2025/2026 Research Rounds

With a Human Touch

Unpacking AI's Expanding Role in Family Medicine

Wednesday, April 1, 2026

12:00 - 1:00 pm PT | Online via Zoom

Dr. Jacqueline P. Ashby
Ed.D., M.Ed., M.Sc
Educator and Researcher, UBC
Family Practice Residency Program

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MD, MHSc, PhD, CCFP
Clinical Assistant Professor, UBC DFP
Associate Faculty, UBC SPPH

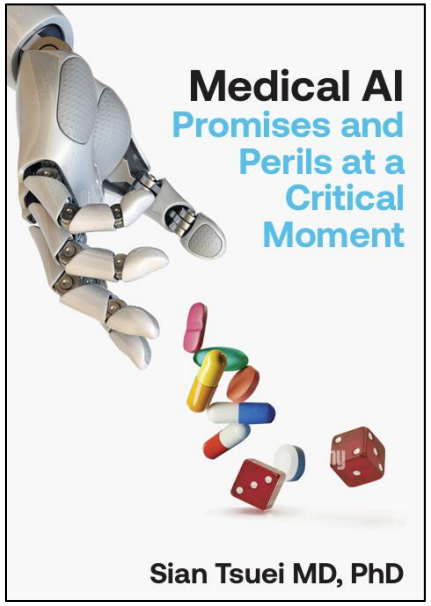
Scan to register
or visit familypractice.ubc.ca/news-events to learn more

THE UNIVERSITY OF BRITISH COLUMBIA
Department of Family Practice
Faculty of Medicine

Self-introduction

- UBC MD; Harvard University PhD
- Adjunct Professor, Faculty of Health Sciences, SFU
- Clinical Assistant Professor, Department of Family Practice, UBC
- Associate Faculty, School of Population and Public Health, UBC
- Practicing Family Physician
- Visiting Scientist, Harvard University

- AI Advisory Group, College of Family Physicians of Canada
- Research study focuses on health system change



Now available on Amazon.

Free electronic copy at **siantsuei.com**

E-mail me (Sian.Tsuei@gmail.com)
Follow me on LinkedIn (Sian Tsuei)

Disclosure

I serve on the AI Advisory Group of The College of Family Physicians of Canada. I received $400 from the Annual Family Practice Review for the development of this presentation. The material draws on material published in a separate book. Michael Smith Health Research BC provided $2,586 towards the publication cost.

All opinions are my own.

Depictions here do not signify endorsement.

UTAH An official website | Utah Department of COMMERCE

NEWS RELEASE: Utah and Doctronic Announce Groundbreaking Partnership for AI Prescription Medication Renewals

January 6, 2026

Could Artificial Intelligence Soon Prescribe Drugs in Canada? Lessons from Utah's Landmark Program

FASKEN

MARCH 12, 2026

Dara Jospé
PARTNER | INTELLECTUAL PROPERTY

Geneviève Shemie
ASSOCIATE | INTELLECTUAL PROPERTY

Artificial intelligence will see you now: Bots to prescribe mental health drugs

By Lydia Moynihan

Published March 27, 2026, 6:00 a.m. ET

NEW YORK POST

CEO of America's largest public hospital system says he's ready to replace radiologists with AI

Marty Stempniak | *March 31, 2026* | *Radiology Business* | *Artificial Intelligence*

Innovate Healthcare

RADIOLOGY BUSINESS

FOR IMAGING LEADERS IMPROVING ECONOMICS, OPERATIONS & OUTCOMES

Will AI replace doctors?

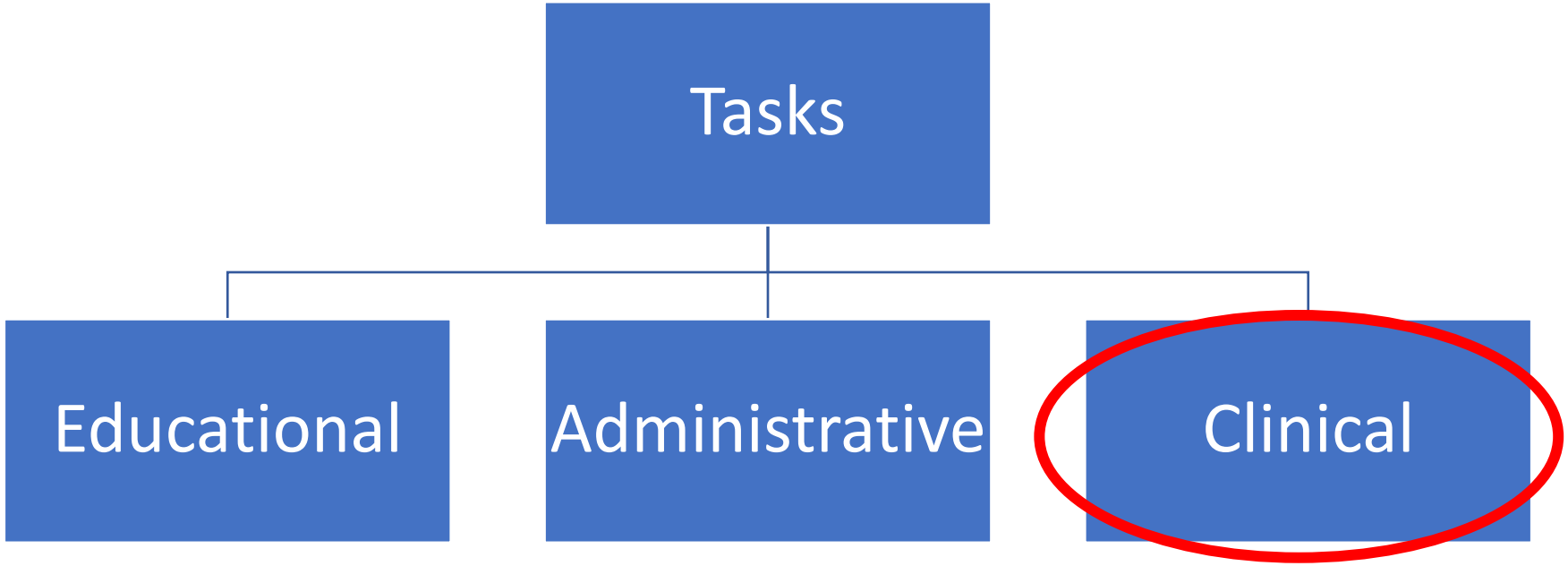
Will AI replace doctors?

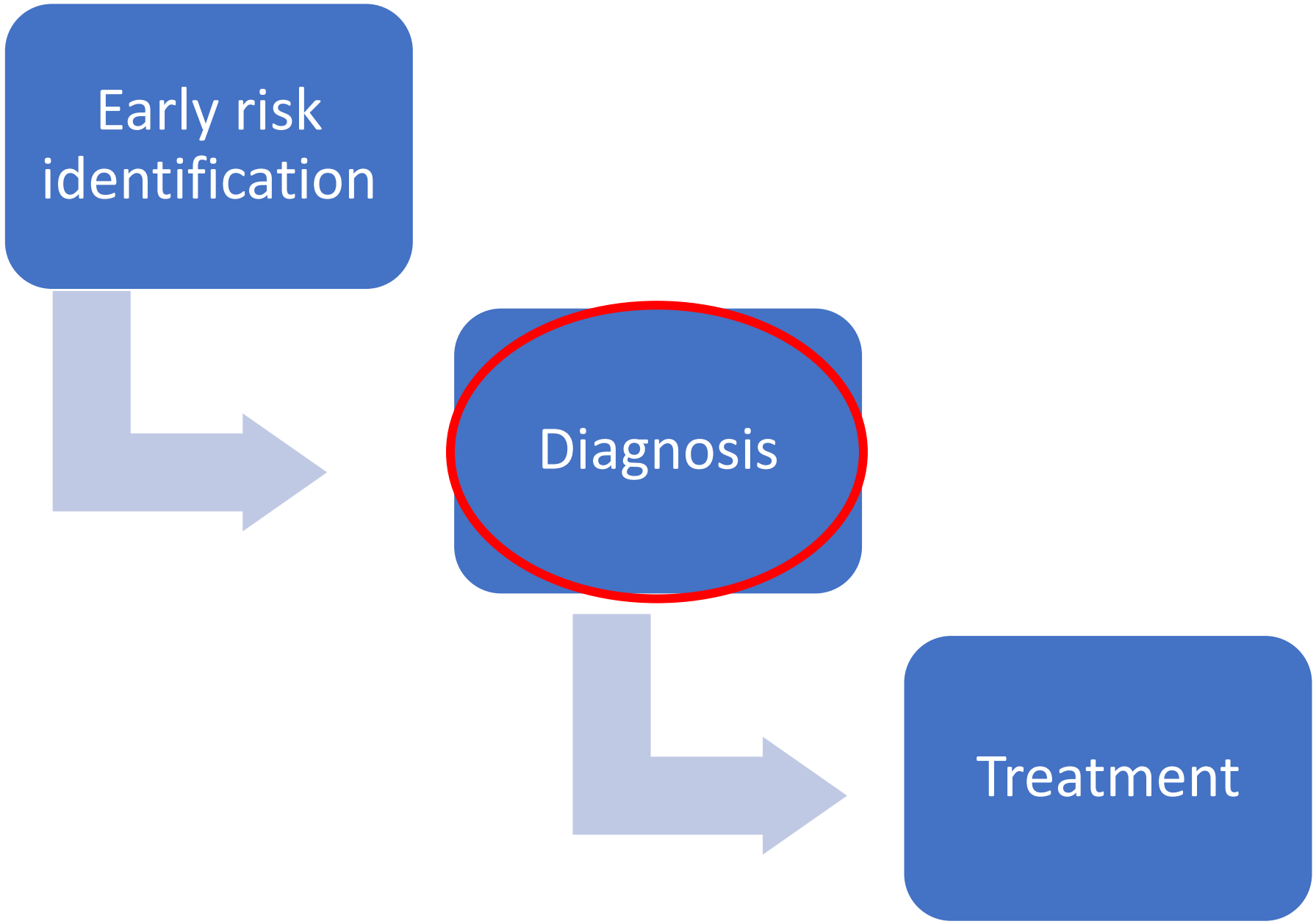
Possibly, if health system continues to have unmet needs and / or if AI continues to develop.

Technical Perspective

What do patients want from doctors?

