

The Future of Agentic AI in Radiology: A Reaudit of Radiologist & Referrer Views

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BACKGROUND

- Current AI tools in Radiology are static, task-specific applications with **no/little access to clinical context** (electronic patient records - EPR) **or prior imaging** (1)
- The conceptualization of **agentic AI systems** has risen in recent medical literature (2,3)
- Agentic AI – a system capable of autonomous task execution, advanced reasoning, adaptive decision-making and dynamic human-AI interaction
- Baseline audit emphasises the need to encourage radiologists to **influence the development and certification** of useful rather than **easily marketable AI** (4)

Introducing Agent R
A Hypothetical Autonomous AI Entity

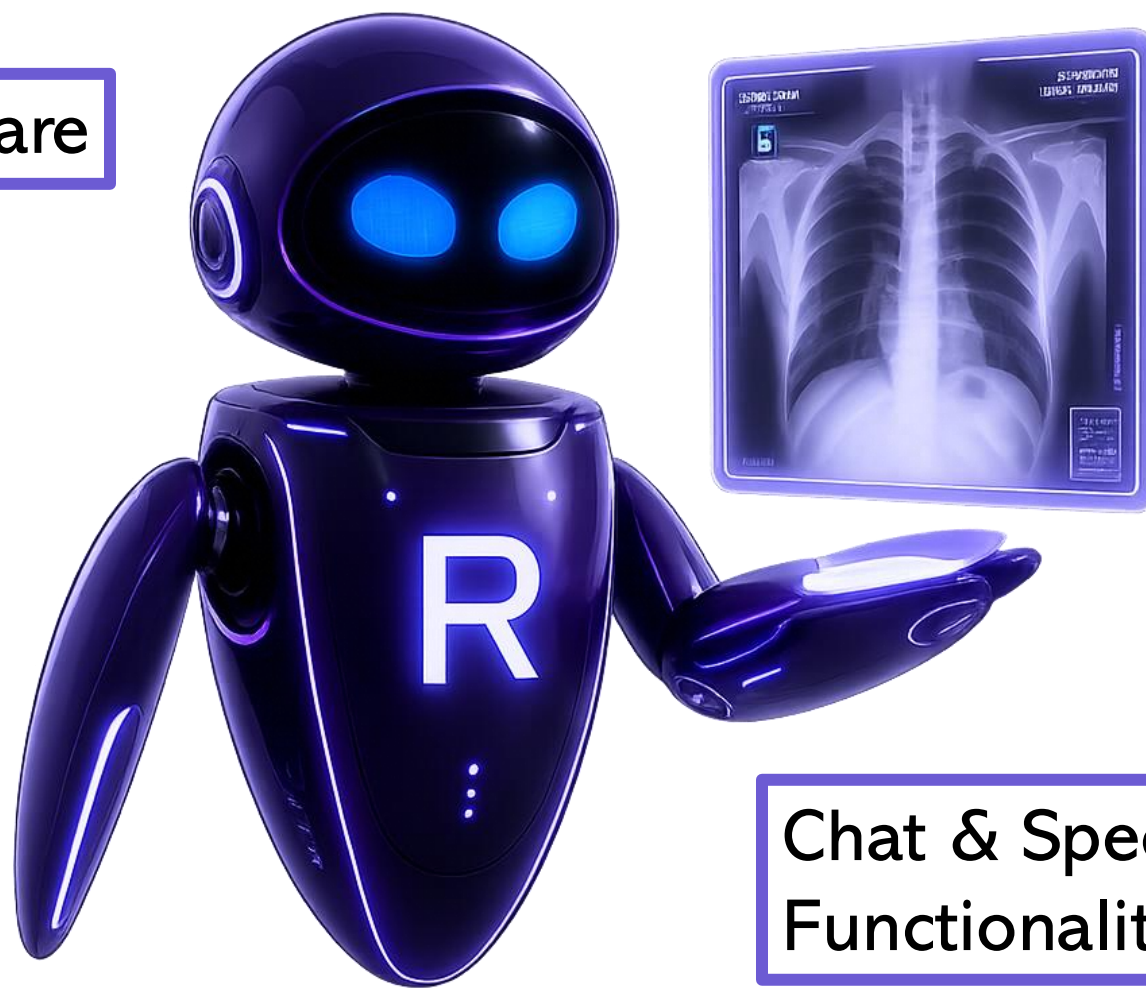
Unique to and trainable by each Radiologist

