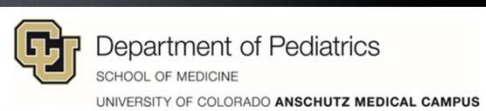


Trust and Engagement in the AI ERA: Advancing Family-Centered Care Through Responsible Innovation

JAMES S BARRY MD, MBA



Professor of Pediatrics, Section of Neonatology
University of Colorado School of Medicine,



**FCC TASKFORCE
WEBINAR**

March 12, 2026 | 11:00AM - 12:30PM PT



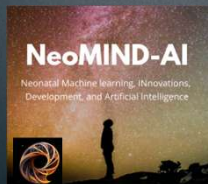
Disclosures

-I have no financial disclosures directly related to this talk.

-I may mention different companies or products during this talk, but they are being used as examples and are not being endorsed by me and I have no financial relationship with any of them

-I am on the AI Advisory Board for Healio Inc.

-I am Co-Founder and President of NeoMINDAI





AI Disclosure Slide

~50% of the figures in this talk have been created using generative AI tools from OpenAI (Dalle 3), Gemini (NanoBanana), and Napkin AI

-Various topic discussions have been supported using Notebook LM

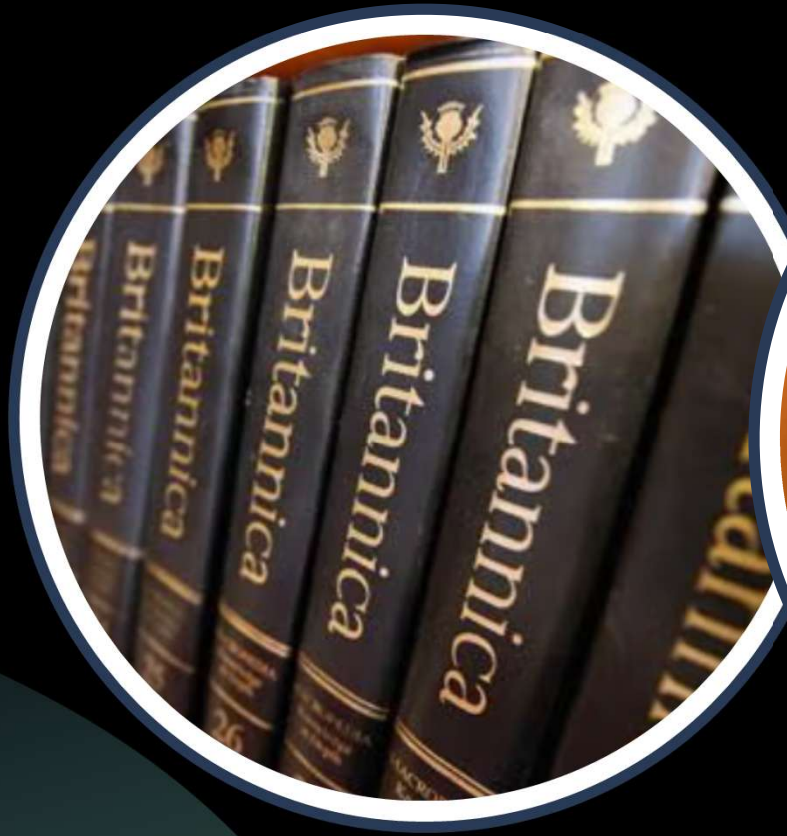
-All Presentation is from me



Outline

- Artificial Intelligence- Today
- Artificial Intelligence- What Is It?
- Artificial Intelligence- For Families
- Artificial Intelligence- Issues

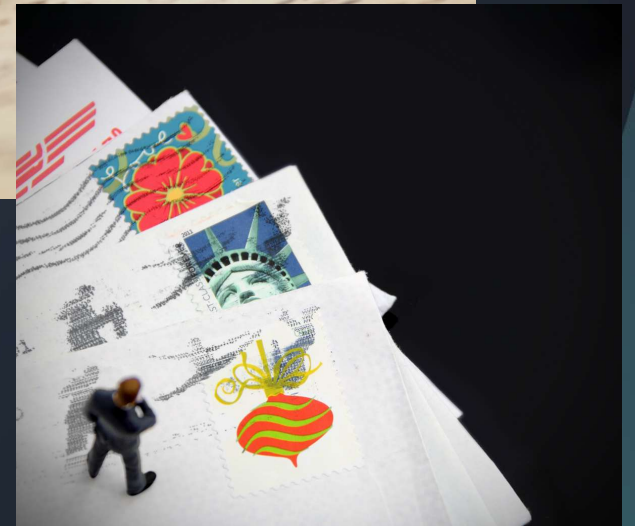
I Only Use the Encyclopedia and Books to Learn



