

Social robots in the frame of holistic care intervention with older adults

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Fundación INTRAS



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101016834



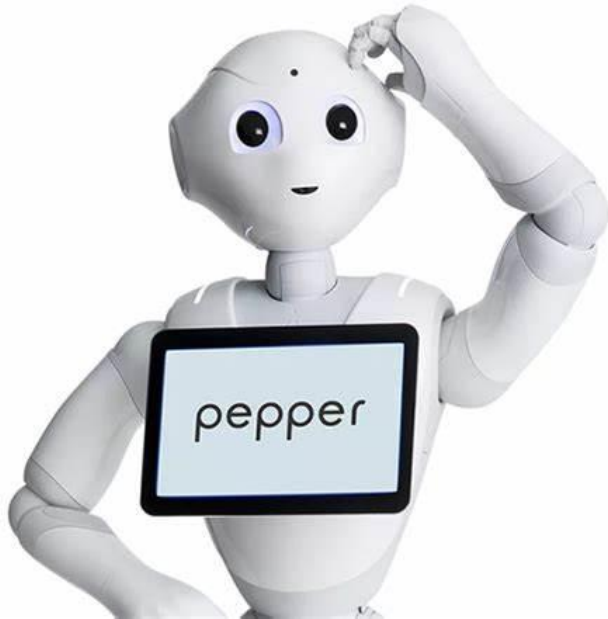
Context of the study

- risk of **premature death, worsening of health, physical**, cognitive deterioration and loss of quality of life
- lacks on the **systematization**
- **low communication** between sectors
- difficult early detection, adequate holistic monitoring progress or high personalization of health and social prescriptions.

Social robots?

Assistive technologies as **Socially Assistive Robots (SAR's)**:

- ▣ support the caregiving process
- ▣ addressing areas of need that influence admission to nursing home (physical, cognitive, medical and psychosocial issues)
- ▣ advantage to care plans adherence.



What do we aim for?



- Prevents the health **deterioration**;
- Reduces the logistic **workload**;
- Increases **quality of life**;
- Enables a social presence;
- Increases the **communication** between services;
- Supports the **therapeutic plans**;
- Increases the level of **personalisation**;



How?

- Used in **various settings** (within clinical work and dwelling scenarios) and **individual or group format**;
- **User interface** for the communication with the patient (Pepper/tablet applications);
- **Mood screening** – by image (robot) and Likert scale (Tablet);
- Supports the **collection of data** and organizing this in an efficient manner;
- Provides a **monitoring feature**, with compliance of the privacy policies;
- Support with application of GRADIOR and iMAT app and an activity plan editor.





Virtual coach for a continuity of care



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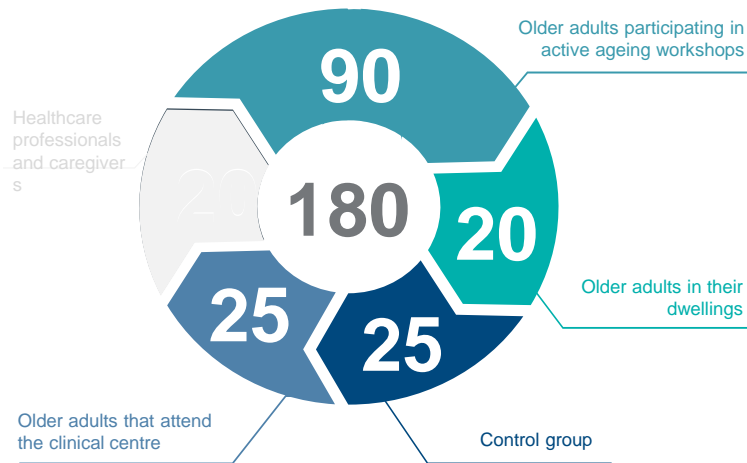


The study

Evaluating the effect, **usability** and **acceptability** of the solution to support continuity of care.

