



Co-funded by  
the Health Programme  
of the European Union




PRO-HEALTH  
65+  
Health promotion  
Prevention of risk  
Action for seniors



## Overview of health promotion interventions addressed to elderly persons with effectiveness supported by secondary evidence

Mariusz Duplaga, Marcin Grysztar, Marcin Rodzinka

Department of Health Promotion,  
Institute of Public Health, Faculty of Health Sciences,  
Jagiellonian University Medical College,  
Kraków, Poland




Co-funded by  
the Health Programme  
of the European Union





PRO-HEALTH  
65+  
Health promotion  
Prevention of risk  
Action for seniors

## Plan of presentation


- WP.5: rationale and methodology
- summary of scoping review
- assessment of effectiveness
- quality of evidence
- review of effective interventions
- summary





Co-funded by  
the Health Programme  
of the European Union



## WP.5 Rationale and methodology




Co-funded by  
the Health Programme  
of the European Union





## Objectives

- accumulation and assessment of available evidence related to health promotion interventions targeting the elderly
- classification of interventions according to taxonomy of objectives and the validity of evidence.

4




Co-funded by the Health Programme of the European Union





## Stages of work

Stage	stage 1	stage 2	
		scop.review cont.	focused syst. reviews
<b>Main objectives</b>	definition of domain	identification of effective health promotion interventions by target area	effective interventions in selected areas (nutrition, social isolation, interventions based on innov. technologies)
<b>Methods</b>	scoping review	detailed analysis of the subsample of retrieved reviews	focused systematic reviews
<b>Type of evidence</b>	secondary evidence	secondary evidence	primary sources
<b>Main sources</b>	systematic reviews	systematic reviews selected from stage 1	original quantitative studies



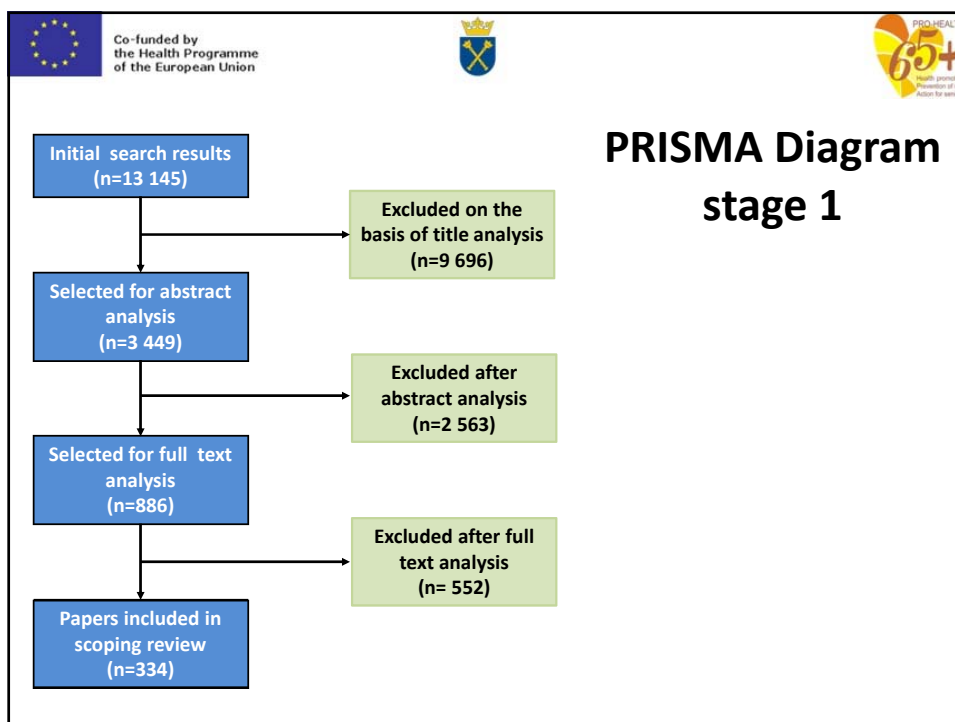
Co-funded by the Health Programme of the European Union





## Main assumptions



- **guiding definition of health promotion and classification of interventions**
- **inclusion of health promotion, primary prevention, screening and social support**
- **search strategy in relation to general areas of interventions**
- **post-search classification of interventions**
- **subjects with medical conditions as targeted audiences**

