

## 1.1 Interview Guide for Informal caregivers

Archival #:	Ex/ WFX1Ho <i>First letter of application (W/H/C), First letter of country name (F/I/N/J), Type of respondent (X, Y, Z), Number of respondent (1 to 10), Housing (Ho/Nu/Se)</i>
Application:	<input type="checkbox"/> Walking <input type="checkbox"/> Housework <input type="checkbox"/> Conversation
Country:	<input type="checkbox"/> France <input type="checkbox"/> Italy <input type="checkbox"/> Japan <input type="checkbox"/> Netherlands
Type of Respondent:	<input type="checkbox"/> X Professional caregiver <input type="checkbox"/> Y Informal Caregiver <input type="checkbox"/> Z Elderly
Respondent #:	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 20 <input type="checkbox"/> 23 <input type="checkbox"/> 24 <input type="checkbox"/> 25 <input type="checkbox"/> 26 <input type="checkbox"/> 27 <input type="checkbox"/> 28 <input type="checkbox"/> 29 <input type="checkbox"/> 30 <i>Respondents are identified through a number from 1 to 30 (as there are 10 elderlies, 10 professional caregivers and up to 10 informal caregivers per country/appli)</i>
Site:	
Interviewer:	
Date:	
Start:	ex/ 10:00 am
End:	ex/ 11:10 am
Elderly	<input type="checkbox"/> Yes <input type="checkbox"/> No
GIR	<input type="checkbox"/> GIR 4 <input type="checkbox"/> GIR 5 <input type="checkbox"/> GIR 6
Age	<input type="text"/>
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Living condition	<input type="checkbox"/> Home <input type="checkbox"/> Senior residence <input type="checkbox"/> Nursing home
Informal Caregiver	<input type="checkbox"/> Yes <input type="checkbox"/> No More details:
Professional assistance / week	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Nurse

	<input type="checkbox"/> Nursing auxiliary <input type="checkbox"/> home helper <input type="checkbox"/> social worker <input type="checkbox"/> Meal delivery service <input type="checkbox"/> ....
Observations	

### ***Introduction***

Dear Mr./Mrs:..... Thank you for accepting to participate in this “needs” interview for the ACCRA project. Your collaboration is appreciated!

### **Interview protocol:**

- This interview aims to determine potential issues and needs that you might have perceived among the elderly concerning their **mobility**.
- This interview aims to determine your **perceptions about the usage of technology and robotics** for health care.
- The data will be used for the ACCRA project to prepare the robots that fits the elderly needs and could support you in your work.
- This data may be used for future publications including, but not limited to: academic journals, websites and policy papers.
- This interview will be recorded.
- The interviewer/researcher conducting this interview will make sure that the data is treated confidentially and that the data will not be traceable to a specific individual to safeguard privacy.
- If you do not feel comfortable to give answers to a question, you can state this without providing any reason and the interviewer/researcher will skip the question.
- If you do not feel comfortable to continue the interview any further, you may at any moment discontinue the interview without providing any reasons.

Do you have any questions? Do you understand and accept the above mentioned procedures?  
If so, we will start the interview.

## Context and way of life

### 1) Could you describe what you think the current mobility issues are for your loved one?

Probe :

- i. Does he/she for example have problems: Getting up/sitting down, walking (for a long distance), climbing stairs, lifting/carrying stuff, bending down etc?
- ii. Does it cause pain when he/she tries to these motions or does he/she not have enough strength? Are there other reasons that you think that might limit the elderly's mobility?

### 2) Could you describe what the problems are that you believe that your loved one has in their daily life in regards with their mobility?

