

Using Generative AI Tools for Public Health Work

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Outline

- GenAI overview
- How GenAI integration enhances, rather than replaces, human expertise
- Relevant GenAI tools and use cases for public health work
- Capacity building for responsible deployment of GenAI tools
- Summary

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Artificial Intelligence

Is the field of study

Machine Learning

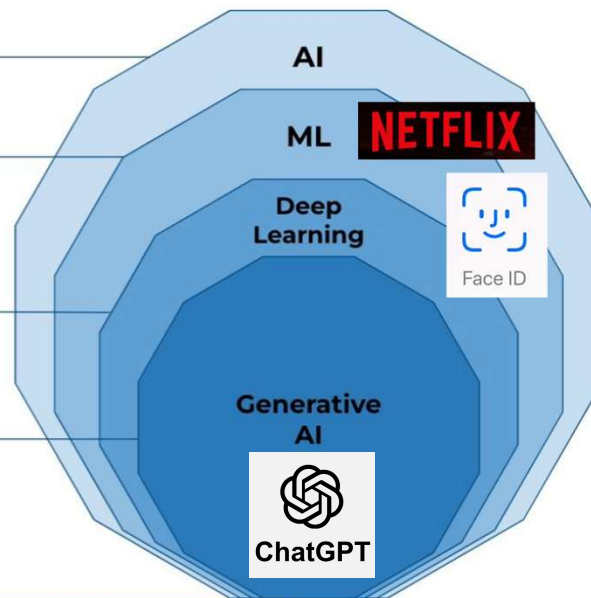
Is a branch of AI that focus on the creation of intelligent machines that learn from data. Another very well know branch inside AI is **Optimization**.

Deep Learning

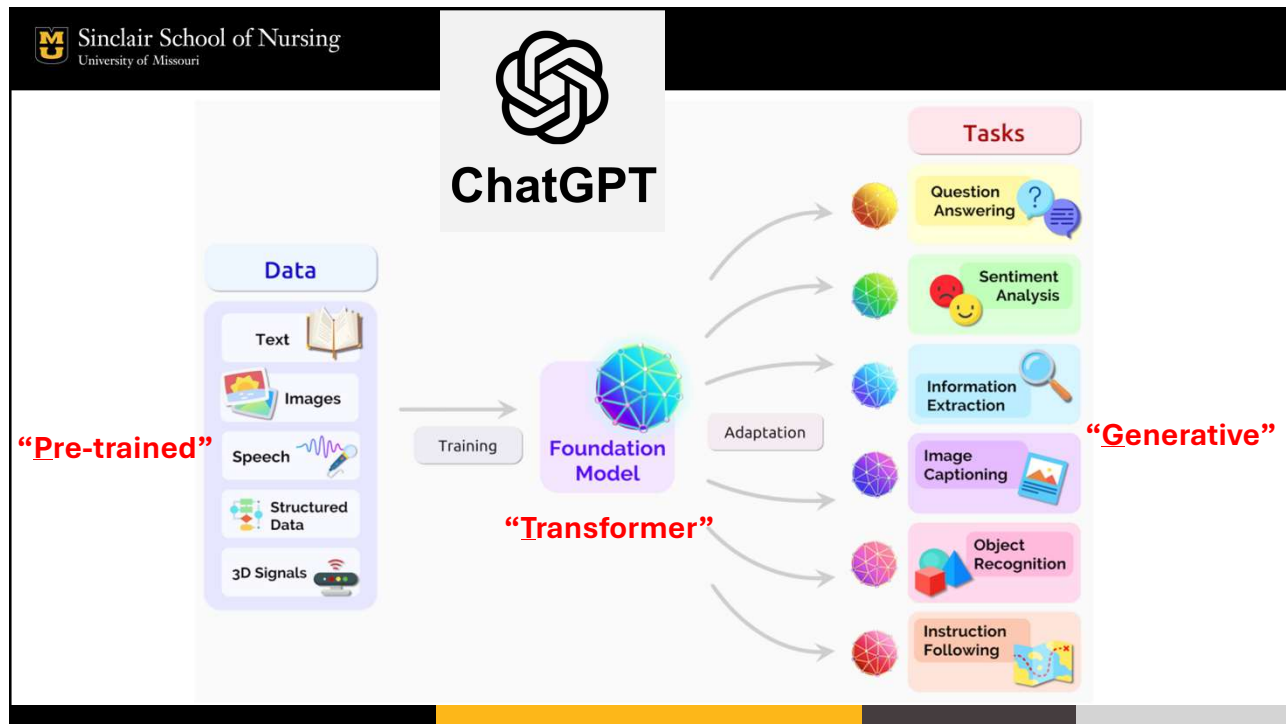
Is a subset of Machine Learning methods, based on **Artificial Neural Networks**.
Examples: CNNs, RNNs

