



# IO1 – SELECTION OF APPLICATIONS

*29 November 2016 – Limassol, Cyprus*

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**INRCA**

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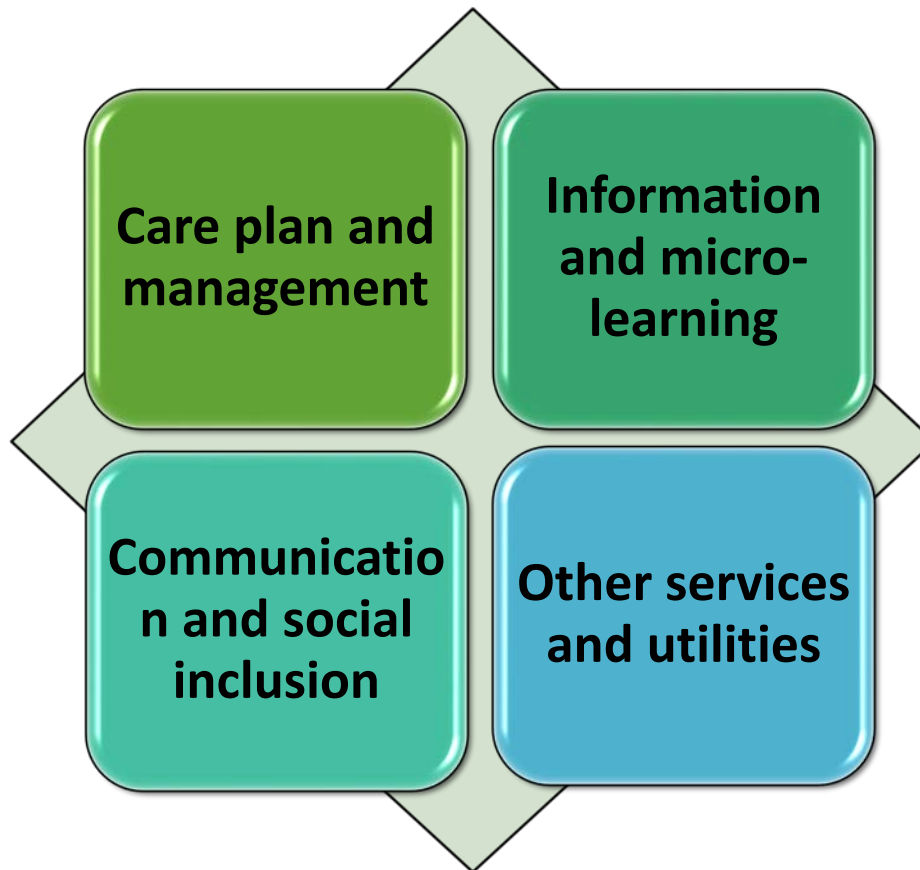


# OUTLINE

- a. Introduction: aims and timeline**
- b. TASK 1.A1: Definition of common criteria**
- c. TASK 1.A2: Survey on available applications and selection**
- d. TASK 1.A3: Review by pilot users**

# AIMS

The aim of Intellectual Output 1 is to select applications and mobile web-sites available on the market, addressing the needs of informal carers. In particular, the following areas of intervention have been considered as relevant:



# TASKS

To achieve the above aim, three tasks have been identified:

*Task 1.A1: Definition of common criteria for the identification of the applications to be selected*

*Task 1.A2: Survey on available applications and selection*

*Task 1.A3: Review by pilot users*

The final output will be a Report on the selected applications and websites, to be produced by May 2017.