Probe :

- a. Let's start with the morning. What difficulties do you see? Does he/she for example have difficulties preparing breakfast in the morning? What were the problems?
  - a. Taking food or plates out of the fridge/cabinets?
  - b. Carrying plates and food to the table?
  - c. Cooking the food behind a stove?
- b. Could you describe the rest of the day and what issues you have seen with your loved one in regards with their mobility? What Issues does he/she have in the afternoon and evening?
  - i. What activities is he/she unable to do (properly) due to their mobility issues on a regular day? Attending visitors, washing, shopping, cleaning etc.? What is exactly the problem?
- c. Does your loved one experience any problems with their social life in their daily life due to their reduced mobility?
  - i. For example, is he/she visiting friends/family less?
  - ii. How is his/her participation in events/activities? Does he/she regularly join and participate in events?

## Homecare

### 3) What does your loved one currently do to solve their mobility issues?

Probe :

- a. Does he/she ask you for help?
  - i. If so, with what does he/she ask you help you with? Do you help him/her with:
    1. Getting up?
    2. Be their walking partner?
    3. Performing some of the daily household tasks: cleaning, cooking, and shopping?
      - a. How frequent do you help them?
      - b. Is it on-call basis? Or do you have fixed time moments?
  - ii. If not, why do you think that he/she does not ask you to help them?
    1. He/she does not want to burden you for every (small) issue? Even if you are willing to help you?
    2. He/she does not want rely on other people to perform tasks that you could yourself? (Maintaining independence)
    3. He/she does not feel comfortable to request help from you? Why not?

4. Do you think he/she would be interested to receive help from someone?  
If so, who? If not, why not?
    - b. Does your loved one solve his/her mobility issues by using mobility equipment: Walking cane, a walker, wheelchair etc?
      - i. If yes, do you think that he/she likes using the tool? Why do you think that?
        1. What are the advantages?
      - ii. If not, why does he/she not use mobility equipment?
        1. Does he/she think that it is not comfortable?
        2. Does he/she not like the image of being an individual needing walking equipment?
        3. Does he/she not believe that the tools are useful?
    - c. Creative strategies
      1. Do you notice your loved one using chairs and/or other furniture that are commonly not meant to be used for walking/getting up?
      2. Do you notice other methods that your loved one uses to solve his/her mobility issues?
    - d. Did you notice a lifestyle change with your loved one?
      1. For example, to avoid the need to get up every time to go to the bathroom, he/she decided to eat/drink less.
      2. Because he/she move less, they eat/drink less to avoid gaining weight
      3. He/she avoid social activities because reaching the location within the care home is too difficult or cost too much energy?
      4. He/she changed their planning/needs to fit the schedule of the care worker/family/friends that help them with mobility issues?
- 4) What do you think are the top 3 main mobility problems that severely affect his/her independent living?  
Probe:
- i. Which issues require the most attention from you?
  - ii. Why do you pick these 3 issues?
    1. Are these issues the most frequent?
    2. Do these issues decrease their confidence/self-esteem?
    3. Do these issues reduce their independence?
  - iii. What do you think about the current methods on how these issues are currently resolved?
    1. For example, due to their limited mobility, your loved one has difficulties attending social activities. Therefore, they call you to pick them up and drop them off and vice versa.

### **First investigation of the interests for a robot**

#### 5) Do you have any experience with technology?

Probe :

- a. Do you use Computers/Smartphones/Tablets? Why (not)?
  - i. If you are using:
    1. What do you use it for?
    2. Did you buy it on your own or did somebody else buy it for you?
      - a. Why did you get it on your own/somebody else buy it for you?

- b. Who bought it for you?
  - ii. If you are not using
    - 1. Why do you not use them?
      - a. Do you have issues using these equipment?
      - b. What kind of issues do you experience using them?
    - 2. Are you interested in using these equipment?
      - a. What would you like to be able to do?
  - b. Do you have experience with robots?
    - i. If so, what kind of robots?

6) Could you describe what kind of care that you provide to your loved one?

Probe:

- a. It was addressed a little bit before, but could you explain further what kind of work you do?
  - i. What are your most important tasks?
  - ii. How does an average daily routine look like for you?
- b. How much direct contact do you have with your loved one? Do you visit your loved one often?

