ENRF Briefing Note on

AI and robots in the healthcare
Political discussions & research

The ENVI Committee's Health Working Group organised a workshop on robots in healthcare. The purpose of the workshop was to inform participants as well as ENVI members about the current status and potential applications of robotic and artificial intelligence (AI) in healthcare.

MEP Alojz Peterle (EPP, SI) got the meeting underway with a tale of robots used in Japan, in care and nursing homes. These robots number around 5,000 and are there to help meet demographic challenges that are leaving all developed countries with a greater number of elderly in their populations. He suggested that a European agency for robotics could be useful.

MEP Mady Delvaux (S&D, LU) told the participants about the recommendations to the Commission on Civil Law Rules on Robotics in respect of European values in the use of robots and AI. As a result, the Commission created a High-Level Expert Group on Artificial Intelligence, and the MEP said she hoped that Europe would finally get the necessary ethical guidelines, which should cover all aspects of AI and robotics.

Importantly, the participants argued that humans should be at the centre of research, and this is as true in AI as any other area of healthcare.

Attendees were also given an idea of some practical applications. For example, Europe has such things as robotic urologists, allowing the movements of the surgeons to be miniaturised and very precise. There are many different kinds of surgical robots, and such innovative tools make surgery safer, lesser complications.

Robots in general service at healthcare settings include back office, such as pharmacy dispensing, semi-autonomous service robots, which interact with more humans than before. In a nutshell, many healthcare professionals have found that robotics can bring significant opportunities for **improving safety, quality and efficiency**.

And there are more applications. Attendees were told about 'Project Dream', in which doctors try to use a robot in the treatment of children in the autism spectrum. Basically, the healthcare professionals wanted to see whether using robots would help teach social and psychological behaviour to children with such issues.

Another study has been undertaken related to using AI in the treatment of patients with major depressive orders. The clinical problem seems to be that, between sessions and after treatment, patients fail to follow the suggestions and recommendations of the therapist. In this case an avatar (H2020 projects) was used which was able to deliver different psychological tests and take in data. If the client had a problem, the avatar started going through basic methods to try to solve the situation.

However, there are several major barriers to the use of robots in healthcare, including the actual appearance of robots, plus changes to healthcare work, and new ethical and legal challenges. The workshop heard that there are currently no existing liability and ethical frameworks in what is a rapidly evolving field. Regulation is clearly key to promote routine use without stifling innovation.

Overall, there are clearly significant social challenges, and health professionals, scientists, and lawyers need to be brought together to look at the practical questions which arise where AI is being used. On accountability and responsibility, the workshop participants were clear, **responsibility and liability are with the humans and not the machines**.

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