures appear to agree on most of the components identified in the literature. A multidimensional conceptualization of 'successful ageing' was described on the basis of physical, emotional, cognitive and social domains.

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Lay people definitions of healthy ageing

Jopp, Wozniak, Damarin, De Feo, Jung, & Jeswani (2015)

health	including health in general, health behaviors, physical fitness, mental health,
social resources	social network, social support, social participation, feeling of social belongings
activities/ interests	cognitive activities, work activity, sport, travel, hobbies, volunteering
attitudes/ beliefs/ virtues	positive attitude about life, acceptance, openness/ curiosity, self-esteem, self-efficacy
well-being	satisfaction, happiness, enjoying life
coping / life management	setting and realizing goals, coping
financial resources	having money, financial security
aging	acceptance of age, becoming old, remaining young, ignoring age
independence	autonomy, physical independence/ mobility
other aspects	meaning in life, growth, respect, education, micro- and macroenvironment

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Older people description of meaning of healthy/successful ageing:

Based on older people's own beliefs about what means to age successfully Knight and Ricciardelli (2003) found following major themes: health, activity, personal growth, happiness, independence, relationship, appreciation of life, and least longevity. Additionally, participants rated the importance of criteria of successful aging emerging from the literature. Those seen as most important were:

health, happiness, and mental capacity, followed by life satisfaction, adjustment to life changes, physical activity, and close personal relationships, social activity and having a sense of purpose in life.

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Healthy ageing as the good quality of life

Quality of life: having good social relationships with children, family, friends and neighbours; neighbourhood social capital represented by good relationships with neighbours, nice and enjoyable neighbourhood, comfortable houses and good public services such as free transport facilities; psychological factors such as optimism and positive attitude, contentment, looking forward to things, acceptance and other coping strategies; being actively engaged in social activities such as attending educational classes and volunteering; good health; financial security which brought enjoyment as well as empowerment and having not depend on others (Gabriel, Bowling 2004).

Good quality of life was defined by older people as: good social relations, health, activities, functional ability, wellbeing, living in one's own home, personal finances, and personal beliefs and attitudes (Wilhelmson, Andersson, Waern, & Allebeck 2005).

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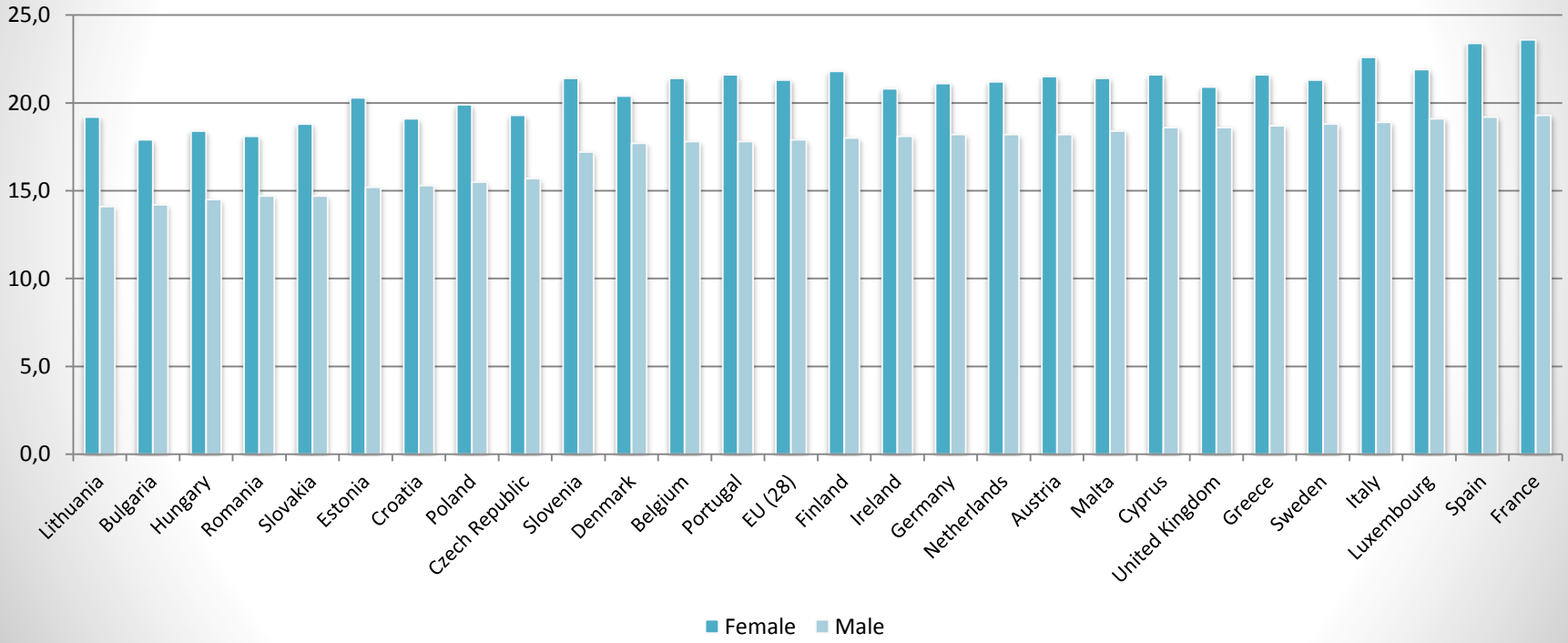
Healthy ageing - conclusions

