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EUNAAPA – Work Package 4

**Expert Survey on Assessment Instruments
for Physical Activity and Physical Functioning in Older People:
National Report Czech Republic**

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1 Introduction

The EUNAAPA project work package No. 4 (Assessment of Physical activity and Physical Functioning in older People) is supposed to produce an inventory and a critical review of current instruments for physical activity and physical functioning assessment among older people. Each cooperating country was to collect data on surveys known and used in their nation.

2 Methods

2.1 Expert Selection

The selection of the sample of experts was based on the guidelines of the work package leader (Karolinska Institute, Stockholm). The aim was to cover as many of the fields in the provided sampling matrix as possible. In order to form the sample, experts from various areas (academic, health care, etc.) were contacted. They were either experts known to the authors or experts recommended by others. Furthermore, institutions dealing with senior citizens, aging in society etc. were contacted so that their experts would fill in the questionnaire. In particular, the Government Council for Seniors and Ageing in Population and the Association of Providers of Social Services in the Czech Republic were addressed to represent the governmental and social care sectors. Altogether, 12 experts were addressed who would cover the fields of the matrix. The table below shows which fields of matrix could have been covered by the experts addressed.

Table 1. Sampling matrix for the Czech Republic

	Community-dwelling older adults				Institutionalized older person			
National level	Government	Health care/social care	Commercial sector	Academics/ Professional Education	Government	Health care/social care	Commercial sector	Academics/Professional Education
	x	Expert D x		Expert G	x	x		Expert G
Regional/local level	Government	Health care/social care	Commercial sector	Academics/ Professional Education	Government	Health care/social care	Commercial sector	Academics/Professional Education
		Expert B	Expert C	Expert A		x	Expert C	Expert F Expert E

X denotes experts that were contacted but have not sent the questionnaires back

2.2 Data collection

The selected experts were contacted via phone in case we received their phone contact. If a phone number was not provided, we addressed them via email. Based on the introductory communication, we sent them the questionnaires afterwards. Respondents were sent a package with a cover letter, a hard copy of the questionnaire and pre-paid return envelope, except of two respondents who wanted the questionnaire in pdf format and printed them out themselves and mailed back to us.

Out of the total of 12 addressed experts, we received 7 filled-in questionnaires. The institutions we contacted responded. However, none of the experts from the Government Council for Seniors and Ageing in Population could fill in the questionnaire. They nevertheless provided us with contacts on other experts from the health care and academic sectors. The recommended experts were willing to participate and promised to fill in the questionnaires; however, we did not receive them even upon re-addressing the experts repeatedly. Due to these circumstances, we were not able to cover the governmental sector of the sampling matrix. In the health care/social care sector, we finally received response only from experts in health care. Upon receiving the filled out questionnaires from the respondents and the data provided, we compiled a chart (Table 1) showing the experts' self-rating.

Table 2. Expert self-rating

		Experts						
		A	B	C	D	E	F	G
Setting	Community - dwelling older adults			x	x			x
	Institutionalized older adults				x	x	x	x
Organizational level	National level							x
	Regional/local level	x	x	x	x	x	x	
Field	Physical activity	x		x	x	x	x	x
	Physical functioning		x	x	x	x	x	
Sector	Governmental sector							
	Health care		x	x	x			
	Commercial sector			x				
	Academic sector	x	x		x	x	x	x
	Social care sector							

3 Results

Data are sorted by the individual sections of the Assessment Instruments for Physical Activity and Physical Functioning in Older People. Each table gives a list of tests that were denoted as currently used in the Czech Republic by the addressed experts. The tests are rated depending on how many experts claimed they are “currently used”. Furthermore, each table shows whether the test was translated into Czech, how commonly it is used and the general opinion on the instrument. According to the self-rating of the experts, majority of them were from the health care sector and the academic sector. Based on the tables, the most commonly used tests in the Czech Republic which were marked by at least 4 experts were:

1. Pedometer (7 experts)
2. IPAQ (6 experts)
3. Energy expenditure (6 experts)
4. Step test (6 experts)
5. Accelerometer (4 experts)
6. Get Up and Go Test (4 experts)
7. Time Unsupported Steady Standing (4 experts)
8. Romberg Test (4 experts)
9. Functional Activities Questionnaire (4 experts).

Vast majority of the experts from the sample stated either they knew the questionnaire was in use or they responded “do not know”. Therefore, there is not any overview of tests that are not used since we were not provided relevant data to do so.

