

A randomised trial at one eye hospital: an LLM agent takes better histories than residents

We observe a randomised trial in which an LLM agent outperformed residents on history-taking, with no difference on test recommendations.

+17.7

Points higher on history-taking quality (0 to 100 scale), agent against residents [1]

172

Patients randomised [1]

n.s.

Difference in test recommendations [1]

Coverage: one hospital, China (People's Republic of) · Source: npj Digital Medicine, 5 Oct 2026

WHAT WE OBSERVE

In a randomised clinical trial at a tertiary ophthalmic hospital in Guangzhou, China, 172 of the 175 patients approached were randomised 1:1 to history-taking before consultation by either an LLM agent or ophthalmology residents, between 10 May and 10 June 2025 [1]. The agent scored higher on pre-consultation quality (MedHistory score: adjusted mean difference 17.7 points on a 0 to 100 scale, 95% confidence interval 14.1 to 21.3) [1]. Performance on test recommendations did not differ significantly across stages [1].

In an exploratory analysis of history alone, the agent's diagnostic F1 score was 0.85 against 0.68 for residents; when ocular signs were added, residents improved more, narrowing the gap [1]. Median interaction time was 11.2 minutes for the agent against 3.1 minutes for residents [1].

The agent gathered better histories; residents narrowed the gap once ocular signs were added.

Diagnostic F1 score from history alone (exploratory analysis) [1]



F1 score, 0 to 1. Source: Luo et al., npj Digital Medicine, 5 Oct 2026 [1].

WHY IT MATTERS

The benefit is specific: standardised data gathering before a consultation, not diagnosis or treatment. The authors conclude that the findings support a hybrid workflow in which clinicians focus on physical examination and diagnostic synthesis [1]. The trial ran at one hospital, in one specialty, with non-emergency patients, so it does not generalise on its own. Registration: ClinicalTrials.gov NCT06824389 [1].

AIO Research Team · AIO-S0006 · Primary sources accessed 25 Oct 2026

METHOD

Source: the peer-reviewed article in npj Digital Medicine, published online 5 Oct 2026, read on 25 Oct 2026 [1]. Figures are from the abstract as published. The chart shows the exploratory F1 result as reported. Framing follows AIO Watch method note AIO-M01, v1.2 [2].

REFERENCES

[1] Luo, M.J., Lai, Y., Wang, W. et al. "Standardized pre-consultation by a large language model agent vs ophthalmology residents: a randomized clinical trial". npj Digital Medicine, 5 Oct 2026. doi:10.1038/s41746-026-03232-x. <https://www.nature.com/articles/s41746-026-03232-x>. Accessed 25 Oct 2026.

[2] AIO Research Team. AIO Watch method note AIO-M01, v1.2, 25 Oct 2026.