1. Systematic development of definition of healthy ageing has been observed as a consequence of rapidly increasing number of research.
2. Existing definitions systematically expanded and explored different dimensions of heathy ageing and precized the content.

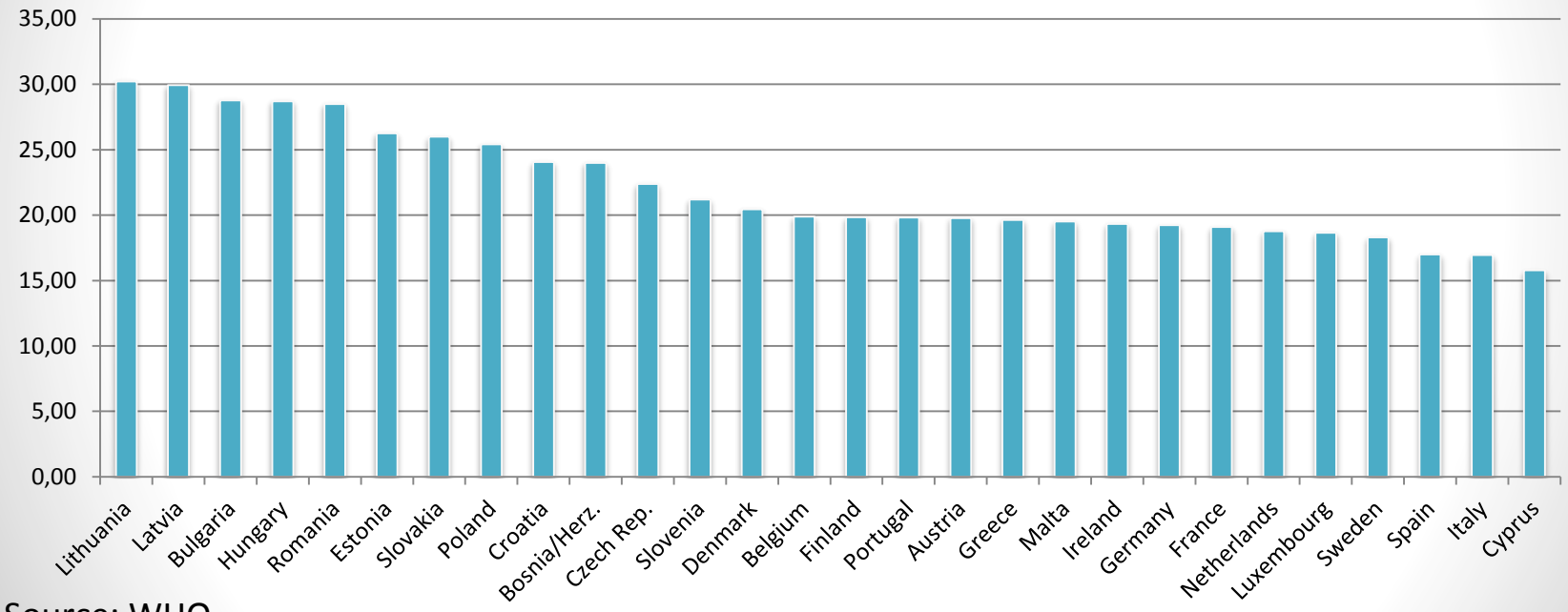
Health status of older Europeans

1. Longevity 65+



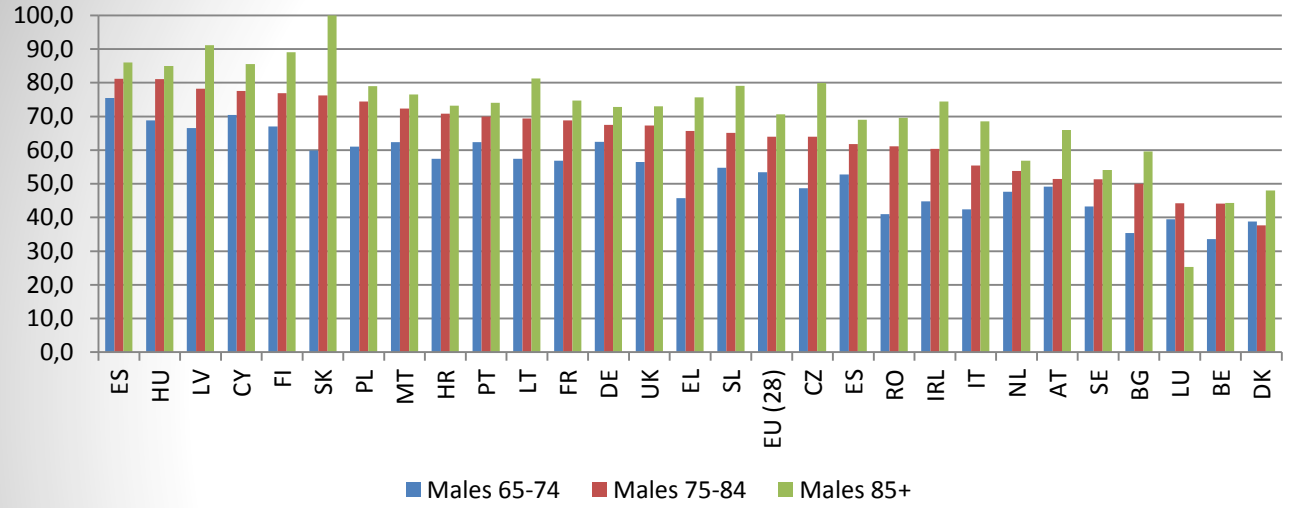
Source: Eurostat

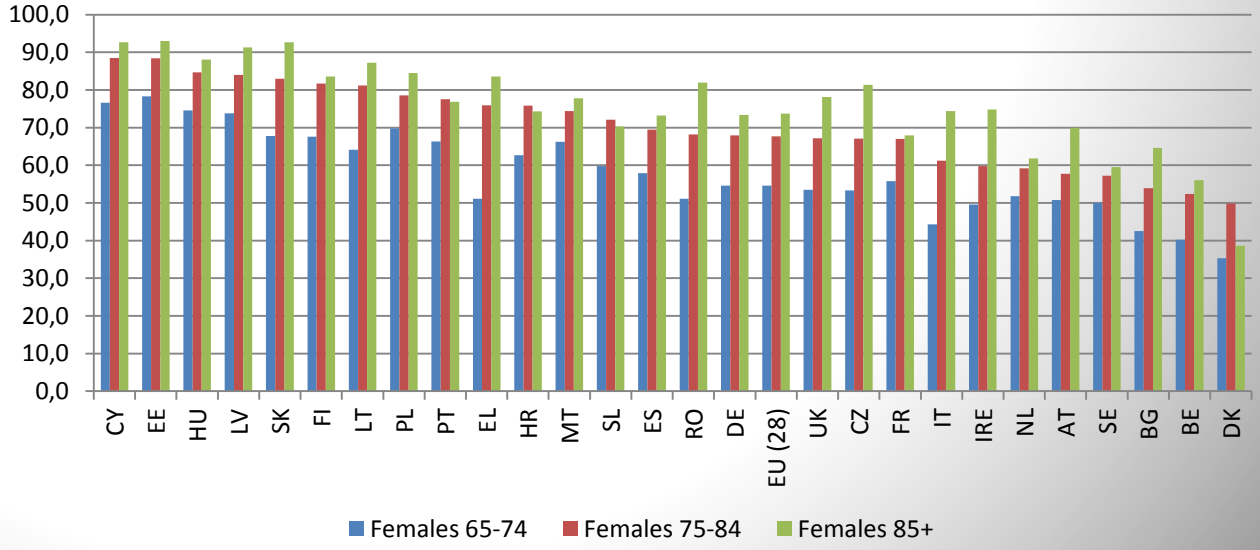
2. DALY (burden of disease)