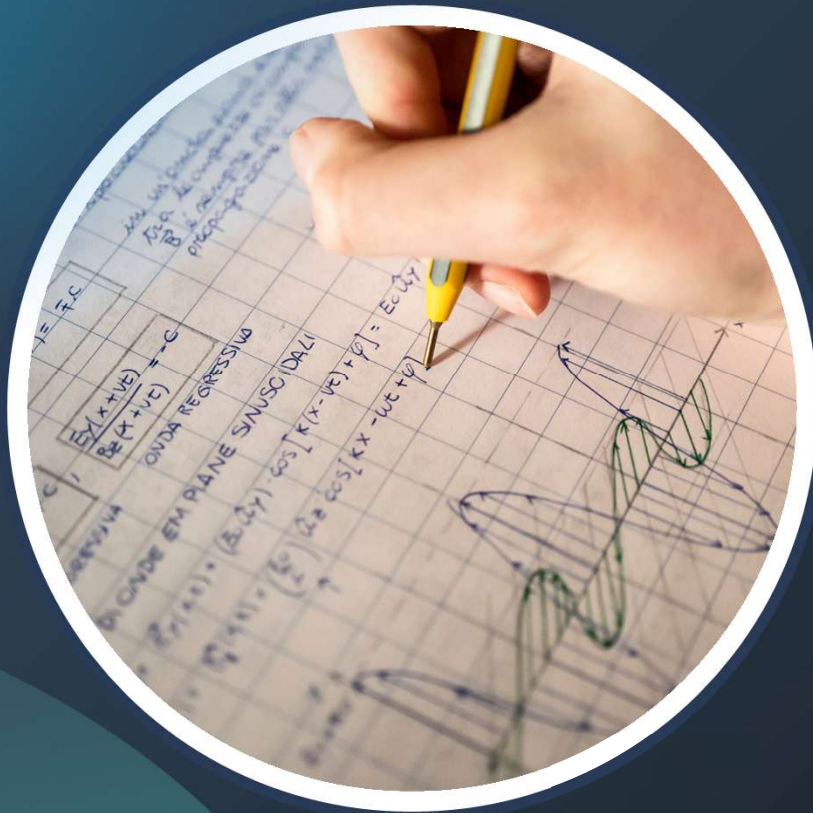
I only use a rotary phone to call my son in DC



I Use The US Postal Service to Communicate With My Mom In Florida



I Only Solve Math Problems By Hand



$$\begin{array}{r} 691 \\ 389 \times \\ \hline 6219 \\ 55280 \\ 207300 \\ \hline 268799 \end{array}$$

I Only Use A Stethoscope To Detect Congenital Heart Disease



Do You Do This as Well?



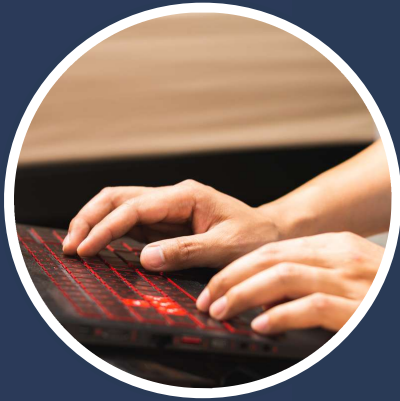
I DON'T,

And Neither Do YOU,
It is No Longer 1989



I DON'T,

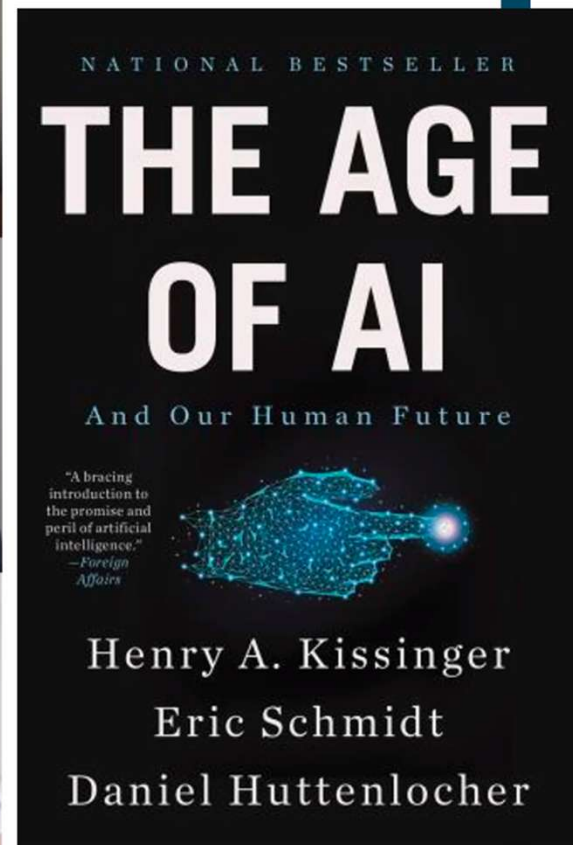
And Neither Do YOU,
It is No Longer 1989