Research Questions:

- Are the solutions integrated in Pilot 6 usable and accepted by end-users?
- Does the system produce **cognitive changes** for older adults?
- Does the system produce changes in **quality of life**?
- Does the system produce changes in the **participant's mood**?
- Does the system support an understanding of **improving continuity of care**?

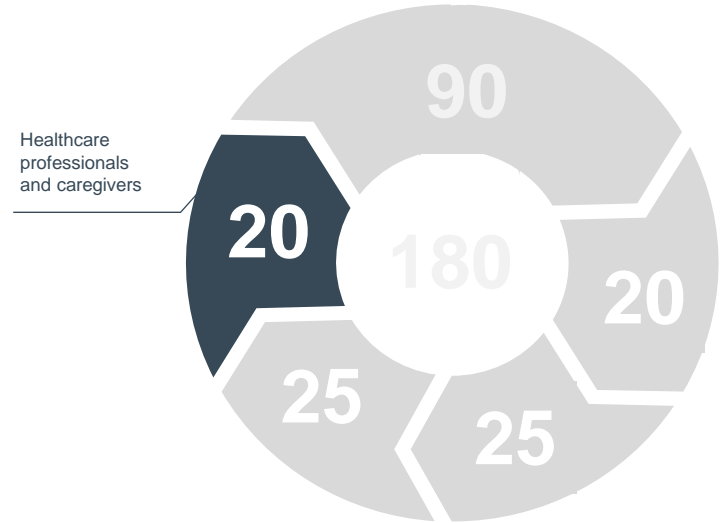


The sub-study

Qualitative evaluation of the usability and acceptability of the solution.

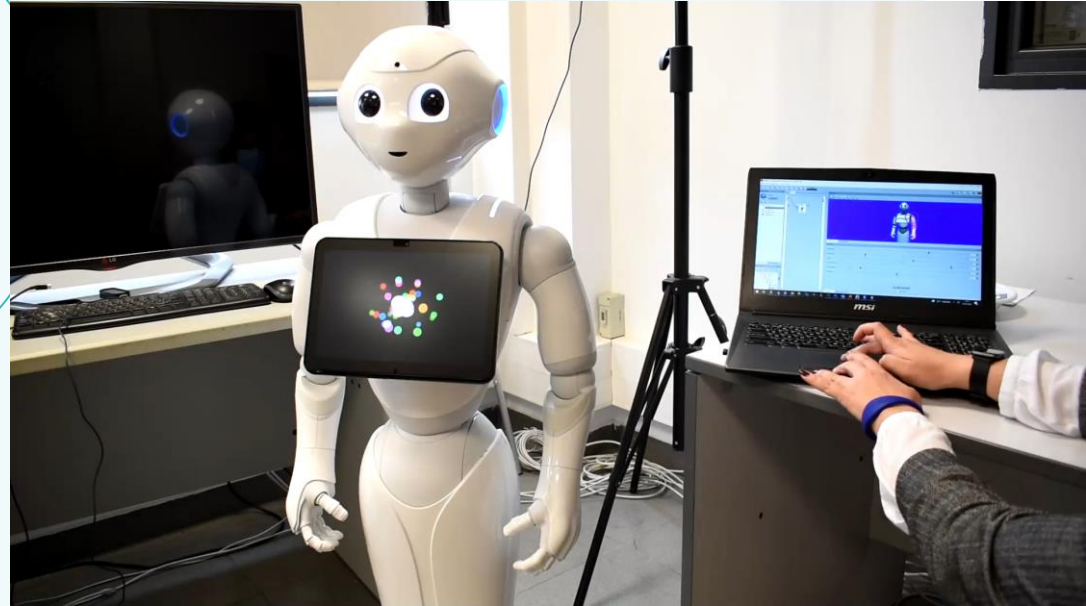
Research Questions:

- Does the system support an understanding of improving continuity of care?