Source: WHO

3. Long-standing illnesses





Source: Eurostat

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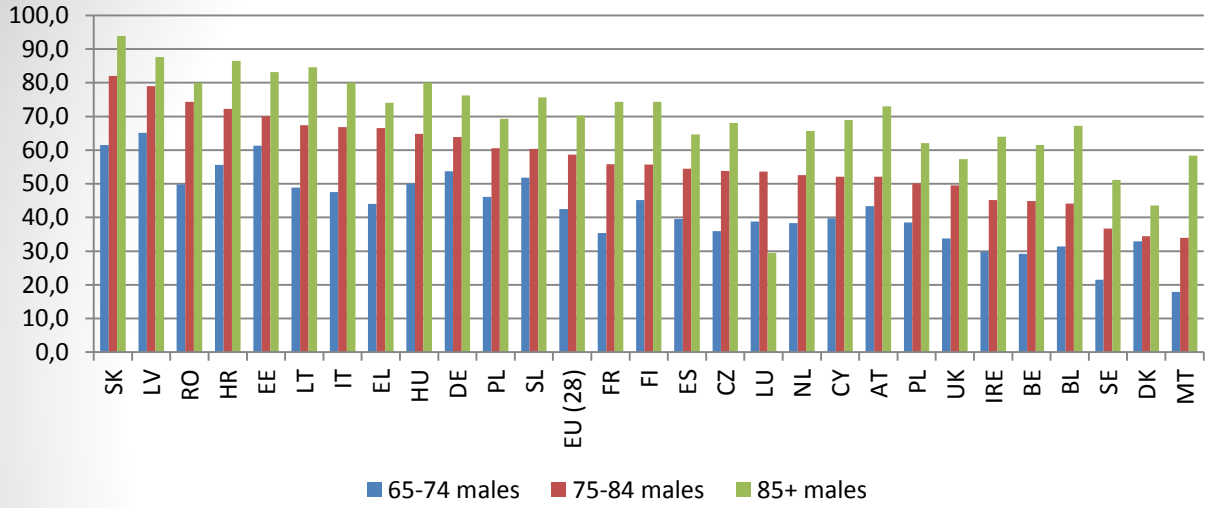
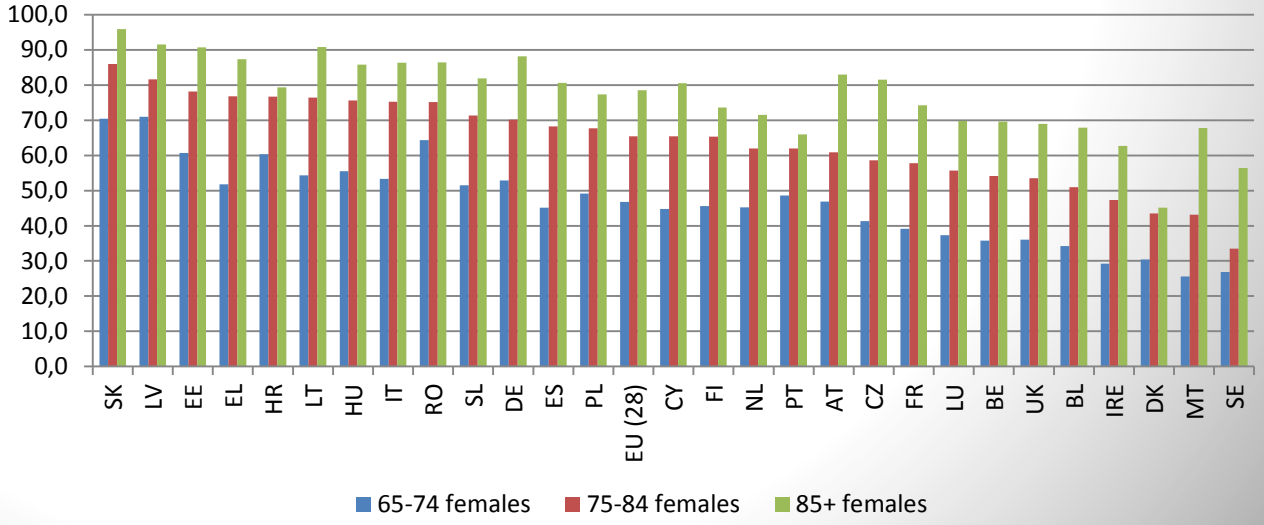
4. Severe and long-standing limitations