Tasks & Output	2016				2017			
	M1	M2	M3	M4	M5	M6	M7	M8
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1.A1 definition of common criteria								
1.A2 survey on application and selection								
1.A3 review by pilot users								
Final Report on selected applications								

# OUTLINE

- a. Introduction: aims and timeline
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# Task 1.A1: Objective, methods & outputs

## Objective

- To define criteria to select the apps and web-sites

## Methods

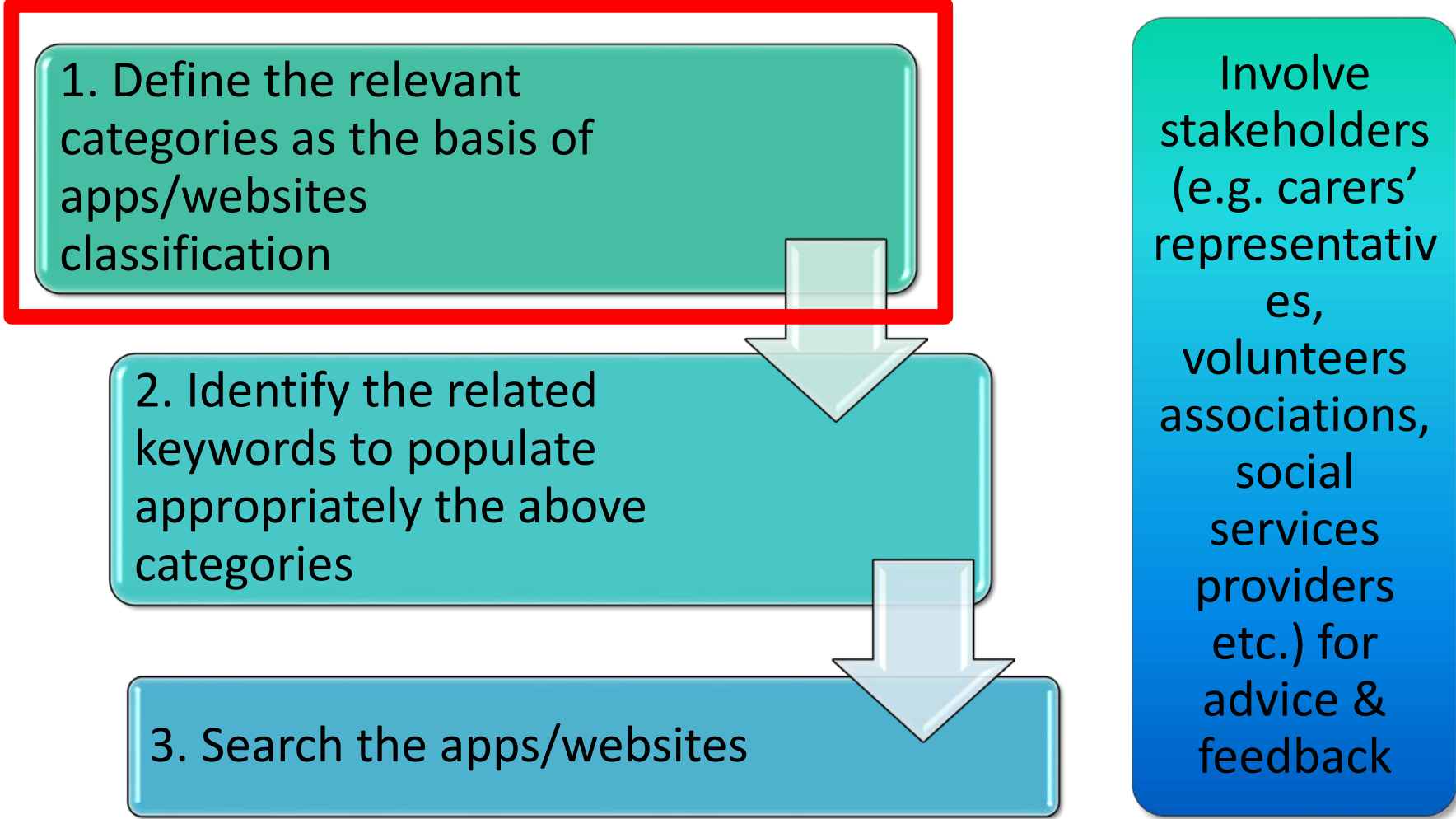
- Literature review
- Preliminary survey
- Web search