Study design: Qualitative analysis

Robot Pepper arrival



Co-creation methodology

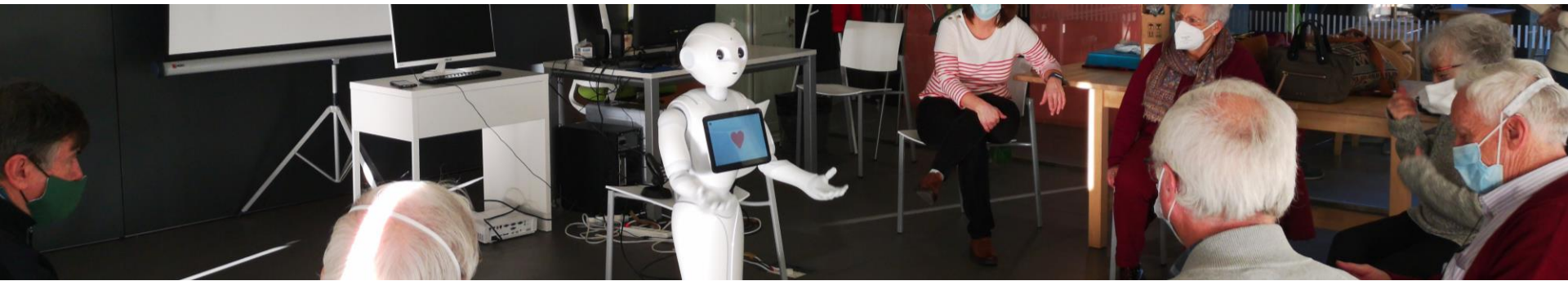
"It is good to older adults with mild cognitive impairment. For patients with serious dementia / severe cognitive impairment, the robot can scare them and confuse them."

"If the robot does not give more work to professionals, then it is a good tool."

"It's a simple presence, it can animate patients."

"It takes workload to the professional, which is good."

"It allows for the professional to have time to other tasks or to focus on one patient while the robot gives stimulation to the rest. This, if the robot works well."



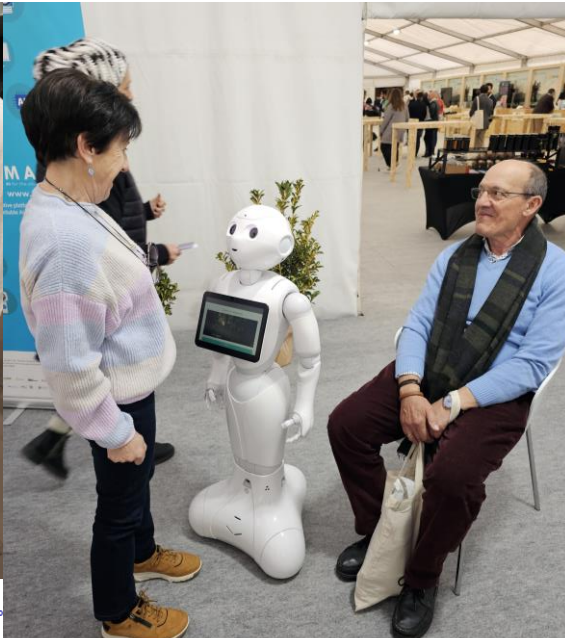
Initial feedback – Features

*“It could have a good effect the fact that it is a robot.
Sometimes patients do not listen to the professionals, maybe
with a different and innovative tool like this, the patients can
have more interest and motivation to carry out the exercises.”*

“It has a friendly aspect.”

“The movements seem quite natural.”

“The voice is a little mechanic.”



The work continues...

Info@hosmartai.eu

HOSMARTAI

THE PROJECT - PLATFORM - PILOTS - OPEN CALLS - BLOG - EVENTS - KNOWLEDGE BASE - CONTACTS - SUBSCRIBE

HosmartAI – “Hospital Smart development based on AI”, aims to be the most relevant player for the digital transformation of the European healthcare sector, to make the European healthcare system more strong, efficient, sustainable and resilient.