Published 2021

Artificial Intelligence

“...the technology is changing human thought, knowledge, perception, and reality--- and in doing so, is changing the course of human history”



AI is a Disruptive Technology

Much Like:



Light bulb

Changed Lighting

Candle



Model T Ford

Changed Travel

Horses

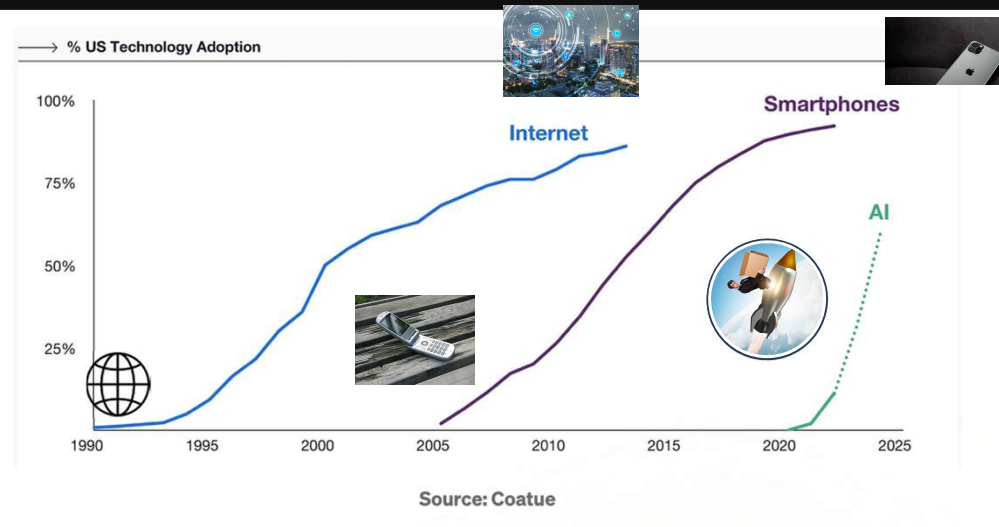


Artificial Intelligence **Changed?**

Healthcare



Disruptive Technologies in Our Lifetime



Evolution of artificial intelligence in healthcare: a 30-year bibliometric study

frontiers | Frontiers in Medicine

TYPE Systematic Review
PUBLISHED 15 January 2025
DOI 10.3389/fmed.2024.1505692

Yaojue Xie¹, Yuansheng Zhai^{2,3*} and Guihua Lu^{2,3*}

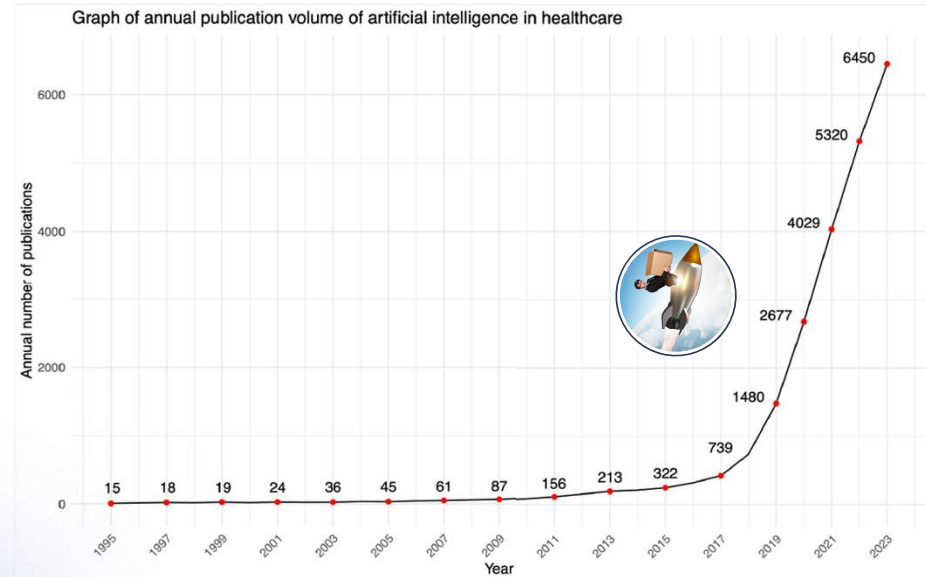


FIGURE 1
Annual publication volume of artificial intelligence in healthcare.