## Outputs

- Criteria and strategies to:
  - Search
  - Evaluate
  - Classify
  - Select apps and websites

# Proposed strategy to search the apps/websites

1. Define the relevant categories as the basis of apps/websites classification



```
graph TD; A[1. Define the relevant categories as the basis of apps/websites classification] --> B[2. Identify the related keywords to populate appropriately the above categories]; B --> C[3. Search the apps/websites];
```

2. Identify the related keywords to populate appropriately the above categories

3. Search the apps/websites

Involve stakeholders (e.g. carers' representatives, volunteers associations, social services providers etc.) for advice & feedback



# Categories

Proposed categories for the classification of the apps/website:

- ✓ Scope (based on needs & areas of intervention)
- ✓ Care recipient's disease/condition
- ✓ Target group
- ✓ Type of application (app or website)

Labels to be used in the library (*comment from Ariana*)

# Scope 1: care plan & management

**Medication management** (pill reminder, medication monitoring; info about medicines, management of side effects)

**Care Coordination** (sharing info with doctors/other family members, management of appointments, home help)

**Everyday life tasks**  
(management of personal care; dietary guidance, tasks reminders)

**Tracking Systems/ Devices**  
(tracking lifestyle/daily activities, symptoms, tests parameters)

```
graph TD; A((Care plan and management)) --> B[Medication management]; A --> C[Care Coordination]; A --> D[Everyday life tasks]; A --> E[Tracking Systems/ Devices];
```

**Care plan and management**

# Scope 2: information and micro-learning

```
graph LR; A[Information and micro-learning] --> B[Legal and financial information and support]; A --> C[Public/Private services and local initiatives]; A --> D[Medical and Health information]; A --> E[Stress management and wellbeing];
```

## Information and micro-learning

**Legal and financial information and support**  
(legal and financial information, service provision, rights and benefits, advocacy resources)

**Public/Private services and local initiatives**  
(healthcare and social services, respite care, info about disability-friendly access facilities, events)

**Medical and Health information** (news on subject interesting for carers, medical information about diseases of interest, quiz/questionnaires to understand the symptoms)

**Stress management and wellbeing** (measure of burden level, stress level detection and management, relaxing resources and tools)

# Scopes 3 & 4: Communication and social inclusion; Other services and utilities

**Communication  
and social  
inclusion**



**Peer Support  
resources**

(communicates  
with people in a  
similar situation,  
support groups)

**Assistive  
devices**  
(facilitator of  
communication)

**Other  
services  
and utilities**



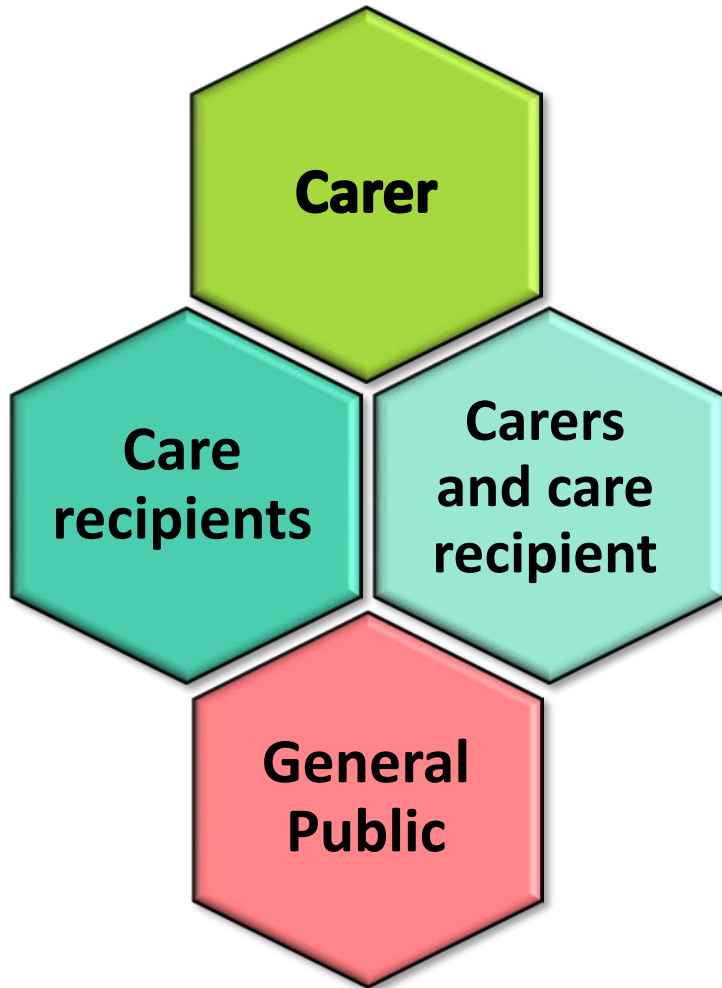
Shopping for good and  
services, pharmacy  
information, emergency  
numbers