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> <li>health promotion and/or related interventions (primary prevention, screening, social support/care)</li> <li>secondary sources (systematic reviews, meta-analysis)</li> <li>age of target group 55+ or 65+ or at least including subjects 65+</li> <li>publication period 2000 – 2015</li> <li>published in English</li> <li>described effectiveness of interventions</li> </ul>	<ul style="list-style-type: none"> <li>interventions related to (medical) treatment or physiotherapy</li> <li>interventions focused on treatment of consequences of medical conditions</li> <li>age of target group &lt;55 years old</li> <li>publication period – before 2000</li> <li>published in other language than English</li> <li>effectiveness of intervention not addressed</li> </ul>






Co-funded by  
the Health Programme  
of the European Union





## Dimensions of classification

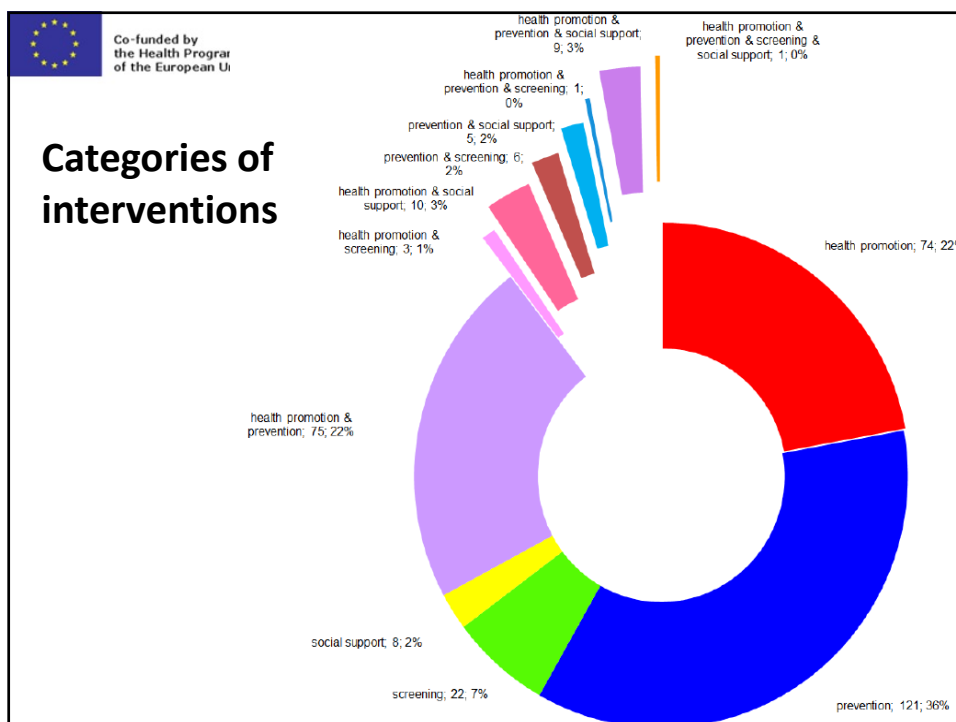
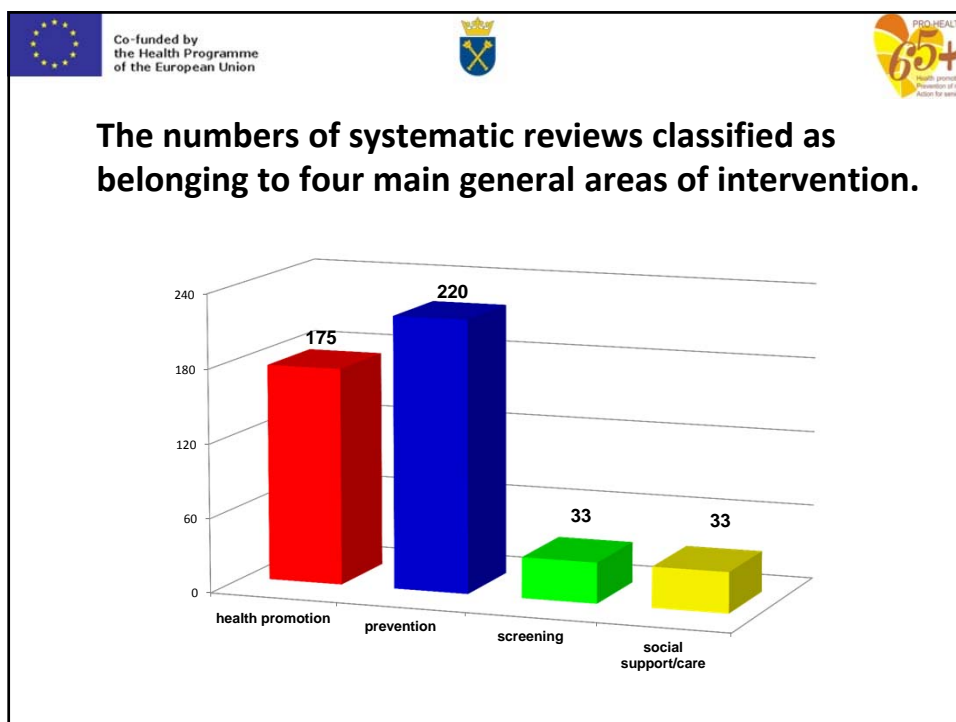
- year of publication
- age of targeted audience
- sex of targeted audience
- targeted area of interventions
- medical domain/condition, if applicable
- level of public health pyramid
- type of health intervention according to Issel
- type of health promotion intervention according to McKenzie
- the use of technologies for intervention delivery
- types of studies included in the systematic review
- initial assessment of the effectiveness