Generative AI

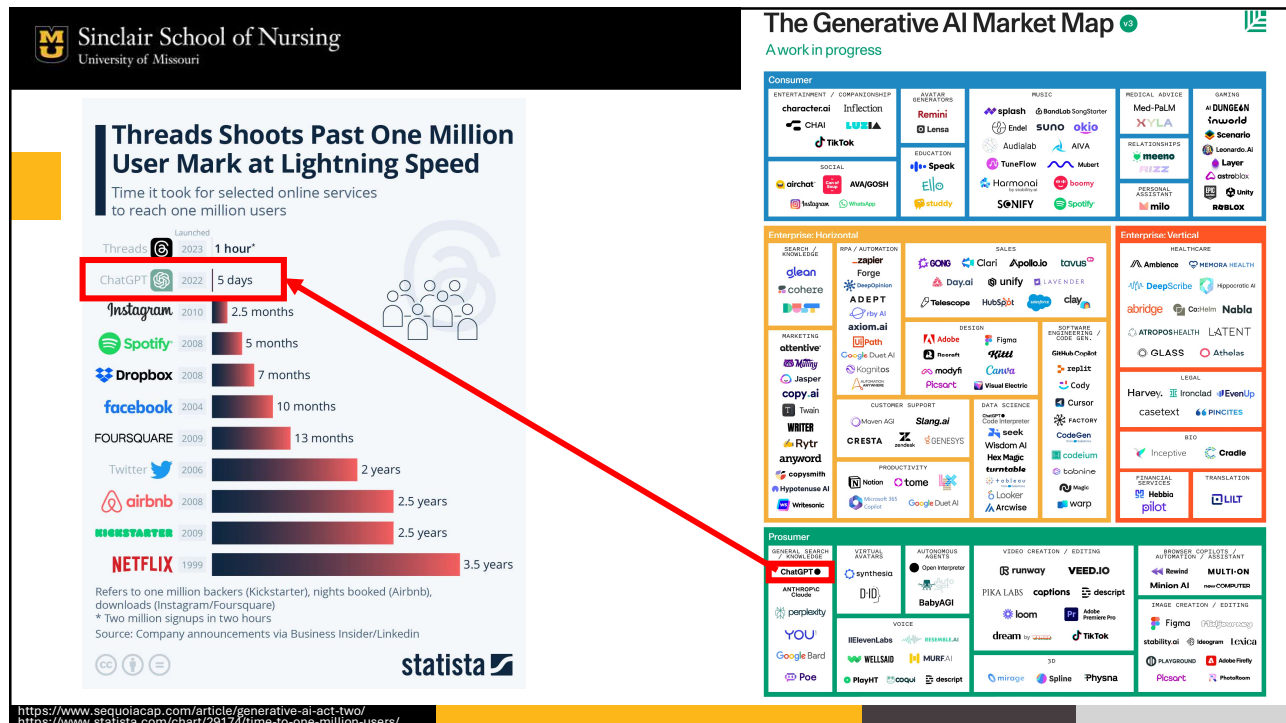
A type of ANNs that generate data that is similar to the data it was trained on.
Examples: GANs, LLMs



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PRESS RELEASE

Kaiser nurses across California to hold informational pickets protesting layoffs, wage theft, and A.I.