Recent News

April 2025

Bill Gates Says AI Will Replace Doctors, Teachers and More in Next 10 Years, Making Humans Unnecessary 'for Most Things'

"So I love the way it'll drive innovation forward, but I think it's a little bit unknown," the billionaire said of artificial intelligence

By [Bailey Richards](#) | Published on March 29, 2025 02:10PM EDT



July 2025

August 2025



Recent News

April 22, 2025

THE ECONOMIC TIMES | tech

English Edition | Today's ePaper

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Web Stories | IT | Tech & Internet | Funding | Startups | Tech Bytes | Newsletters | Blogs & Opinion | Soonicorns & Unicorns

Business News > Tech > AI > AI can be 'end of disease' within next decade, says Google DeepMind CEO Demis Hassabis

Pahalgam Terror Attack > 26 killed in Kashmir's deadliest attack in years; Amit Shah holds meet with high-level...

Powered by **Lenovo**

AI can be 'end of disease' within next decade, says Google DeepMind CEO Demis Hassabis

Tech • Last Updated: Apr 22, 2025, 01:35:00 PM IST

FOLLOW US | SHARE | FONT SIZE | SAVE | PRINT | COMMENT



THE NEW YORKER 100

SEPTEMBER 22, 2025

BRAVE NEW WORLD DEPT.

IF A.I. CAN DIAGNOSE PATIENTS, WHAT ARE DOCTORS FOR?

*Large language models are transforming medicine—but the
technology comes with side effects.*

By Dhruv Khullar

September 22, 2025

Times Are Changing



Hi, I'm Doctronic

I'm your private and personal AI doctor.

As an AI doctor, my service is fast and free. I've already helped people **20,229,735** times!

After we chat, if you want you can have a video visit with a top doctor for only **\$39**.

What can I help you with today?

Get health advice...

Utah AI Prescription Refill Program January 2026

Routine Refills, Reimagined

Missed medications are one of the largest drivers of preventable health outcomes in the country, responsible for over \$100 billion in avoidable medical spending every year. And one of the most common reasons people miss doses? They simply can't get a refill in time.

Doctronic's Utah AI Prescription Refill Program was built to fix that.

Get Started ↗



that got malpractice

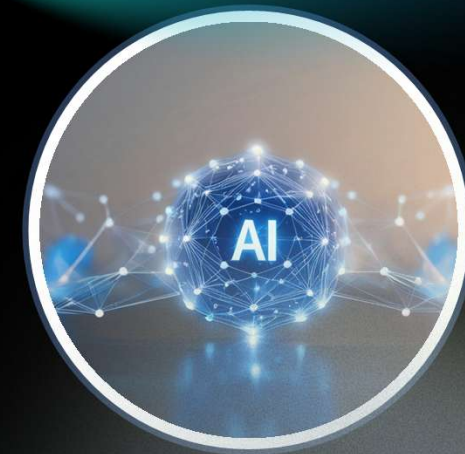
Times Are Changing

January 7,
2026

January 7, 2026 Product Company

Introducing ChatGPT Health

A dedicated experience in ChatGPT designed for health and wellness.



**Anthropic Launches Claude AI for Healthcare with Secure Health Record
Access**

January 12, 2026

👤 Ravie Lakshmanan 📅 Jan 12, 2026

Artificial Intelligence / Healthcare

ChatGPT Use

AI as a Healthcare Ally

How Americans are navigating the system with ChatGPT

January 2026

Filling a GAP?

