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D2.2 User Requirements Collection (Second Iteration)

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1.   Introduction

CoME aims for a service that facilitates health self-management for seniors, but also the interrelation of different actors (seniors, informal caregivers and formal caregivers). With this interrelation and with the data obtained through wearable devices from the senior, patterns about the daily activities and his lifestyle could be detected. In the platform all the actors will find reliable information about ageing and important aspects in chronicity, especially those topics related to prevent MCI.

To ensure the success of the CoME service is fundamental to explore the needs and experiences of the different scenarios involved –Elderly Non MCI Diagnosed, Informal Caregivers and Formal Caregivers– using that knowledge to make the CoME service suitable for all end-users.

2.   Methodology

To explore the needs and experiences of every scenario semi-structured interviews on the target population of end-users will be conducted assuring the **data saturation**. Different scripts for every scenario were agreed among the partners of each country (for further information about scripts consult *deliverable 2.1 User Involvement Plan*).

In **Lleida (Spain)** and **Szombathely (Hungary)**, **18 seniors**, **13 informal caregivers** and **9 formal caregivers** were interviewed; also **5 more informal caregivers** where **interviewed in The Netherlands.** For interviews, equal distribution for age, gender and environment (rural/urban), under the inclusion criteria described in the deliverable 2.1 User Involvement Plan were taken into account. Please, consult this deliverable for more detailed data about the distribution.

3.   Interviews Evaluation

The following table summarizes the end-users involvement in the interviews for the user requirements phase.

Part of the recruitment and inclusion process was done in Lleida via direct approach by members of the IRB Lleida team within the grounds of Hospital Universitari de Santa Maria-GSS and the contacts made by health professionals involved in the Grup en Recerca en Cures en Salut (GRECS) from IRB Lleida and HSM-GSS.

In The Netherlands, ConnectedCare used its existing network of informal caregivers to identify possible participants and approach them via email.

In Hungary, PBN recruited the participants by direct approach as well, using personal contacts and through the support of General Practitioners network and elderly homes.

Interviews Evaluation Summary						

Type of end-user (primary, formal and informal secondary, tertiary end-users)

Primary end-users, informal and formal caregivers (secondary end-users) were interviewed along 8th February 2016 and 14th March 2016.
(see deliverable D2.1)

Total number of end-users involved (by type of end-user, gender, etc.)

The total number of end-users participating in the 4 different phases (need analysis phase, evaluation of the first prototype, evaluation of the second prototype, evaluation of the third prototype) will be 326 with the following distribution:

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Number	73	74	48	49	41	41

In the following subsections of this document, the data are categorized by end-user type and countries.

Total number of end-users involved for the requirements analysis: 45

For the requirements analysis, Hungarian, Spanish and Dutch partners followed the same methodology. They conducted semi-structured interviews, agreed with the partners of Hungary, Spain and The Netherlands. The script of the interview in English, Catalan and Hungarian can be consulted in the deliverable D2.1 User Involvement Plan

Data for Hungary

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Number	4	4	3	5	1	3

Data for Spain

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Number	5	5	1	4	2	3

Data for The Netherlands

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Number	-	-	2	3	-	-

Average age and age distribution of involved end-

Requirements analysis

users

Data for Hungary

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Mean Age	70	68,5	48,6	40,8	60	44,3

Data for Spain

	Primary		Secondary: Informal		Secondary: Formal	
Gender	M	F	M	F	M	F
Mean Age	76,6	71,2	57	56	47	41,6

Data for The Netherlands

	Primary		Secondary		Secondary: Formal	
Gender	M	F	M	F	M	F
Mean Age	-	-	58,5	54	-	-

OVERALL	Primary	Secondary: Informal	Secondary. Formal
Mean Age	71,6	52,48	48,22

Location of end-user (rural, town, large city, etc.)
Differences among the population living in an urban environment and those living in a rural environment have been taken into account. These differences cover, among others, differences regarding technology acceptance, relation with the informal and formal caregivers and daily activities.

	Hungary
Rurals	0
Urban	20

	Spain
Rurals	12
Urban	8

Situation of end-users (single household, family setting, independence, etc.)