California Nurses Association/National Nurses United September 19, 2025



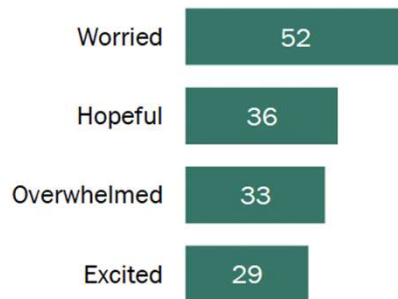
Union nurses to protest outside 22 Kaiser facilities across Golden State as they say Kaiser is putting profits and politics before patients

<https://www.nationalnursesunited.org/press/kaiser-nurses-across-ca-to-hold-informational-pickets-protesting-layoffs-wage-theft>

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Workers are more worried than hopeful about future AI use in the workplace

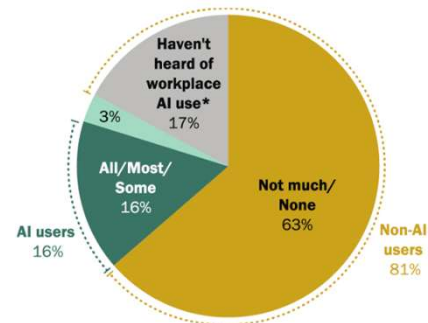
% of employed adults saying they generally feel ____ about how AI may be used in the workplace in the future



Pew Research Center (Oct 7-13, 2024 Survey)

Most workers say not much or none of their work is done with AI

% of employed adults saying ____ of their work is done with AI



<https://www.pewresearch.org/social-trends/2025/02/25/u-s-workers-are-more-worried-than-hopeful-about-future-ai-use-in-the-workplace/>

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SMALL BUSINESS

AI Is Here To Stay: How To Adapt, Thrive And Lead

By Carmen Skipworth, Forbes Councils Member.

for Forbes Business Council, COUNCIL POST | Membership (fee-based)

Published Jul 14, 2025, 07:00am EDT



Technology in Society

Volume 75, November 2023, 102372

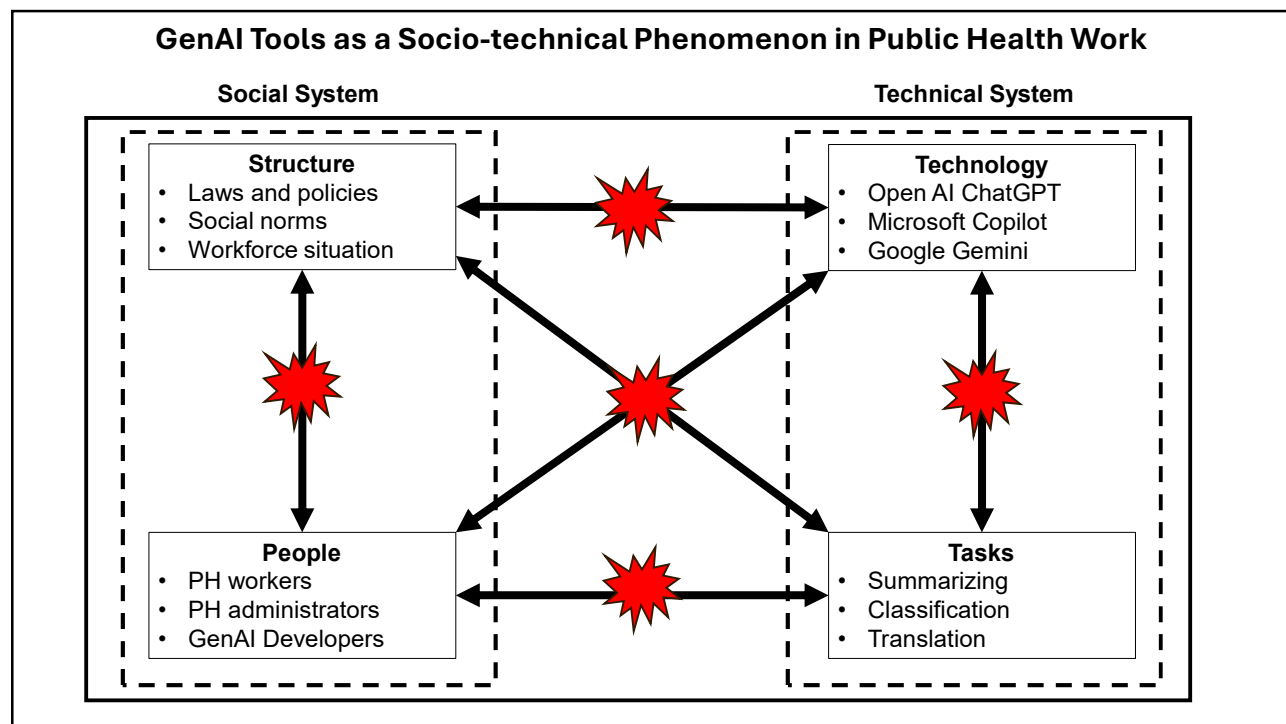


Generative AI: Here to stay, but for good?