## Care recipient's disease/condition

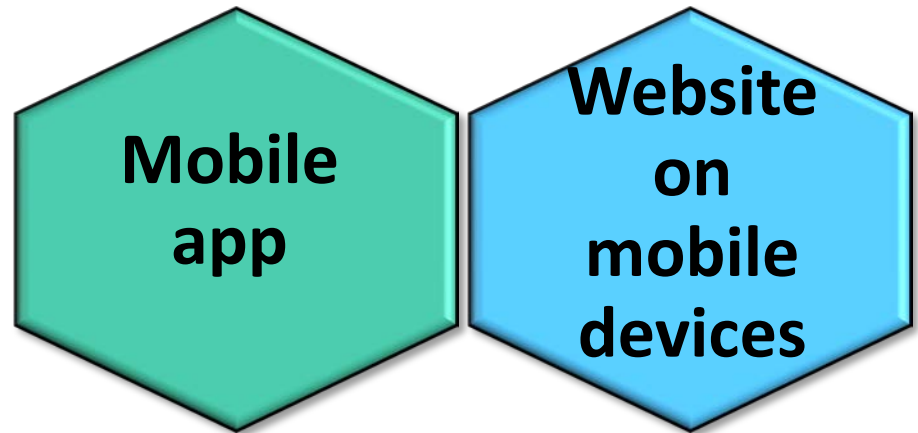
- **Alzheimer/dementia**
- **Cancer**
- **Diabetes**
- **Chronic heart diseases/stroke**
- **Mental health**
- **Parkinson**
- **Arthritis**
- **Osteoporosis**
- **Visual impairment**
- **Hearing impairment**
- **Hypertension**
- **Bedsore**
- **Urinary incontinence**

# Target group and device

## TARGET GROUP



## DEVICE



# Additional points of discussion (1)

## 1. Use of INFORMCARE platform:

- Include INFORMCARE in the library as a resource?
- Include a link to the library in INFORMCARE
- Both?
- Include some contents of INFORMCARE in the library?

## Additional points of discussion (2)

### 2. Balance of apps/websites:

- Priority to apps dedicated specifically to carers
- Websites selected if of high relevance and comprehensive or if no apps are present (?)
- General public resources included if few results related to carers (?)
- More than one app included for specific scope/feature (?)

