



ACPSEM

Australasian College of Physical Scientists & Engineers in Medicine
ABN 44 005 379 162

Terms of Reference ACPSEM Artificial Intelligence Working Group

(AIWG)

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1. Introduction

The use of AI in healthcare is rapidly expanding, and will have a large impact on the technologies used across healthcare, and on the roles of physical scientists and engineers working in medicine. In December 2020 the ACPSEM Board resolved that the College should create a multi-disciplinary Artificial Intelligence Working Group in order that the ACPSEM is prepared for changes in medical practice brought about by artificial intelligence and collaborate with affiliate professional associations in establishing and maintain standards of practice for the utilisation of artificial intelligence in patient care and treatment.

1.1 Definition and Background

In this context, artificial intelligence (AI) is defined as computer systems that are used to supplement or mimic human intelligence across all areas of medicine including as applied to medical diagnosis, decision making, treatment guidance, prediction and prognosis, as well as in the management of processes and technologies including robotics. AI also applies to the use of complex computational algorithms to mimic human cognition in the analysis, presentation, and comprehension of complex medical and health care data. The subject may be the AI itself, or technologies and processes that employ AI methods. Applications to be considered include vendor sourced AI that is or can be embedded into existing medical devices and information systems as well as locally developed or modified software applications.

The appointed executives of the AIWG met in February 2021 to discuss a proposed scope of activity and membership for this group and created this set of Terms of Reference.

The AIWG will report to the ACPSEM Board.

2. Terms of Reference

2.1. Develop recommendations for the ACPSEM Board with respect to:

- a. Training and education requirements in support of Australasia's current and future AI system development and implementation.
- b. Development of education and awareness programs for the broader College membership.
- c. Endorsement/development of codes of practice for appropriate assessment, acceptance, commissioning and quality assurance of AI-based systems and/or other documents as considered applicable.
- d. Identification of technologies, techniques and practice that are being impacted by AI and recommend ongoing adaptation of the above.
- e. Identify and provide guidance on key related foundational areas to enable and support translational research such as data sharing, data access, and consent and confidentiality issues.



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- 2.2 Support and learn from College members involved in the safe clinical implementation of AI systems or programs, including providing a conduit for the collection and review of the experiences of other ACPSEM members with experience and/or exposure.
- 2.3 Work to position ACPSEM to impact and inform government decisions and policies for AI in patient care and treatment.
- 2.4 Educate and equip ACPSEM members to participate in and influence the clinical implementation of AI-equipped and AI-facilitated technologies.
- 2.5 Perform horizon scans to anticipate future needs as the technical and clinical AI field evolve.
- 2.6 Identify and promote high quality technical and clinical research using current and future AI systems
- 2.7 Review, develop and/or endorse AI codes of ethics and best practice for developing AI tools that promote the safe and transparent implementation of AI systems and the ongoing use of these tools.

3. Budget

The budget for the AIWG activities will be developed in discussion with the ACPSEM Board.

4. Membership

4.1. Membership duration

The duration of membership of the working group will initially be two years. If the AIWG continues after two years, the term of members will be reviewed.

4.2. AIWG Chair

The chair will be elected at the first meeting.

4.3. AIWG Executive

2021-2023 Membership of the AIWG Executive is constituted as follows:

1. PSB Chair (or delegate)
2. Radiology SG Chair (or delegate)
3. Nuclear Medicine SG Chair (or delegate)
4. Radiation Oncology SG Chair (or delegate)
5. ACPSEM President appointed Chair

Changes to the Executive must be reported and approved by the ACPSEM Board.



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4.4. *AIWG Membership*

AIWG membership will be determined via an expression of interest process aiming to ensure broad spread of specialties and clinical areas.

Representation will be sought from ACPSEM Membership that covers branches and clinical specialties, with preference given to those with:

1. Previous AI experience
2. Demonstrable interest in/experience with AI, and

One representative from ACPSEM Software Development Task Group with AI experience

One representative from the Biomedical Engineering Specialty Group

One Computer Science Engineer with knowledge and experience in AI model development in Healthcare.

Selection of AIWG members will be undertaken by the Executive in conjunction with Branch Chairs.

4.5. *Additional non-voting people invited to AIWG meetings*

- TEAP Coordinator/AIWG Secretariat
- Certification Panel Chairs or nominees (as required)
- ACPSEM CEO or nominee (as required)
- Representative from RANZCR AI Working Group (when requested)
- Other Stakeholder Representatives such as vendor representative etc. as required and where it is deemed appropriate by the AIWG Executive

5. Meeting frequency

Meetings of the AIWG will initially be convened every 2 months and conducted via teleconference.

6. Reporting

The Working Group will produce an Annual Report to the ACPSEM Board, relevant Committees and Working Groups, highlighting where AI is being implemented and related researches in order to collaborate and maintain effective communication with other working groups in the field



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7. Review of Terms of Reference

These Terms of Reference and related outcomes will be reviewed by the ACPSEM Board every two years, in conjunction with the PSB Chair and President appointed AIWG members.

ACPSEM
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