

Artificial Intelligence & Clinical Informatics in UK Ophthalmology Training: A National Survey

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Background

- Ophthalmology = high-volume NHS specialty with rising demand
- Digital transformation is central to NHS strategy
- AI increasingly relevant to Ophthalmology workflows
- The **Royal College of Ophthalmologists** identifies education and training as critical for safe AI implementation
- National frameworks emphasise educational pathways to support evaluation, adoption and governance of emerging technologies amongst clinicians.
- Formal AI/Clinical Informatics (CI) training is not currently embedded within the Ophthalmic Specialty Training (OST) curriculum**

Aim

- To conduct the first national survey of UK Ophthalmic Specialty (OST) trainees to assess:
 - Baseline knowledge** of AI/CI
 - Training Access**
 - Perceived Clinical Relevance**
 - Educational Needs**
 - Preferences** for Future Educational Provision

Methods

Study Design

- National cross-sectional online survey:** UK Ophthalmic Specialty Training (OST) Trainees
- Conducted January – June 2025
- Distributed via Training Programme Directors (TPDs) across all UK deaneries
- n=71 trainees, all UK deaneries

Survey Design

- Bespoke policy informed questionnaire:
 - NHS England DART-Ed digital competency framework
 - Expert validation via RCOphth Informatics Working Group
- Assessed:
 - Knowledge of AI
 - Access to training
 - Perceived Clinical Relevance
 - Educational needs, preferences & career intentions

Analysis

- Qualitative data analysed descriptively
- Inductive thematic analysis of free text responses