OpenAI



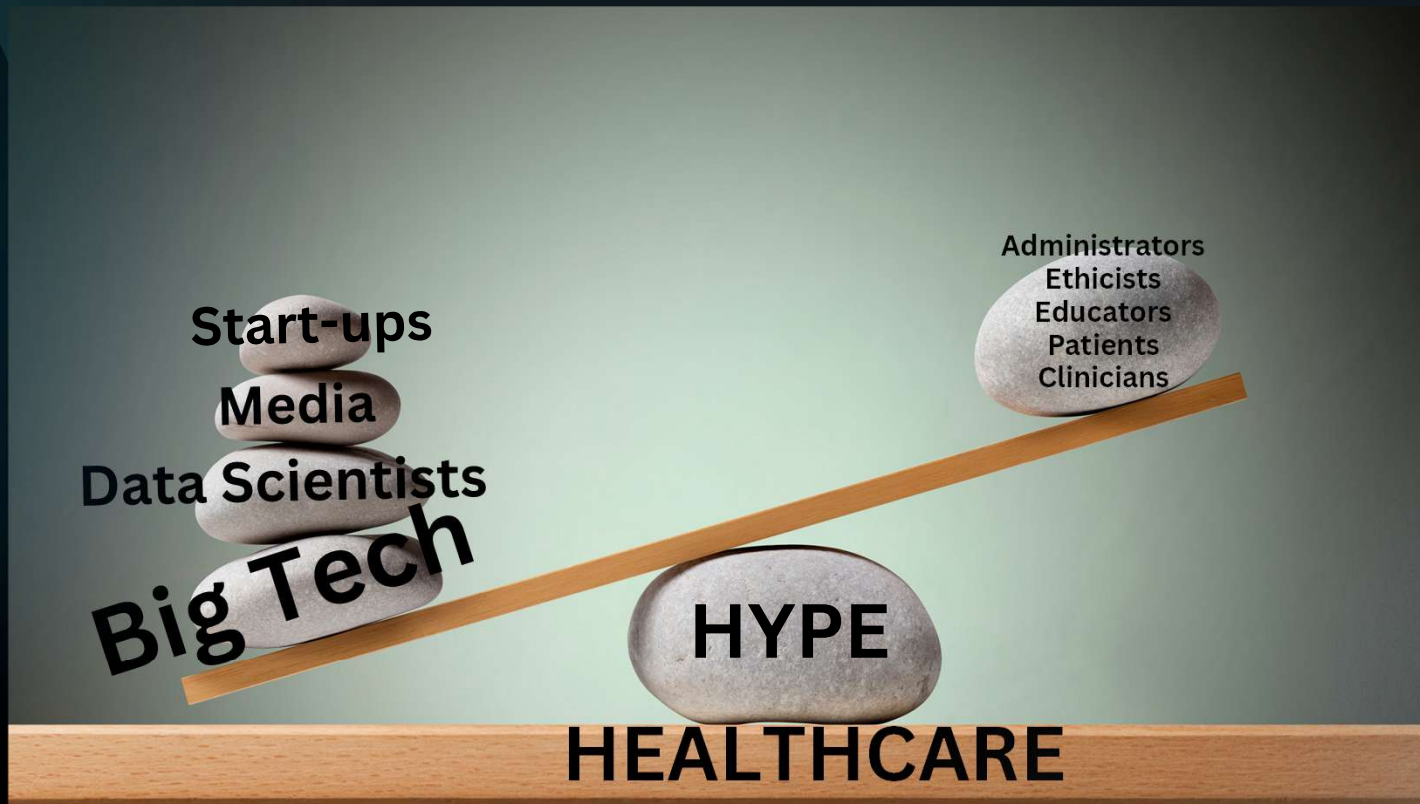
-2 million queries about healthcare insurance on a weekly basis

-3 in 5 adults report using AI for healthcare questions in the last 3 months

-7 in 10 healthcare related queries are occurring after clinic hours

-600,000 users in rural or underserved areas use AI models for healthcare queries weekly

