






Hyodol care robot – explorations in Dutch care

What is Hyodol?



Hyodol is a smart social robot from South Korea that was developed for older people with dementia. The robot is a social buddy that provides structure to daily activities and also collects data via sensors. Through a dashboard and smartphone application, care workers and informal caregivers can gain insight into how the robot is being used, send messages and set up personalised functions.

The robot can:

-  Respond to touch and deliver voice messages;
-  Provide structure to daily routines
-  Provide information to older people;
-  Play back recorded messages;
-  Stimulate cognitive function.

What have we done?

Over a brief period, Hyodol was investigated for use in Dutch healthcare. The potential use was explored and discussed in five steps:

1. Mapping the functionalities of Hyodol.
2. Making a comparison with other robots that provide daily structure.
3. Mapping the care process related to daily structure.

Pieter van Foreest (4 care workers)

Proteion (5 care workers)

4. Focus group with care workers

Prisma (4 care workers)

Saffier (4 care workers)


5. Focus group with older people

Prisma session 1 (6 older people, 1 care worker)

Prisma session 2 (9 older people, 4 care workers)

Providing daily structure

In home care Hyodol could be used especially in the morning for reminders of **daily routines** (breakfast, shower, getting dressed). In the afternoon, besides the daily routine, there also seems to be added value in being a social buddy.

Also within institutions Hyodol can support with daily structure. Residents can be stimulated before waking, potentially reducing agitation in the morning. Hyodol  can also assist with the personal agenda, remind residents of food intake between meals and provide stimulation and relaxation during and around care moments and during the night.

Conversations with

Care workers

Most care workers were enthusiastic about the Hyodol and found the robot fun and cute. They liked the clothes, colors and size. The robot is soft which makes it good to cuddle, but this also raises questions about hygiene. There were also mixed opinions about the weight distribution of the robot (the centre of gravity is in the feet and head and seems inconvenient) and some care workers found the robot childish.

Care workers see potential in using the robot as a buddy: for interaction, stimulation and relaxation. Data collection offers opportunities, provided that not all data is collected by default. Integration with other technologies (e.g., a stress meter) could be effective in implementing interventions.

Older

Clients liked the robot and immediately engaged in interaction. They saw the robot as a buddy and would enjoy the robot talking to them and singing with them. The robot could also be used to provide comfort and reassurance and against loneliness, according to the older people.

Interaction with the robot also created reciprocal contact between clients. However, not everyone was immediately enthusiastic in picking up and trying out the robot. There were also clients who were more reserved in their interaction.

Hyodol in the Netherlands

At first glance, care workers in elder care see opportunities for both **home care and inpatient** use. In addition to elder care, there is also enthusiasm for disability care. Because of the various applications, the Hyodol seems to be widely deployable; in this regard, care workers point out the importance of personalization.

In summary, we can draw the following preliminary conclusions:

- Hyodol seems to be applicable in home care with expected positive effects on the independence of the client and reduction of loneliness.
- Hyodol also seems to be useful within institutions with expected positive effects on the **independence** of the client and providing **companionship** and **reassurance** at times when no caregiver is present.
- Hyodol seems especially suitable for people with mild memory problems, but also for people with severe memory problems the Hyodol seems applicable due to its social and reassuring character. For clients in the somatic ward, for example, Hyodol could possibly be of added value by offering daily structure. In this client group, however, care workers expect a lower degree of acceptance.

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