Henrik Skaug Sætra 

<https://www.sciencedirect.com/science/article/pii/S0160791X2300177X>

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COMMENTARY | PUBLIC HEALTH

[HEALTH AFFAIRS](#) > [VOL. 43, NO. 6](#) REIMAGINING PUBLIC HEALTH
COMMENTARY

Transforming Public Health Practice With Generative Artificial Intelligence

[Monica Bharel](#), [John Auerbach](#), [Von Nguyen](#), and [Karen B. DeSalvo](#)

[AFFILIATIONS](#) ✓

PUBLISHED: JUNE 2024  [Open Access](#) <https://doi.org/10.1377/hlthaff.2024.00050>

*There is an opportunity for public health to use [GenAI] technology in ways that **support innovation** and contribute to **improved organizational systems** and processes to **improve health outcomes**.*

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create an image about AI replacing humans in work

Copilot



Here's an image illustrating the concept of AI replacing humans in the workplace. It shows a futuristic office setting where robotic and AI-powered systems are performing tasks once done by humans, with a mix of automation, digital interfaces, and a few humans observing or adapting.

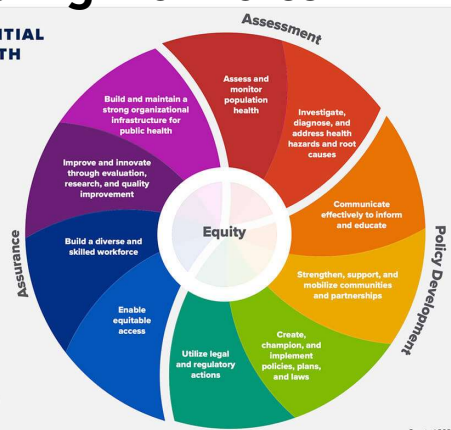
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Dwindling Workforce

THE 10 ESSENTIAL PUBLIC HEALTH SERVICES

To protect and promote the health of all people in all communities

The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve optimal health for all, the Essential Public Health Services actively promote policies, systems, and services that enable good health and seek to remove obstacles and systemic and structural barriers, such as poverty, racism, gender discrimination, and other forms of oppression, that have resulted in health inequities. Everyone should have a fair and just opportunity to achieve good health and well-being.



A lack of consistent investment in state and local governmental public health has resulted in a

15%

decrease in staffing, leaving the nation unable to provide basic public health protections.



Beaumont Foundation and the Public Health National Center for Innovations (October 2021)

<https://beaumont.org/wp-content/uploads/2021/10/Staffing-Up-FINAL.pdf>
<https://phphd.org/infrastructure/public-health-frameworks/the-10-essential-public-health-services/>

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Nature of Public Health Work



Workforce for 21st-Century Health and Health Care: A Vital Direction for Health and Health Care

Public health is **labor-intensive work**, especially in low-income and disadvantaged communities.

<https://nam.edu/perspectives/workforce-for-21st-century-health-and-health-care-a-vital-direction-for-health-and-health-care/>

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willrobotstakemyjob.com Community Health Workers



Calculated automation risk

17% (Minimal Risk)

Minimal Risk (0-20%): Occupations in this category have a low probability of being automated, as they typically demand complex problem-solving, creativity, strong interpersonal skills, and a high degree of manual dexterity. These jobs often involve intricate hand movements and precise coordination, making it difficult for machines to replicate the required tasks.

More information on what this score is, and how it is calculated is available [here](#).

