

ROBOTS AND HEALTHCARE

Sitting in a comfortable armchair, Maureen is smiling. In her late 70s and with hair a silvery grey, Maureen's hand gently strokes what looks like a furry white seal beside her.

'You're a good boy aren't you?' she croons in a BBC video.¹ As the 'seal' makes a cooing reply, Maureen chuckles with delight. The seal is Paro,² a therapeutic robot designed to help people, some with dementia and other cognitive health issues, who cannot look after a pet. Paro is being used in a handful of NHS trusts such as the Sussex Partnership NHS Foundation Trust, which is partnering with the University of Brighton to trial use of the robot. 'For some people he might provoke memories of giving, caring, loving,' Dr Penny Dodds, a qualified nurse and lecturer at the University of Brighton, told the BBC.³ 'For other people it might be that he helps soothe and relax and reduce anxiety and distress. We might use him as an alternative to medication to reduce anxiety.'⁴

This is just the beginning. Once considered the subject of our imagination, best left in the realm of science fiction, robots are now a growing technology. 'In the US, robots are already being used in hospitals to deliver medicines to patients and to ask if they are OK,' says Dr John Murray⁵ from the University of Lincolnshire, where robots intended for areas such as healthcare are already walking the corridors. 'And they act as guides in museums... I think we will see them here soon in museums, hospitals, and in care homes elderly people might want them around the home.'⁶

Countries such as Japan are already making full use of these robots or 'carebots' which now help care for its ageing population.⁷ The UK is also facing similar issues,⁸ so other trusts such as NHS Western Isles and NHS Shetland⁹ are also trialling the use of robots such as Giraff¹⁰ in patients' homes. Robotics can also be applied in diagnostic systems, robot-assisted surgery and rehabilitation systems for patient groups such as amputees. But with a global market of US\$17billion for service robots,¹¹ what are some ethical issues we should consider?

Loss of personalised care

As the Sharkeys have warned, 'Robots designed as replacement nurses or carers... may make their charges feel like objects... [and] that they had even less control over their lives than when they are dependent on human nursing care'.¹²

Loss of human contact

Can a machine ever meet the emotional and spiritual needs of elderly citizens and patients? We are not just another animal¹³ in the forest or another robot in the laboratory, and promoting the idea that we are is a very dangerous one. The Bible is clear: people are built for relationships.¹⁴ As ample evidence suggests, conditions such as Alzheimer's are more likely to develop in people deprived of social interaction.

Autonomy, control and accountability

Who will, or should, control the robot, and can a robot assess the mental capacity of patients? As Sharkey¹⁵ asks: 'If a senior were to request that a robot throws them off the balcony, should the robot carry out that command? ... In a system in which a robot is responding to the commands of an elderly person, who or what should be held... accountable if something goes wrong?'¹⁶

Patient safety

The right balance¹⁷ needs to be found between empowering an elderly person by making them mobile and protecting them from the dangerous situations they might encounter.

Possible exacerbation of healthcare inequalities.

John Wyatt and Philippa Taylor have warned, 'the technological divide between wealthy and impoverished nations could result in unequal access [and] reinforce, perhaps exacerbate, existing social inequalities¹⁸ and exploitation, leading to worsening¹⁹ of the situation for those already vulnerable.'²⁰

Christians are aware that God has blessed us with technology for our benefit²¹ and not to exploit others or replace him as creator.²² We need to use these resources wisely and justly. But as Wyatt and Taylor comment, 'Technology can be used for good or evil [so] the challenge we are faced with is to assess each technological advance with the questions: "What will these advances do to our sense of being human and to the equal value of all humans?"'²³

Trudy Simpson is CMF Junior Public Policy Researcher.

references

1. Is this cuddly robot coming to a care home near you? *BBC News*, 17 September 2015 bbc.in/i1yfc5q
2. www.parorobots.com
3. *BBC News*. Op cit
4. *Ibid*
5. Robots to walk corridors of Lincolnshire hospitals and museums says University academic. *Lincolnshire Echo*, 28 February 2015 bit.ly/1TLtsGL
6. *Ibid*
7. Robots: Japan's future elderly care workers. *VR world*, 22 January 2015 bit.ly/1YrauHq
8. Strike all you like, doctors - technology will soon take away your power. *Telegraph*, 12 January 2016
9. Scottish health boards soon to reveal robot trial results. *BBC News*, 26 January 2016 bbc.in/20swAca
10. www.giraff.org
11. Clark G. Response to the robotics and autonomous systems strategy. Department for Business Innovation and Skills, March 2015 bit.ly/1STbgjt
12. Sharkey A and Sharkey N. Granny and the robots: Ethical issues in robot care for the elderly. Department of Computer Science, University of Sheffield 2012 bit.ly/20G9hL2
13. Psalm 34:17-18
14. Genesis 2:18-25; 1 Corinthians 12:12-31
15. Sharkey and Sharkey. Op cit
16. *Ibid*
17. *Ibid*
18. Robot revolution: rise of 'thinking' machines could exacerbate inequality. *Guardian*, 5 November 2015 bit.ly/1WxNgQU
19. Moller H. Health effects of unemployment. Wirral Performance & Public Health Intelligence Team, 2012 bit.ly/1UQBjBk
20. Wyatt J and Taylor P. Emerging medical technologies. *CMF File* 49, Winter 2012
21. Nyhoff JL and VanderLeest SH. What Does God Tell Us About Technology? *Being Fluent & Faithful in a Digital World*. Calvin College, 2005 bit.ly/265Lwjb
22. Genesis 11:1-9