

COMMENTARY

Chatbots Best Left in the Vascular Clinic Waiting Room...for Now

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There are few areas of life in which the potential impact of artificial intelligence (AI) can be discounted. The field of vascular surgery is no exception. Given the long history of procedural and technical innovation by vascular surgeons, they could be expected to be early and enthusiastic adopters of AI driven technology to enhance patient care. The European Vascular Research Collaborative (EVRC) survey yields some interesting (and at times almost contradictory) data regarding vascular surgeons' views of AI assisted patient care.¹

The survey was designed by vascular surgeons with AI expertise and critically reviewed by EVRC members prior to distribution. The survey team included a mechanism to detect duplicate submissions and invitations were sent to EVRC emailing lists. Over 90% of individuals who visited the survey site completed the survey, with excellent geographic spread (23 countries in the final dataset) and two thirds of participants were practising at consultant or attending level.

In keeping with the discipline's innovative tradition, one third of respondents believed large language models such as Chat-GPT were already useful aids to clinical practice. Eighty per cent felt that the models would become useful in the future. Most respondents had some experience of testing or using an AI chatbot and three quarters of respondents thought that patients should use these tools during their current illness. This enthusiasm for AI assistance may reflect respondents' non-professional AI experiences, as 75% self rated their knowledge of the technology as poor and only one third reported specifically testing the technology for clinical questions.

When the technology was tested by clinical questions, the results were not impressive. Three quarters of respondents experienced limitations with the AI generated answers, primarily related to accuracy, appropriateness, and at times tenuous relationships between the question asked and the answer provided. Despite a majority reporting that

patients should use these tools in their current form, 60% of respondents worried that the current iterations of large language models had the potential to cause patient harm.

The current situation can be summarised as vascular surgeons know little about AI, think it will be useful, and that most patients should use it but have safety concerns when they test the technology clinically themselves. The respondents all chose to participate. It is possible that the results reflect those only of a cohort with particularly strong views on AI use in surgical practice. However, the number of respondents (over 300) was relatively large and a good geographical spread was achieved. It seems likely that the sample is representative of current views.

AI has wide ranging potential applications in vascular surgery, including administrative and research support tasks as well as potential roles in direct clinical care.² Some applications are already widespread, e.g., voice recognition software for medical reports and correspondence with human sign off or generating research ideas. The technology could also have a role in quality assurance, e.g., searching patients' electronic records for compliance with secondary prevention guidelines. The potential for patient harm from such administrative applications seems low. However, technological developments and enthusiasm are driving interest in AI applications in direct patient care.³ Half of respondents considered AI chatbots could be useful in diagnosis, patient follow up, and patient education where the risks of inadvertent harm seem intuitively greater, hence 60% worried about the potential for patient harm with these technologies. Given these safety concerns, it may be considered fortunate that very few respondents reported current daily or weekly AI chatbot use in clinical practice. Ninety per cent of the surgeons surveyed felt that the technology required further validation to support routine clinical use. The IDEAL framework exists to support a structured approach to evaluation of new surgical innovations and has recently been adapted to support robotics innovations.⁴ Given the increasing ubiquity of AI chatbots in everyday life, it may be time to adopt an IDEAL approach to AI in clinical practice, evaluating the models' clinical utility within a structured framework.

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