- Increasingly standardized and transactional
- Focus on diagnosis and treatment


Tasks
Educational
Administrative
Clinical


Early risk identification
Diagnosis
Treatment

Arguments for replacement

JAMA Network | Open

Original Investigation | Health Informatics

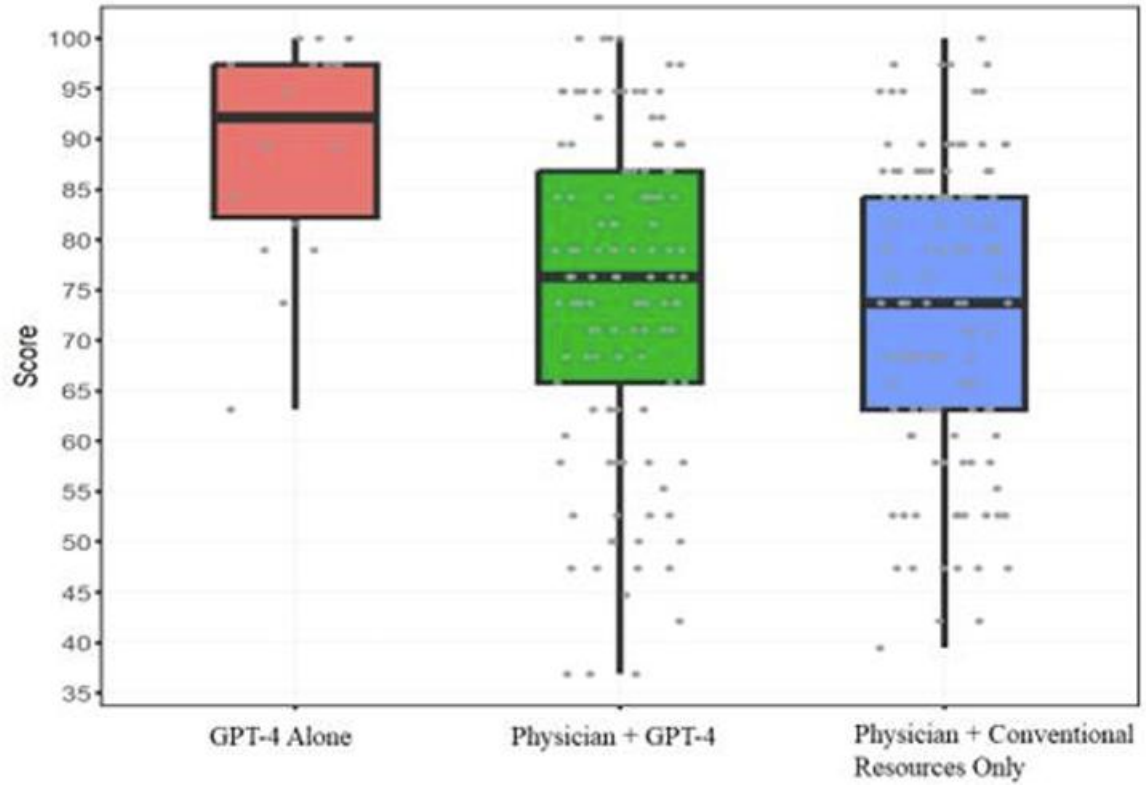
Large Language Model Influence on Diagnostic Reasoning
A Randomized Clinical Trial

Ethan Goh, MBBS, MS; Robert Gallo, MD; Jason Hom, MD; Eric Strong, MD; Yingjie Weng, MHS; Hannah Kerman, MD; Joséphine A. Cool, MD; Zahir Kanjee, MD, MPH; Andrew S. Parsons, MD, MPH; Neera Ahuja, MD; Eric Horvitz, MD, PhD; Daniel Yang, MD; Arnold Milstein, MD; Andrew P. J. Olson, MD; Adam Rodman, MD, MPH; Jonathan H. Chen, MD, PhD

Original Investigation | Health Informatics

October 28, 2024

eFigure 1. Distribution of Diagnostic Performance Scores of Physician + GPT-4 vs. Physician + Conventional Resources Only

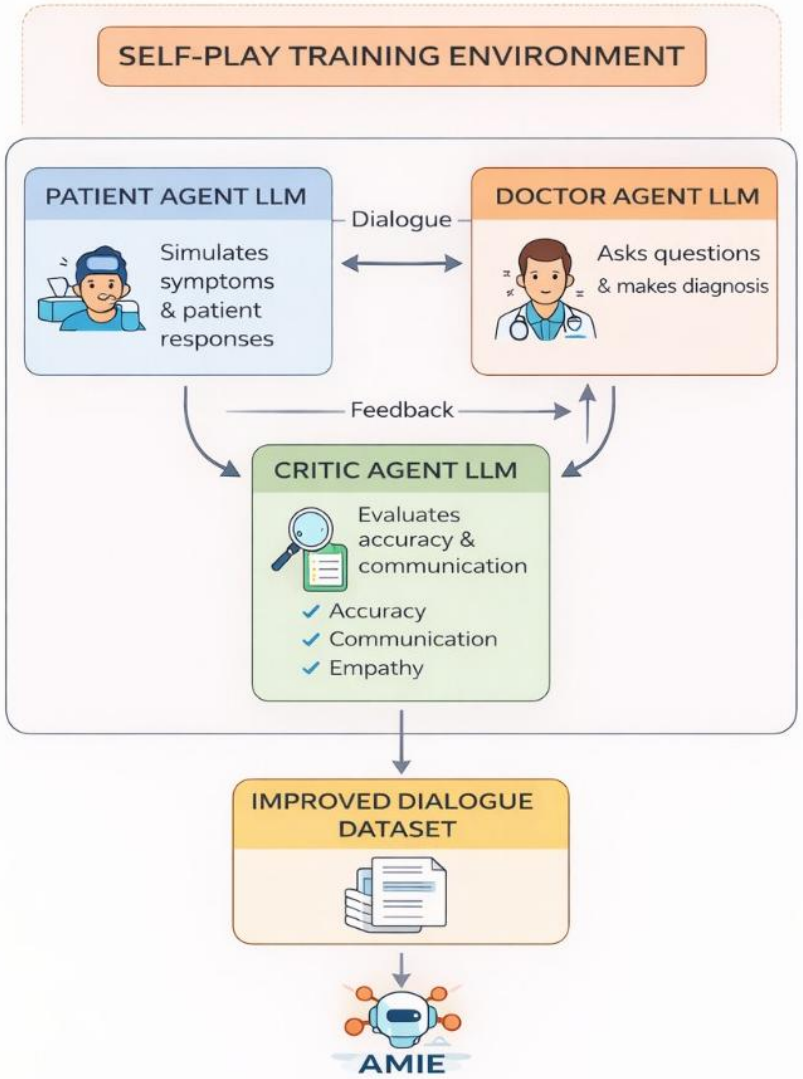


Article | Open access | Published: 09 April 2025

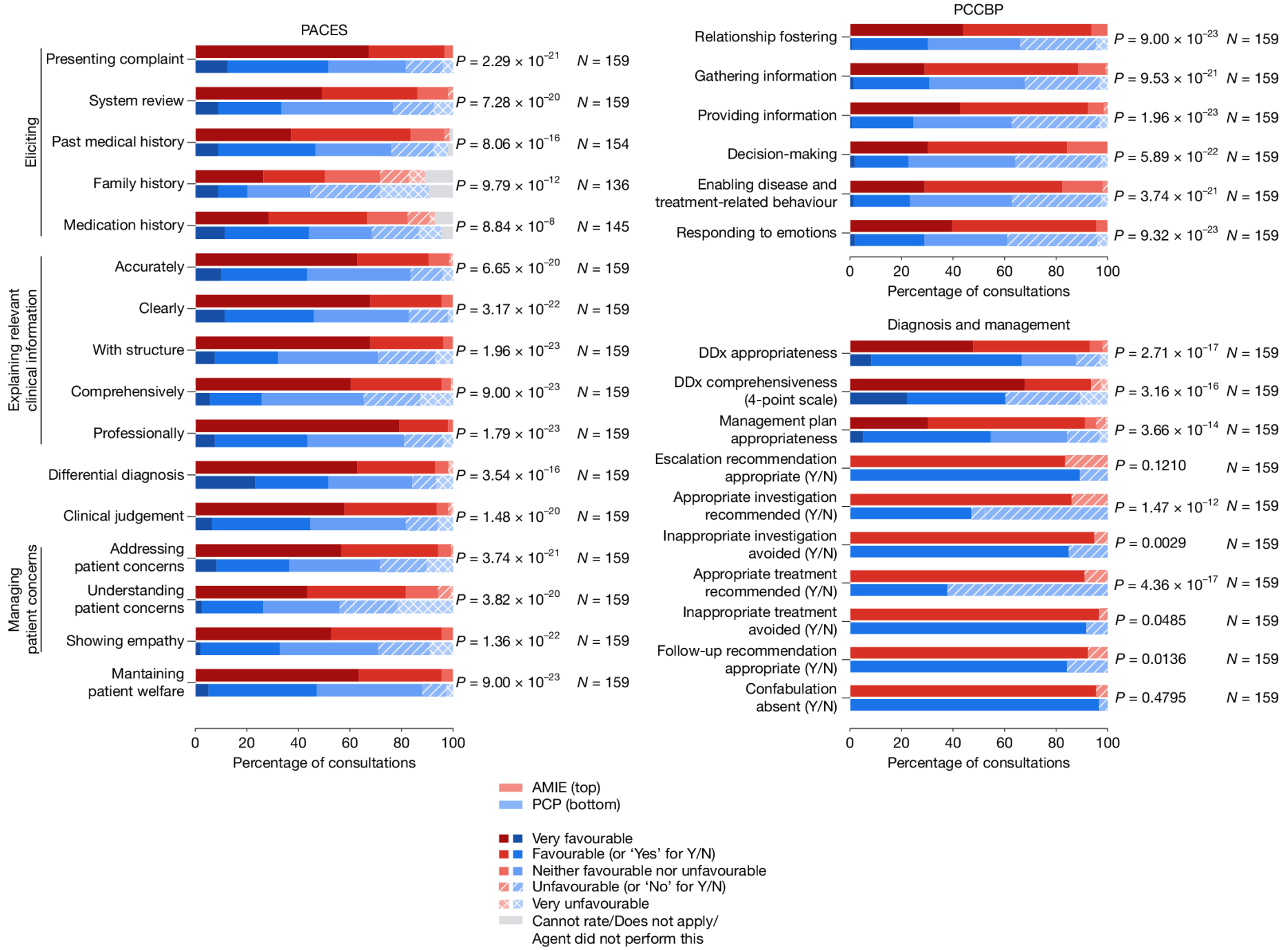
Towards conversational diagnostic artificial intelligence