Fully EPR Aware

Adaptive learning

Can say 'I don't' know' & seek supervision

Chat & Speech Functionality

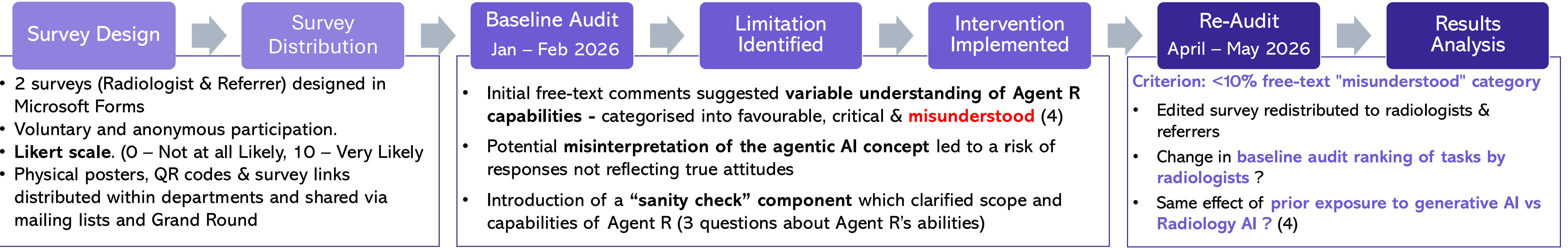


AIMS

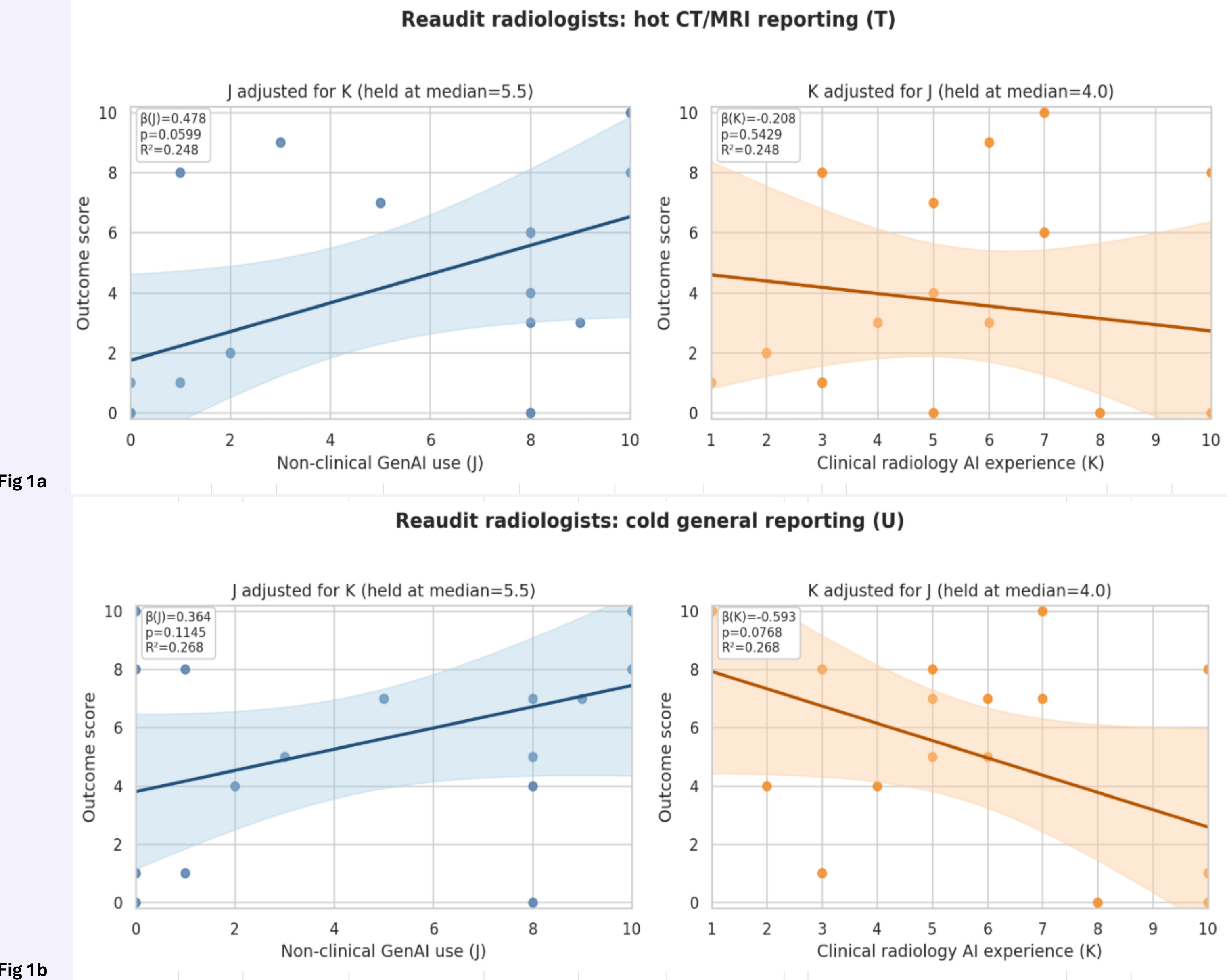
- To define the concept of an agentic AI within radiology; 'Apprentice Agent' and 'Master Radiologist'.
- To **assess conceptual understanding** amongst clinicians on the proposed AI model.
- To reaudit **willingness of radiologists and referrers to delegate** a variety of clinical and non-clinical tasks to Agent R following **optimisation of data collection tool**.

