

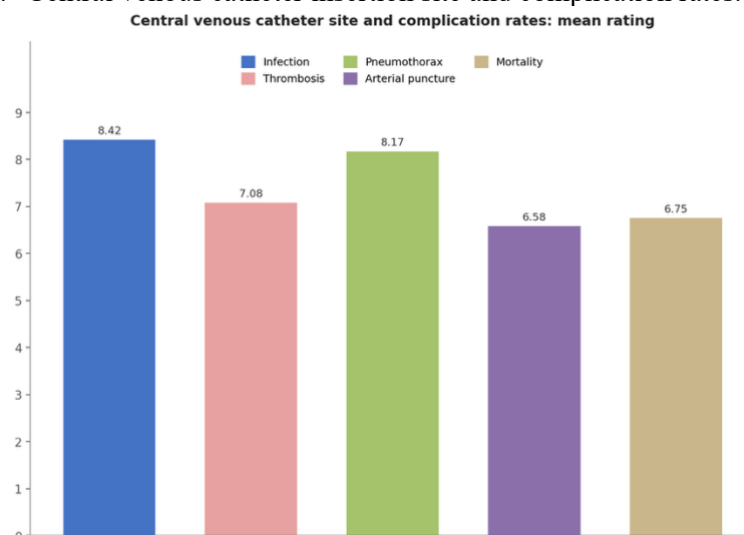
## Supplement 2. Outcomes

The panel identified a list of outcomes considered relevant to specific PICO questions. Using the GRADE approach to outcome prioritization, each panel member independently rated each outcome on a 1–9 scale (1 = least important; 9 = critical for decision-making). Panel members were asked to judge the importance of each listed outcome from the patient perspective. Mean scores were then calculated for each outcome.

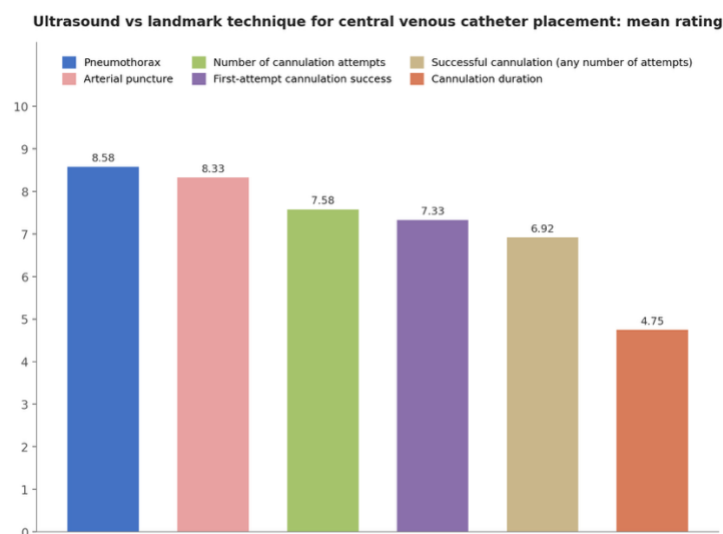
Score	Outcome importance
1–3 points	Limited importance
4–6 points	Important
7–9 points	Critical

### PICO questions and prioritized outcomes

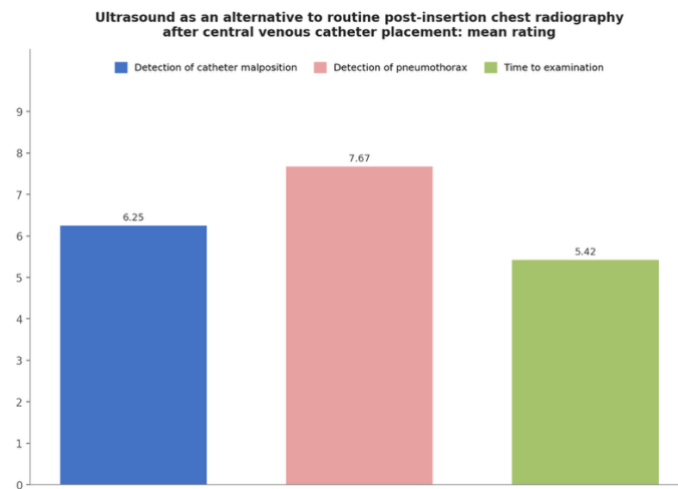
#### A. Central venous catheter insertion site and complication rates.