Some very important qualities of the job are difficult to automate:

- Assisting and Caring for Others
- Social Perceptiveness

Some quite important qualities of the job are difficult to automate:

- Persuasion
- Finger Dexterity
- Negotiation
- Originality

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Accuracy

Hallucinations: Why AI Makes Stuff Up, and What's Being Done About It

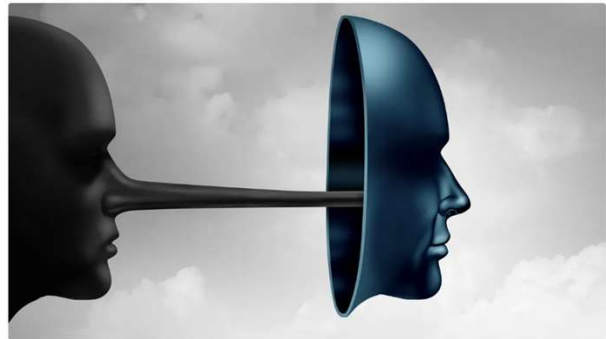
There's an important distinction between using AI to generate content and to answer questions.



Lisa Lacy

April 1, 2024 5:00 a.m. PT

8 min read

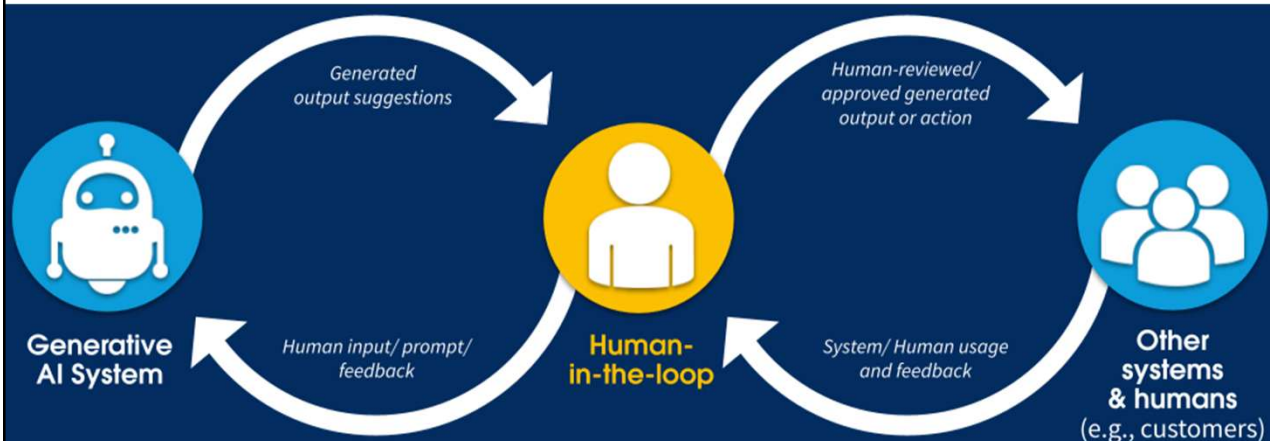


wildpixel/Stock via Getty Images

<https://www.cnet.com/tech/hallucinations-why-ai-makes-stuff-up-and-whats-being-done-about-it/>

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GenAI is a "tool" to enhance Public Health work



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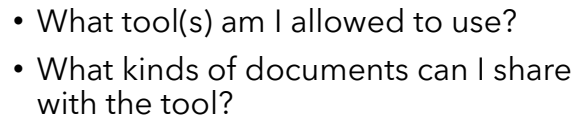
July 2025 survey of 1,000 AI users (Exploding Topics)

Which AI tools or platforms do you use for work tasks?



<https://explodingtopics.com/blog/ai-workforce-research>

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<https://www.rapidops.com/blog/generative-ai-tools/>

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1. ChatGPT	chatgpt.com
2. Microsoft Copilot	copilot.microsoft.com
3. Google Gemini	gemini.google.com
4. Perplexity	perplexity.ai
5. Grok	grok.com/?referrer=website
6. Meta AI	meta.ai
7. Duck	duck.ai
8. DeepAI	deepai.org/chat
9. DeepSeek	deepseekv3.org/deepseek-chat-online

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Basic prompting

- "Prompt engineering"
- Clear instructions → Optimal outputs
- Frameworks (U of Missouri, 2024; Wichita State U, 2025)
 - RFTC Role, Format, Task, Constraints
 - APE Action, Purpose, Expectation
 - GOAT Goal, Output, Audience, Tone
 - RAGE Role, Audience, Goal, Execution
 - CREATE Context, Role, Example, Action, Tone, Expectation

give me jokes to lighten the mood

Absolutely! Let's sprinkle some humor into your day 😊
Here's a mix of clever, silly, and punny jokes to lift the
vibe:

Smart & Snappy

- Why don't scientists trust atoms?
Because they make up everything.
- Parallel lines have so much in common...
It's a shame they'll never meet.