3.1. Section B of the questionnaire

The most frequent instruments reported to be in use in the B section of the questionnaire were Pedometer, International Physical Activity Questionnaire, Accelerometer and Energy expenditure. The IPAQ questionnaire was known by six experts; three of whom were health care experts and three from the academic sector. Five experts stated that translation of the questionnaire into Czech was carried out, but only one expert confirmed that scientific procedures were applied in the translation process. All seven experts stated pedometer as currently used in the nation. In case of energy expenditure test, 5 out of 6 experts confirmed it was translated into Czech, however only one stated that scientific procedures were applied in the translation process. Next to the most commonly used questionnaire, the experts from the health care - physiotherapy field reported also the Walking habits test B13 as very commonly used.

Table 3. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section B: Physical Activity

Physical Activity Section	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Pedometer	7	3	3	4
IPAQ	6	5	2	4
Energy expenditure	6	5	5	1
Accelerometer	4	1	1	3
PASE	1	1		1
Walking habits	1	1	1	
Minnesota Leisure Time Physical Activity Questionnaire	1	1		1

Table 4. General opinion on tests rated as “currently used” in Section B: Physical Activity

Physical Activity Section	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Pedometer	7	1	3	
IPAQ	6	1	4	
Energy expenditure	6	1	4	
Accelerometer	4		2	
Minnesota Leisure Time Physical Activity Questionnaire	1			
PASE	1		1	
Walking habits	1		1	

3.2 Section C of the questionnaire

The most frequent instruments reported to be in use were Step test, 12-minute walking test, 6-minute walking test and 2-minute walking test. In case of the 12-minute walking test, it is interesting to note that one expert comments it holds a “very good” general opinion and another expert states the general opinion is “rather bad”. Two experts confirmed that the instrument has been translated into Czech, but only one confirms that scientific procedures were carried out in the translation process. The 6-minute walking test was known only by the

health care specialists and one expert confirmed that scientific procedures were used in translation of the instrument into Czech. In the 2-minute walking test, two experts confirmed a scientific procedure was applied in its translating. Step test was known by six experts out of the seven, and five of them indicated that a scientific procedure was applied in its translating.

Table 5. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section C: Physical Functioning-Endurance

Physical Functioning-Endurance	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Step test	6	6	3	3
12-minutes walking	3	2	2	
2-minutes walking	3	3	2	1
6-minutes walking	2	2	1	1
Endurance shuttle walking test	1			

Table 6. General opinion on tests rated as “currently used” in Section C: Physical Functioning-Endurance

Physical Functioning-Endurance	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Step test	6	3	3	
12-minutes walking	3	1		1
2-minutes walking	3	2	1	
6-minutes walking	2	1		1
Endurance shuttle walking test	1			

3.3 Section D of the questionnaire

The most frequent instrument reported to be in use in this section was Get up and Go test. In case of this test, one expert indicated scientific procedure was carried out in translation. Moreover, one expert from the health care sector reported also the Walking speed 30 m, Walking speed 10 m and Stops walking while talking to be in use.

Table 7. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section D: Physical Functioning-Mobility

Physical Functioning-Mobility	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Get Up and Go Test	4	2	2	2
TUG	1	1		1
Walking speed 30 m	1	1		1
Walking speed 10 m	1	1		1
Stops walking while talking	1			

Table 8. General opinion on tests rated as “currently used” in Section D: Physical Functioning-Mobility

Physical Functioning-Mobility	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Get Up and Go Test	4	2	2	
TUG	1		1	
Walking speed 30 m	1			1
Walking speed 10 m	1		1	
Stops walking while talking	1			

3.4. Section E of the questionnaire

The most frequent instruments reported to be in use were Romberg Test and Timed Unsupported Steady Standing. In case of the former, none of the experts indicated that a scientific procedure was used in the translation process although all four experts stated that the instrument was translated into Czech. In the later test, one expert confirmed that a scientific procedure was used in the translation process. In section two more tests were indicated to undergo the scientific translation procedures; they were the One Leg Stance and Step test. The FICSIT-4 balance scale was indicated to be in use solely by experts from the academic sector.