Current AI tools	Concept of Agentic AI
Finely tuned CNN trained on large imaging datasets.	Multi-agent entity orchestrating agents trained on various models.
Vulnerable to out-of-distribution/data drift mandates intensive and expensive post market surveillance	Less vulnerable to any single mode of AI failure.

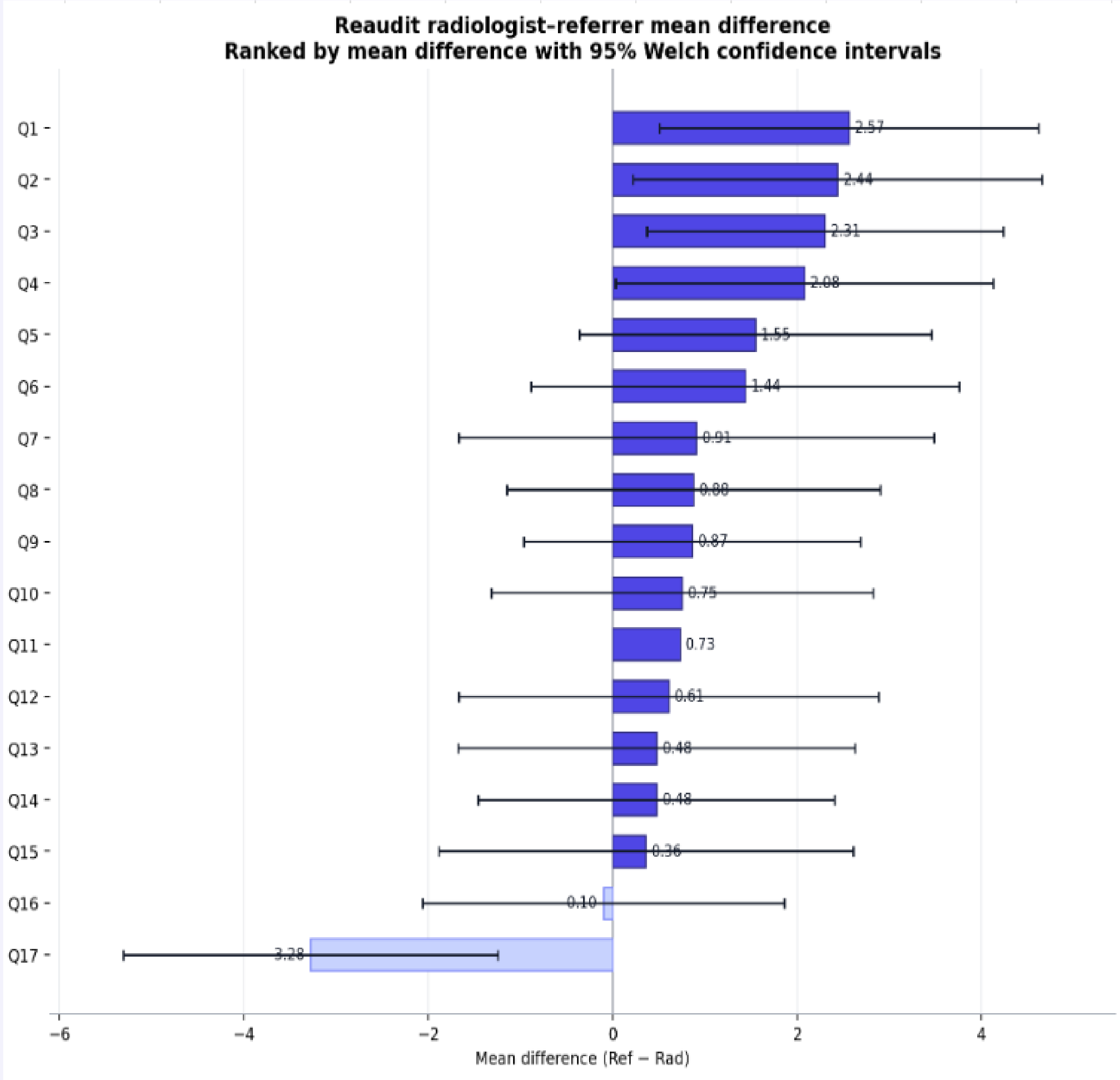
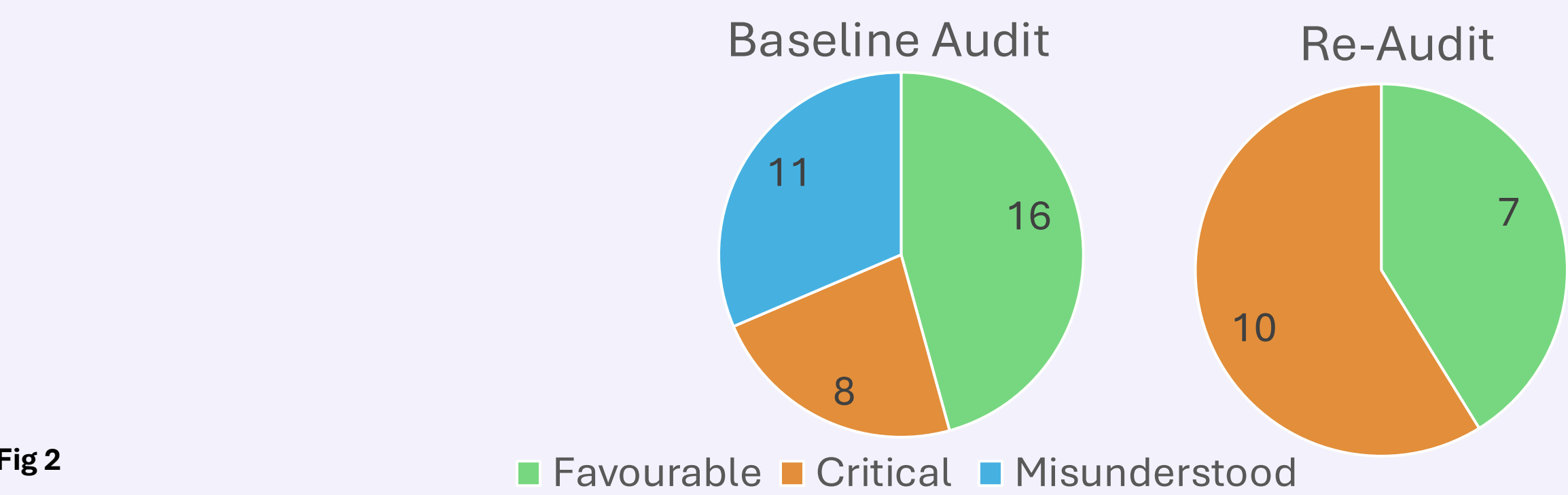
METHODS