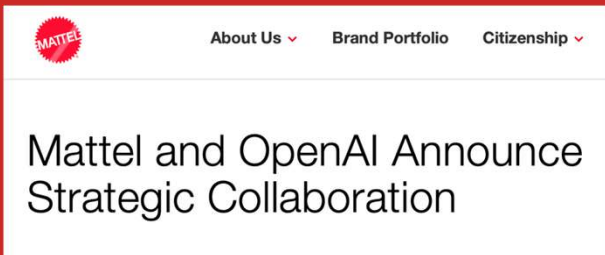
AI Hype Imbalance



For Us Pediatricians

Sam Altman, CEO OPENAI, ChatGPT

June 12, 2025

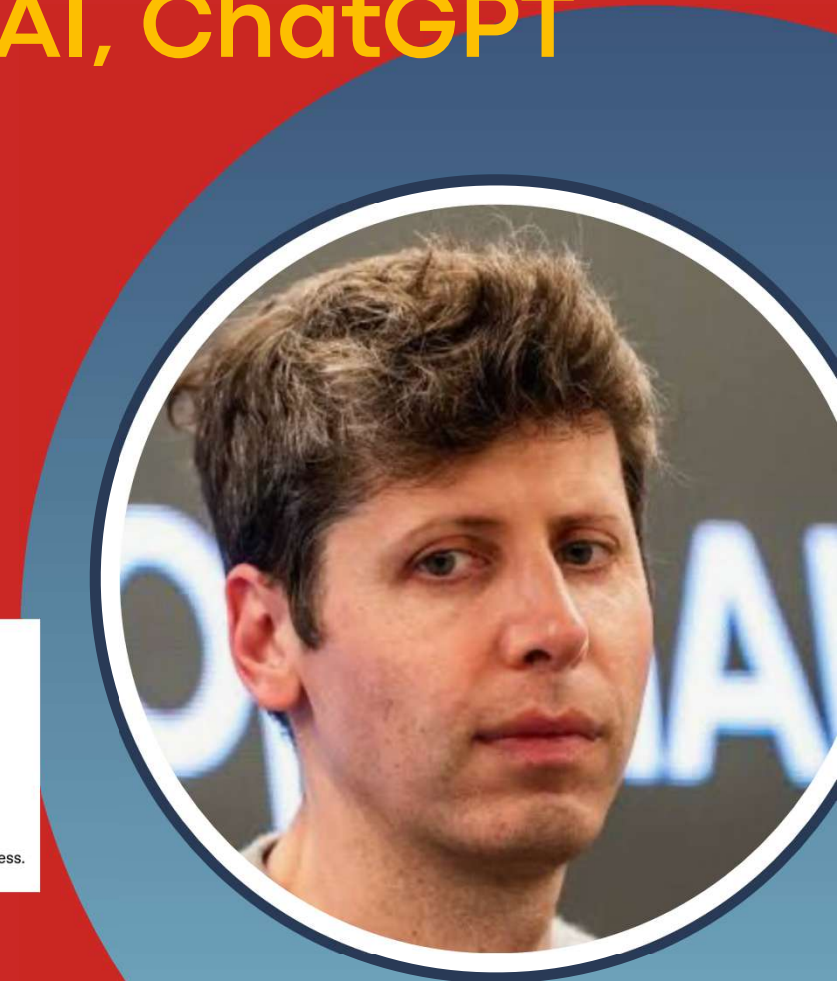


What Could Possibly Go Wrong Here?

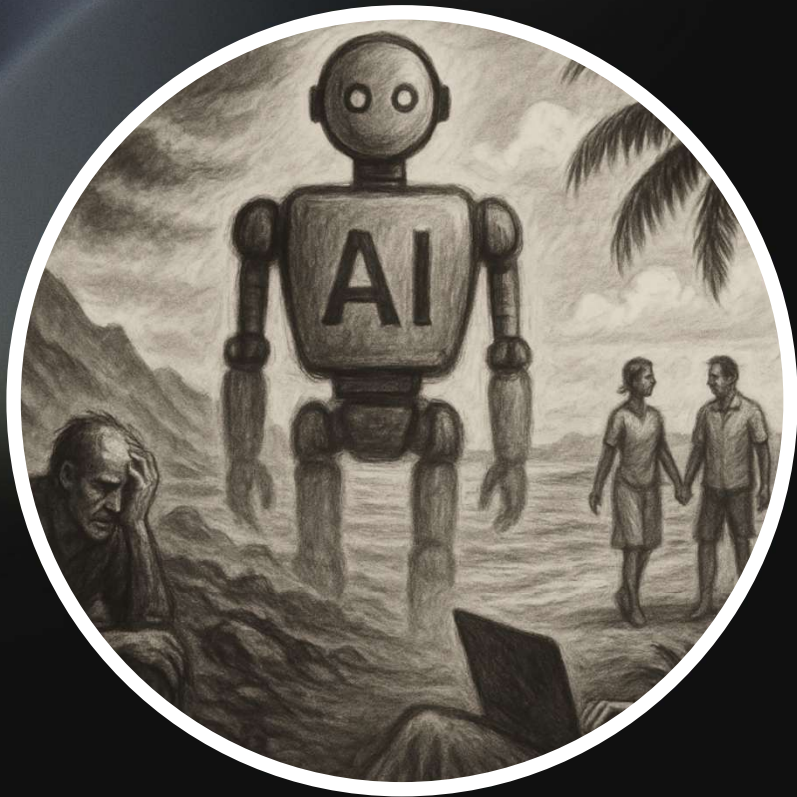
Dec 11, 2025



Jan 7, 2026



Times Are Changing



They Will Be Different
Tomorrow

I/We Owe it to Our
Patients and Families to
Be Involved

LLMs Now Do Not Say Consult Your Doctor

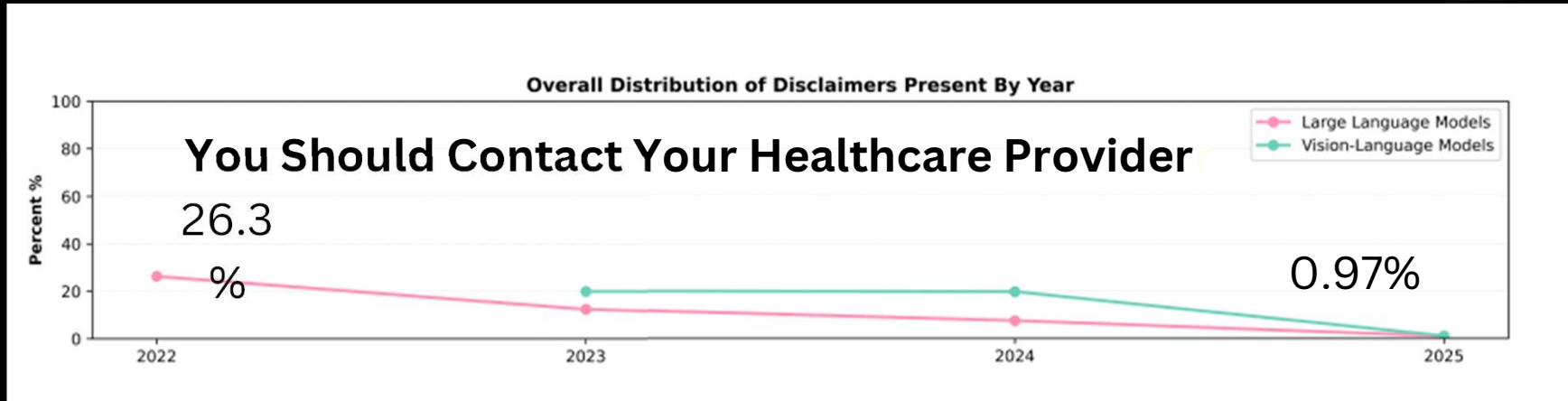
A Systematic Analysis of Declining Medical Safety Messaging in Generative AI Models