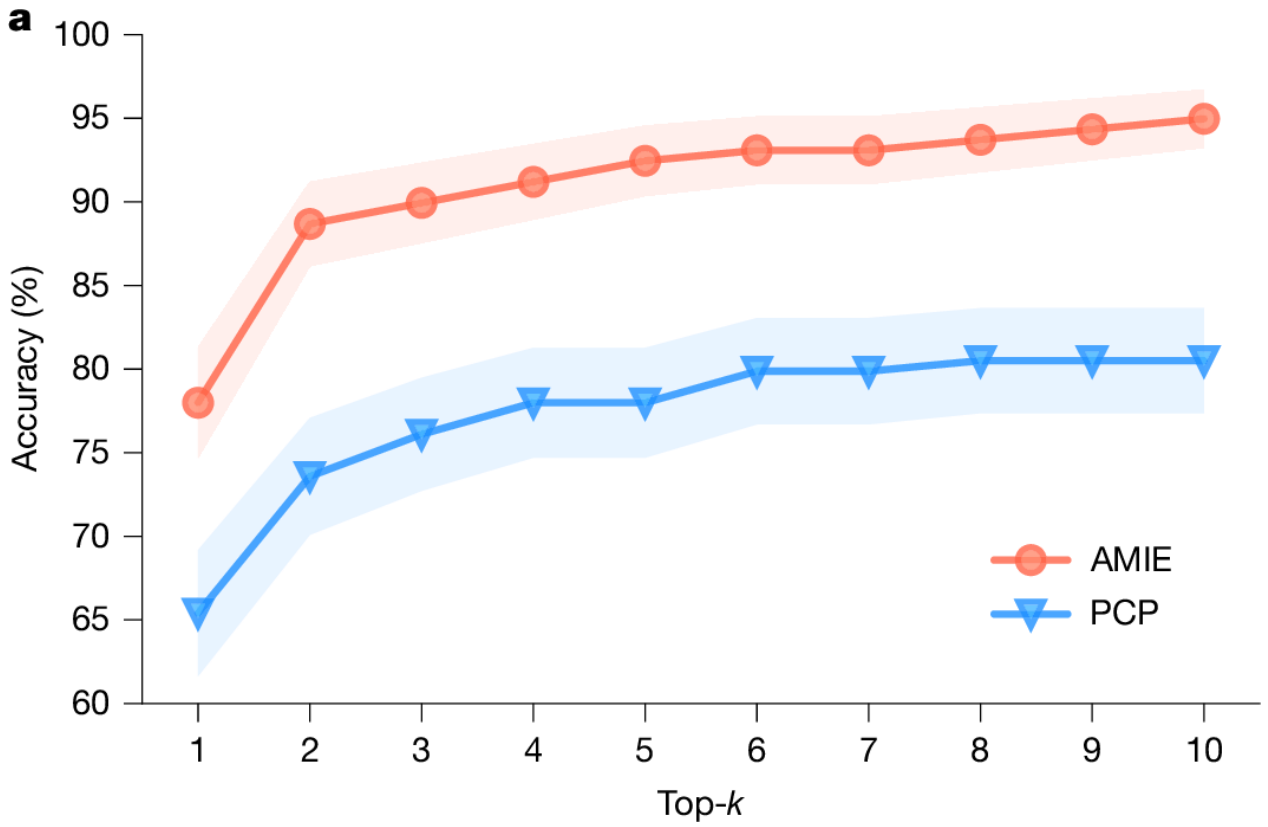
Tao Tu, Mike Schaekermann, Anil Palepu, Khaled Saab, Jan Freyberg, Ryutaro Tanno, Amy Wang, Brenna Li, Mohamed Amin, Yong Cheng, Elahe Vedadi, Nenad Tomasev, Shekoofeh Azizi, Karan Singhal, Le Hou, Albert Webson, Kavita Kulkarni, S. Sara Mahdavi, Christopher Semturs, Juraj Gottweis, Joelle Barral, Katherine Chou, Greg S. Corrado, Yossi Matias, ... Vivek Natarajan + Show authors

Nature (2025) | Cite this article



AI Agents Cooperate in Self-Play Training to Improve AMIE


PACES
Eliciting
Presenting complaint
P = 2.29 × 10−21
N = 159
System review
P = 7.28 × 10−20
N = 159
Past medical history
P = 8.06 × 10−16
N = 154
Family history
P = 9.79 × 10−12
N = 136
Medication history
P = 8.84 × 10−8
N = 145
Explaining relevant clinical information
Accurately
P = 6.65 × 10−20
N = 159
Clearly
P = 3.17 × 10−22
N = 159
With structure
P = 1.96 × 10−23
N = 159
Comprehensively
P = 9.00 × 10−23
N = 159
Professionally
P = 1.79 × 10−23
N = 159
Differential diagnosis
P = 3.54 × 10−16
N = 159
Clinical judgement
P = 1.48 × 10−20
N = 159
Managing patient concerns
Addressing patient concerns
P = 3.74 × 10−21
N = 159
Understanding patient concerns
P = 3.82 × 10−20
N = 159
Showing empathy
P = 1.36 × 10−22
N = 159
Mantaining patient welfare
P = 9.00 × 10−23
N = 159
0 20 40 60 80 100
Percentage of consultations
PCCBP
Relationship fostering
P = 9.00 × 10−23
N = 159
Gathering information
P = 9.53 × 10−21
N = 159
Providing information
P = 1.96 × 10−23
N = 159
Decision-making
P = 5.89 × 10−22
N = 159
Enabling disease and treatment-related behaviour
P = 3.74 × 10−21
N = 159
Responding to emotions
P = 9.32 × 10−23
N = 159
0 20 40 60 80 100
Percentage of consultations
Diagnosis and management
DDx appropriateness
P = 2.71 × 10−17
N = 159
DDx comprehensiveness (4-point scale)
P = 3.16 × 10−16
N = 159
Management plan appropriateness
P = 3.66 × 10−14
N = 159
Escalation recommendation appropriate (Y/N)
P = 0.1210
N = 159
Appropriate investigation recommended (Y/N)
P = 1.47 × 10−12
N = 159
Inappropriate investigation avoided (Y/N)
P = 0.0029
N = 159
Appropriate treatment recommended (Y/N)
P = 4.36 × 10−17
N = 159
Inappropriate treatment avoided (Y/N)
P = 0.0485
N = 159
Follow-up recommendation appropriate (Y/N)
P = 0.0136
N = 159
Confabulation absent (Y/N)
P = 0.4795
N = 159
0 20 40 60 80 100
Percentage of consultations
AMIE (top)
PCP (bottom)
Very favourable
Favourable (or 'Yes' for Y/N)
Neither favourable nor unfavourable
Unfavourable (or 'No' for Y/N)
Very unfavourable
Cannot rate/Does not apply/
Agent did not perform this

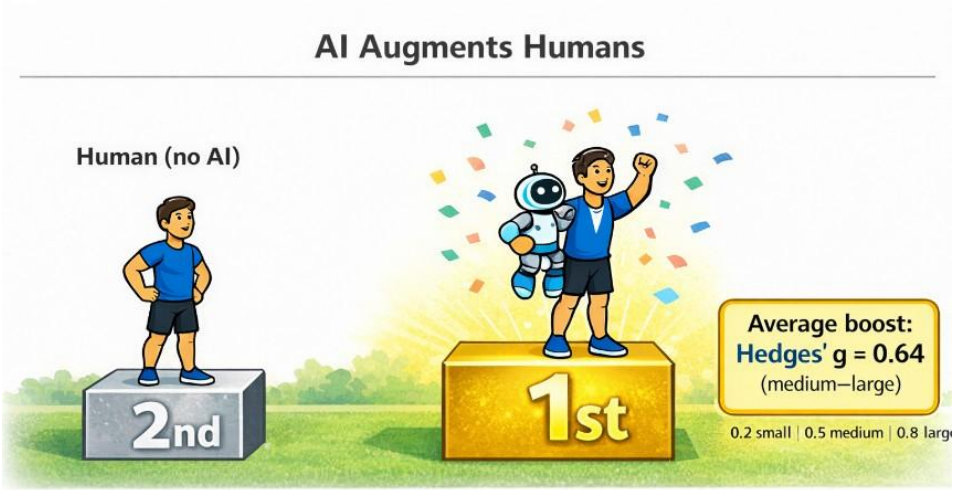

a
100
95
90
85
80
75
70
65
60
Accuracy (%)
1
2
3
4
5
6
7
8
9
10
Top-k
AMIE
PCP

Article | Open access | Published: 28 October 2024

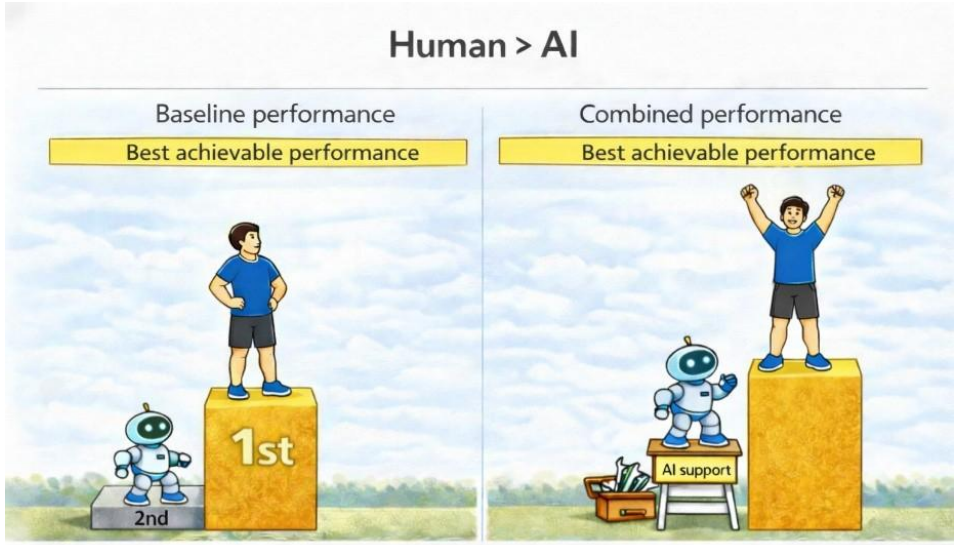
When combinations of humans and AI are useful: A systematic review and meta-analysis

Michelle Vaccaro, Abdullah Almaatouq & Thomas Malone

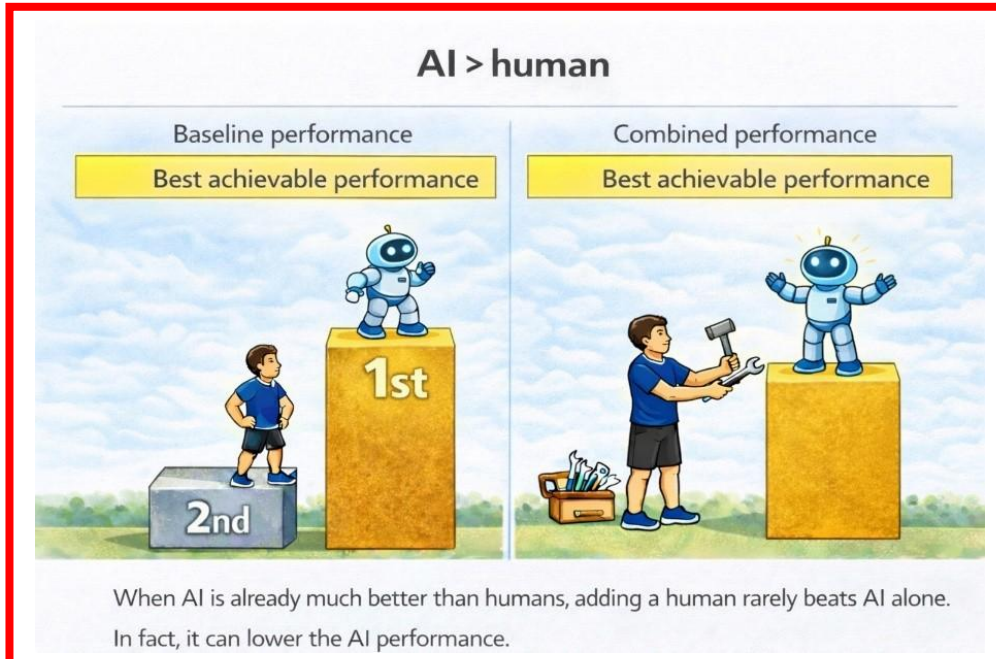
Nature Human Behaviour **8**, 2293–2303 (2024) | Cite this article



Adding AI to humans typically improves performance, but this effect may be different depending on the conditions.



When humans are already strong, AI can complement and push performance beyond either alone.