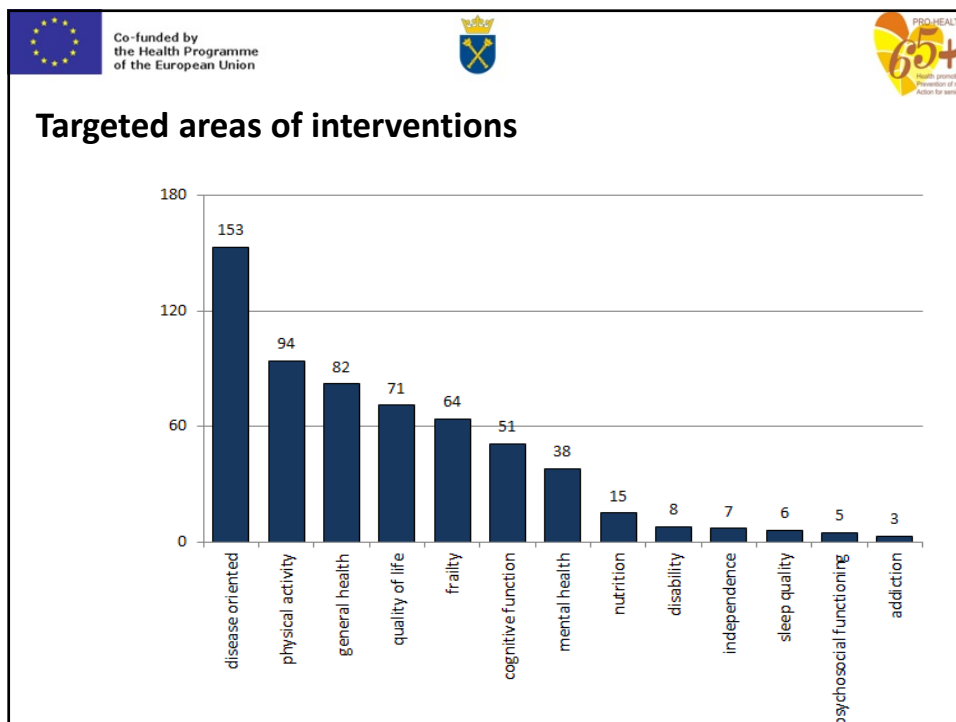
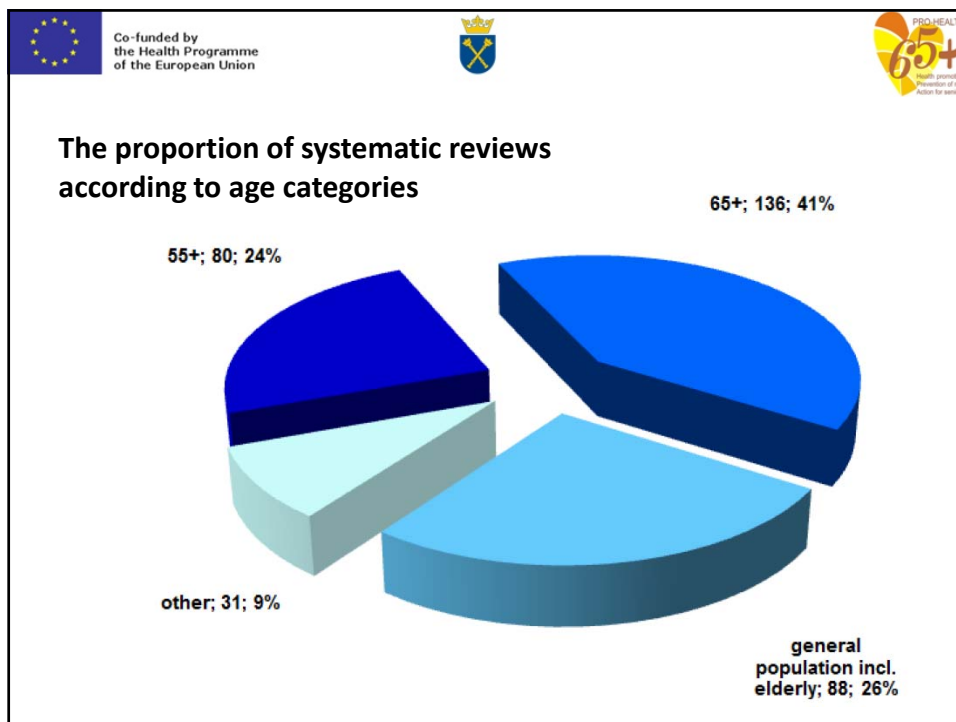