Sonali Sharma

Ahmed M. Alaa

Roxana Daneshioui

arXiv:2507.08030v1 [cs.CL] 8 Jul 2025



Response to Asking a Healthcare Question to LLMs

ChatGPT and Health

Brief Communication | Published: 23 February 2026

ChatGPT Health performance in a structured test of triage recommendations nature medicine

[Ashwin Ramaswamy](#) , [Alvira Tyagi](#), [Hannah Hugo](#), [Joy Jiang](#), [Pushkala Jayaraman](#), [Mateen Jangda](#),

Background: ChatGPT Health has a consumer-facing feature designed to “recommend how urgently to encourage follow-ups with a clinician” and provide health guidance directly to the public.

Evaluation: ChatGPT triage recommendations for 60 clinician-authored vignettes across 21 clinical domains.

Responses: A (**non-urgent**, “monitor at home”), B (**semi-urgent**, “see a doctor within weeks”) C (**urgent**, “see a doctor within 24–48hours”), D (**emergency**, “go to the emergency department”).

ChatGPT and Health

Brief Communication | Published: 23 February 2026

ChatGPT Health performance in a structured test of triage recommendations

nature medicine

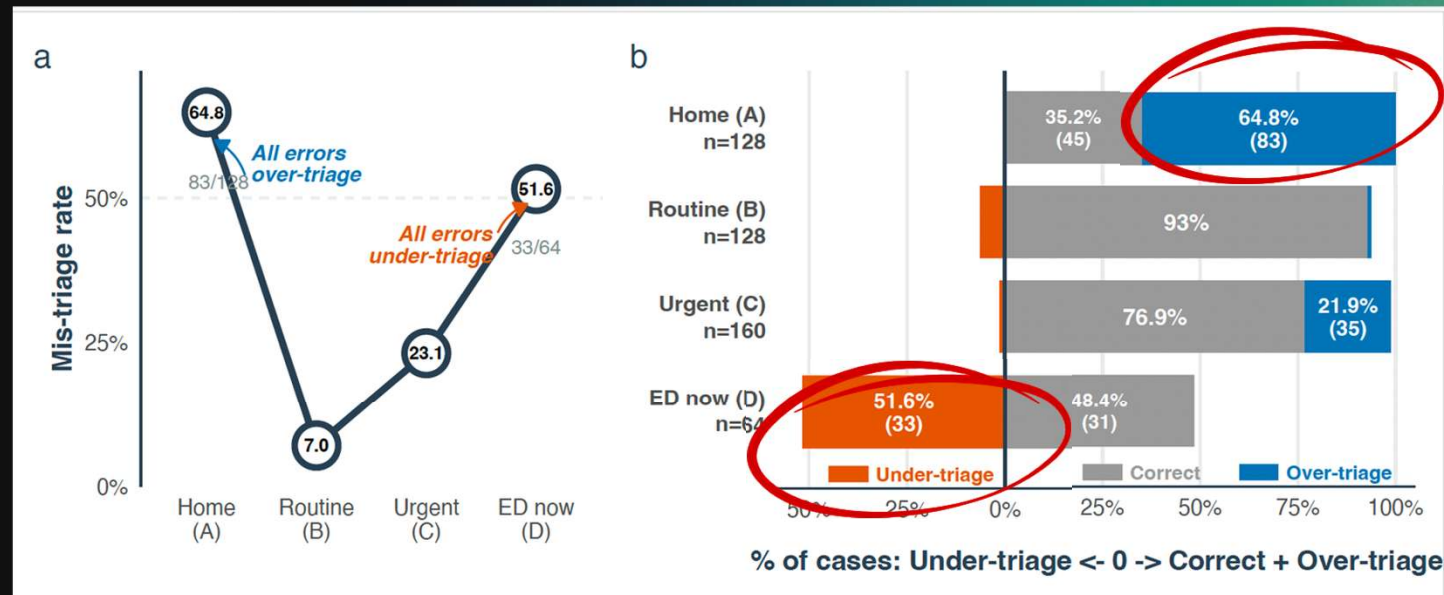
[Ashwin Ramaswamy](#) , [Alvira Tyagi](#), [Hannah Hugo](#), [Joy Jiang](#), [Pushkala Jayaraman](#), [Mateen Jangda](#),

