



29TH EAHP CONGRESS





PERFORMANCE AND CONCORDANCE OF ARTIFICIAL INTELLIGENCE IN THE BPS

<u>D. GARCIA MARTINEZ¹, A.B. POUSADA FONSECA¹, F. FERNANDEZ FRAGA², A. GONZALEZ FUENTES¹, M.R. MENGUAL BARROSO¹, I.</u> GONZALEZ GARCIA¹, N. GARRIDO PEÑO¹, M. CARRERA SANCHEZ¹, L. FERNÁNDEZ VALENCIA¹, Y. MATEOS MATEOS¹, M. SEGURA BEDMAR¹.

¹HOSPITAL UNIVERSITARIO DE MÓSTOLES, FARMACIA HOSPITALARIA, MADRID, SPAIN.

BACKGROUND AND IMPORTANCE

Artificial Intelligence (AI) is increasingly assuming a pivotal role in modern society. Its diverse



applications are transforming numerous tasks, including those within hospital pharmacy. However, the development of robust AI evaluation tools is essential to ensure their effective integration into professional workflows.

AIM AND OBJECTIVES



MATERIAL AND METHODS

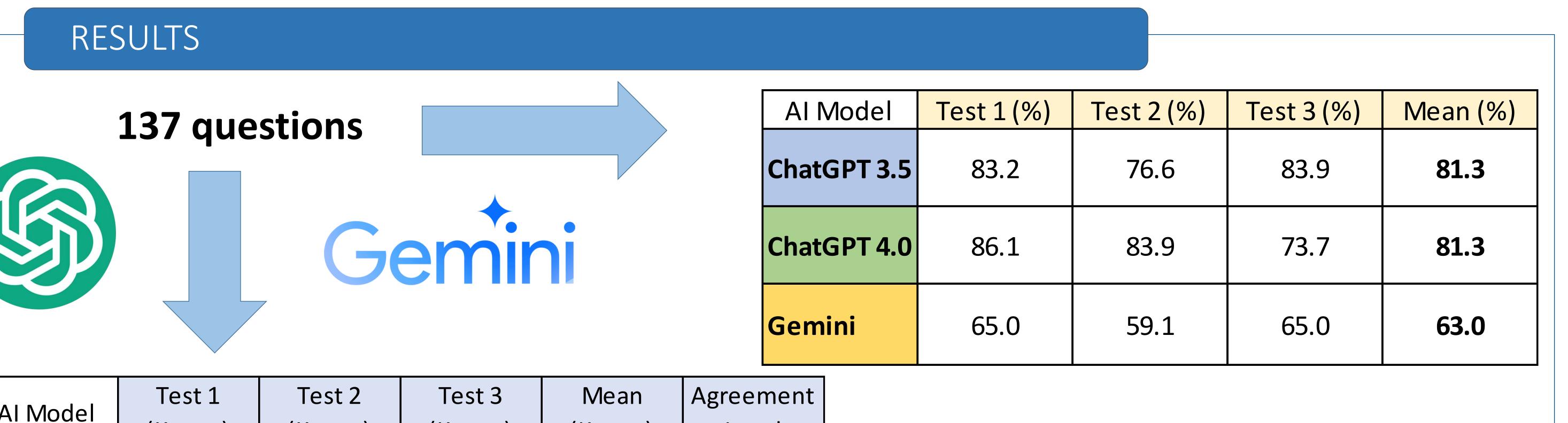
Observational and cross-sectional study conducted in August 2024. All sample questions and answers provided on the BPS website, designed to familiarize candidates with the structure and format of BPS certification exams, were extracted. A protocol was developed to guide the Als in responding to the questions, instructing them to rely on high-quality references and to refrain from generating answers not based on data.

Tests Conducted: 3 tests per AI. Each test administered by a different researcher. In cases of uncertainty, Als encouraged to select "DK/NR" (Doesn't Know/No Response).



Chi-Square test: Comparing proportions of correct answers.

Kappa index & Altman's criteria: Assessing concordance between Al responses and researchers.



Al Model				IVICALI	
	(Kappa)	(Карра)	(Карра)	(Карра)	Level
ChatGPT 3.5	0.773	0.862	0.792	0.809	Excellent
					Agreement
ChatGPT 4.0	0.686	0.941	0.676	0.809	Excellent
					Agreement
Gemini	0.548	0.621	0.584	0.572	Moderate
					Agreement

Statistically significant differences were found by ChatGPT 4.0 and ChatGPT 3.5 (81.3%)

compared to Gemini (63.0%) (p < 0.01).

No statistically differences were found between ChatGPT 3.5 and 4.0.

CONCLUSION AND RELEVANCE

ChatGPT 3.5 and 4.0 show comparable performance with excellent agreement, while Gemini has significantly lower accuracy and consistency.