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Health status of older Europeans

- Variety of measures from mortality based (LE), via combination of mortality (DALY, HLY, etc.) and self-assessed to self-assessed (SAH, chronic illness, limitations), but difficulties with operationalizing healthy ageing
- Large differences between sex groups in older age: higher longevity of females, quicker progress towards chronic illnessess and functional limitations and higher prevelance of both
- Large cross-country differences, with pattern of poorer health status in Eastern Europe (though not homogeneous), followed by Central Europe and Nothern countries, Southern countries more diversifies (high LE, but also high limitations – IT)

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Health inequalities in older age

- For years research on health inequalities has concentrated on adult population not on older people, (McMunn 2006)
- Last decade research provides evidence of inequalities in longevity and time spent in disability between social/occupational/economic groups (Mc Munn et al. 2007, Meltzer et al. 2001)
- Inequalities in health in older age tend to be smaller than among adult population and decrease with increasing age (McMunn et al. 2006)

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Health determinants in older age – life course approach

Possible impact of life experiences on the health status and healthy ageing:

- accumulation of advantages and disadvantages over the life course,
- a latency effect of social experiences acquired early in life on adult (older age) health and,
- an effect of social circumstances in early life on acquired social position and eventually on health in adulthood

(Marmot 2005, Blane 2006, McMunn et al. 2006,

Kuh 2007)