RESULTS



Free-Text Comments



DISCUSSION

- 19 Referrer (Greater Manchester), 16 Radiologist responses (13 GM, 3 London)
- Sanity check results:** implementation in this re-audit was effective at reducing free-text misunderstanding with a drop from 31% in the baseline survey to 0% in the re-audit survey (Fig 2).
- Improved understanding of Agent R **reduced difference in likelihood to delegate cold general reporting** from 3.8 (4) to 0.5 points in re-audit responders, however **Referrers remained much more likely to delegate "hot" reporting/vetting and 2nd opinions to Agent R** (Fig 3)
- Effect on Radiologists of prior exposure to **current generation Radiology AI eg. Annalise, Brainomix etc. (CGR-AI)** vs **non-clinical Generative AI eg. ChatGPT, Copilot (NCG-AI)** remained unchanged. Delgation of core reporting and vetting tasks was positively influenced by use of NCG-AI and negatively related to CGR-AI (Fig 1).
- Even with understanding of Agent R capability, **MDT preference was to participate** Eg. "This is the area where human interpretation and interaction is most valuable and AI is of less benefit (MDT)"
- "MDT is a specialist opinion and important for developing relationships within the team."

RECOMMENDATIONS

- Referrers remain much more likely than Radiologists to delegate core reporting and vetting functions to Agent R. This has **implications for how and who procures such systems**.
- Prior exposure to CGR-AI seems to decrease delegation** of the same by Radiologists suggesting dissatisfaction with the current capability and use cases. More generalisable /cross-centre studies are required to validate these trends.
- UK Radiologists need to be actively thinking and pushing for the kind of Radiology AI that helps their working lives and improves how they can serve their patients.**

REFERENCES

- 1) Katal et al., 2024 — Eur J Radiol. 2024;181. doi:10.1016/j.ejrad.2024.111798.; 2) Karunanayake et al., 2025 — Inform Health. 2025;2(2):73–83. doi:10.1016/j.infh.2025.03.001.; 3) Chinniah et al., 2026 — Clin Radiol. 2026;97:107351. doi:10.1016/j.crad.2026.107351; 4) <https://epos.myesr.org/poster/esr/ecr2026/C-28903>

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Scan the QR code for full Radiologist and Referrer surveys and baseline Audit findings (links.tangoscan.com/rcrAI)

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