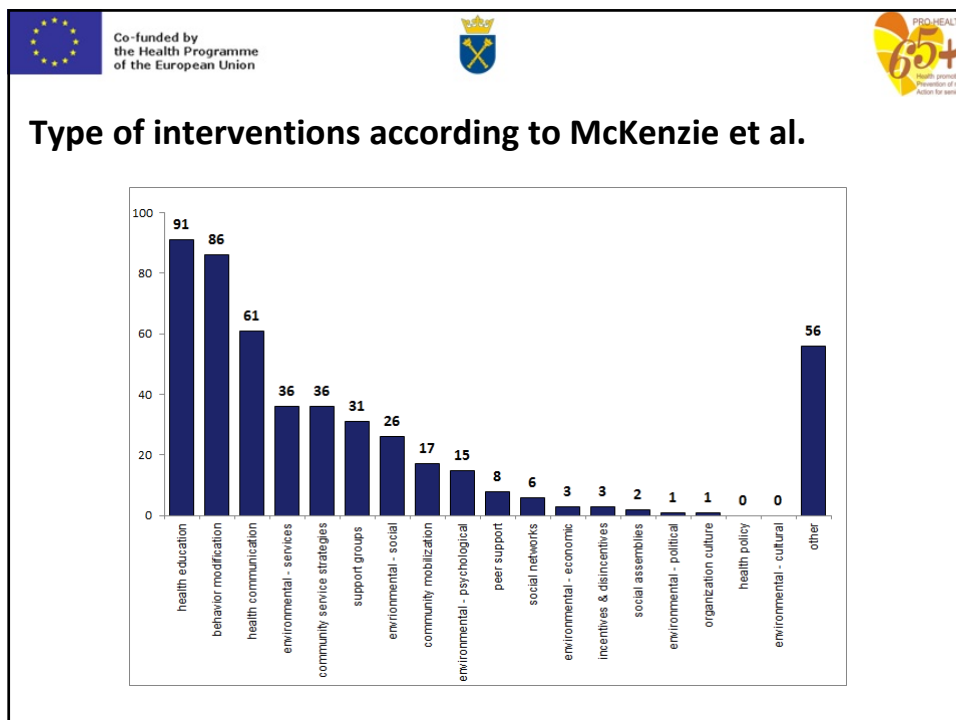
Co-funded by  
the Health Programme  
of the European Union