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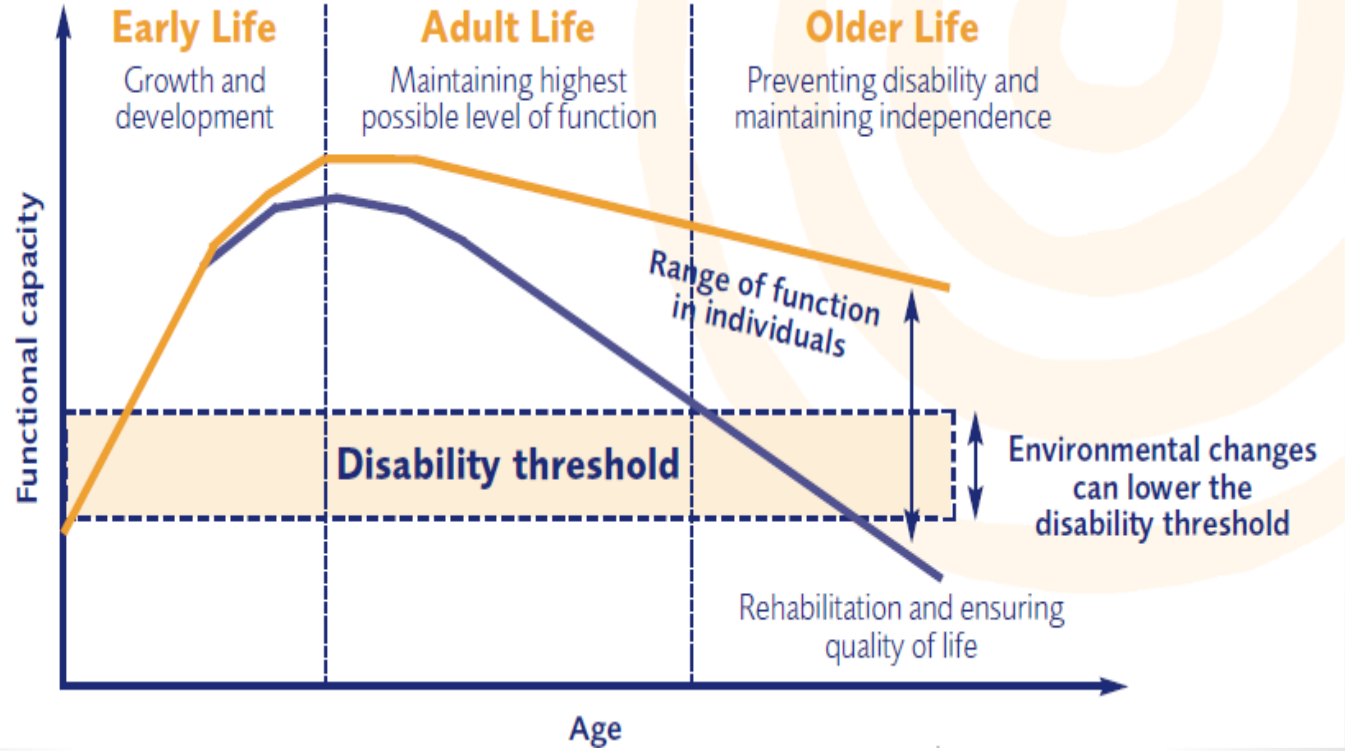
Life course perspective on maintaining the highest possible level of functional capacity



Source: WHO 2000

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Health determinants at older age

- Social status, education, wealth and income
- Retirement (locus of control, effort-reward mechanisms)
- Life style (nutrition, physical activity, smoking, alcolol consumption,
- Psycho-social factors (support, networks, participation)

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SES: education, wealth and income

- Seniors with higher education tend to be in better health, more frequently report higher life satisfaction, interest with life, well-being and are more socially engaged (Sloane-Seale, Kops 2010)
- Education is a good predictor of physical functioning among older people increasing their chances for higher physical capabilities (Parker et al. 1994).
- The level of education is a significant predictor of SAH of older people, but its relevance decreased when social capital factors (support, networks) were accounted for (Alcântara da Silva 2014).
- Study in 11 Europan countries by Etman et al. (2012) shows that lower educated older people face an increased risk of rapid worsening in health status and an early development of frailty.
- Education and income gradient in undertaking healthy behaviours such as consumption of fruits and vegetables, smoking and physical activity (Øvrum et al. 2014)

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Entering retirement

- highly demanding job profiles in combination with low control over task performance cause high level of stress and have a long-standing negative health effects that last over the retirement period (Marmot et al. 2006; Tobiasz-Adamczyk, Brzyski 2005)
- lower locus of control and lower decision latitude results in poorer job satisfaction and eventually poorer health status in the period of retirement (Tobiasz-Adamczyk, Brzyski 2005; Marmot 2005)
- imbalance between effort and reward and poor reciprocity at work might lead to occurrence of stress-related diseases, especially cardiovascular system diseases (Marmot et al. 2006). Polish studies (Tobiasz-Adamczyk, Brzyski 2005)

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Life style

- Healthy life style is related to living longer with age related disability postponed to the last years of life (McMunn 2006)
- Unhealthy life style associated with the onset of mobility limitations (Södergren 2013, Goya Wannamethee et al. 2005, Robinson et al. 2013)
- In several studies negative health behaviours are shown to coexist in older age (McMunn 2006, Myint 2006)
- The negative health effect of smoking as an equivalent to being 7 years older and negative health effect of physical inactivity as equivalent of being 13 years older (Myint et al. 2006)
- Strong gender differences in the level of physical activity in European countries and regions with men being more active outside the household and women involved mostly in activities related to the household chores (ZENITH study - Simpson et al. 2005).