	Hungary
Family setting	18
Single household	2
Nursing home	0

Other	0

	Spain
Family setting	17
Single household	3
Nursing home	1
Other	

Health status (disabilities, mobility, cognitive function, etc.)	• In Hungary, 100 % of the senior participating to the user requirements phase were overall healthy, not with MCI diagnosed • In Spain, 100% of the seniors participating to the user requirements phase were not MCI diagnosed. 80% of the senior had health issues related with the age such as blood pressure or diet control. One was a cancer survivor and one had pulmonary emphysema.
Socio-economic background (education, income class, etc.)	Socio-economic background of the end-users is available only for the seniors and informal caregivers. It was not asked for the requirements analysis (using the International Standard Classification of Occupations), and obviously it is not provided for formal caregivers. **Hungary** **Spain**

Hungary

	Primary	Informal secondary
Managers	2	1
Professionals	5	2
Technicians		
Clerical		
Service/sales workers		6
Agriculture		
Craft		
Operators		
Elementary		
Armed forces		
Unknown	1	3

Spain

	Primary	Informal

		secondary
Managers	1	
Professionals	1	1
Technicians		
Clerical		
Service/sales workers	2	1
Agriculture	5	
Craft		
Operators	1	
Elementary		
Armed forces		
Unknown		3

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Methodology

The requirements were captured along the methodology described in D2.1

The overall methodological approach is at the cutting-edge of the user-centered approaches developed in the field of ambient assistive living and assistive technologies.

Recruitment of end-users

Part of the recruitment and inclusion process was done in Lleida via direct approach by members of the IRB Lleida team within the grounds of Hospital Universitari de Santa Maria-GSS and the contacts made by health professionals involved in the Grup en Recerca en Cures en Salut (GRECS) from IRB Lleida and HSM-GSS. In The Netherlands, ConnectedCare used its existing network of informal caregivers to identify possible participants and approach them via email.
In Hungary, PBN recruited the participants by direct approach as well, using personal contacts and through the support of General Practitioners network and elderly homes.

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General considerations regarding ethical issues can be found in deliverable D2.4

Informed consent

To involve the end-users, all the end-users partners used the same approach all along the project. A template was provided for the notice of information and the consent form that was translated in Hungarian and Spanish.

Protocols

All the information regarding the protocols used to work with the end-users can be found in the deliverable D2.1 and will not be summarize here, considering their richness.
Legal procedures were followed, with respect to the national ethical frameworks.

Privacy

As a consequence, privacy was ensured with the anonymization of all the end-users data. No medical and critical data were processed during the project.

Exit strategy

It was clearly explained to all the participants that their participation was free and that they could stop participating at all time with no consequences, as explained to them when gathering their informed consent.

Incentive

No material incentive was proposed to participants. All expenses were covered (in particular, regarding their conveyance to the end-users partners offices).

Harms

There are no harms in participant in the use requirement phase of the AAL CoME project.

Table 1. Interviews Evaluation Summary

4. Conclusions

The interviews demonstrate that seniors have the perception of carrying out a healthy lifestyle. This perception contrasts with the perception that some informal caregivers and most of the formal caregivers, have. They stress the fact that the principal problem of the elderly is in relation with nutrition and physical activity.

The idea of having a specific tool to find reliable information about health issues to carry out a healthier lifestyle and to prevent MCI, is something that end-users assess positively. The information that they would like to find is about:

- Nutrition
- Physical activity
- Mental activities
- How to give up bad habits
- Information about blood pressure and blood sugar related to age
- How to avoid risky factors in the daily activities
- Information about the most important diseases related to age specifically in the MCI
- Avoid anxiety for the informal caregivers
- The importance of social relations
- Information about seniors mobilization
- Legal issues

Most of the seniors have some ICT knowledge and those who do not have it can be helped by informal caregivers; also, formal caregivers can have an important role teaching seniors because of the confidence that seniors have on them.

Seniors expressed some doubts about monitoring; some of them have the perception that this would be necessary when they have some important disease but not to help them to carry out a healthier lifestyle, even though they would feel more secure with this monitoring, for example, they have the perception that they could have a more rapid response in case of emergency.

The information that the platform can retrieve, through monitoring or inserted manually is:

- GPS tracking
- Information about physical activity
- Information about sleep patterns
- Information about nutrition patterns
- Blood pressure
- Blood sugar
- Heart rate

Warnings through the smartphone or wearable devices can help seniors to remember important things for them.