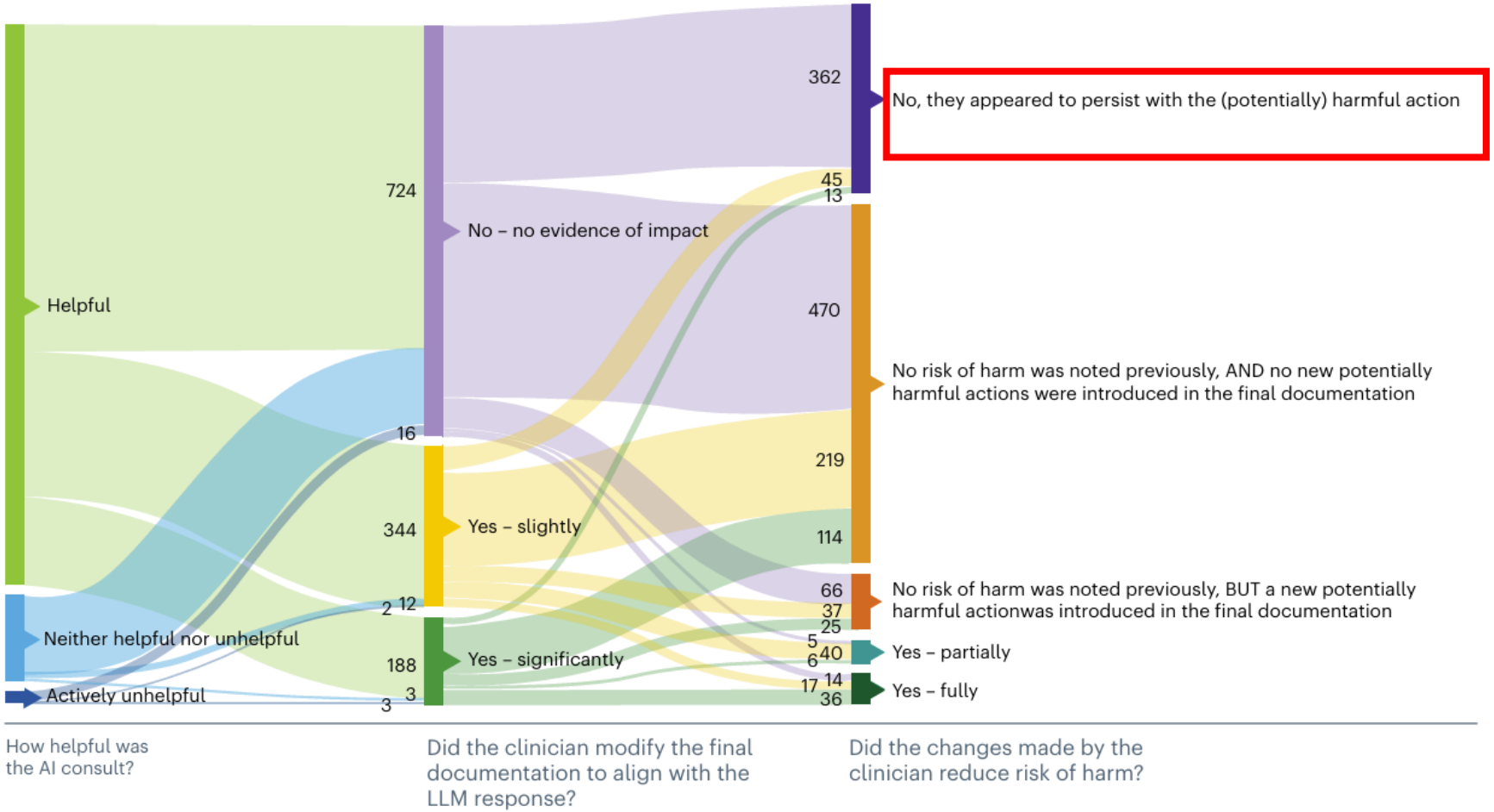


When AI is already much better than humans, adding a human rarely beats AI alone. In fact, it can lower the AI performance.

Safety of a large language model-based clinical decision support system in African primary healthcare

nature health
Published online: 10 March 2026

Ambrose Agweyu[1,2,3], Paul Mwaniki[1,2], Wilkister Musau[4], Robert Korom[5], Lynda Isaaka[1,2], Conrad Wanyama[1,2], Sarah Kiptinness[5], Najib Adan[5], Mira Emmanuel-Fabula[6] & Bilal A. Mateen[7,8]



Arguments against replacement

PNAS

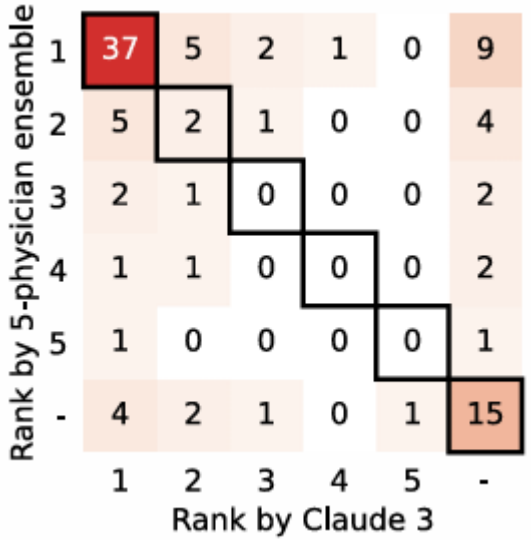
Human–AI collectives most accurately diagnose clinical vignettes

Nikolas Zöller[a,1], Julian Berger[a], Irving Lin[b], Nathan Fu[b], Jayanth Komarneni[b], Gioele Barabucci[c], Kyle Laskowski[b], Victor Shia[d], Benjamin Harack[e], Eugene A. Chu[f], Vito Trianni[g], Ralf H. J. M. Kurvers[a,h,1,2], and Stefan M. Herzog[a,1,2]

2025 Vol. 122 No. 24 e2426153122

B Complementarity of physician ensembles and LLMs

Rank of the correct diagnosis



nature medicine

Article

https://doi.org/10.1038/s41591-025-04074-y

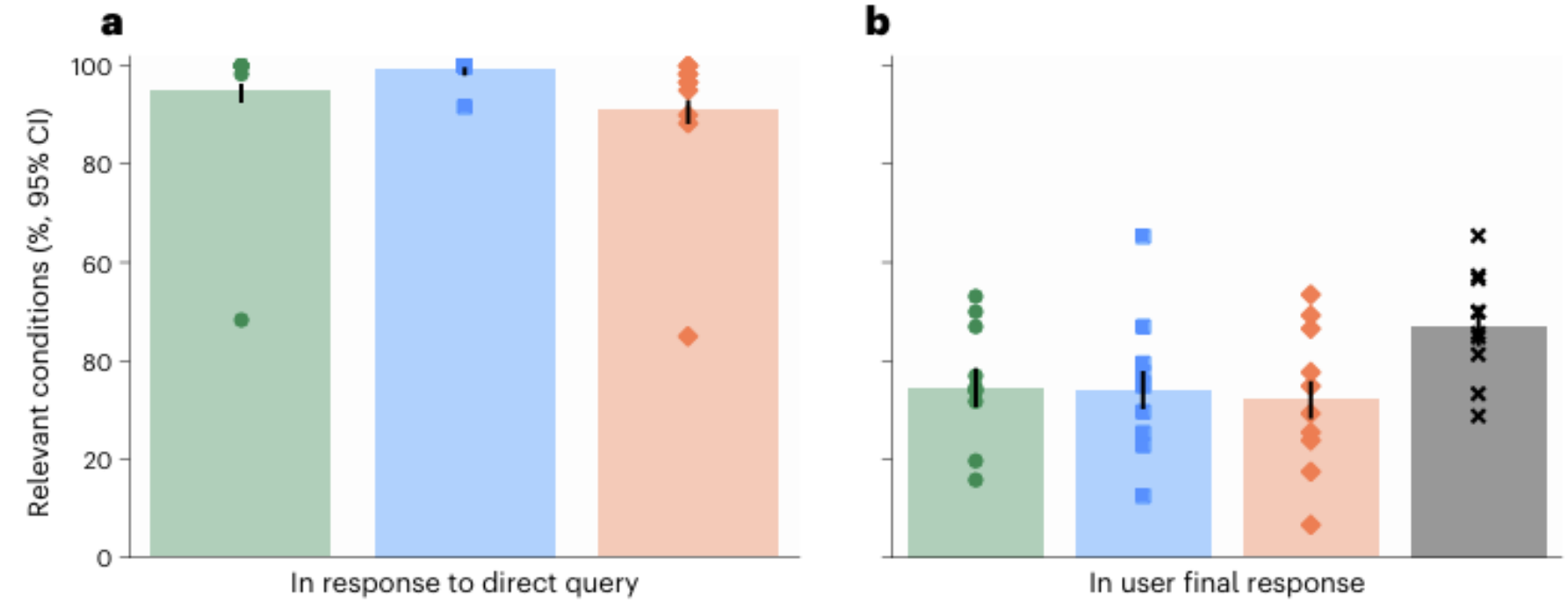
Reliability of LLMs as medical assistants for the general public: a randomized preregistered study

Received: 4 May 2025

Accepted: 22 October 2025

Published online: 09 February 2026

Andrew M. Bean[1], Rebecca Elizabeth Payne[2,3,4], Guy Parsons[1,5], Hannah Rose Kirk[1], Juan Ciro[6], Rafael Mosquera-Gómez[7,8], Sara Hincapié M[7,8], Aruna S. Ekanayaka[9], Lionel Tarassenko[10], Luc Rocher[1,11] & Adam Mahdi[1,11]



Challenges

- Problematic AI systems
  - Sycophantic bias
  - Hallucinations
  - Potential misalignment
- Unclear medical interaction considerations
  - Privacy
  - Consent
  - Liability
- Worrisome downstream effects
  - Environment
  - Inequity

But for some of us, this may be already sufficient.

February 10, 2026

Doctors warn: Canadians are turning to AI for health information and it is hurting them

ASSOCIATION MÉDICALE CANADIENNE
CANADIAN MEDICAL ASSOCIATION

A new survey from the Canadian Medical Association (CMA) shows that most Canadians (89%) go online for health information for a variety of reasons, including that it's faster and more convenient than trying to access care through the health system. While only a quarter of Canadians (27%) trust AI to provide accurate health information, about half are using AI tools to diagnose or treat their health issues.

For others, it may take more.

