Hospital visits take on new meaning with therapeutic robots

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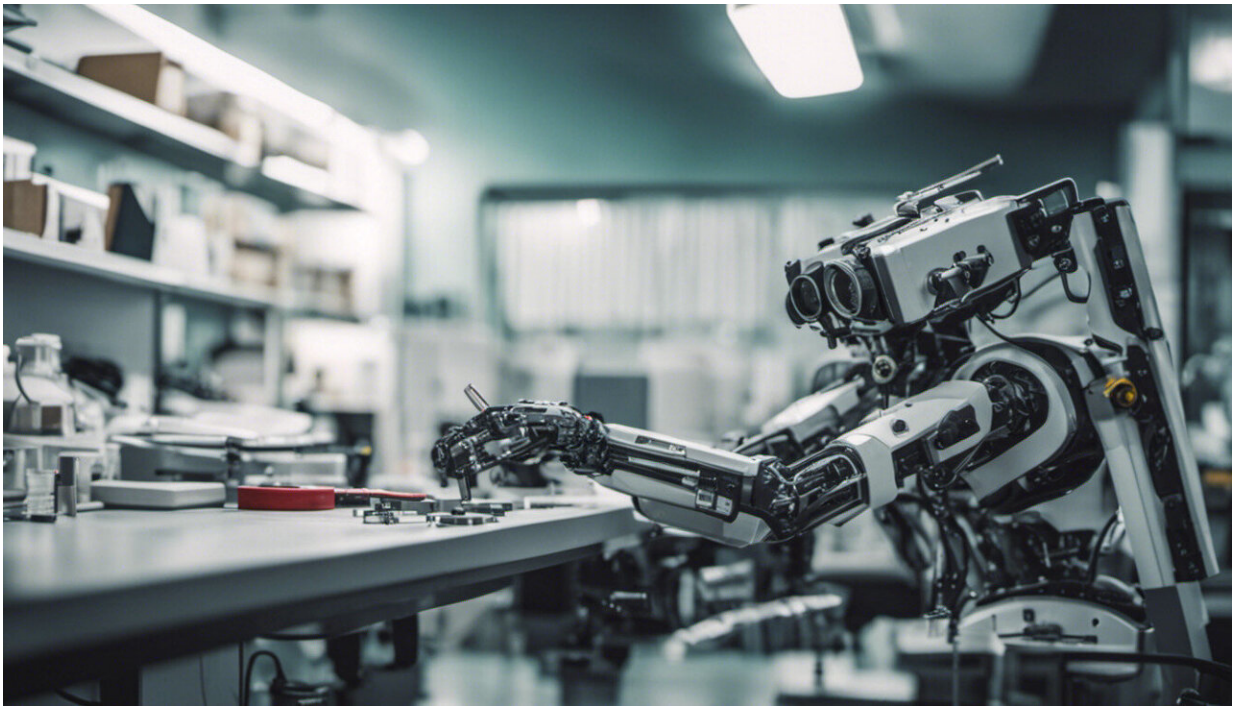

Credit: AI-generated image (disclaimer)

Having hospital visits from a robot may sound like a strange form of therapy, but according to robotics experts, they can be extremely helpful therapeutic devices.

The idea comes from the MOnarCH project (Multi-Robot Cognitive

Systems Operating in Hospitals). Coordinated by Lisbon's Instituto Superior Técnico (IST), the consortium of nine European companies and research centres from five countries aims to develop and introduce a fleet of robots that collaborate with medical personnel and interact with patients. The project will cost EUR 4.5 million, of which the EU has agreed to provide just over EUR 3.3 million.

The use of robots for therapeutic purposes is not an entirely new concept. Researchers have studied the benefits of social robots who have engaged with autistic children. The development of a Japanese Paro robot, was reportedly successful in improving the state of mind of elderly people. It has also been known to treat for depression following the earthquake and subsequent tsunami, which devastated the northeast coast of Japan in March of 2011.

However, the project aims to examine in closer detail societies in which humans and robots mix. Primarily, the three-year project will focus on children with cancer. Rather than a one-to-one (one robot, one patient), MOnarCH plans to develop a fleet or community of social robots that can interact with all patients, meeting their different psychological needs.

Scientists from the Universidad Carlos III de Madrid (UC3M) Robotics Lab will be responsible for developing and programming all of the robots' actions and interactive behaviour. This includes developing ways in which the robots can converse with others, how they play with children, and how they adapt to the needs of each individual.

To evaluate these actions as well as the technological and social challenges, a pilot study is currently underway in the paediatric ward at the Portuguese Oncological Institute of Lisbon.

The researchers are keen to take robots out of the laboratory and place

them in a real environment. Until now, most of the research on social robotics has taken place in very controlled environments. As Professor Salichs from UC3M points out, 'The introduction of a group of autonomous social robots into surroundings with these characteristics is something new, and we hope that the project will help us to advance in the development of robots that are able to relate to people in complex situations and scenarios.'

Head of the project at UC3M, Professor Miguel Ángel Salichs at the University's Systems Engineering and Automation Department adds, 'We intend to move forward in the development of robots that can carry on autonomously for long periods of time without the aid of their operators, which is something that at this point has not been achieved in such complex situations.'

More information: Instituto Superior Técnico, Lisbon (IST)
www.ist.utl.pt/en/
Universidad Carlos III de Madrid (UC3M)
www.uc3m.es/portal/page/portal/home

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