Abstract

Desired Clinical Applications of Artificial Intelligence in Emergency Medicine: An International e-Delphi Study

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Abstract

Objective: Artificial intelligence (AI) in emergency medicine has been increasingly studied over the past decade. However, the implementation of AI requires significant buy-in from end-users. This study explored desired clinical applications of AI by emergency physicians.

Methods: A 3-round Delphi process was undertaken using STAT59 software. An international expert panel was assembled through purposeful sampling to reflect a diversity in geography, age, time in practice, practice setting, role, and expertise. Items generated in Round 1 were collated by the study team and ranked in Rounds 2 and 3 on a 7-point linear numeric scale of importance. Consensus was defined as a standard deviation of 1.0 or less.

Results: Of 66 invited experts, 29 completed Round 1, 25 completed Round 2, and 23 completed Round 3. Three statements reached consensus in Round 2 and four statements reached consensus in Round 3, including safe prescribing, guiding choice of drug, adjusting drug doses, identifying risk or prognosis, and reporting/interpreting investigation results.

Conclusions: Many desired clinical applications of AI in emergency medicine have not yet been explored. Clinical and technological experts should co-create new applications to ensure buy-in from all stakeholders. Specialty organizations can lead the way by establishing local clinical priorities.

Supplementary material. The supplementary material for this article can be found at http://doi.org/10.1017/dmp.2024.195.

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