

Digital Transformation in the Health and Care Professions (BMHP6026)

Component 2 — RETFound retinal
AI

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Use of AI Acknowledgement



OpenAI generative AI supported slide structure, language refinement and formatting.



Responsibility for the submitted analysis remains with the student.

RETFound

What is it?

AI for EYEcare

1.6M unlabeled images → self-supervised pre-training (Zhou et al., 2023)

Reusable retinal representations
reduce expert labelling

Research model ≠ routine NHS
deployment (University College
London, 2023)

Impact on workforce



Gain: less repetitive grading; more complex-case focus



Need: AI literacy, bias awareness and escalation skills (Stogiannos et al., 2024).



Risk: automation bias and deskilling (Zhou et al., 2023)

Impact on service delivery

Capture → AI triage → human review → referral/recall

Benefit depends on interoperability, image quality + escalation

Measure waits, false negatives, referrals, equity + experience

(NHS England, 2026)

Patient-centred care

TRUST — who checked it; what if wrong?

CHOICE — explain AI, uncertainty, data + alternatives

HUMAN CARE — support, not replace, shared decisions

(Jeyakumar et al., 2023; GMC, 2025)

Impact on community

Closer to home: GP practices •
community hospitals • mobile
units

Benefits: less travel • faster
pathway • more capacity

Risk: infrastructure, language +
digital-confidence barriers

(NHS England, 2024)

Health inequalities

Data: underrepresentation
→ accuracy gaps

Access: digital/transport
barriers → unequal benefit

Deployment: unmonitored
thresholds → scaled bias

(Rudnicka et al., 2025;
Zhou et al., 2023)

NHS Implementation

4.0M registered • 3.3M routinely screened

≈18M retinal images/year in English screening

OCT rollout shows digital scale—not RETFound outcomes

(NHS England, 2024; Moorfields Eye Hospital NHS Foundation Trust, 2025)

NHS implementation evidence

EyeArt: 30,405 episodes • 3
English DES programmes

2025 NEL: 202,886 visits •
1.2M images • 8 AI systems

Wider retinal-AI evidence ≠
RETFound deployment

(Heydon et al., 2021;
Rudnicka et al., 2025)

AI governance



Discordance: review
→ document →
escalate (GMC, 2025)



Clinician accountable
• NHS local safety
(MHRA, 2025).



Manufacturer: device
+ product duties (NHS
England, 2026)

Recommendations



Validate — local
performance +
subgroup outcomes
(NHS England, 2026)

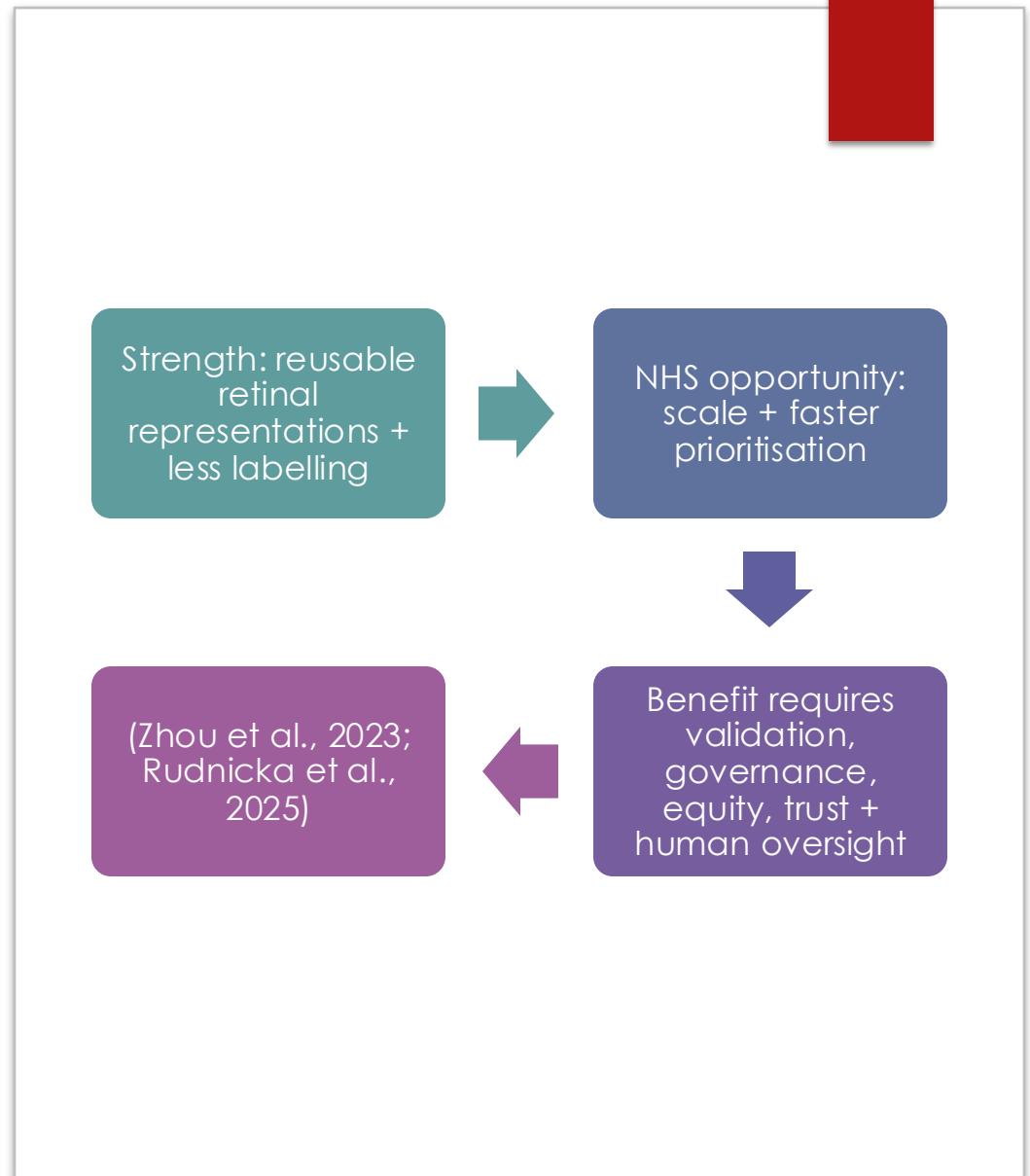


Assure — regulation +
override/escalation
(GMC, 2025)



Equity + trust — bias
audit + patient
involvement (Rudnicka
et al., 2025)

Conclusion



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