Table 9. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section E: Physical Functioning-Balance

Physical Functioning-Balance	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Timed Unsupported Steady Standing	4	2	1	3
Romberg test	4	4	3	1
One leg stance	3	2	3	
Step test	3	2	1	1
Tandem stance	2	1	1	1
FICSIT-4 balance scale	2		2	
Berg’s Balance Scale	2	1	1	
Functional Reach	1	1	1	
The 180 Degree Turn	1	1		1

Table 10. General opinion on tests rated as “currently used” in Section E: Physical Functioning-Balance

Physical Functioning-Balance	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Timed Unsupported Steady Standing	4	1	1	
Romberg test	4	2	1	1
One leg stance	3	2	1	
Step test	3		1	
Tandem stance	2	1	1	
FICSIT-4 balance scale	2	2		
Berg’s Balance Scale	2		1	
Functional Reach	1	1	1	
The 180 Degree Turn	1		1	

3.5 Section F of the questionnaire

Only one health care - physiotherapy expert reported the Hand in Neck and Hand in Back tests to be in very common use. This expert also evaluated them as holding a fairly good general opinion.

Table 11. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section F: Physical Functioning-Range of Motion

Physical Functioning- Range of Motion	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Hand in Neck	1	1	1	
Hand in Back	1	1	1	

Table 12. General opinion on tests rated as “currently used” in Section F: Physical Functioning-Range of Motion

Physical Functioning- Range of Motion	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Hand in Neck	1		1	
Hand in Back	1		1	

3.6 Section G of the questionnaire

Both the Box and Block test and Nine Hole Peg Test in this section were reported to be in not very common use. Each of the tests was however indicated by two different experts from the health care sector.

Table 13. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section G: Physical Functioning-Dexterity

Physical Functioning-Dexterity	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Box and Block test	1			1
Nine Hole Peg Test	1	1		1

Table 14. General opinion on tests rated as “currently used” in Section G: Physical Functioning-Dexterity

Physical Functioning-Dexterity	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Box and Block test	1			
Nine Hole Peg Test	1		1	

3.7 Section H of the questionnaire

The most frequent instruments reported to be in use were The Grip Strength, Chair Stand Once and Chair Stand 30 seconds. The Grip Strength was reported by 3 experts and all of them assessed it holding a very good general opinion. All three also confirmed the test was translated into Czech and one of them indicated that a scientific procedure was applied in the translation process. In case of the Chair stand 30 sec, one of the three experts denoted it as having “rather bad” general opinion, and they all agreed that it is not very common. As far as some of the other tests in this section are concerned, it is interesting to note that Chair stand 3 times, Chair stand 5 times and Chair stand 10 times were indicated only by one expert from the health care sector, a physiotherapist, and moreover he declared the two later ones as of “rather bad” general opinion.

Table 15. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section H: Physical Functioning-Muscle Strength

Physical Functioning- Muscle Strength	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Chair stand once	3	1	1	2
Chair stand 30 sec	3	1		3
The Grip Strength	3	3	2	1
Climbing boxes	1	1	1	
Chair stand 3 times	1	1	1	
Chair stand 5 times	1	1		1
Chair stand 10 times	1	1		1

Table 16. General opinion on tests rated as “currently used” in Section H: Physical Functioning-Muscle Strength

Physical Functioning- Muscle Strength	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Chair stand once	3	1	1	
Chair stand 30 sec	3		2	1
The Grip Strength	3	3		
Climbing boxes	1		1	
Chair stand 3 times	1	1		
Chair stand 5 times	1			1
Chair stand 10 times	1			1

3.8 Section I of the questionnaire

The Functional Fitness test was known by three experts; all of them were from the academic sector. They all indicated the test was translated into Czech, however, only one indicated that scientific procedure was applied in the translation process. The Physical Performance Test and General Motor Function Assessment test were also marked as known by two experts from the academic sector. In case of the AAHPERD Fitness Task Force test, which was indicated as known again only by experts from health care, both the respondents made a note that this test is not recommended to be used by too old adults. The respondents indicated only one more test in this section that underwent a scientific translation process; it was the Elderly Mobility Scale.

Table 17. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section I: Physical Functioning-Overall Index Tests

Physical Functioning-Overall Index Tests	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Functional Fitness	3	3		2
Physical Performance Test	2			2
AAHPERD Fitness Task Force	2			2
Elderly Mobility Scale	2	1	1	1
General Motor Function Assessment	2			1
Tinetti Performance-Oriented Mobility Assessment	1	1		1
Modified Elderly Mobility Scale	1	1		

Table 18. General opinion on tests rated as “currently used” in Section I: Physical Functioning-Overall Index Tests