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Evidence of protective effect of life style in older population

- Maintaining or adopting a healthy life style (smoking cessation, physical activity, healthy dietary habits etc.) at older age results in postponing the onset of mobility limitations and in case of illness it supports recovery process, even in the population 75+(Goya Wannamethee et al. 2005, Robinson et al. 2013)
- Cessation of smoking at older age immediately decreases the risk of mortality due to coronary heart disease at the age of 65-74 and for other diseases, including pulmonary diseases the risk declines within the following five years (Vetter 1999)
- Even moderate leisure time physical activity is shown to have protective effects against dementia (Lee 2010)
- Physical activity may prevent from developing depression symptoms among the oldest old (Bots et al. 2008)

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Social networks, social support

- Social networks are an important predictor of mortality and occurrence of disease, especially mental illnesses (Berkman 1979, Seeman 1987, Wilkins 2003, Garcia et al. 2005)
- Berkman (1979) points to the more significant impact of the closest, family ties on reducing the risk of mortality, other studies (Semman 1987, Garcia et al. 2005) show the importance of relations with friends and other types of social involvement for the decrease in the risk of morbidity and mortality
- Loneliness and poor social support is found to have a strong association with mental illnesses (O´Luanaigh, Lawlor 2008, Molarius et al. 2009, Tobiasz-Adamczyk 2011). It is linked with higher blood pressure, worse sleep and worse cognition in older people (O´Luanaigh, Lawlor 2008) as well as functional limitations among women (Tobiasz-Adamczyk 2011).

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Social determinants of health - summary

- There is numerous evidence of life style determinants of health and growing information on psycho-social determinants
- There is evidence of effective interventions even in the last years of life

Further research needs:

- Taking into accout combination of factors: SES, material, life style, psycho-social
- Taking into account diversification of older age (which interventions are adequate for a given age group)

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Review of European studies on health and health determinants

- The aim of the review was to find data sources at individual level for testing hypothesis on health determinants
- Criteria:
  - Multi-country
  - Individual level
  - Possible cross-sectional, preferable longitudinal
  - Large samples
  - Good quality (standardized instruments, protocols, etc.)
  - Data on health and health determinants
  - Publicly available datasets
  - New

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Characteristics of datasets

- Type of study
- No of waves
- Year(s)
- Sample of the population under study (number)
- Age of the population under study
- Health indicators and using of medicines
- Health determinants (age, sex, education, income, other: living conditions, current job situation, savings, using of health care)
- Life style factor (behaviors): physical activities, eating habits, smoking, drinking alcohol, food expenditure
- Social dimension (social inclusion-exclusion)
- Psychological dimension - promoting mental health
- Spiritual dimension (religion)

Analyzed datasets (1)

- **The Survey of Health, Ageing and Retirement in Europe (SHARE**) is a multidisciplinary and cross-national panel database of micro data on health, socio-economic status and social and family networks of more than 80,000 individuals from 20 European countries (+Israel) aged 50 or over.
- **The European Health Interview Survey (EHIS):** wave 1 was conducted in 2006-2009 and wave 2 2013-2015. EHIS data are used as a source for important health and social policy indicators such as the European Core Health Indicators (ECHI)
- **'The use of household budget survey data as a tool for nutrition interventions in the post-conflict Western Balkan countries - the European Data Food Networking (DAFNE)** is aimed to render comparable the existing Household Budget Survey food data, according to the DAFNE methodology to build foundations for a nutrition monitoring system in Albania, Croatia, Montenegro and Serbia and to identify dietary patterns in the general populations

Analyzed datasets (2)

- **European Social Survey (ESS)** is a cross-national survey that has been conducted every two years across Europe since 2001 and was awarded ERIC status in 2013. The survey measures the attitudes, beliefs and behaviour patterns of diverse populations in more than 30 populations
- **International Social Survey Programme (ISSP)** is a cross-national, cross-cultural perspective to the individual national studies covering topics important for social science research.
- **European Values Study (EVS)** started in 1981 assesses ideas, beliefs, preferences, attitudes, values and opinions and presents how Europeans think about life, family, work, religion, politics and society.
- **World Values Survey (WVS)** is the largest non-commercial, cross-national, time series investigation of human beliefs and values ever executed, currently including interviews with almost 400,000 respondents.