Public Perception of Physicians Who Use Artificial Intelligence

Moritz Reis, MSc[1,2]; Florian Reis, MD[3]; Wilfried Kunde, PhD[1]

JAMA Netw Open

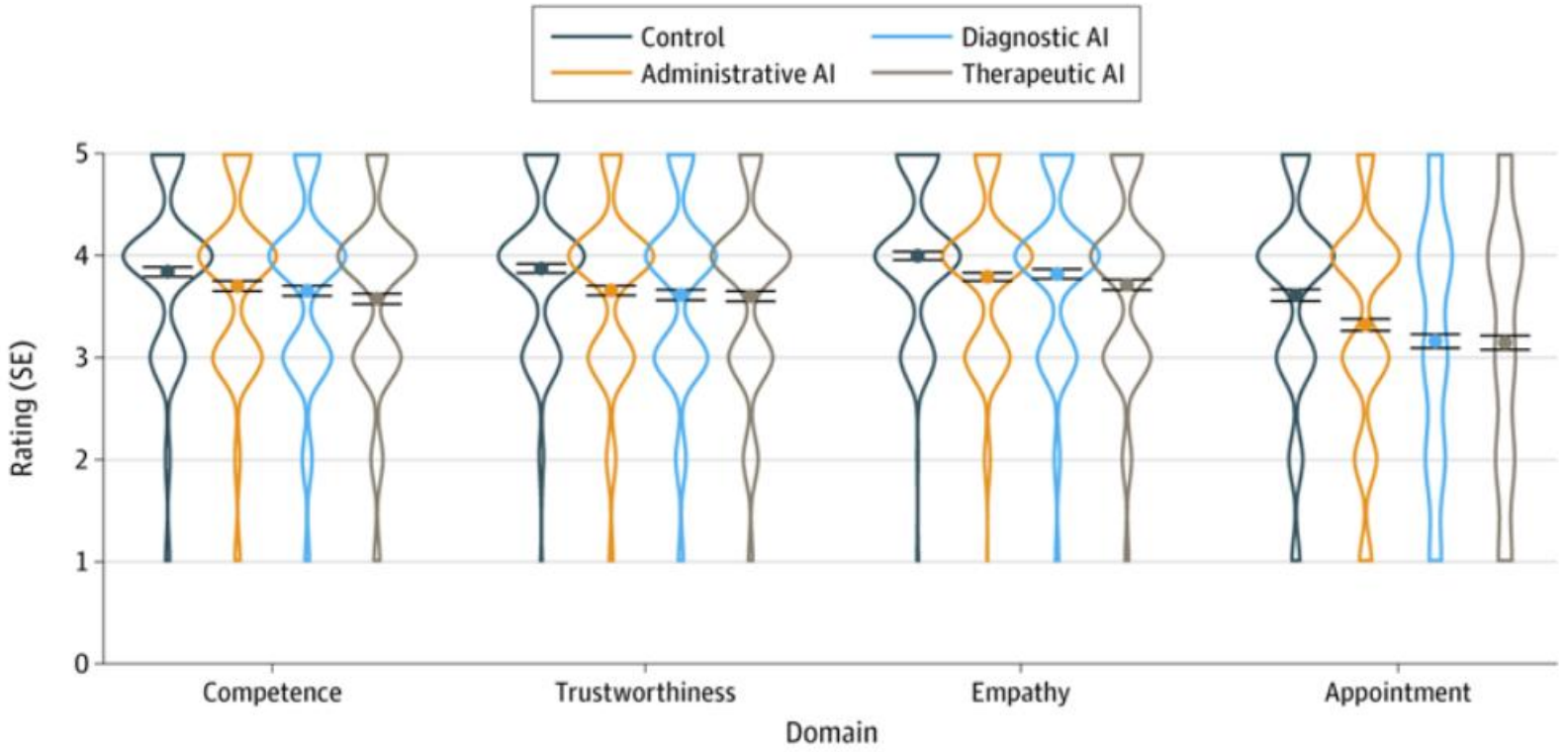
Published Online: July 17, 2025

2025;8;(7):e2521643.

doi:10.1001/jamanetworkopen.2025.21643

JAMA Network | Open

Figure 1. Mean Ratings for Each Experimental Condition and Rating Dimension



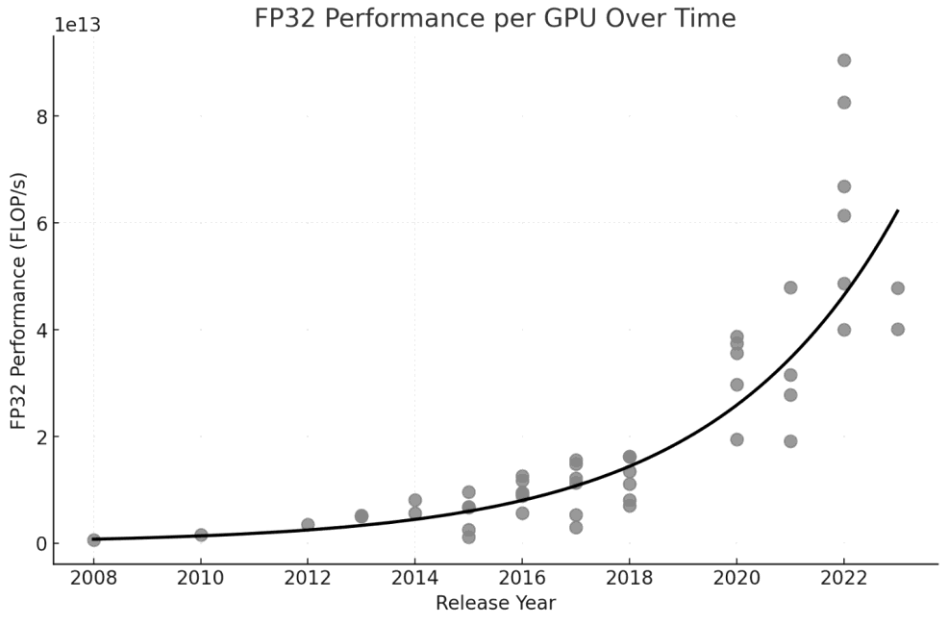
Ratings are scaled from 1 to 5. Error bars show SEs of the individual means.

The Complicated Stakes of the AI Race Between the U.S. and China

by Jared Cohen

Jared Cohen is the president of global affairs at Goldman Sachs.

FEB 18, 2026 8:58 AM PT



Article | Open access | Published: 25 March 2026

Towards end-to-end automation of AI research

Chris Lu, Cong Lu, Robert Tjarko Lange, Yutaro Yamada ✉, Shengran Hu, Jakob Foerster, David Ha ✉ & Jeff Clune ✉

Nature **651**, 914–919 (2026) | Cite this article

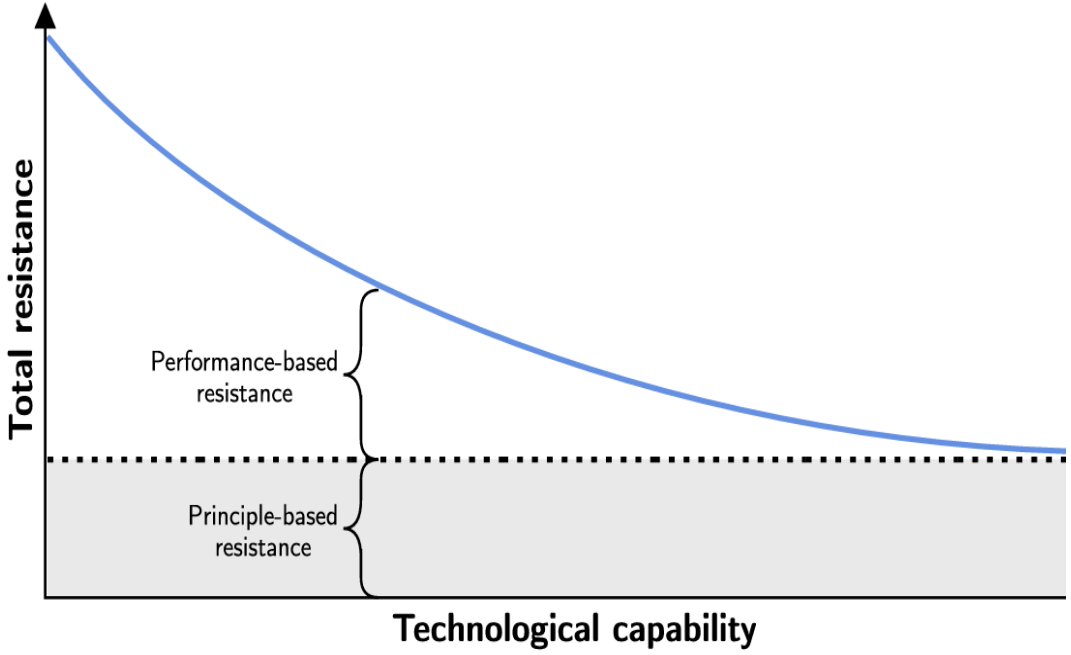
For some, AI replacement may never be acceptable.

Working Paper 26-017

Performance or Principle: Resistance to Artificial Intelligence in the U.S. Labor Market

Simon Friis
James W. Riley

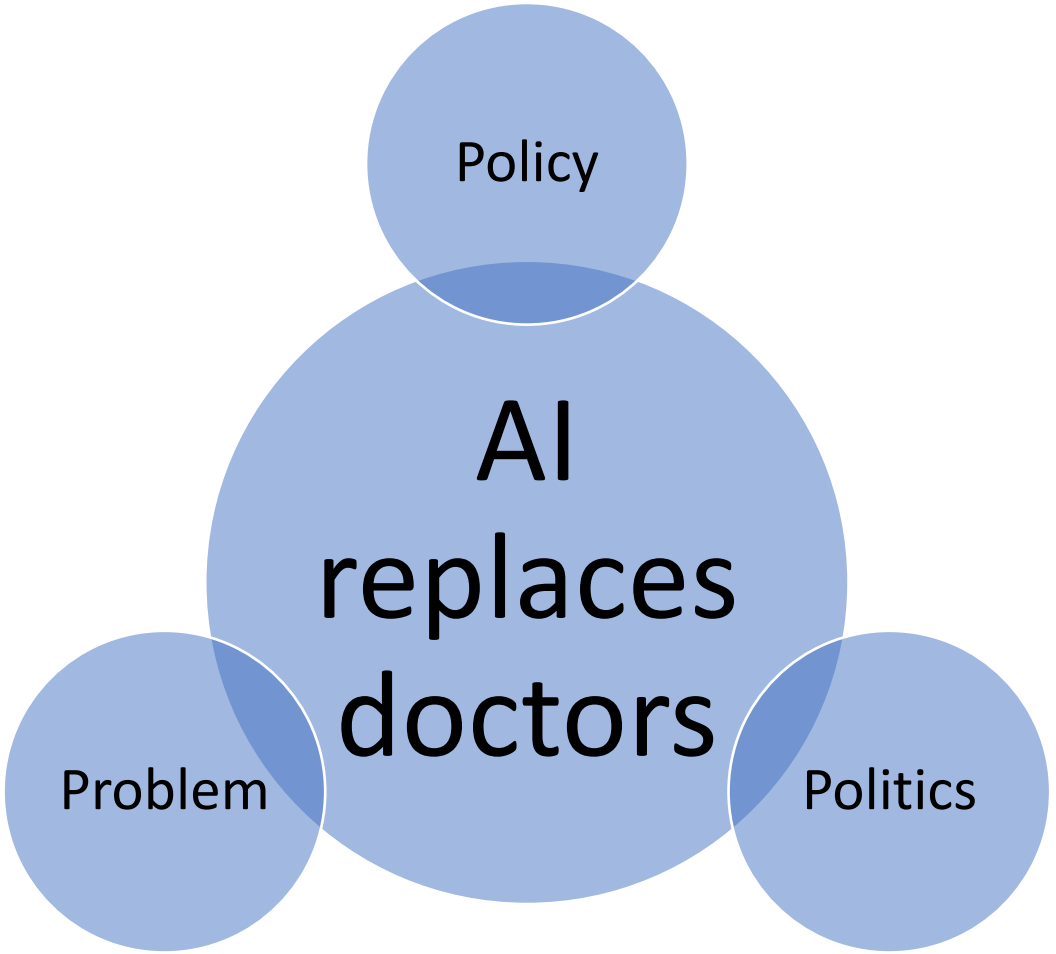
Harvard Business School



Rank	Occupation	Repugnance score
Most repugnant		
1	Clergy	5.91 [5.44, 6.31]
2	Childcare Workers	5.86 [5.31, 6.26]
4	Marriage and Family Therapists	5.64 [5.12, 6.04]
6	Administrative Law Judges, Adjudicators, and Hearing Officers	5.62 [4.82, 6.10]
9	Athletes and Sports Competitors	5.52 [4.82, 6.01]
11	Craft Artists	5.50 [5.00, 5.95]
17	Police and Sheriff's Patrol Officers	5.40 [4.89, 5.81]
27	Funeral Attendants	5.28 [4.54, 5.89]
48	Barbers	5.03 [4.41, 5.52]
50	Actors	5.01 [4.43, 5.57]
Least repugnant		
904	Derrick Operators, Oil and Gas	2.72 [2.26, 3.29]
911	Cashiers	2.67 [2.10, 3.42]
913	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2.67 [2.15, 3.32]
924	Data Entry Keyers	2.55 [2.05, 3.25]
926	Segmental Pavers	2.55 [2.10, 3.05]
927	Biostatisticians	2.54 [2.14, 3.04]
930	Switchboard Operators, Including Answering Service	2.52 [2.02, 3.27]
936	Transportation Planners	2.38 [1.92, 2.93]
938	Search Marketing Strategists	2.31 [1.91, 2.89]
940	File Clerks	2.17 [1.69, 2.84]

In general

Superior AI / AI as only option



Poor access to care
Stagnating care quality
Need for efficiency

Demand for health system improvement

So, what now?

