AANA
American Association of
NURSE ANESTHESIOLOGY

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Networking and Information Technology Research and Development (NITRD)
National Coordination Office (NCO)
National Science Foundation
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Washington, DC 20024

RE: Request for Information on the Development of an Artificial Intelligence (AI) Action Plan

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To Whom It May Concern:

The American Association of Nurse Anesthesiology (AANA) welcomes the opportunity to comment on this Request for Information and provide input regarding the development of an Artificial Intelligence (AI) Action Plan.

AANA is the professional association for Certified Registered Nurse Anesthetists (CRNAs) and student registered nurse anesthetists (SRNAs). AANA membership includes more than 65,000 CRNAs and SRNAs, representing about 88 percent of the nurse anesthetists in the United States. CRNAs are advanced practice registered nurses (APRNs) who personally administer more than 58 million anesthetics to patients each year in the United States. For further information, see: https://www.aana.com/about-us/.

As AI technology continues to evolve and integrate into healthcare, it is critical that patient safety remains a top priority, especially in clinical environments where CRNAs play a vital role in delivering high-quality anesthesia care. CRNAs are highly trained advanced practice providers who ensure safe and effective anesthesia delivery in various healthcare settings, from rural hospitals to major medical centers. Their expertise in patient monitoring, medication administration, and emergency intervention is indispensable. As AI-driven tools are introduced into anesthesia and perioperative care, they must be designed to complement, rather than replace, the clinical judgment and hands-on expertise of CRNAs.

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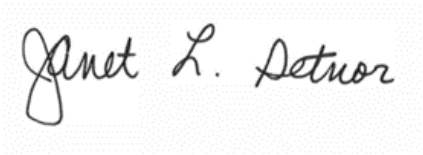
AI has the potential to enhance patient safety through improved monitoring systems, predictive analytics, and real-time decision support. However, the implementation of AI in anesthesia and other high-risk medical fields must be approached with caution to prevent unintended consequences, including system failures, algorithmic biases, or over-reliance on automation at the expense of human oversight. To ensure safe and effective AI integration in anesthesia care, the AANA urges the inclusion of the following recommendations in the AI Action Plan:

1. **AI as a Supportive Tool, Not a Replacement** – AI should enhance CRNAs' ability to deliver safe, high-quality care rather than replace their extensive knowledge and expertise, critical thinking, clinical judgment, or direct patient interaction.
2. **Robust Patient Safety Standards** – AI systems used in anesthesia and perioperative care must undergo rigorous validation, real-world testing, and continuous monitoring to ensure their reliability, accuracy, and safety. AI can be leveraged to enhance patient safety through anesthesia depth monitoring and optimization, improving first-attempt success in vascular access placement and nerve blocks using ultrasound guidance, and assisting in risk stratification for difficult airway management.
3. **Human Oversight and Decision-Making** – AI tools must be designed to function under the direct supervision of CRNAs and other healthcare professionals, ensuring that AI-driven recommendations are reviewed by qualified providers before implementation.
4. **Transparency and Explainability** – AI decision-making processes should be evidence-based, transparent and interpretable, allowing CRNAs and other clinicians to understand and trust the technology they use in patient care.
5. **Ethical and Bias Considerations** – AI models should be trained on diverse, representative datasets to minimize bias and support equitable care and outcomes across all patient populations. Data on diverse populations can support clinician decision making and assessment of patient risk factors that impact patient care and may be predictors of perioperative outcomes.
6. **Regulatory Safeguards and Accountability** – The development and deployment of AI in anesthesia care should be subject to appropriate regulatory safeguards, ensuring that patient safety remains the top priority.
7. **Facility operations –** AI can be utilized to enhance operational decision-making, optimizing OR case scheduling, staffing, and supply management. These actions can lead to improved patient wait times, and more efficient utilization and allocation of resources.
8. **Interdisciplinary Collaboration** – The voices of CRNAs, alongside other healthcare providers must be included in the discussions and design, testing, and implementation of AI technologies to ensure that they align with real-world clinical needs.

CRNAs are emerging as thought leaders and experts in healthcare AI. As AI continues to shape the future of healthcare, it is imperative that its deployment prioritizes patient safety and enhances, rather than undermines, the expertise of CRNAs and other healthcare professionals. We strongly urge that these principles be integrated into the AI Action Plan to ensure responsible AI implementation in anesthesia care and broader healthcare applications.

Thank you for the opportunity to comment on this request for information. Should you have any questions regarding these matters, please contact AANA Research Analyst, Maya Caballero at 847-655-1137, mcaballero@aana.com.

Sincerely,



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