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sonographer expertise

Friday, 21 July 2023

Australian Government
Department of Industry, Science and Resources
Submitted online via consultation webpage

To whom it may concern,

Safe and responsible AI in Australia consultation

Thank you for the opportunity to provide feedback to the Department of Industry, Science and Resources (DISR) consultation into Safe and responsible AI in Australia.

The Australasian Sonographers Association (ASA) is the professional organisation for Australasian sonographers, who are the experts in ultrasound. With over 7,000 members, and representing more than 70% of Australasia's sonographers, the ASA's purpose is to foster a sonography profession that delivers high quality ultrasound with a vision to create a healthier world through sonographer expertise.

Sonographers are highly skilled health professionals who are strategically involved at the initial diagnostic stages of patient care and perform the majority of comprehensive medical diagnostic ultrasound examinations. Ultrasound as a specialty in qualified hands provides essential information to medical practitioners in a timely, cost effective, and safe way.

The ASA acknowledges the potential application of AI and the opportunities to utilise it to improve access to services and patient care. However, it is important to highlight the importance of ensuring appropriate safeguards are in place to mitigate risks. These safeguards include ongoing AI education and training for health professionals using the technology – including its use, limitations, and potential biases. AI may be used to support health professionals; however, patient oversight and clinical decision making must be undertaken by appropriately skilled and qualified medical professionals.

AI systems in diagnostic imaging will be increasingly abundant and rapidly evolving (i.e., new datasets, algorithms). DISR should consider the capability and skillsets of the Therapeutic Goods Administration (TGA) to provide rapid informed decision making before the approval of AI and machine learning technology. Increasing agility will be required to ensure the Australian health system remains up to date with developments, while preserving and encouraging patient choice, access and health literacy.

The ASA, through its Sonographer Policy and Advisory Committee and Emerging Technologies Special Interest Group, has considered the consultation, and provided feedback overleaf. If you have any questions or require additional information, please contact Jodie Coulter, Policy Officer, at policy@sonographers.org or (03) 9552 0000.

Yours sincerely,

Ian Schroen
President
Australasian Sonographers Association



Safe and responsible AI in Australia consultation Australasian Sonographers Association (ASA): Feedback

Question 1. Do you agree with the definitions in this discussion paper? If not, what definitions do you prefer and why?

ASA response:

The discussion paper covers a broad range of issues. Some of the definitions seem limited and need further clarification.

The approach of the 8 Australian AI Ethics Principles (page 14) will need to be adapted very strictly to different industries, particularly in health, where privacy, reliability, transparency, and accountability are critical to the delivery of safe, properly informed decision making.

The ASA is concerned that technology is progressing faster than law makers can determine definitions and set appropriate boundaries for safe implementation of AI technology.

Consideration should be given to differentiating between AI and artificial *assistance* and clarifying this with the public. In the case of ultrasound, the embedded software in ultrasound equipment is not currently *learning*, it is referring to existing examples/databases, and providing information back to the sonographers using the equipment. This is artificial assistance, not artificial intelligence.

Question 2. What potential risks from AI are not covered by Australia's existing regulatory approaches? Do you have suggestions for possible regulatory action to mitigate these risks?

ASA response:

Programming databases should be transparent to ensure that all cross-cultural backgrounds, including indigenous backgrounds, are included.

The ASA also wishes to highlight the importance of ensuring appropriate protections for patients – especially vulnerable people - in clinical circumstances where AI is in use. Caution should also be exercised to ensure that AI is not operating in a discriminatory manner: indeed, recent literature has shown that the use of AI in healthcare settings has exhibited signs of discrimination, and that AI is not exempt from various forms of bias.¹

Question 3. Are there any further non-regulatory initiatives the Australian Government could implement to support responsible AI practices in Australia? Please describe these and their benefits or impacts.

ASA response:

In the case of diagnostic imaging, patients should be made aware in cases where their imaging has been assessed by AI. This information should include risk factors of using AI, including the confidence ratings, and whether a second reading by a healthcare professional on or off-site has occurred.

¹ Karimian, G., Petelos, E. & Evers, S.M.A.A. The ethical issues of the application of artificial intelligence in healthcare: a systematic scoping review. *AI Ethics* 2, 539–551 (2022). <https://doi.org/10.1007/s43681-021-00131-7>

Question 10. Do you have suggestions for:

- a. Whether any high-risk AI applications or technologies should be banned completely?**
- b. Criteria or requirements to identify AI applications or technologies that should be banned, and in which contexts?**

ASA response:

As per the EU Artificial Intelligence Act – AI that poses an unacceptable risk should be banned completely. Those that pose an unacceptable risk include AI that is considered a clear threat to people's safety, livelihoods and rights. This could be inclusive of systems that deploy harmful manipulative subliminal techniques, exploit specific vulnerable groups (physical or mental disability), used by public authorities, or on their behalf, for social scoring purposes and remote biometric identification systems in publicly accessible spaces for law enforcement purposes, except in a limited number of cases.²

Question 11. What initiatives or government action can increase public trust in AI deployment to encourage more people to use AI?

ASA response:

Public transparency in the use of AI.

Question 15. What do you see as the main benefits or limitations of a risk-based approach? How can any limitations be overcome?

ASA response:

One limitation with a risk-based approach is that it will be difficult to account for all applications of AI. The possibilities are endless. Box 4 makes no mention of radiomics and computer-aided diagnosis and detection, and the use of synthetic data training. This begs the question: what other applications have been overlooked? The risks associated with the wholesale application of AI could potentially be systemic and irreversible.

Question 20. Should a risk-based approach for responsible AI be a voluntary or self-regulation tool or be mandated through regulation? And should it apply to:

- a. public or private organisations or both?**
- b. developers or deployers or both?**

ASA response:

A risk-based approach for responsible AI should be mandated through regulation in healthcare settings. Whilst this may not be necessary for all industries, any technology that could cause serious harm or have significant bias against an unknowing individual should be regulated. There are already major discrepancies in healthcare outcomes based on race, gender, residential location (e.g., rural vs. metropolitan) and socioeconomic status. Recent research has found that AI could potentially contribute to healthcare inequalities.³ Regulation needs to ensure that vulnerable individuals in Australia will be protected through mandated, responsible AI practices.

² See <https://artificialintelligenceact.eu/the-act/>

³ Murphy, K., Di Ruggiero, E., Upshur, R. et al. Artificial intelligence for good health: a scoping review of the ethics literature. BMC Med Ethics 22, 14 (2021). <https://doi.org/10.1186/s12910-021-00577-8>