AI Competency: Current State and Challenges

Sian Tsuei[1, 2]

Published on 03.Mar.2026 in Vol 12 (2026)

JMIR Medical Education

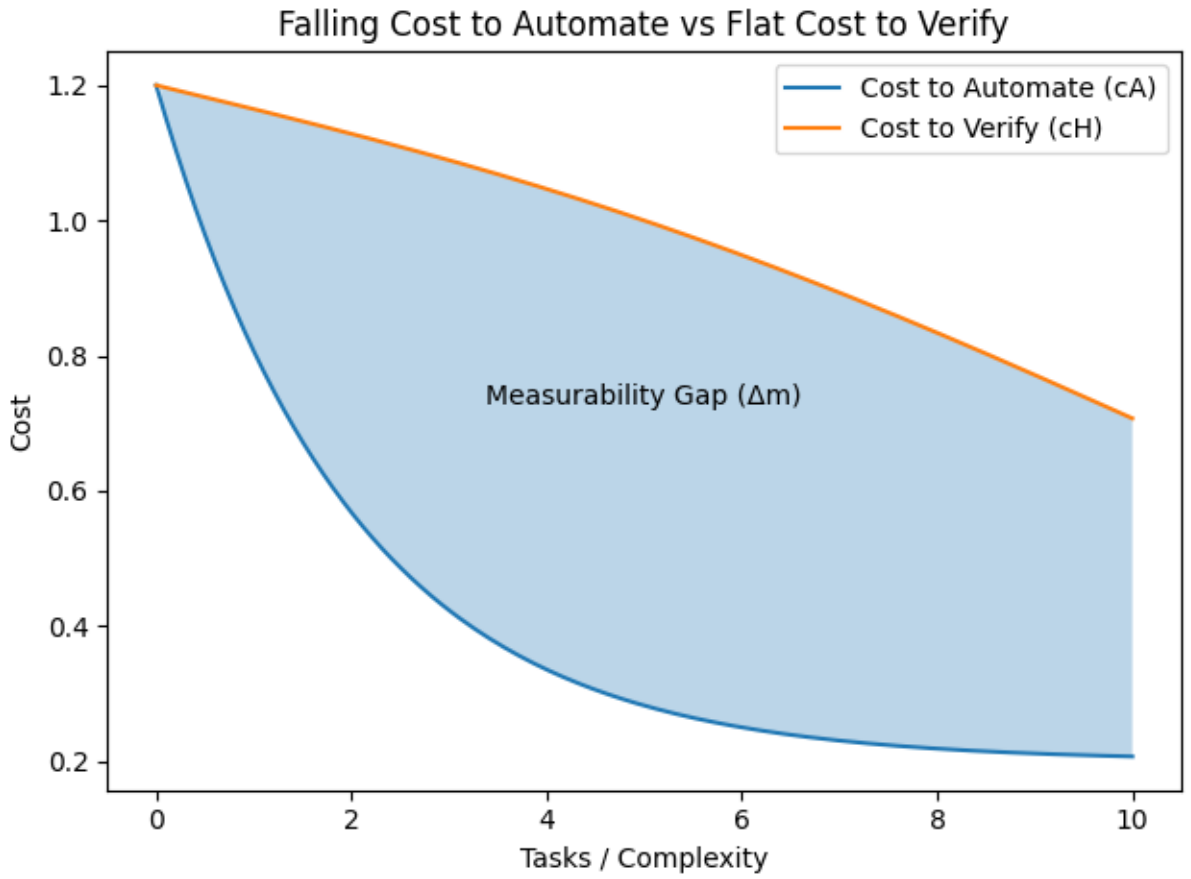
Table 1. Hierarchical progression of artificial intelligence (AI) and large language model (LLM) competency.

Level of competency	Type of competency	Competency domains implicated	Goals of competency for trainees	Examples of trainee competencies
Foundational	Cognitive competency	• AI fundamentals	Understand the theoretical and operational approaches, benefits, and limitations of LLMs	Explain how deep learning works
Advanced	Operational competency	• Ethical and legal considerations • Data analysis and management • Use of AI tools	Use LLMs appropriately, recognizing ethical, social, cultural, and legal implications and limitations	Understand best practices for data storage
Most advanced	Meta-AI competency	• Evaluation of AI tools • Use of AI tools	Choose appropriate LLM for the clinical context	Understand relevant indicators of LLM performance

Some Simple Economics of AGI*

Christian Catalini (MIT)
Xiang Hui (WashU)
Jane Wu (UCLA)

February 26, 2026



Google

2026-03-09

A prospective clinical feasibility study of a conversational diagnostic AI in an ambulatory primary care clinic

Peter Brodeur[*,3], Jacob M. Koshy[*,3], Anil Palepu[*,1], Khaled Saab[2], Ava Homiar[3], Roma Ruparel[1], Charles Wu[3], Ryutaro Tanno[2], Joseph Xu[1], Amy Wang[1], David Stutz[2], Hannah M. Ferrera[3], David Barrett[2], Lindsey Crowley[3], Jihyeon Lee[1], Spencer E. Rittner[4], Ellery Wulczyn[1], Selena K. Zhang[5], Elahe Vedadi[2], Christine G. Kohn[6], Kavita Kulkarni[1], Vinay Kadiyala[3], S. Sara Mahdavi[2], Wendy Du[3], Jessica Williams[1], David Feinbloom[3], Renee Wong[1], Tao Tu[2], Petar Sirkovic[1], Alessio Orlandi[1], Christopher Semturs[1], Yun Liu[1], Juraj Gottweis[1], Dale R. Webster[1], Joëlle Barral[2], Katherine Chou[1], Pushmeet Kohli[2], Avinatan Hassidim[1], Yossi Matias[1], James Manyika[1], Rob Fields[4], Jonathan X. Li[3], Marc L. Cohen[3], Vivek Natarajan[†,2], Mike Schaekermann[†,1], Alan Karthikesalingam[†,2] and Adam Rodman[†,1,3]

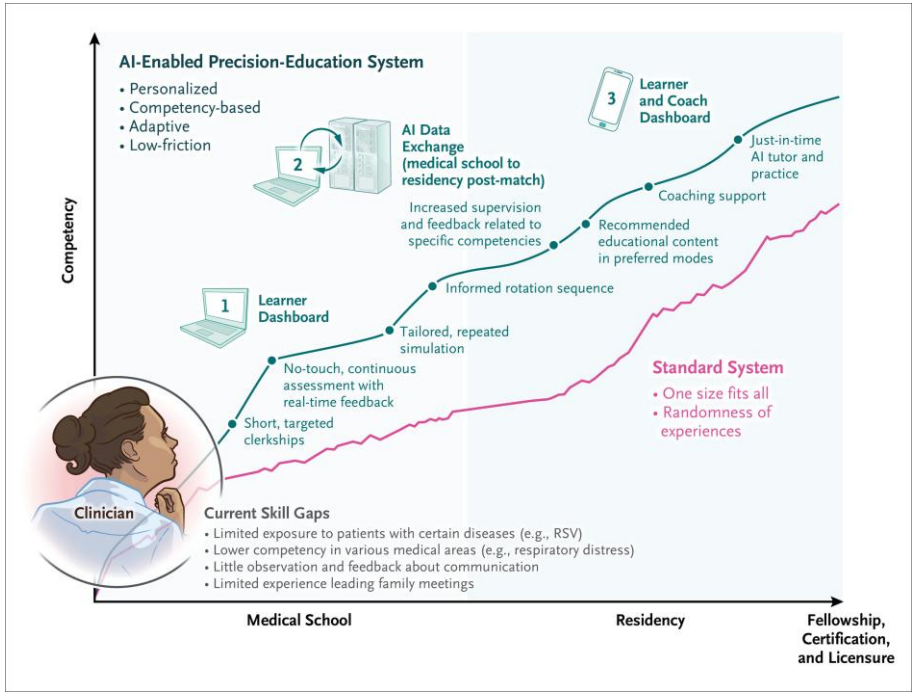
[*]Equal contributions, [†]Equal leadership, [1]Google Research, [2]Google DeepMind, [3]Beth Israel Deaconess Medical Center, [4]Beth Israel Lahey Health, [5]Harvard Medical School, [6]Massachusetts General Hospital

The NEW ENGLAND JOURNAL of MEDICINE

AI-Enabled Precision-Education Systems — Transforming Lifelong Learning in Medicine

Authors: Sanjay V. Desai, M.D., Sal Khan, M.B.A., and Kimberly Lomis, M.D. Author Info & Affiliations

Published February 21, 2026 | N Engl J Med 2026;394:838-841 | DOI: 10.1056/NEJMp2512935
VOL. 394 NO. 9 | Copyright © 2026