24 partners

12 European countries

H2020 €30 million fund

Duration 2021-2024

The HosmartAI **vision** is a strong, efficient, sustainable and resilient European healthcare system benefiting from the AI capacities of European technology stakeholders to generate impact.

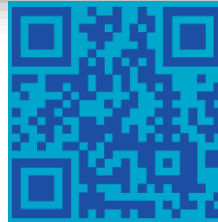
The HosmartAI **mission** is to guarantee the integration of digital and robot technologies in new healthcare environments and the possibility to analyse their benefits by providing an environment where digital healthcare tool providers will be able to design and develop AI solutions as well as a space for the instantiation and deployment of AI solutions.

HosmartAI will work under the premise that co-construction with stakeholders and citizens is the only way to develop a viable healthcare system accepted by end-users.

User-centred approach:

- Robustness
- Standardization
- Ethical Aspects
- Co-creation

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PILOT 6

Pilot 6
Assistive care in care centre: virtual assistant...

View pilot

Blog HosmartAI

Pilot 6: Enhancing Continuity of Care in Neuropsychological Rehabilitation and Elderly Care with Virtual Assistant

Home > Pilot 6: Enhancing Continuity of Care in Neuropsychological Rehabilitation and Elderly Care with Virtual Assistant

2 Jul July de 2023

Enhancing Continuity of Care in Neuropsychological Rehabilitation and Elderly Care with Virtual Assistant

In Europe, 31% of older people face the challenges of living alone or in isolation, leading to subjective loneliness and negative impacts on their health. As the population continues to age, addressing these symptoms and promoting aging in place with self-sufficiency becomes crucial. To improve the healthcare system and the quality of life for older adults, HosmartAI introduces the “Virtual Coach for Continuity of Care” pilot solution. This complementary system aims to support older adults in their homes or clinical centres focusing on their physical and mental health rehabilitation and prevention. Led by fundacion INIAAS, the pilot project involves collaboration from UCL, EMA, UC, AUIA, and UM.

THE SOLUTION

The Virtual Coach for Continuity of Care serves as a screening and intervention tool, detecting and

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Want to read more about our work?

Here are two appetizers to start:

ISRCTN registry



ISRCTN85439821

<https://doi.org/10.1186/ISRCTN85439821>

Almeida, R.; Marques, D.; Losada Durán, R.; Cid-Bartolomé, T.; González-González, S.; Hatzikou, M. (2023). A game changer Joint Design Journey of PREMS and PROMS in the HOSMARTAI virtual coach study. (Poster Presentation) ICIC23 - International Conference on Integrated Care, Antwerpen, Belgium, Poster N659.

The poster is titled "A game changer Joint Design Journey of PREMS and PROMS in the HOSMARTAI virtual coach study". It is divided into several sections:

- THE CHALLENGE:** Describes the development of a smart decision support system for orthopedic surgeons, aiming to improve patient outcomes and reduce costs.
- Validating the concept and AI platform:** Includes a "Eighthouse Plot" showing the relationship between patient and provider, and a table of metrics: 8 (Patients), 3000 (Surgeons), 300 (Centers), 600 (Countries), and 5 (Years).
- A recognized Gap:** Notes the lack of standardized methods for continuous improvement of care services.
- HOSMARTAI virtual coach study (Pilot 6):** Details the study's purpose, methodology (co-creation with 24 participants), and key considerations like patient-centeredness and transparency.
- Meeting patients' demands:** Lists three key points: understanding patient needs, co-creating solutions, and ensuring patient participation.
- Next steps:** Mentions the need for validation and implementation of the virtual coach.

The poster also features a QR code, the website www.hosmartai.eu, and logos of funding partners like the European Union and various academic institutions.



Thank you for your attention!

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