**At this point; show video/pictures about ASTRO with a short explanation on what it can do at the moment.**

7) After looking at this video/pictures about ASTRO, what do you think about ASTRO? A robot that could support your loved one with their mobility issues?

Probe:

- a. What are your first impressions about the robot?
  - i. Is ASTRO Interesting, cool, strange or something else?
  - ii. What do you think about the idea of robots in health care?
- b. Do you believe that the robot will be able to provide you the necessary support to solve your loved one's mobility issues? Why (not)?
  - i. If it would help you, with which issues would it help you? How would it help you?
  - ii. If it would not help you, why not?
    - 1. What should be changed to make it useful for you?
    - 2. Might ASTRO be useful for other informal caregivers or other elderly? Why do you think that?
- c. If ASTRO was right here, do you think that you will be able to use ASTRO properly? Why (not)?
  - i. Will you be able to give the proper commands or have ASTRO do tasks that you want him to do? Why (not)?
  - ii. Will you be able to give or input commands (Smart phone/ Touchscreen)? Why (not)?
  - iii. What kind of input method should be used to make it easier for you to communicate with the robot?

8) How would you feel to use robots to take care of your loved one?

Probe:

- a. Would you feel happy, sad or something else? Why would you feel that way?
- b. What kind of positive or negative ideas do you have about having a robot helping you with your work in elderly care?
- c. What advantages or disadvantages could you think of about using robots?
- d. How do you think that the elderly will view robots as a nursing tool?
- e. Would you think that the robot would replace you as a caregiver?

I will now provide some functions that ASTRO could potentially perform

9) ASTRO could “see” and measure the elderly’s health and physical activity (using cameras and sensors). It could even “see” elderly who fell down. Based on the situation it could suggest them some exercises or warn a healthcare worker that an elderly fell.

Probe:

- a. What do you think of such function? It could keep track of your loved one physical activity, living situation and health. Is it useful or not? Why (not)?
- b. How would you feel using robots to monitor your loved one?
  - i. Is it an invasion of privacy?
  - ii. Does it weaken the relationships between elderly and healthcare workers?
  - iii. Who should have access to the health data?

10) ASTRO could provide some simple rehabilitation exercises to help elderly maintain/improve their mobility. Would you be willing to use or allow robots to do such exercises with the elderly? Why (not)?

Probe:

- a. Is it because of safety reasons? Or something else?
- b. Which (lack of) functions would convince you to (not) do exercises with the robot?

11) ASTRO could facilitate communication between the formal caregiver and the elderly from a distance using digital communication. What do you think of such function?

Probe:

- a. Do you think that it is useful? Why (not)?
- b. Would communication with family or friends be more interesting? Why (not)?

12) I asked you earlier what you think are the 3 main mobility issues for your loved one. Should ASTRO be able to help you solve these issues? Why (not)?

Probe:

(Refer back to their top 3 list)

13) During the entire interview, you were able to think and express your opinions about your loved one’s mobility issues in daily life and robots in health care. **Right now based on your current ideas, would you be interested in using ASTRO to support you in your work?**

Probe:

- a. Why (not)?
- b. Based on the video and your own work experience, are there other tasks that you would like ASTRO to be able to do to make it more attractive for you to use ASTRO, whether it's to make it possible for elderly to live independently longer or help you in your work?
  - i. Should ASTRO be able to carry things?
  - ii. Should ASTRO be able to do certain tasks automatically?
- c. What would be required to make ASTRO (even more) interesting and useful to you and your loved one?
- d. Which (lack of) functions would convince you to (not) to use the robot?

### **Additional elements**

14) We are almost at the end of the interview. Are there any comments that you would like to make or want to add that you think might be important?

To end the interview, I would like to ask you some final questions

### **Socio-demographic Information**

15) What is your age?

16) What is your highest enjoyed education level?

17) What is your occupation?

18) What is your family situation? If the respondent is a formal caregiver ask 18) What is your work situation?

This is the end of the interview, I would like to thank you for your collaboration.