### 3. OTHER ISSUES?



1. Define the relevant categories as the basis of apps/websites classification

2. Identify the related keywords to populate appropriately the above categories

3. Search the apps/websites

Involve stakeholders (e.g. carers' representatives, volunteers associations, social services providers etc.) for advice & feedback

1. Define the relevant categories as the basis of apps/websites classification

```
graph TD; A[1. Define the relevant categories as the basis of apps/websites classification] --> B[2. Identify the related keywords to populate appropriately the above categories]; B --> C[3. Search the apps/websites];
```

2. Identify the related keywords to populate appropriately the above categories

3. Search the apps/websites

Involve stakeholders (e.g. carers' representatives, volunteers associations, social services providers etc.) for advice & feedback

## Search the apps/websites

- Search the apps (app stores)
- Search the websites (internet)
- Use keywords and combination of keywords
- Adjust/translate keywords in each country

## Involvement of stakeholders

- It is not mandatory but recommended
- It can be useful in all phases (i.e. definition of categories and keywords, advice on relevant/interesting apps/websites)
- Each partner can use its own networks

# Task 1.A1: Objective, methods & outputs

## Objective

- To define criteria to select the apps and web-sites

## Methods

- Literature review
- Preliminary survey
- Web search

## Outputs

- Criteria and strategies to:
  - Search
  - Evaluate
  - Classify
  - Select apps and websites

# Proposed strategy to evaluate the apps/websites

**1.** Evaluate each app/website on the basis of inclusion/exclusion criteria



**2.** Rate the apps/websites on the basis of inclusion criteria and other non-binding criteria

- Each partner will be responsible for the evaluation of “national” apps/websites
- All partners together will evaluate multilingual apps/websites (taking into account countries differences)

# INCLUSION/EXCLUSION CRITERIA (1)

CRITERIA	ASSESSMENT	INDICATOR
<b>Language</b>	Description of the app/presence of language menu in the website	At least national (Italian, Swedish, Portuguese, Greek), better if national + English
<b>Reliability/ appropriateness of the contents</b>	<ul style="list-style-type: none"><li>▪ HEALTH-RELATED APPS/WEBSITES: verify if endorsed by Ministry of Health or other relevant organisations, or if included in a revised/certified repository (e.g. “myHealthApps Directory”)</li><li>▪ WELL-BEING AND OTHERS: verify if there are sufficient information about developer??</li></ul>	Only if presence of reliable/appropriate contents

## INCLUSION/EXCLUSION CRITERIA (2)

CRITERIA	ASSESSMENT	INDICATOR
<b>Data security and privacy</b>	<p>Only for apps/website that foresee the use of personal data:</p> <ul style="list-style-type: none"><li>• to verify if there is any information about privacy and security policies in the description of the app</li><li>• to verify if any acceptance conditions is required for registration or before entering personal data.</li></ul>	<p>Only if security and privacy are assured/considered (?)</p>
<b>Quality</b>	<p>MARS (Mobile Application Rating Scale)</p>	<p>Cut-off value (3 out of 5?)</p>



# MARS - Mobile Application Rating Scale

Multidimensional scale for classifying and rating the quality of mobile health apps.

## Three sections (23+(6) items):

- 1. App quality rating (19 items, 4 dimensions):** Engagement, Functionality, Aesthetics, Information
- 2. App subjective quality (4 items)**
- 3. App-Specific (6 items, facultative):** they can be used to obtain information on the perceived impact of the app/website on user's knowledge and attitude

## Likert scale:

1	Very bad/Not satisfied at all
2	Bad/Not satisfied
3	On average good/satisfied
4	Good/Satisfied
5	Very good/satisfied

**TOTAL SCORE:  
from 1 to 5**



# MARS: preliminary test

- **Tested with 2 apps and 1 website (mobile version)**
- **Time required:** 30 minutes maximum (5' for finding and installing the app + 10' for testing/exploring the app + 10' MARS + 5' for scoring plus comment)
- **Name and MARS quality score:**
  - Alzheimer App = **4,6**
  - Indice glicemico e carico IG = **3,7**
  - Web site ([www.parkinson.it/aip](http://www.parkinson.it/aip)) = **3,15**

## Positive issues

- Developed for assessing health apps
- Easy and fast to use
- If one or more items are not applicable you simply do not count it

## Critical issue

- It seems less appropriate for websites

## Notes

- Evaluation of pay for apps not possible
- A field with a final comment could be added for useful additional notes
- Scoring could be calculated by software

## ADDITIONAL NON-BINDING CRITERIA TO BE DISCUSSED (1)

CRITERIA	ASSESSMENT	INDICATOR
<b>Cost</b>	Presence of premium versions for the apps/ possibility for subscriptions in the websites	Price (€): range? maximum?
<b>Responsiveness (only websites)</b>	Manually or by Google utility	Only mobile-friendly websites?
<b>Update status</b>	App (version and date); Website (date of the last update)	To define a cut-off?

