Royal Australasian
College of Surgeons

Professor John Slavotinek
President
Royal Australian and New Zealand College of Radiology

250–290 Spring Street
East Melbourne VIC 3002 Australia
Telephone +61 3 9249 1200
www.surgeons.org
ABN 29 004 167 766

Email: ranzcr@ranzcr.edu.au
consultations@ama.com.au

Dear Prof Slavotinek,

On behalf of the Royal Australasian College of Surgeons we thank you for your letter dated 6 May 2024, inviting the Royal Australasian College of Surgeons (RACS) to review and provide comments on the new RANZCR position statement on Autonomous Artificial Intelligence.

We are pleased to accept your request to review the draft statement. We acknowledge the significance of this position paper in informing the use of autonomous AI in healthcare, particularly in ensuring that advancements in AI technology are balanced with patient safety considerations. The evolution of AI holds great promise for enhancing efficiency and speed in clinical practice, yet it is essential that we carefully evaluate any potential risks to patient outcomes before its implementation.

RACS appreciates RANZCR's ongoing leadership in the AI space and your commitment to profession-led implementation and workforce transition. We look forward to providing our insights and constructive feedback on the draft statement. Our comments will reference specific line numbers as requested.

Should there be any further information required or if there are additional opportunities for dialogue on this important matter, please do not hesitate to contact us. You can reach RACS on racs.advocacy@surgeons.org

Thank you once again for this opportunity to contribute to this critical discussion on autonomous AI in healthcare.

CRITIQUE OF ARTIFICIAL INTELLIGENCE IN RADIOLOGY AND SURGERY FROM AN AUSTRALIAN PERSPECTIVE

Artificial intelligence (AI) is increasingly being integrated into medical fields such as radiology and surgery, promising enhancements in diagnostic accuracy, efficiency, and overall patient outcomes. However, the adoption of AI in these areas comes with significant concerns, particularly regarding the potential for errors, legal liability, and impacts on insurance.

Potential Problems with AI Errors

1. **Diagnostic Errors:** In radiology, AI algorithms are used to assist in interpreting medical images. Although AI can potentially outperform human radiologists in detecting certain conditions, it is not infallible. Errors in diagnosis can occur due to issues such as bias in training data, software malfunctions, or misinterpretation of AI-generated results by human clinicians. Misdiagnoses can lead to inappropriate treatment plans, delays in correct diagnosis, and ultimately, patient harm.

2. **Surgical Complications:** AI in surgery is utilized in robotic-assisted procedures, planning complex operations, and even real-time decision-making during surgeries. Errors in AI systems can result in incorrect surgical decisions or robotic malfunctions. Given the invasive nature of surgery, even minor errors can have catastrophic consequences, including severe injury or death.
3. **Trust and Dependence:** Over-reliance on AI can lead to a deterioration of human skills and judgement. If clinicians become too dependent on AI systems, they may be less likely to question or verify AI-generated outputs, potentially exacerbating the impact of any errors.

Legal Liability Issues

The integration of AI in medical practice raises complex questions about legal liability in the event of an error. In the Australian context, the key issues include:

1. **Determining Responsibility:** When an AI system makes an error, it can be challenging to ascertain who is legally responsible. Potentially liable parties include the AI developers, the medical practitioners using the system, and the healthcare institutions that implement AI technology. Clear guidelines are needed to delineate responsibilities.
2. **Regulatory Framework:** Australia's regulatory framework for medical devices and AI in healthcare is still evolving. Ensuring that AI systems comply with the Therapeutic Goods Administration (TGA) standards is crucial. However, current regulations may not adequately address the unique challenges posed by AI, necessitating updates to the legal and regulatory infrastructure.
3. **Informed Consent:** Patients must be adequately informed about the use of AI in their diagnosis or treatment, including the potential risks and benefits. Failure to obtain proper informed consent could lead to legal repercussions for healthcare providers.
4. **Data Privacy:** Ethical considerations are also crucial. The application of AI in healthcare brings up concerns regarding data privacy and algorithmic bias. For example, if AI systems are primarily trained on datasets from homogenous populations, they may produce biased results that fail to reflect Australia's multicultural society. To address this issue, it is vital to ensure that AI algorithms are trained on diverse and representative datasets.

