

Artificial intelligence and the future of anesthesiology

Qualitative findings from a national survey of physician anesthesiologists



Carlos Estrada Alamo, MD, MBA, Fortunay Diatta, Meghan Lane-Fall, MD, MSHP, FCCM
 Department of Anesthesiology and Critical Care, University of Pennsylvania Health System
 Corresponding author e-mail: Carlos.Estrada@penmedicine.upenn.edu

Context | Methods

Artificial intelligence (AI) is radically transforming the way humans and machines work together

The **purpose** of this study was to explore physician anesthesiologists' awareness, attitudes, perceptions, and expectations of using AI solutions in clinical practice

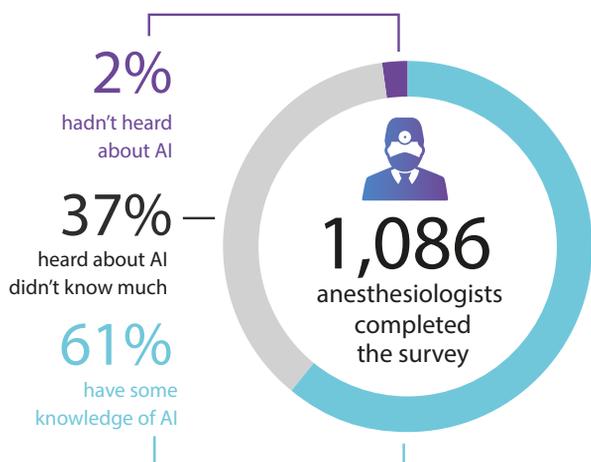
A **web-based survey** was distributed via e-mail to physician anesthesiologist members of the American Society of Anesthesiology (ASA)

Factors influencing **feelings toward using AI in clinical practice** were described



Results

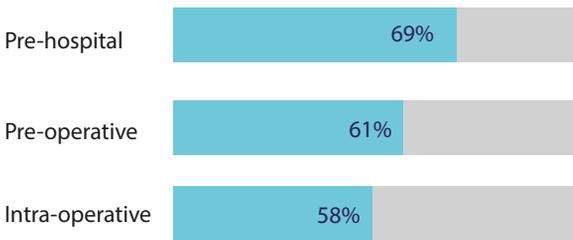
Knowledge of AI



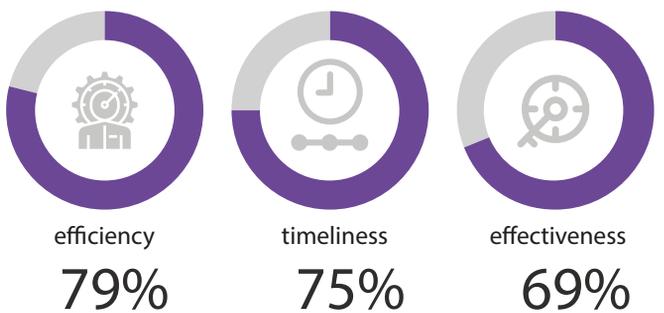
Feelings Toward Using Clinical AI



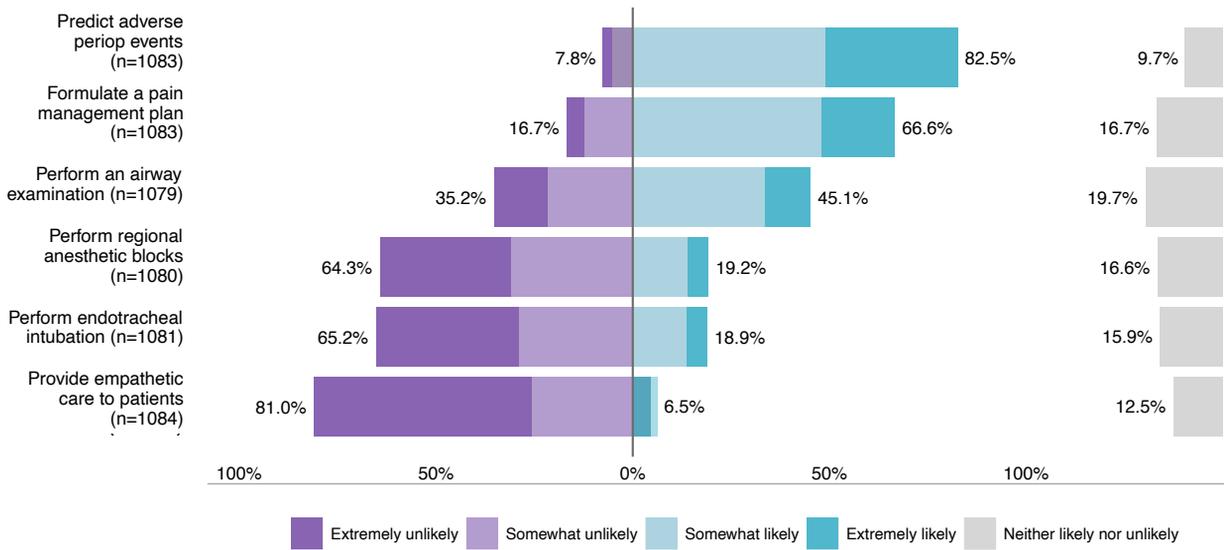
Benefits by phase (outlook in 10 years)



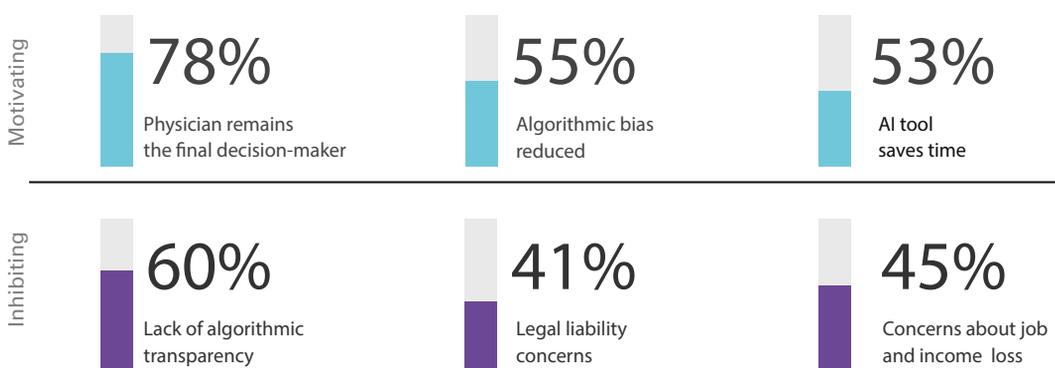
Benefits of Clinical AI



Where will AI outperform physician anesthesiologists?



Factors Influencing the Use of AI in Clinical Practice



Conclusions

- Overall, physician anesthesiologists' attitudes toward using AI in clinical practice were **positive**, however there was **limited general knowledge** about AI.
- Primary **factors motivating use of AI in clinical practice** were whether physicians remain as final decision-maker, algorithmic bias is reduced, and the AI tool saves the provider time.
- Primary barriers to the use of AI in clinical practice** were lack of algorithmic transparency, medical-legal concerns, and concerns about job and income loss.
- Future efforts to develop and implement AI solutions in anesthesiology must **mitigate key stakeholder concerns**.