## Summary of scoping review







Co-funded by the Health Programme of the European Union

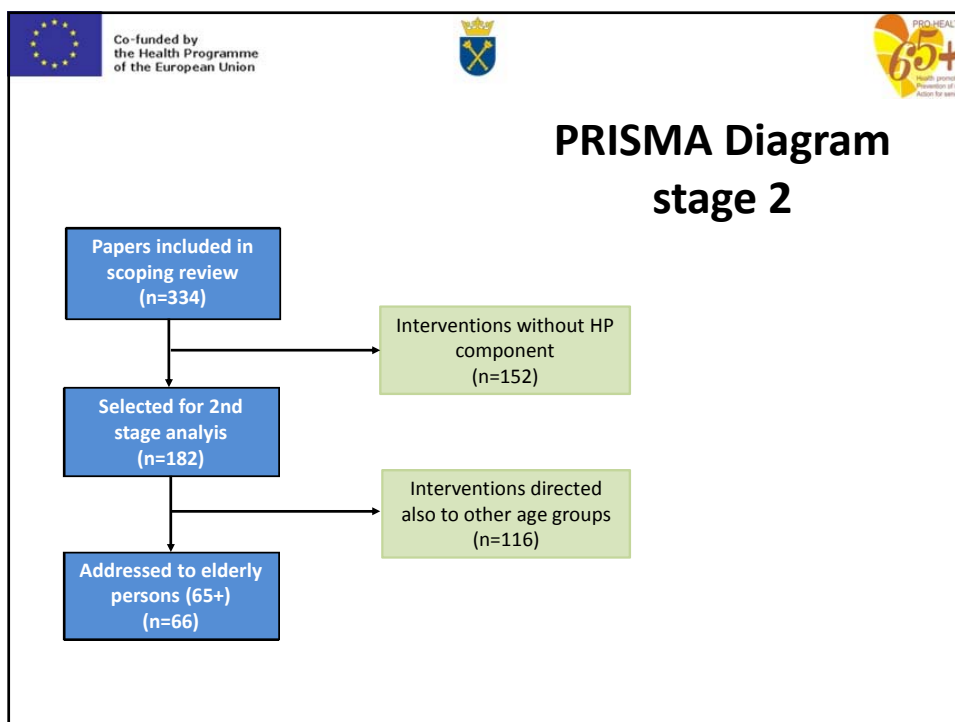
PRO-HEALTH 65+ Health promotion Prevention of risk Action for seniors

## Assessment of effectiveness



## Criteria for classification of reviews addressing interventions containing components of health promotion

- the objective of the systematic review
- target population
- number of studies included in the systematic review
- total number of subjects in studies covered by the systematic review
- numbers of RCTs, non-randomized trials, other types of studies
- general types of outcomes used in studies
- specific outcomes identified in the systematic review
- number of effective interventions
- description of effective interventions with number of RCTs and other types of studies in favour and against confirmation of effectiveness
- overall assessment of the use of RCTs in the systematic review
- the number of authors of the systematic review
- the number of literature data bases covered by search strategy
- quality assessment with R-AMSTAR tool



Types of assessed studies	Types of studies	n	%
	RCT	35	53.0
	RCT & NRT	7	10.6
	RTC & NRT & C/CC	4	6.1
	RCT & NRT & CS/TS	1	1.5
	RCT & NRT & CS	1	1.5
	RCT & NRT & O/ND	4	6.1
	RCT & NRT & C/CC & O/ND	1	1.5
	RCT & C/CC	2	3.0
	RCT & CS/TS	1	1.5
	RCT & C/CC & CS & O/ND	1	1.5
	RCT & O/ND	3	4.5
	NRT	1	1.5
	NRT & O/ND	1	1.5
	O/ND	4	6.1



Co-funded by  
the Health Programme  
of the European Union





## Quality of evidence

Co-funded by the Health Programme of the European Union


## Revised Assessment of Multiple Systematic Reviews (R-AMSTAR)

1. Was an 'a priori' design provided?
2. Was there duplicate study selection and data extraction?
3. Was a comprehensive literature search performed?
4. Was the status of publication (i.e. grey literature) used as an inclusion criterion?
5. Was a list of studies (included and excluded) provided?
6. Were the characteristics of the included studies provided?
7. Was the scientific quality of the included studies assessed and documented?
8. Was the scientific quality of the included studies used appropriately in formulating conclusions?
9. Were the methods used to combine the findings of studies appropriate?
10. Was the likelihood of publication bias (a.k.a. "file drawer" effect) assessed?
11. Was the conflict of interest stated?