Impact on Insurance

1. **Professional Indemnity Insurance:** The introduction of AI in medical practice could affect professional indemnity insurance for healthcare professionals. Insurers may need to reassess risk profiles and adjust premiums accordingly. If AI is perceived to increase the risk of malpractice claims, this could lead to higher insurance costs for practitioners.
2. **Product Liability Insurance:** Manufacturers and developers of AI systems might need to secure product liability insurance to cover potential claims arising from errors in their software. The complexity and unpredictability of AI may make it challenging to assess risk, potentially leading to higher premiums and stricter policy terms.
3. **Claims and Litigation:** The advent of AI in healthcare is likely to influence the landscape of medical malpractice claims. Insurers and legal professionals will need to navigate the intricacies of cases involving AI, which may be more complex than traditional malpractice claims due to the involvement of advanced technology and multiple stakeholders.

The Risk of Deskilling in Australian Surgery and Balancing AI Advancements with Rural Competencies

AI technology in surgery, while revolutionizing precision and efficiency in urban hospitals, poses a significant risk of deskilling Australia's surgical workforce, particularly impacting those trained for rural, remote, and austere environments.

1. **Urban vs Rural:** Advanced AI systems could centralize expertise in metropolitan areas, reducing hands-on experience for surgeons in diverse settings, where the unpredictable nature of surgeries and the lack of high-tech support require broad, adaptable skill sets. However, according to the Institute of Health and Welfare the percentage of Australia’s rural population is around 28%. The concern is that AI technology will develop an unrealistic metrocentric view of Australia when it comes to healthcare deliverables.
2. **Deskilling of Surgeons:** Surgical practices in both an urban and rural setting are at risk of deskilling if there is an over reliance upon a technology which still requires scrutiny and the oversight of an experienced human surgeon to pilot it. This technological reliance may erode the

practical competencies crucial for managing emergencies in isolated communities or disaster-stricken regions, exacerbating the shortage of versatile surgical practitioners capable of responding to the challenges posed by climate change.

3. **The Right Balance:** Hence, as AI integration progresses, there is a critical need to balance technological advancements with maintaining robust training in traditional surgical skills to ensure comprehensive care across all environments.

Conclusion

While AI holds great promise for enhancing radiology and surgery in Australia, it is imperative to address the associated risks and challenges proactively. Ensuring robust error mitigation strategies, clear legal frameworks, and appropriate insurance adjustments will be critical in harnessing the benefits of AI while safeguarding patient safety and professional integrity. The Australian healthcare system must strike a balance between innovation and caution to navigate the evolving landscape of AI in medicine.

The RANZCR have taken steps to emphases caution in your Position Statement. RACS have also shared similar concerns, and we encourage continual dialogue between our colleges in this growing area of technological change and advancement so as to reduce any chilling effect it may have upon our membership, profession, and patients alike.

In summary, here are our main concerns.

- Uncertainty of where the liability lies if AI errors are made and not identified.
- The effect on medical defence organisations (MDO) premiums if there is heavy reliance on AI rather than human analysis and interpretation.
- Governance and regulation of AI is far from clear at this point of time and needs further clarity.
- Untoward impact on data and patient privacy.
- The integration of AI in surgery risks deskilling Australia's surgical workforce, especially in rural and remote areas, by centralizing expertise in urban centers, thus underscoring the need to balance technological advances with traditional hands-on training to maintain versatile surgical skills necessary for diverse and challenging environments.

Yours sincerely,

Associate Professor Kerin Fielding
President, RACS

Professor Mark Frydenberg
Chair, Health Policy & Advocacy Committee