## ADDITIONAL NON-BINDING CRITERIA TO BE DISCUSSED (2)

CRITERIA	ASSESSMENT	INDICATOR
<b>Registration</b>	APP: to install it and verify if the creation of an account is requested WEBSITE: verify if there is a private section dedicated to members and its purpose	Needed/ Not needed
<b>Connection</b>	Description of the app or verification in the menu	Internet required (y/n)
<b>Rating</b>	Google play/iTunes out of 5 rating system	Last available score
<b>Developer</b>	Description of the app/website information	Name

## ADDITIONAL NON-BINDING CRITERIA TO BE DISCUSSED (3)

OTHER?

CRITERIA	ASSESSMENT	INDICATOR

## Additional points of discussion

1. Rating system to be used by each partner:
  - 5-stars?
  - Total score considering all the criteria.
2. OTHER?



## Objective

- To define criteria to select the apps and web-sites

## Methods


- Literature review
- Preliminary survey
- Web search

## Outputs

- Criteria and strategies to:
  - Search
  - Evaluate
  - **Classify**
  - Select apps and websites

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1. To identify for each app/website all the applicable categories (multiple categories could be relevant)



2. To define the most important ones as a starting rule for the filtering process.

**PARALLEL ACTIVITY TO IO4!!**

# Task 1.A1: Objective, methods & outputs

## Objective

- To define criteria to select the apps and web-sites

## Methods

- Literature review
- Preliminary survey
- Web search


## Outputs

- Criteria and strategies to:
  - Search
  - Evaluate
  - Classify
  - Select apps and websites



# Proposed strategy to select the apps/websites

1. Review the results of the survey  
(number of apps/websites and  
distribution among categories)



2. Order them on the basis of the  
rating



3. Exclude those with a very low  
score or ones over-represented (?)



**Preliminary list of apps/websites to be included in the library**

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# Task 1.A2: Objective, methods & output

## Objective

- To search and select the available apps and websites that fit the criteria defined in Task 1.A1.

## Methods

- Web search
- Involvement of stakeholders

## Output

- Preliminary list of apps/websites to be included in the library

# Proposed plan of action

1. Start the survey on January 2017
2. Discussion on preliminary results of the survey & finalization of pilot test methodology (end of January)

## ADDITIONAL POINTS FOR DISCUSSION:

1. Other??

# OUTLINE

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# Task 1.A3: Objective, methods & output

## Objective

- To ask users to evaluate the apps/websites selected

## Methods

- Mixed-methods

## Output

- Final list of apps/websites to be included in the library

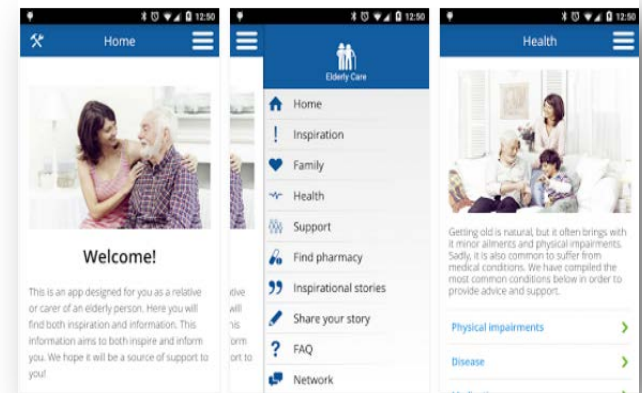
# R possible

1. Focus group using a Walkthrough
2. Focus group using a Storyboard
3. Semi-structured questionnaire & Walkthrough
4. Semi-structured questionnaire & Storyboard
5. Users testing app & semi-structured questionnaire

■ **Walkthrough:** To present the app/website navigating real-time inside it, going step by step through the system getting reactions from users.