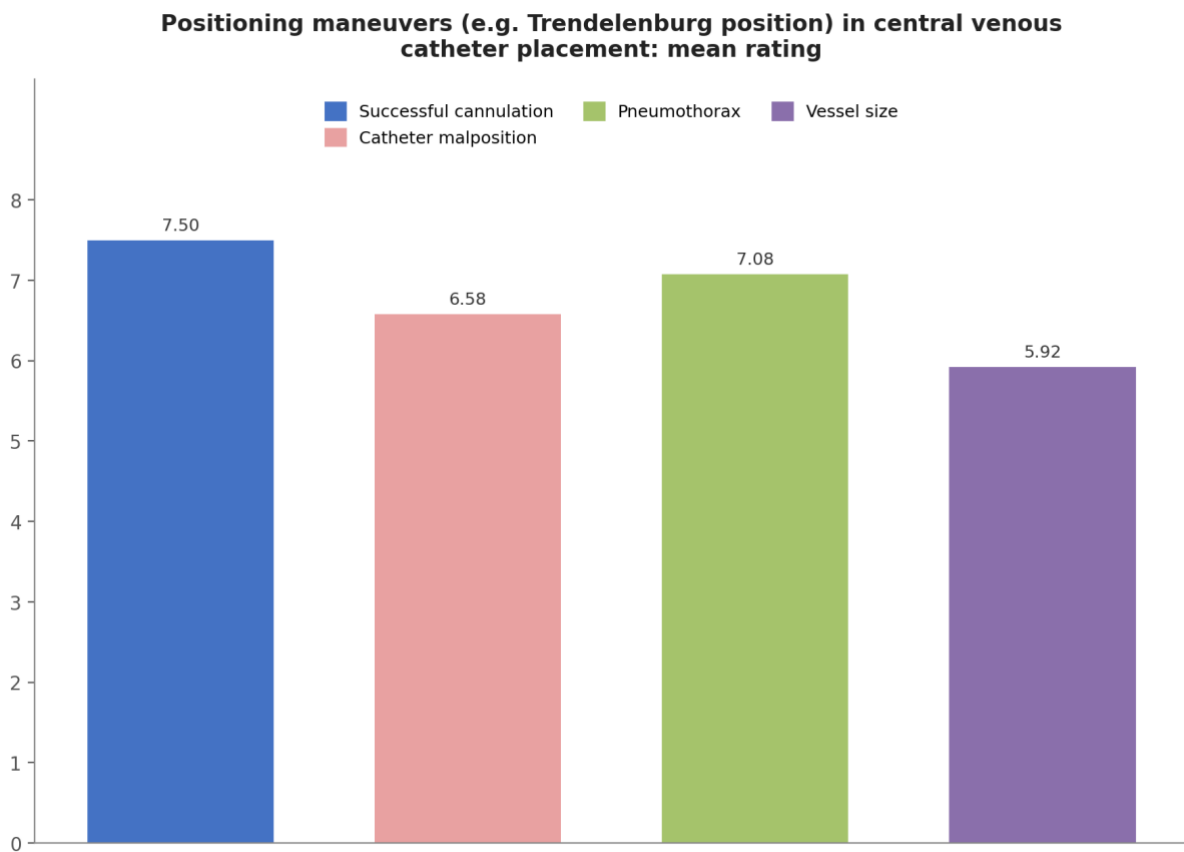
#### B. Ultrasound versus landmark technique for central venous catheter placement.



C. Ultrasound as an effective alternative to routine post-insertion chest radiography after central venous catheter placement.



D. Positioning maneuvers in central venous catheter placement.



E. Pre-procedural ultrasound assessment of the central vein AND ultrasound confirmation of intravascular guidewire position during central venous catheterization: outcomes were not prioritized; recommendations developed by expert consensus.