Using a robotic seal as a companion for people with dementia

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Centre Manager

www.catch.org.uk
About CATCH
About CATCH

• Centre for Assistive Technology and Connected Healthcare (CATCH)

• UK’s leading multi-disciplinary assistive technologies research centre
What we do

• Develop, evaluate and implement new user-friendly healthcare, wellness and assistive technologies to enable independent living

• Elderly people, people with long-term health conditions, people with disabilities
• >40 academics
• 12 departments
About PARO the seal robot
PARO = Personal Robot

- Japanese
- 2004
- Baby harp seal
- Soft artificial fur
- 5 sensors:
  - Touch
  - Light
  - Noise
  - Temperature
  - Posture
PARO seal robot is claimed to

- offer some of the benefits of animal assisted therapy and pet ownership
- reduce stress, anxiety and depression
- increase relaxation and motivation
- encourage social interaction
Animal Assisted Therapy

- Pet Therapy is a recognised intervention
- Significant decrease in distressed behaviour
- Increased social interaction
- Reduction in loneliness
- Cost
- Dislike of animals
- Fear/ negative experience
- Infection control
Ethical concerns

• Concerns about using robots with vulnerable older people

• Will they lead to a reduction in human contact?

• Will they lead to a loss of dignity?

• Deception?
• Infantilising?
• Demeaning?
Service evaluation of PARO
Service Evaluation at Grenoside Grange Hospital
Observation Sessions

- 23 sessions conducted between November and December 2013
- Two hour slots on Mondays and Tuesdays
- 5 males and 5 females
- Number of sessions per resident: 1-4
- Decision to use PARO with the resident was solely made by Grange staff.
Ken exploring his playful side with PARO
Bernie making a connection with PARO
Maud engaging with PARO
Responses to PARO

• Male patients tended to adopt a playful approach

• Manipulating the seal like a baby or toddler

• Communicating with song and animal sounds

• Reference to bodily functions resulted in shared humour
Complications

- Two patients who initially had positive interactions with Paro. Were then unable to differentiate between the seal and their own pets.
- One because Paro could not perform like her dog.
- “Why won’t he walk what's wrong with him?”
- Another patient became distressed shortly after disengaging with Paro.
- Perceiving he had lost his own dog and would be in serious trouble.
When asked if she enjoyed being with PARO, smiling widely, she said: ‘Of course’ - Mrs May

‘I’ve got one. Just exactly the same’ - Mr Wood

‘I like a pet or an animal’. Good eye contact ‘You’re going to give it to me back?’ - Mrs May

‘I am not bothered’ - Mrs Reid

(Falls asleep at the end of session. Attributes this to the seal.) ‘It’s the seal’ - Mr Jones

‘I get fed up listening to it’ - Mrs Reid
To PARO
- Emotional gestures
- Assumption of responsibility to care for PARO
- Response to PARO’s sounds

To staff
- Focus of discussion
- Expression of thoughts/feelings

Communication

About PARO
- Opinions
- Features/behaviours
- weight
**COMMUNICATION**

<table>
<thead>
<tr>
<th><strong>To PARO</strong></th>
<th><strong>ABOUT PARO</strong></th>
<th><strong>TO STAFF</strong></th>
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<tbody>
<tr>
<td>‘I’m not your mummy’ - Mrs John</td>
<td>‘Whoever’s made them, they’ve done a good job’ - Mr Wood</td>
<td>‘Sometimes Susan does not know who to turn to, but this one does’ - Mrs Reid</td>
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<td>‘Hello baby’. ‘You are tired, aren’t you?...go to sleep’ - Mrs Reid</td>
<td>‘You look lovely. He’s lovely, isn’t he? Oh, he’s lovely’ - Mrs Reid</td>
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<td>‘Shut up!’ - Mr Jones</td>
<td>‘There is something I have noticed about him. He trumps lot.’ - Mr Regent</td>
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<td>‘He gets on my nerves sometimes...’ ‘Piss off twat!’ - Mrs Reid</td>
<td>‘He’s heavy’ - Mrs Shine</td>
<td>‘I don’t know whether I am here or there’ - Mrs Reid</td>
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Social Interaction

Willingness to share

‘Don’t forget he’s not mine’ - Mr Wood

Interaction with other residents

Ownership of PARO

‘If you have him, I want him back!’ - Mrs Reid
Overall conclusions

- Overall positive for the patients
- Some increased communication and interaction
- Some negative experiences too
- A larger study is required to quantify the benefits
Acknowledgements

• Prof Gail Mountain (PI)
• Dr Amanda Sharkey (CI)
• Dr Abigail Millings (CI)
• Miss Olubukola Oguntuase (Researcher)
• Claire Jepson (Occupational Therapist)