■ **Storyboard:** To present the app/website by selected screenshots, allowing users to visualize the interfaces and provide feedback.



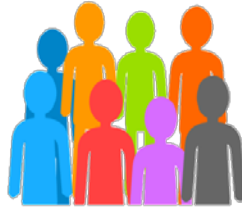
More effort required to create storyboards!



# Focus-group



**3/4 apps  
per group**



**5/6 pp  
each group**



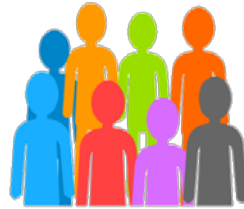
**30-40' per app  
Tot 1h30-2h30**

- 10-15' for presentation + 20-25' of discussion per app
- Qualitative data about interest in the apps, perceived usefulness, aesthetics, functionality etc.
- Quite easy to manage, it allows users to interact indirectly with the app

**Possibility to organize more than one group!**



**3/4 apps  
per group**



**8/10 pp  
each group**



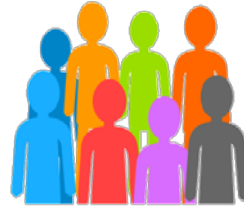
**20-30' per app  
Tot 1h-2h**

- 10-15' for presentation + 10-15' questionnaire per app
- Quantitative data (e.g. uMARS/SUS) + open questions
- Quite easy to manage, it allows users to interact indirectly with the app

**Possibility to organize more than one group!**



**4/6 apps**



**8/10 pp**



**5 weeks**

- On-site presentation + installation (1 week) + Individual use (2-3 weeks) + online questionnaire (1 week)
- Quantitative data (e.g. uMARS/SUS) + open questions
- The users have a self-interaction with the apps.
- The data will be more reliable.

# uMARS - Mobile Application Rating Scale users version

Multidimensional scale for end-users to assess the quality of mHealth apps.

## Three sections (20+(6) items):

- 1. App quality rating (16 items, 4 dimensions):** Engagement, Functionality, Aesthetics, Information
- 2. App subjective quality (4 items)**
- 3. App-Specific (6 items, facultative):** they can be used to obtain information on the perceived impact of the app/website on user's knowledge and attitude

## Likert scale:

1	Very bad/Not satisfied at all
2	Bad/Not satisfied
3	On average good/satisfied
4	Good/Satisfied
5	Very good/satisfied

**TOTAL SCORE:  
from 1 to 5**

# SUS - System Usability Scale

Quick and reliable tool for measuring usability, easy to administer.

## 10 Items questionnaires:

- Complexity
- Support needed
- Consistency
- Easy to use and learn
- Cumbersome
- Etc

## Likert scale 1 to 5:

1	Strongly disagree
5	Strongly agree

**TOTAL SCORE: 0-100**

Score **above 68** would  
be considered **above  
average**

# Methodologies

Option	Apps (n)	Users (n)	Time	Interaction user-app	More sessions	Data collected
Focus group	3-4	5-6	1h30-2h30	No	Yes	Only qualitative data
Semi-structure d quest.	3-4	8-10	1h-2h	No	Yes	Qualitative + quantitative data
User test	4-6	8-10	5 weeks	Yes	No	Qualitative + quantitative data

# How to select the apps/websites for pilot testing

1. To choose the most rated apps/websites for each category?
2. Selection by scope?
3. Random selection?
4. If direct interaction of the users, selection based on user's characteristics?

# NEXT STEPS:

- a. Proposal of keywords for apps/websites search  
(9 December)
- b. Feedback from partners (15 December)
- c. Finalization of categories, criteria and keywords  
(20 December 2016)