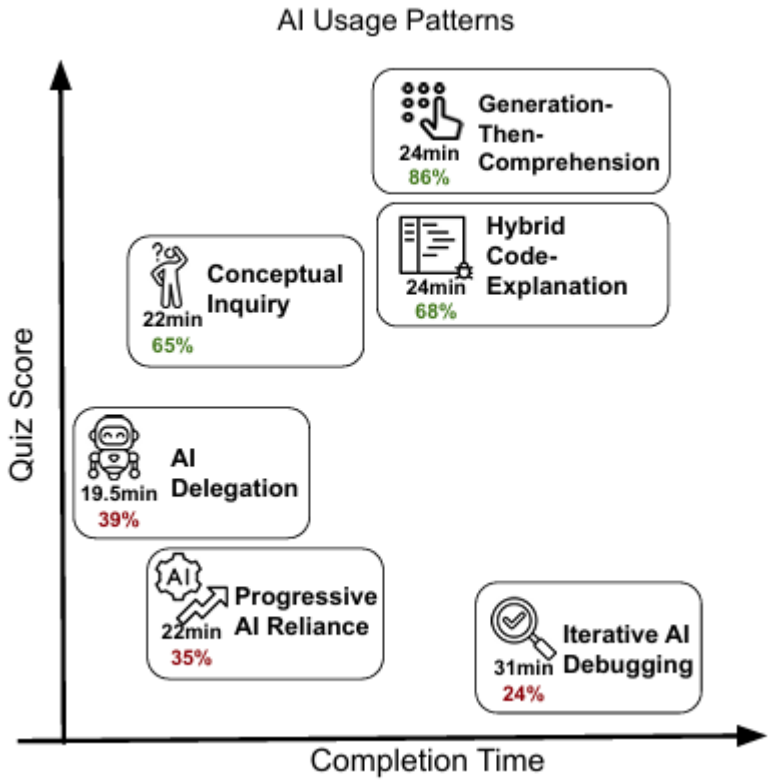


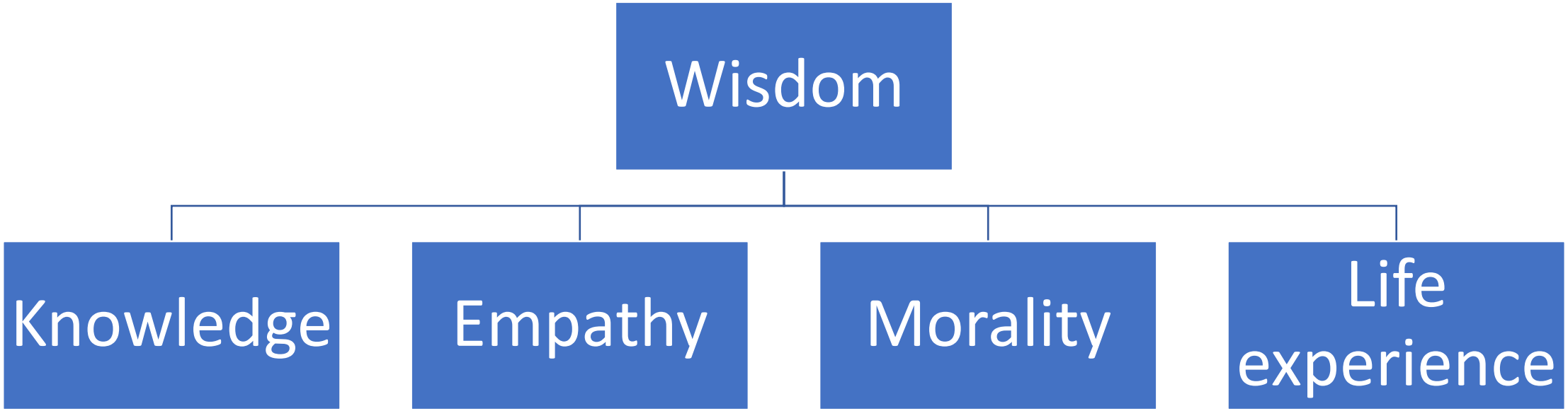
How AI Impacts Skill Formation

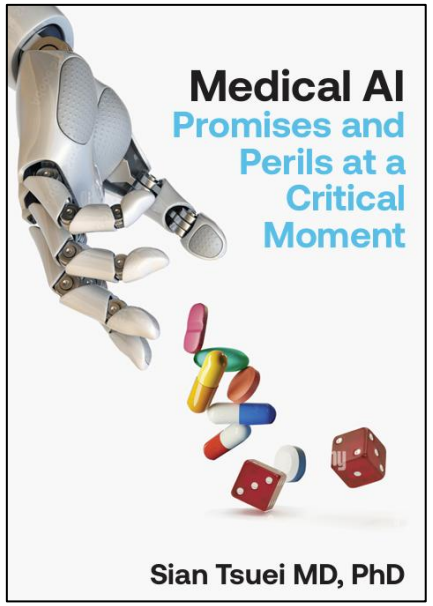
Judy Hanwen Shen* Alex Tamkin†

February 3, 2026

arXiv:2601.20245v2 [cs.CY] 1 Feb 2026




Wisdom
Knowledge
Empathy
Morality
Life experience



- What is AI?
- How is it used for clinical and administrative tasks?
- What are the clinical, technical, ethical, and regulatory concerns?
- Will AI replace doctors?
- How can we shape the future of medical AI?

Available by April 1, 2026 on Amazon

Free electronic copy at **siantsuei.com**

E-mail me (Sian.Tsuei@gmail.com)
Follow me on LinkedIn (Sian Tsuei)

Acknowledgements

- **David Bloom**
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- Aidan Beresford
- Nathaniel Hawkins
- Lindsay Hedden
- Mary Helmer-Smith
- **Owen Adams**
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- Michael Guo
- Jacqueline Kueper
- Jackson Loyal
- Alex Lukey
- Kimberlyn McGrail
- Jeffrey Morgan
- Mackenzie Moffett
- Dawn Mooney
- Laura Nimmon
- Amy Tsai
- James Wrightson
- Seles Yung

Additional slides

What about empathy?

Arguments for replacement

AI chatbots versus human healthcare professionals: a systematic review and meta-analysis of empathy in patient care

Alastair Howcroft ✉, Amber Bennett-Weston, Ahmad Khan, Joseff Griffiths, Simon Gay, Jeremy Howick

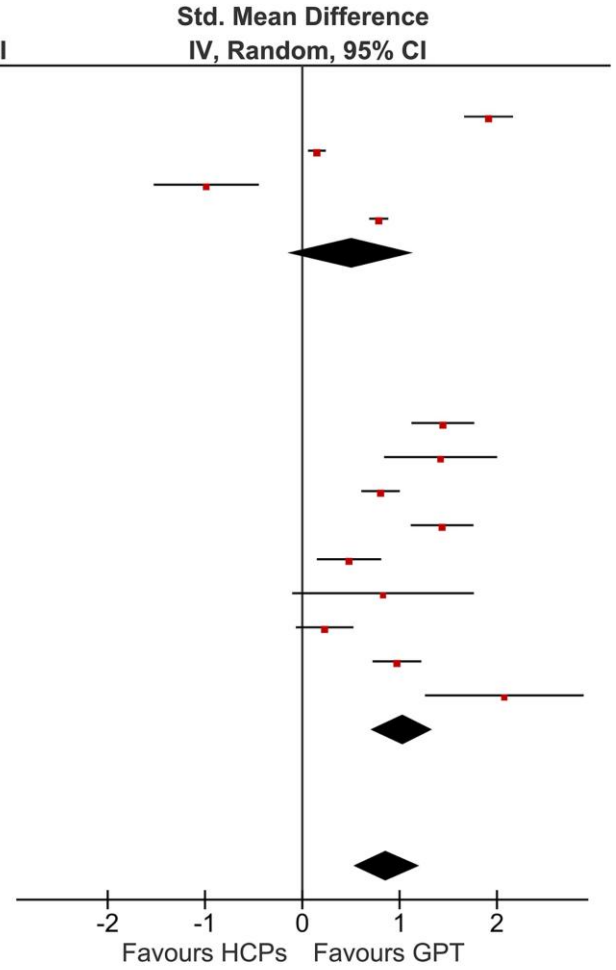
British Medical Bulletin, Volume 156, Issue 1, December 2025, ldaf017, https://doi.org/10.1093/bmb/ldaf017

Published: 20 October 2025 **Article history** ▾

Growing points

Our findings indicate that, in text-only scenarios, AI chatbots are frequently perceived as more empathic than human HCPs.

Study or Subgroup	Std. Mean Difference	SE	Weight	Std. Mean Difference IV, Random, 95% CI
1.1.1 GPT-3.5				
Ayers 2023	1.9143	0.1225	8.3%	1.91 [1.67, 2.15]
Maida 2024	0.15	0.041	8.7%	0.15 [0.07, 0.23]
Reynolds 2024	-0.9874	0.27	7.1%	-0.99 [-1.52, -0.46]
Wan 2024	0.7858	0.0446	8.7%	0.79 [0.70, 0.87]
Subtotal (95% CI)			**32.8%**	**0.51 [-0.14, 1.16]**
Heterogeneity: Tau² = 0.42; Chi² = 277.50, df = 3 (P < 0.00001); I² = 99%				
Test for overall effect: Z = 1.54 (P = 0.12)				
1.1.2 GPT-4				
Armbruster 2024	1.4445	0.1591	8.1%	1.44 [1.13, 1.76]
Guo 2024	1.421	0.291	6.9%	1.42 [0.85, 1.99]
He 2024	0.8048	0.0951	8.5%	0.80 [0.62, 0.99]
Meyer 2024	1.4363	0.1589	8.1%	1.44 [1.12, 1.75]
Small 2024	0.48	0.1633	8.1%	0.48 [0.16, 0.80]
Soroudi 2024	0.8297	0.4706	5.2%	0.83 [-0.09, 1.75]
Xu 2024	0.2291	0.1456	8.2%	0.23 [-0.06, 0.51]
Yonatan-Leus 2024	0.9727	0.1222	8.3%	0.97 [0.73, 1.21]
Yong 2024	2.0757	0.4105	5.8%	2.08 [1.27, 2.88]
Subtotal (95% CI)			**67.2%**	**1.03 [0.71, 1.35]**
Heterogeneity: Tau² = 0.19; Chi² = 63.72, df = 8 (P < 0.00001); I² = 87%				
Test for overall effect: Z = 6.33 (P < 0.00001)				
Total (95% CI)			**100.0%**	**0.87 [0.54, 1.20]**
Heterogeneity: Tau² = 0.33; Chi² = 385.45, df = 12 (P < 0.00001); I² = 97%				
Test for overall effect: Z = 5.14 (P < 0.00001)				
Test for subgroup differences: Chi² = 1.98, df = 1 (P = 0.16), I² = 49.4%				



