retinai

AI: a companion to the clinician's decision workflow

CHALLENGES

NEED FOR TELEMEDICINE

Due to a **growing number of patients suffering from maculopathies** (related to age and due to diabetic retinopathy) and **limited access to specialty centers**, an organizational redesign needs to be adopted by clinics to remotely but effectively manage patients.

NEED FOR AUTOMATED, EXPERT-LEVEL ANALYSIS

Up to 10% of wet AMD patients may miss injections due to **disease activity** that was **not detected by clinicians** (when compared to expert graders).[1] Therefore automated, expert-level analysis, provided by technological innovations and AI, is needed to bring benefits to patient management and ultimately improve outcomes.

THE PROJECT: I-OPHTA

WHAT:

EDRA S.p.A, international leader in the development of medical-scientific knowledge with skills in digital, training and publishing fields, with unconditional support of Novartis Farma S.p.A, developed the **i-Ophta training course**, deployed in Opthalmology departments of four major Italian hospitals in 2021.

WHY:

The aim of i-Ophta was to **enable** a new dimension of **effectiveness and efficacy in Ophthalmology departments** by assessing **implementation of advanced digital technologies for evaluating and sharing data in diagnostic workflows**. These digital tools were provided to support clinicians in the management of patients with retinal diseases to achieve:

- Advancement of knowledge and use of digital systems to support the clinic and **pave the way for clinical applications of Artificial Intelligence (AI)**
- **Optimization of the patient journey** with the use of new digital tools
- **Collaboration on real world clinical cases** of retinal pathologies

[1]Liakopoulos S, Spital G, Brinkmann CK, et al., ORCA study: real-world versus reading centre assessment of disease activity of neovascular age-related macular degeneration (nAMD). Br J Ophthalmol. 2020 Nov;104(11):1573-1578

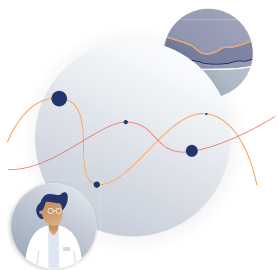
retinai

RETINAI DISCOVERY®

RetinAI Discovery®, the **certified** platform with a **decentralised approach** for multi-modal image and data collection and management, was used in the i-Ophta project for data management and automated image analysis.

CONNECTED

Interoperability by default via a cloud-based web portal for collaborative analysis



INSIGHTFUL

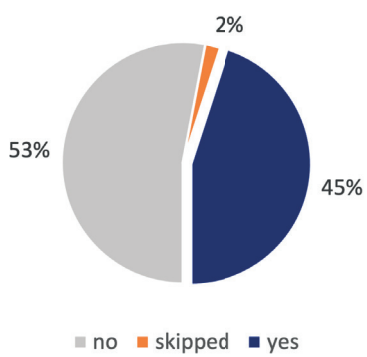
Validated AI modules for multi-modal analysis and medical image management

CERTIFIED & SECURE

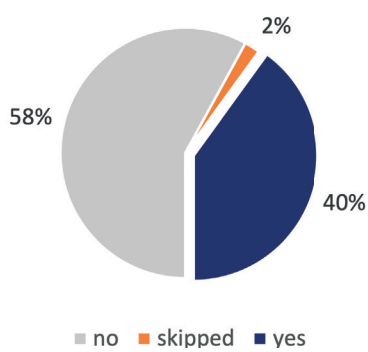
CE-Marked, FDA-cleared and GDPR-compliant platform ensuring privacy and security

THE RESULTS

Did an AI module identify something in the image that otherwise could have been missed?



Did you refine your treatment decision because of the AI modules?



I-Ophta highlights the potential role **AI can play in the treatment decision pathway.** In this in-field training project with four centers, respondents reported that in **45% of the images analyzed, AI made it possible to identify something that at first was not found by the clinician alone.** Furthermore, in 40% of the cases, the clinician changed their treatment decision based on information provided by AI. These two findings support that **AI may play a meaningful role as a companion for clinicians in effective patient management strategies**.