Analyzed datasets (3)

- **Fertility and Family Surveys (FFS)** study focuses on fertility and include data on marital status, number of children, etc. Is was run in 1990s as comparable surveys in about 20 ECE
- **Generation and Gender Programme (GGP)** analyse factors affecting the relationships between parents and children (generations) and between partners, started in 2004 in 30 countries.
- **European Company Survey (ECS)** aim is to assess and monitor information on company policies and practices across Europe and estimate relationships between them and their impact. Since 2004-2005.
- Other:
  - **SHELTER**
  - **IL SIRENTE**
  - **Italian Community Pharmacy**

Name of the database /study	Character (cross-tabulation/panel)- type of study	No of waves	Year(s)	Sample	Age	Health indicators	Health determinants	Life style factor	Social dimension	Psychological dimension	Spiritual dimension
SHARE	panel and cross-sectional	5	2004-2013	30 000 per wave	50+	+	+	+	+	+	+ (in waves 2,4,5)
EHIS	panel and cross-sectional	1	2006-2009	194990	15+	+	+	+	+	+	
DAFNE (Data Food Networking)	cross-national	since 1987 (every 1 to 7 years)	2002	11652	all age groups		+	+			
IDB (The European Injury Data Base)	cross-national	1996-2010 (almost every year, varies)	2005	Around 300,000 cases	all age groups	+	+				
International Social Survey Programme: Health and Health Care - ISSP	cross-national	since 1985 (every year)	2011	45563	18 years + (some exceptions)	+	+	+		+	
EVS - European Values Study	cross-national and longitudinal	4	2008	71293	18 years + (some exceptions)	+	+		+	+	+
World Value Studies (WVS)	cross-national	6	2010-2014	> 85,000	18+	+	+	+	+	+	+
GGP (Generations and Gender Programme)	cross-national and longitudinal	1	2004	9,000 per country	18-79	+	+		+	+	+
European Company Survey (ECS)	cross-national	3	2013	29,950, (300 -1650)	18+	+	+		+	+	+
European Social Survey	cross-national	6	2012/2013			+	+	+	+	+	+
Fertility and Family Survey (FFS)	cross-national	1	1992				+				+

Summary of the review (1)

- All analyzed studies were designed as cross-national studies performed mainly in years 2004-2014
- They included large population samples ranging from 9000 to 300 000 persons.
- Several studies were longitudinal, with several waves already (i.e. SHARE, EVS).
- Different aims of surveys; focused on diet (DAFNE), health (EHIS), social aspects as attitudes, behavior patterns (ESS, ISSP, EVS) or human values (EVS, WVS).
- Limited information on health or categories of health determinants

Summary of the review (2)

- SHARE covers aspects of health and socio-economical status, social and family networks. It is a panel study with 5 waves
- Longitudinal study enables prospective cohort design in analysis, and have a stronger evidence effect than cross-sectional
- Limitation of SHARE: i.ex. there is only one question on spiritual dimension in waves 2,5) or detailed information on lifestyle (only few question on main risk factors like smoking, alcohol drinking, physical activity).
- This type of disadvantages may lead to decision of using more then one dataset for planned analysis.
- All of the studies were run as questionnaire based, with no access to objective measurements and data, what may bias conclusions.

Research challanges - where to go

- Selection of health measure (dependent variable) reflecing complexity of the health status of older people
- Using a broad range of health determinants in older age, finding characteristics and differences between age groups of older people
- Finding cross-country differences in described groups of countries
- Database: SHARE
- Possibility of the analysis of health determinants among institutionalized older people - SHELTER