Arguments against replacement

AI will never convey the essence of human empathy

nature human behaviour

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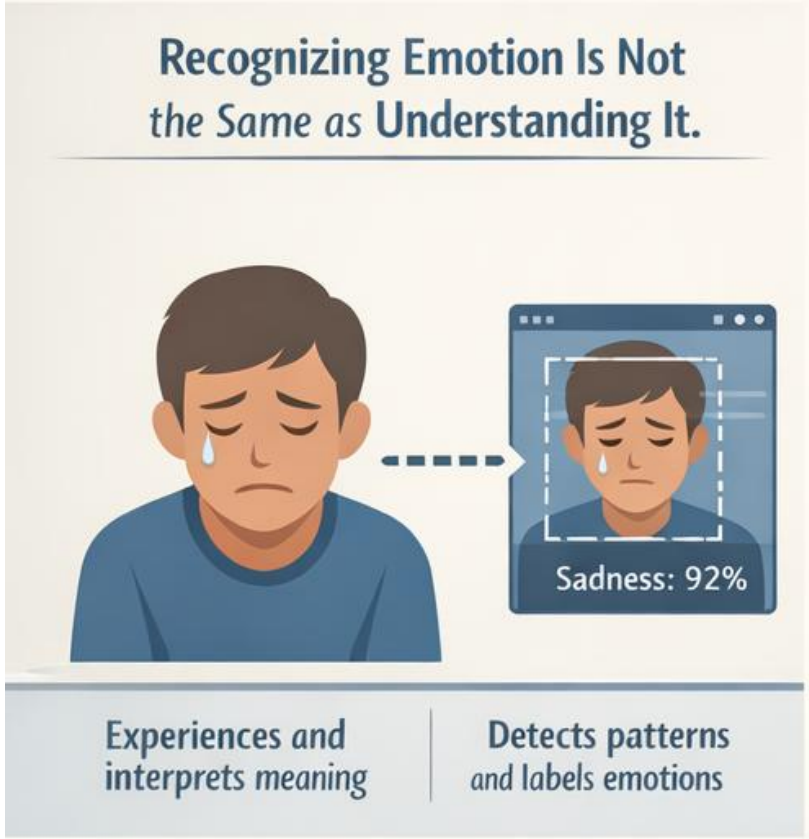
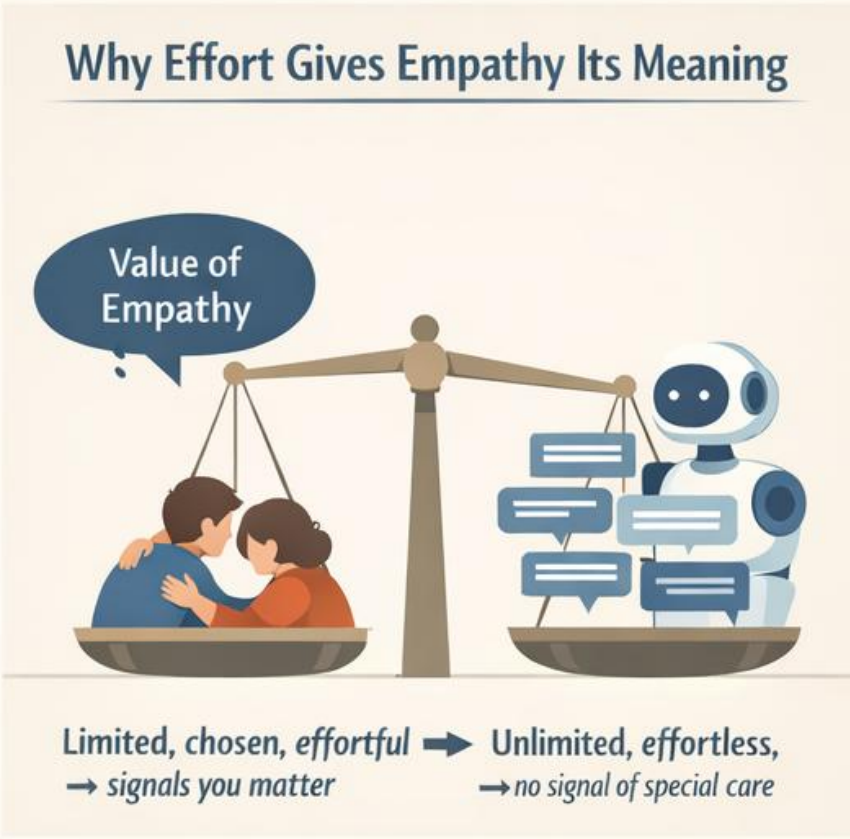
Anat Perry





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Comparing the value of perceived human versus AI-generated empathy

Matan Rubin[1], Joanna Z. Li[2,3], Federico Zimmerman[2,3], Desmond C. Ong[4], Amit Goldenberg[2,3,5] & Anat Perry[1,5]

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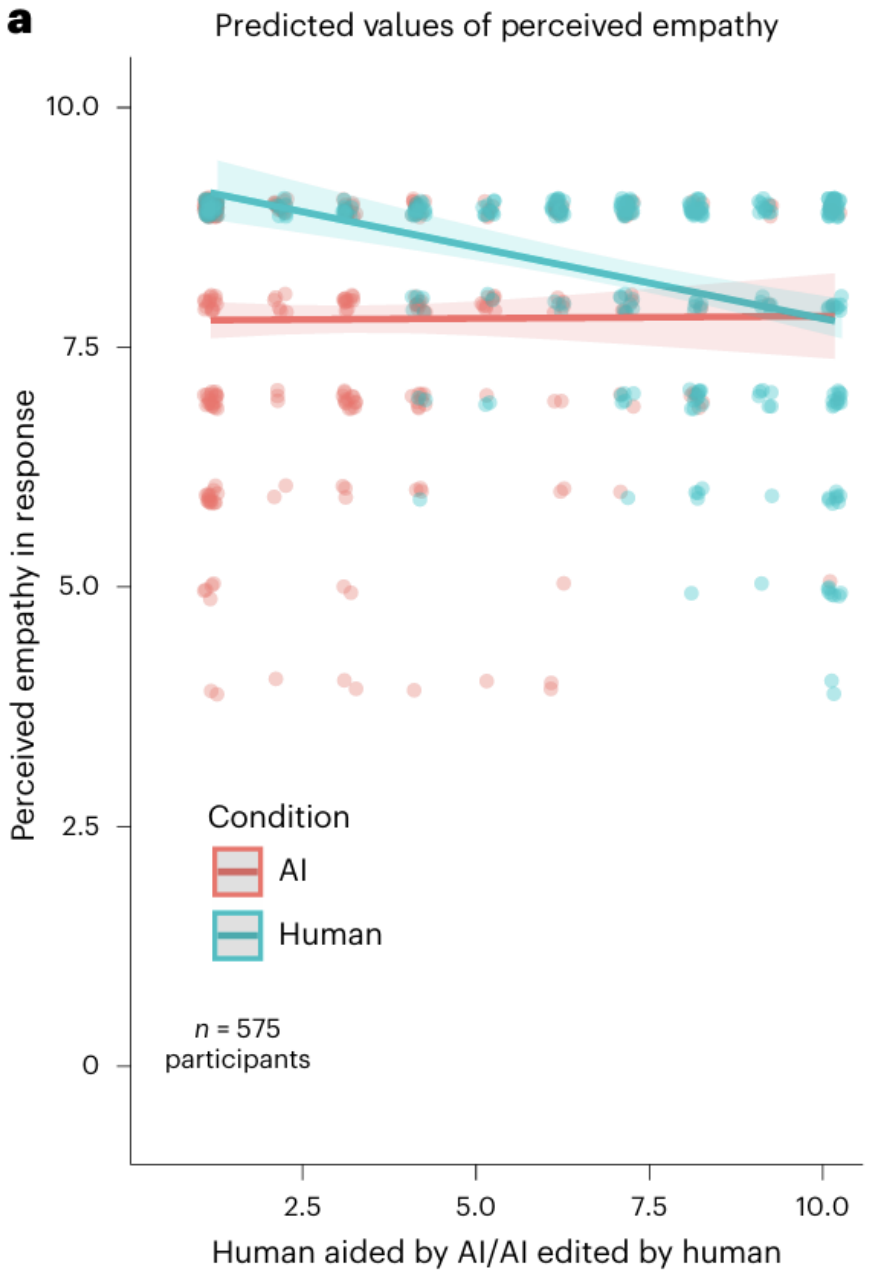

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Endoscopist deskilling risk after exposure to artificial intelligence in colonoscopy: a multicentre, observational study

Krzysztof Budzyń, MD [a,b] · Marcin Romańczyk, MD [a,b] · Diana Kitala, PhD [c] · Paweł Kołodziej, MD [d] · Marek Bugajski, MD [e] · Hans O Adami, MD [f,g] · Johannes Blom, MD [h,i] · Marek Buszkiewicz, MD [j] · Natalie Halvorsen, MD [f] · Prof Cesare Hassan, MD [k,l] · Tomasz Romańczyk, MD [a,b] · Prof Øyvind Holme, MD [m,n] · Krzysztof Jarus, MD [o] · Shona Fielding, PhD [p] · Melina Kunar, PhD [q] · Prof Maria Pellise, MD [r,s] · Nastazja Pilonis, MD [f,t,u] · Prof Michał Filip Kamiński, MD [f,v,w] · Prof Mette Kalager, MD [f] · Prof Michael Bretthauer, MD [f] · Prof Yuichi Mori, MD [f,x] Show less

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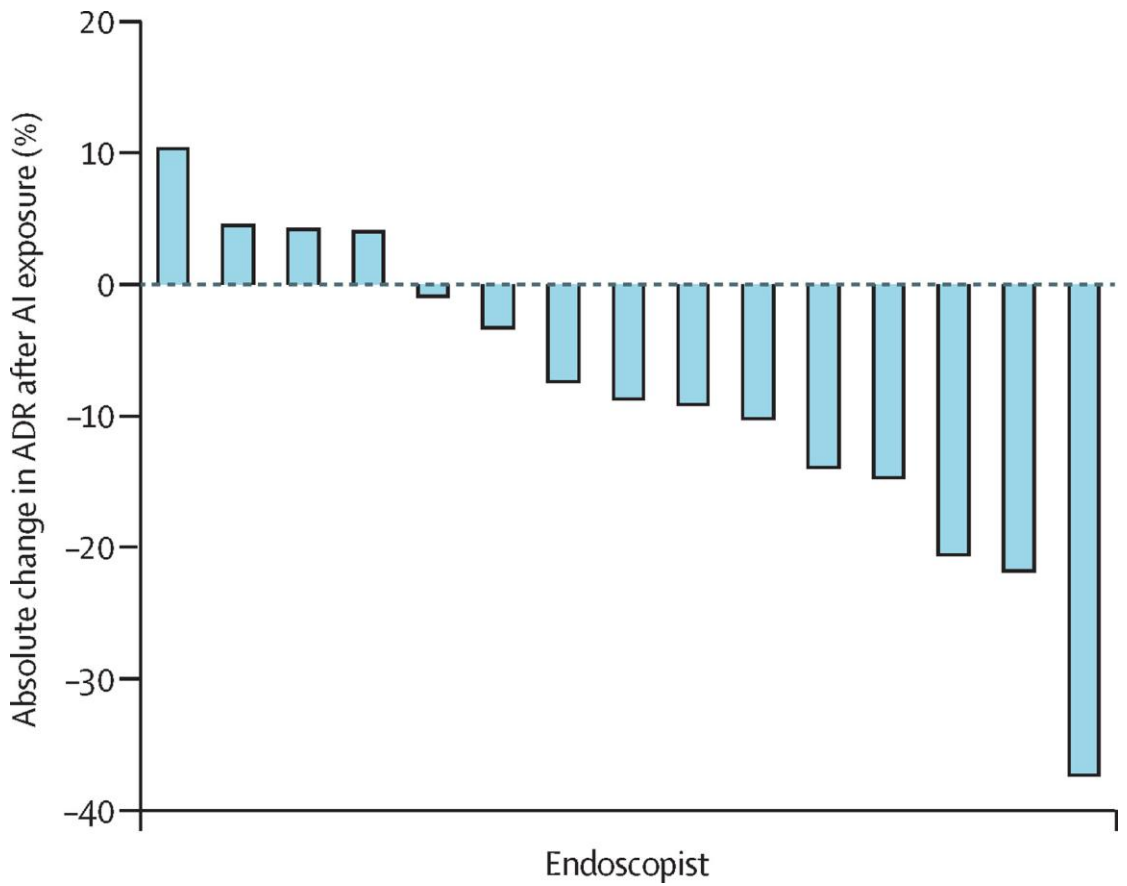

How Are Canadians Regulating Artificial Intelligence for Healthcare? A Brief Analysis of the Current Legal Directions, Challenges and Deficiencies

Sian Hsiang-Te Tsuei, MD, PhD, CCFP

HealthcarePapers 22(4) April 2025 : 44-51.doi:10.12927/hcpap.2025.27571

Regulatory Challenges

Unpredictable developments → Unpredictable use → Unpredictable evidence needs → Unclear ethical boundaries

Regulatory Paradigms

Flexible regulations

Industry “self-regulates”

Regulatory Consequences

Miss problematic AI tools

Regulatory capture

Post hoc ethical deliberations