

Research priorities: AI in medicine lifecycle

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Survey background and structure



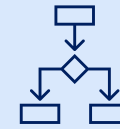
Objectives

- Accelerate learning on key AI research priorities
- Reduce uncertainty around AI in medicine
- Influence regulatory science research



Survey development

- Scoping review of recent literature on AI research needs in medicine across stakeholder groups
- Expert consultations for survey content and design
- Survey testing and validation across



Survey structure

7 broad domains

4 research priorities per domain

28 total research priorities

Results - Ranking of broad research domains



Selection of research priorities

1. How can the **accuracy** and **reliability** of AI models be **ensured** when they are used to **generate clinical evidence** and inform regulatory decisions, and how can **limitations** of AI for these purposes be identified? (*Accuracy and reliability domain*)
2. How can AI systems used in the medicines lifecycle and regulatory review remain **robust** and **trustworthy** when they face challenges like **changing data**, **reduced performance over time**, **incomplete information**, or **misleading inputs**? (*Accuracy and reliability domain*)



Operationalising research

Validation research

- Internal/external validation methods
- Benchmarking studies
- Validation methodology across medicine lifecycle

Quality assessment framework(s)

- Framework(s) based on contexts for use
- Quantifiable quality criteria
- Proxy criteria and framework limits



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Thank you

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