Physical Functioning-Overall Index Tests	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Functional Fitness	3		2	
Physical Performance Test	2	2		
AAHPERD Fitness Task Force	2	2		
Elderly Mobility Scale	2		1	
General Motor Function Assessment	2		1	
Tinetti Performance-Oriented Mobility Assessment	1		1	
Modified Elderly Mobility Scale	1			

3.9 Section J of the questionnaire

The most frequent instruments reported to be in use were Functional Activities Questionnaire, Barthel Index and Katz ADL. All three experts reported the Barthel Index test as very common as well as of very good general opinion. The Functional Activities Questionnaire was reported as known only by experts from the academic sector. All four of them indicated that the test was translated into Czech but only one of them confirmed that a scientific procedure was applied in the translation process. The only other test in this group that underwent translation using a scientific procedure was the Functional Independence Measure test.

Table 19. Tests rated as „currently used“, “translated”, “very common” and “not very common” in Section J: Physical Functioning-Activities of Daily Living

Physical Functioning- Activities of Daily Living	Number of experts rating test as „currently used“	Number of experts rating the test as „translated“	Number of experts rating test as “very common”	Number of experts rating test as “not very common”
Functional Activities Questionnaire	4	4		2
Barthel Index	3	3	3	
Katz ADL	3	2	1	1
Activities of Daily Living Index	2	2	1	1
Combination ADL-IADL	2	1		1
Bristol Activities of Daily Scale	1			1
Functional Independence Measure	1	1	1	

Table 20. General opinion on tests rated as “currently used” in Section J: Physical Functioning-Activities of Daily Living

Physical Functioning- Activities of Daily Living	Number of experts rating test as „currently used“	Number of experts rating the test as „very good“	Number of experts rating test as “fairly good”	Number of experts rating test as “rather bad”
Functional Activities Questionnaire	4	2	1	
Barthel Index	3	3		
Katz ADL	3	1		
Activities of Daily Living Index	2	1		
Combination ADL-IADL	2			
Bristol Activities of Daily Scale	1			
Functional Independence Measure	1	1		

3.9 Overview of tests reported to by in use in the Czech Republic

The individual experts vary in the number of tests they reported to be in use in the Czech Republic. This is attributable to the fact they work in different fields and tend to use instruments specific for their fields. Section B: Physical Activity, Section C: Physical Functioning – Endurance and Section E: Physical Functioning – Balance are the only sections where all respondents reported to know at least one test. On the other hand, the tests in sections F: Physical Functioning - Range of Motion and G: Physical Functioning – Dexterity were the least known.

Table 21. Number of tests rated “used in my country” by respondents

Sections of the questionnaire	Experts						
	A	B	C	D	E	F	G
Physical Activity (17)	4	5	4	5	2	4	3
Physical Functioning – Endurance (5)	2	5	1	1	2	2	2
Physical Functioning – Mobility (9)	1	4	0	1	1	1	0
Physical Functioning – Balance (13)	2	8	3	1	4	2	2
Physical Functioning – Range of Motion (3)	0	2	0	0	0	0	0
Physical Functioning – Dexterity (2)	0	1	0	1	0	0	0
Physical Functioning – Muscle Strength (7)	0	6	1	0	2	3	1
Physical Functioning – Overall Index Tests (15)	3	0	1	1	4	4	0
Physical Functioning – Daily Living (13)	1	5	3	0	5	1	1
Total (84 tests)	13	36	13	10	20	17	9

4 Conclusions

The interpretation of the results in the Czech Republic survey needs to be rather tentative due to the very small sample size. Moreover, since we have not received filled-in questionnaires from all the addressed experts, there is an uneven representation of each field of the sampling matrix i.e. the national and regional levels are not equally represented, and the governmental and social care sectors are not represented at all. Therefore, we cannot draw any clear-cut comparisons between the individual sectors and fields.

As far as the translations of the instruments into Czech language are concerned, even though the experts indicated the tests to exist in Czech version, in majority of cases only few of them knew whether scientific procedures were applied in the translation process.

In general, the highest number of tests reported to be currently used in the Czech Republic, which were marked by at least four experts, are found in the Section B of the questionnaire: Physical Activity. They are Pedometer, IPAQ, Energy expenditure and Accelerometer. Furthermore, at least four experts indicated the Time Unsupported Steady Standing test and Romberg Test from the Section E: Physical Functioning – Balance; The Get Up and Go Test from the Section D: Physical Functioning – Mobility; Step Test from the Section C: Physical Functioning – Endurance and the Functional Activities Questionnaire from the Section J: Physical Functioning – Daily Living that are in current use.