Co-funded by the Health Programme of the European Union

## Quality of evidence

Level of quality	R-AMSTAR score	Number of SR/M-As
high (H)	>34	20
moderate (M)	25-34	39
low (M)	<25	7




Co-funded by  
the Health Programme  
of the European Union






PRO-HEALTH  
65+  
Health promotion  
Prevention of risk  
Action for seniors

## Examples of effectiveness reviews






Co-funded by  
the Health Programme  
of the European Union








PRO-HEALTH  
65+  
Health promotion  
Prevention of risk  
Action for seniors

### General health status



Type of HP intervention	number of SR/M-As	publication period	quality of evidence <sup>1</sup>
home visits and home-based interventions	5	2000-2012	H - 3, M - 2
preventive primary care outreach interventions	1	2005	M - 1
physical exercises, fitness training	13	2003-2015	H - 1, M - 11, L - 1
group education and counselling	1	2008	M - 1
education in relation to oral health	1	2009	M - 1

 Co-funded by the Health Programme of the European Union  			
<b>Quality of life</b>			
Type of effective HP intervention	number of SR/M-As	publication period	quality of evidence <sup>1</sup>
home visits and home-based interventions	4	2000-2012	H - 2, M - 2
physical exercises, fitness training	16	2003-2015	H - 2, M - 12, L - 1
advice and instruction about the use of assistive devices	1	2004	M - 1
complex interventions related to fall avoiding	1	2007	H - 1
group education and counselling in the context of preservation of physical function and independence	1	2008	M - 1
social activities	1	2011	M - 1
nutritional education or complex nutritional intervention including education	1	2011	M - 1
psychosocial programs addressing cognition, activities, daily living skills, competence and interpersonal relationships	1	2013	H - 1
dance	1	2014	H - 1

 Co-funded by the Health Programme of the European Union  			
<b>Physical activity</b>			
Type of effective HP intervention	number of SR/M-As	publication period	quality of evidence
supervised group center-based exercises	1	2002	L - 1
various types of physical activity and exercises	8	2008-2014	M - 6, L - 2
various types of home-based exercises	1	2012	M - 1
endurance and strength training	3	2008-2013	M - 3
resistance exercise program	2	2010-2013	H - 2
flexibility training, stretching exercises	2	2012-2014	M - 2
pilates exercise training	1	2015	M - 1
tao chi training	1	2011	M - 1
dance	1	2014	H - 1
interactive computer games involving stability training	1	2015	M - 1
home visiting	1	2000	H - 1
preventive primary care outreach interventions	1	2005	M - 1




Co-funded by  
the Health Programme  
of the European Union






## Summary (I)

- SR/M-As assessing interventions combining HP with other actions prevailed over those assessing exclusively HP interventions (only 44%)
- accelerated growth of SR/M-As related to HP from the year 2010 (65% of all selected reviews)
- SR/M-As based exclusively on RCT made more than half of all retrieved reviews; the next 38% covered RCT and other types of studies
- the quality of selected SRs was relatively low; only 30% of them reached the threshold for high quality




Co-funded by  
the Health Programme  
of the European Union






## Summary (II)

- the quality of SRs assessing interventions assigned to HP alone was much lower than of SRs assessing combined HP & PP (difficulties with implementing RCT design)
- relatively high changes of mean yearly quality score before 2010; from 2010 stable quality surpassing total score of 30
- the most frequent targeted areas:
  - quality of life
  - general health status
  - physical activity
  - medical conditions




Co-funded by  
the Health Programme  
of the European Union






## Summary (III)

- **the interventions employing or targeting physical activity** were most frequently demonstrated to have positive impact on specific outcomes established in studies assessed in SR/M-As
- **home visits and home based interventions** were assessed as effective in relation to various targeted areas (quality of life, general health status, physical and general activity, mental health)
- **educational interventions** may be an effective strategy in relation to such targeted areas as nutrition, frailty, oral health or general health issues in the context of specific medical conditions






Co-funded by  
the Health Programme  
of the European Union

## Summary (IV)

- the interventions involving **social activities or activities having social context** like dancing or listening to music may bring benefits in the context of quality of life, cognitive function and mental health and maintaining physical activity.
- **interventions addressed to community** including community education, communication via media (TV, radio) or small media use or safety displays may be an important component of effective strategies for tackling with frailty or selected specific medical conditions.

	Co-funded by the Health Programme of the European Union		
<h2>Work contribution</h2>			
Author		Work contribution	
Mariusz Duplaga		study design, data collection tool, analysis of results, quality assessment, edition of the Report	
Marcin Gryzta		classification and description of retrieved papers, scoring of quality	
Marcin Rodzinka		classification and description of retrieved papers, scoring of quality	