Results

KNOWLEDGE GAP

76%

report only basic or no knowledge of AI & CI

TRAINING GAP

>50%

report **NO** training available

HIGH DEMAND

80%

support AI Training

70%

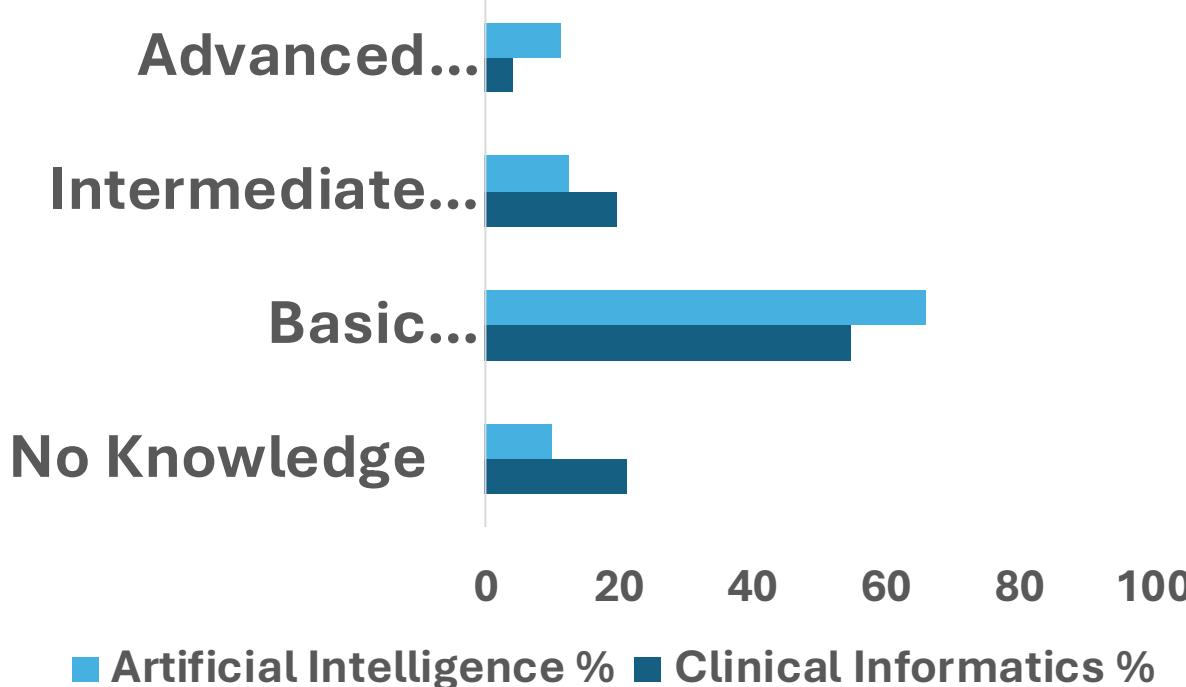
support CI Training

FUTURE WORKFORCE

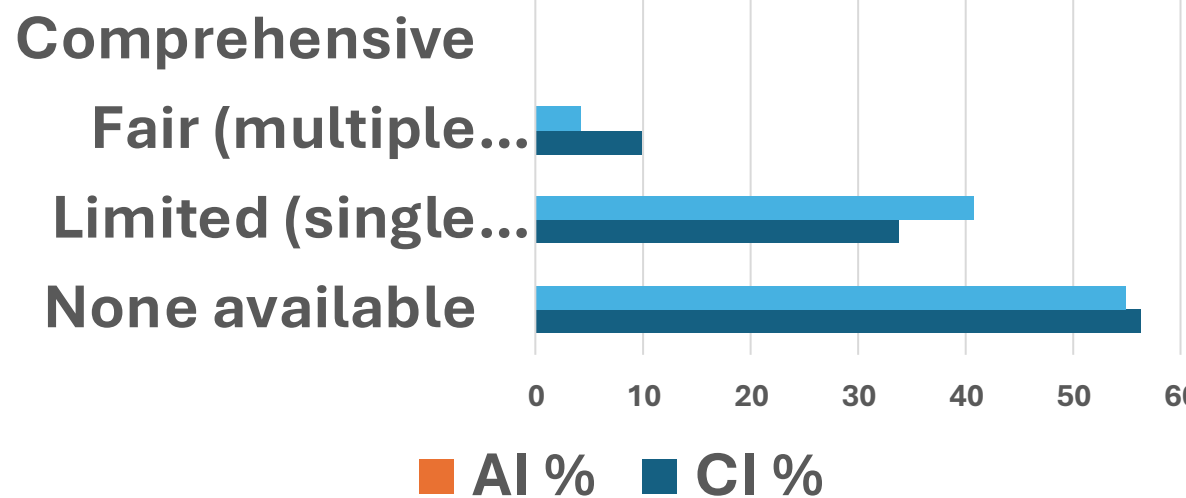
49%

want AI/CI in Consultant Roles

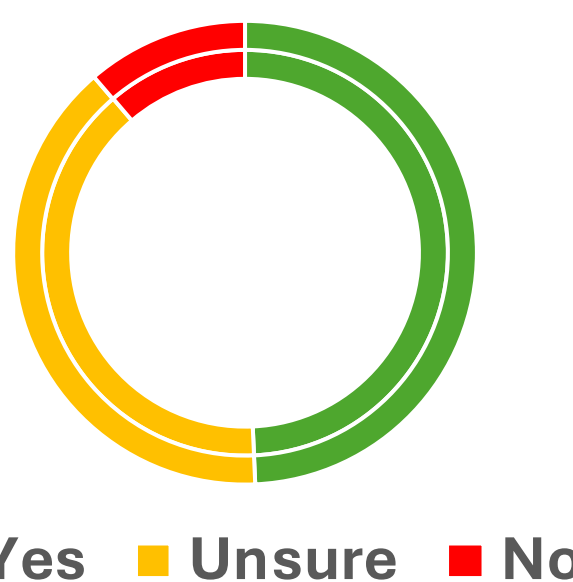
Trainee Knowledge of AI & CI



Deanery Level Training opportunities in CI and AI

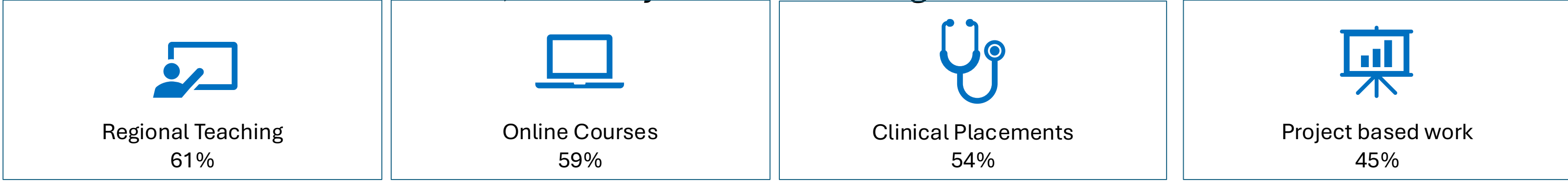


Desire to include AI/CI in a future Consultant job plan



PREFERRED TRAINING FORMATS

Blended, clinically relevant learning models favoured



Results

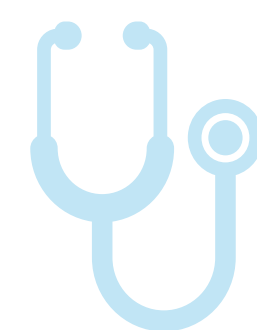
KEY QUALITATIVE THEMES

5 Consistent themes from free-text responses



FOUNDATIONAL LITERACY

AI/CI knowledge viewed as **essential** for **safe** clinical practice



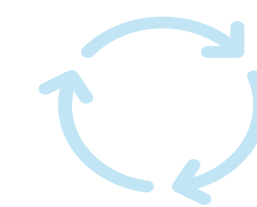
CLINICAL RELEVANCE

Strong preference for training embedded in **real ophthalmic workflows**



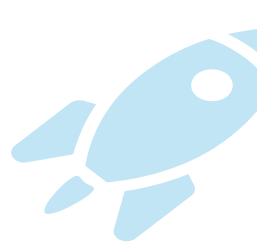
GOVERNANCE & SAFETY

Emphasis on **ethics, bias, and critical appraisal** of AI tools



DELIVERY MODEL

Preference for **flexible, blended** and **accessible** learning approaches



CAREER INTEGRATION

Expectation that AI/CI will form part of **future consultant roles**

Implications for Training

- Gap between RCOphth Policy ambition and training provision
- Strong trainee demand for structured education
- Supports integration into the OST Curriculum

Conclusion

- UK Ophthalmology Trainees show **low AI/CI knowledge** but **high demand** for structured training
- Embedding digital competencies into the OST Curriculum is essential for safe, AI-enabled care