

# Ethics Matter When Applying Artificial Intelligence to Medical Technologies: Considerations for Asia Pacific



A new era for the MedTech industry in Asia Pacific is quickly approaching with the development (and deployment) of Artificial Intelligence (AI) solutions. Be it for clinical-facing use or internal workflow efficiencies, AI in MedTech presents an enormous opportunity for improved healthcare outcomes in the region, ranging from disease diagnosis to treatment to management, as well as enhanced care provider and patient experience. Integral to these applications is the role of Ethics, not as a trend but as an imperative, to ensure that the benefits of AI are delivered in safe, transparent, fair, and trustworthy ways.

Notable supranational and regional institutions have already begun to publish ethical guidelines for AI in healthcare<sup>1</sup>. APACMed, in partnership with industry companies (large and small) and legal firm knowledge partner K&L Gates, have come together to produce our considerations about AI and Ethics for MedTech in Asia Pacific.

## “Ethics” is actually a macro concept comprised of different sub-themes

While recent developments in AI promise rapid advancements in MedTech, there are also accompanying risks which necessitate ethical governance. Specifically in the following areas<sup>2</sup>:

Human centricity and oversight	→	Role of humans in developing, monitoring and using AI
Explainability and transparency	→	Understanding the outputs of AI systems and when and how AI is being used
Fairness	→	Avoiding or mitigating harmful bias and discrimination in AI
Safety and security	→	Minimizing AI harm to patients and users including their personal data
Equity and quality of access	→	Inclusive and representative AI and data
Social and environmental well-being	→	Implementing AI for social good

It is therefore paramount to ensure that regulators, care providers, patients, and the wider healthcare ecosystem continue to trust and believe in the value and potential benefits that medical technologies can present for humanity. APACMed will work with the MedTech industry to take ethical principles into consideration when developing or applying AI, and we remain committed to discussing and addressing (where feasible) the known and evolving risks.

1: Examples include including the [World Health Organization](#) and the [OECD](#), as well as the [US Food and Drug Administration](#), the [Singapore Health Sciences Authority](#), the [Japan Pharmaceutical and Medical Devices Agency](#), the [Korea Ministry of Food and Drug Safety](#), among others.

2: APACMed definitions based on proprietary research, inspired by global literature.

## Education and access are critical to leave no one behind

The development and application of AI in MedTech in Asia Pacific shall be conducted with thoughtfulness and diligence. This means technologies should be coupled with concerted educational and training programs, across the public and private sector, to ensure there is sufficient health and digital literacy for our populations in the region. Similarly, AI in MedTech should proactively consider evolving system designs, such as remote care, to ensure more patients can benefit from the latest medical technologies.

On the development side, skilled researchers, engineers, and data scientists are essential to design, build, and manage AI systems effectively. On the application side, a skilled AI healthcare workforce is essential to implementing AI solutions which drive innovation and efficiency. However, accompanying knowledge of the associated risks is also required on both sides, for responsible advancement of AI in MedTech. These ethical considerations are proactive discussion themes which, when involving all ecosystem stakeholders, serve to safeguard patient welfare and foster responsible innovation.

## Justified trust for AI in MedTech requires a “village” mentality

AI in MedTech, much like the described ethical considerations, is an evolving space. As such, trust requires continuous monitoring and adaptation. We believe this trust can be achieved through frequent discussion forums, as a MedTech industry community but also including broader ecosystem stakeholders. Guidelines, ideally co-designed, harmonized, and flexible, will need to be written for AI in MedTech development and deployment. As the MedTech industry invests further into AI capabilities (globally and in Asia Pacific), we want to ensure that these solutions achieve maximum healthcare impact. Ethical dilemmas will arise (and, indeed, already are), thus the time is now to convene together for aligned principles.

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Founded in 2014 and headquartered in Singapore, APACMed represents manufacturers and suppliers of medical equipment, devices and in vitro diagnostics, industry associations and other key stakeholders associated with the medical technology industry in Asia Pacific. Providing a unified voice for the medical devices and in-vitro diagnostics industry, APACMed works proactively with bilateral, regional and local government bodies to shape policies, demonstrate the value of medical technology and promote regulatory harmonization. We strive to promote digital health innovation and impact policy that advances healthcare access for patients by engaging with medical device associations and companies in Asia Pacific.

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