<https://umsystem.pressbooks.pub/aicookbook/front-matter/getting-started-with-prompting/>

<https://kshcollaborative.org/wp-content/uploads/2025/07/07-2025-Prompt-Engineering-Frameworks-Create-Role.pdf>

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Use Case 1: Developing a training outline

Framework

CREATE Context, Role, Example, Action, Tone, Expectation

Prompt

We are developing a short, realistic scenario for a tabletop exercise focused on a localized measles outbreak. The setting is Alexandria, Minnesota, a small city with a population of about 15,000 and a large number of summer tourists. **Act as a public health preparedness planner.** For example, the outbreak may begin with a single unvaccinated child returning from international travel and spreading the virus in a daycare setting. **Write a brief scenario summary (4–6 sentences) describing how the outbreak begins and spreads over the first week. Use a professional tone, appropriate for inclusion in a public health exercise document.** The output should be a short, coherent scenario paragraph suitable for a TTX Situation Manual (SitMan).

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Use Case 2: Developing campaign materials

Framework

RAGE Role, Audience, Goal, Execution

Prompt

You are a communications specialist at a local health department. Your audience is high school students. Your goal is to reduce stigma and encourage teens to seek mental health support. Write three short, punchy taglines that could be used on posters or social media.

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Use Case 3: Tailoring health information

Framework

RFTC Role, Format, Task, Constraints

Prompt

Assume the role of a community health worker in a rural county in Missouri. Create a bulleted 100-word information sheet for parents about the importance of having a flu vaccine in Fall 2025. Ensure that the text is at a 5th-grade reading level.

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Use Case 4: Summarizing content

Framework

GOAT Goal, **Output**, **Audience**, **Tone**

Prompt

Please provide a summary of the "2024 Missouri State Health Assessment Report." **Ensure that it is within 300 words and use bullet points for the most important insights.** **The summary should be prepared for community members in Missouri.** **Use a casual tone.**

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Is there a reputational cost for using GenAI tools?

[Home](#) | [JAMA Network Open](#) | Vol. 8, No. 7

Research Letter | Health Informatics

Public Perception of Physicians Who Use Artificial Intelligence

Moritz Reis, MSc^{1,2}; Florian Reis, MD³; Wilfried Kunde, PhD¹

[nature](#) > [npj digital medicine](#) > [articles](#) > [article](#)

Article | [Open access](#) | Published: 18 August 2025

Peer perceptions of clinicians using generative AI in medical decision-making

[Haiyang Yang](#), [Tinglong Dai](#) , [Nestoras Mathioudakis](#), [Amy M. Knight](#), [Yuna Nakayasu](#) & [Risa M. Wolf](#) 

- Less competent
- Less trustworthy
- Less willing to schedule an appointment

- Less clinically skilled
- Less competent
- Delivering a lower quality healthcare experience

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2836557>
<https://doi.org/10.1001/jama.2025.15017>

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Perspective | [Open access](#) | Published: 21 May 2025

A framework for considering the use of generative AI for health

Isabella Joy de Vere Hunt, Kang-Xing Jin & Eleni Linos [✉](#)

npj Digital Medicine 8. Article number: 297 (2025) | [Cite this article](#)

6305 Accesses | 1 Citations | 5 Altmetric | [Metrics](#)

Key Risks

Model-based risks

Limitations of training data

Digital divide & lack of basic health infrastructure

Reflecting societal biases & problems

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December 2024

Summary of Recommendations

WORK GROUP	RECOMMENDATION
Policy Workgroup "Promote Policy Models"	1. Establish your county's policy framework for GenAI 2. Review key legal considerations 3. Review and assess existing procurement policies
Ethics Workgroup "Establish an Ethical Framework"	1. Fairness, Equitableness, and Impartiality – ensure the development, deployment, use and impact of GenAI is fair and impartial 2. Transparency – utilize GenAI in an open and explainable fashion, while practicing responsible disclosures 3. Privacy – follow applicable local, state and federal policy guidelines 4. Accountability – assess impact, remediate risk, create an audit trail and validate results 5. Train and educate employees on the "why" along with guidance on best practices
Applications Workgroup "Enable Responsible Applications"	1. Review and evaluate potential use cases based on description and sensitivity 2. Familiarize yourself with federal resources on the application of artificial intelligence tools, including the National Institute of Standards and Technology (NIST) as well as Information Technology Infrastructure Library (ITIL) standards 3. Regularly assess the current landscape of publicly available resources 4. Practice robust data governance and management 5. Update and expand the county's cybersecurity measures 6. Design procedures to train data used in GenAI models 7. Determine software, hardware and procurement minimum standards and needs
Workforce Workgroup "Prepare the Workforce"	1. Focus on skills development, training and capacity building 2. Consider skills acquisition options that best fit your county needs 3. Develop a multi-year workforce strategy 4. Inform and seek feedback from unions, skilled trades and the broader workforce

AI County Compass
A Comprehensive Toolkit for Local Governance and Implementation of Artificial Intelligence

https://www.naco.org/sites/default/files/2024-12/NACo%20AI%20County%20Compass_update_7_FINAL_120524_0.pdf

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NACo.
NATIONAL ASSOCIATION OF COUNTIES
December 2024



AI County Compass
A Comprehensive Toolkit for Local Governance and Implementation of Artificial Intelligence

“Everyone wants GenAI, but not everyone understands the technology. Education is essential.”

“You can get staff trained on GenAI, but it may take time for some.”

“Experiences are going to vary across the counties and with individuals.”

https://www.naco.org/sites/default/files/2024-12/NACo%20AI%20County%20Compass_update_7_FINAL_120524_6.pdf

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Home » American Journal of Public Health (AJPH) » February 2025

The Way Forward to Embrace Artificial Intelligence in Public Health

Georges Hattab PhD, Habil, Christopher Irrgang PhD, Nils Körber PhD, Denise Kühnert PhD, and Katharina Ladewig PhD

BOX 1— Validation Board to Help Stakeholders Navigate Through a Plan to Promote Artificial Intelligence (AI) Readiness in Public Health With Transparency

Steps	1. Promoting Transparency in AI Adoption	2. Advocating for High-Quality, Unbiased Data	3. Implementing Standards and Dual-Use Controls	4. Enhancing AI Reliability With Human Feedback	5. Building Robust Infrastructure for AI Model Training and Testing
1st key point	Health care professionals must try to understand how AI decisions are made to gain trust and acceptance.	Quality data are crucial for accurate predictions and equitable management of public health challenges.	Dual-use implications of AI require controls to limit misuse and ensure safe applications.	Human oversight ensures ethical, fair, and accountable decisions in AI applications.	Robust AI infrastructure is essential for effective implementation of AI solutions in public health.
2nd key point	Collaboration between AI developers and health experts enhances solution effectiveness.	Addressing data bias is essential to prevent skewed outcomes affecting specific populations.	Standards for dual-use controls prevent harmful uses and promote positive outcomes.	Integrating human expertise supports trust and reliability in AI-driven public health initiatives.	Adequate infrastructure includes technical components and organizational capacity.

<https://ajph.aphapublications.org/doi/epdf/10.2105/AJPH.2024.307888>

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THE WHITE HOUSE

Winning the Race

AMERICA'S AI ACTION PLAN

JULY 2025

<https://www.whitehouse.gov/wp-content/uploads/2025/07/Americas-AI-Action-Plan.pdf>

Empower American Workers in the Age of AI (p.6)

...to expand *AI literacy and skills development*, continuously evaluate AI's impact on the labor market, and pilot new innovations to rapidly retrain and *help workers thrive* in an AI-driven economy



CURRENT NEWS ▾ SHOW ME TODAY STATE AGENCY PRESS

MISSOURI LOOKS TO 'UPSKILL' ITS WORKFORCE AS ARTIFICIAL INTELLIGENCE GROWS

by Anthony Morabith | Oct 7, 2024

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Summary

- GenAI is here to stay, and try using it
- GenAI can enhance how we do public health work
- Could vs Should
- GenAI capacity building is greatly needed (my research focus)

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