-93% accuracy for semi-urgent

-76.9% accuracy for urgent

-35% accuracy for non-urgent

-48% accuracy for emergencies



ChatGPT



November

2022

5 days to reach 1 million online users

2 months to reach 100 million online users

2.5 billion messages per day

900 million online users weekly

AI Is NOT, Just ChatGPT



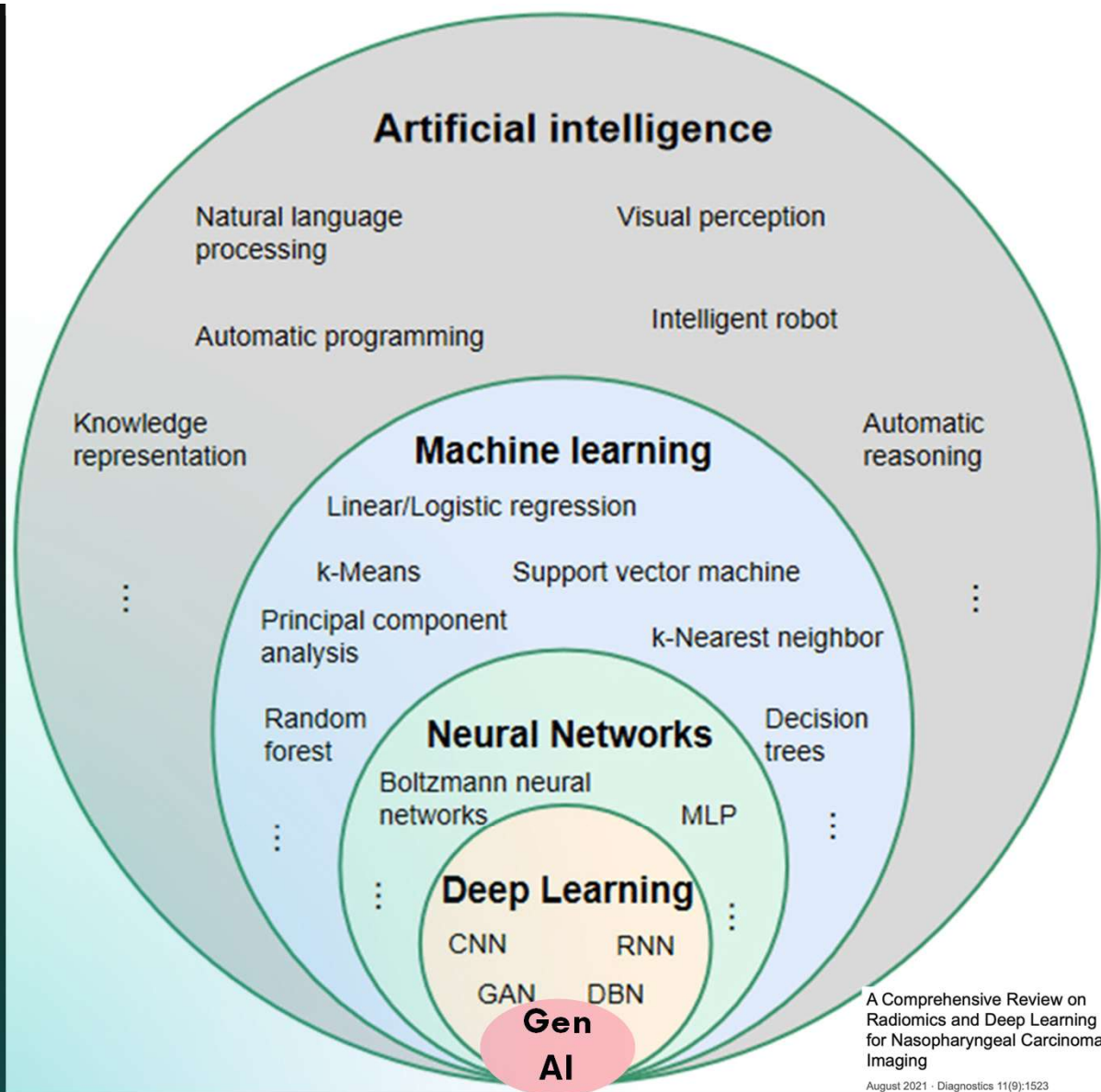
We Need to Be Much More Precise



**“AI Will Fix That” or
“Let’s Use AI For...”**

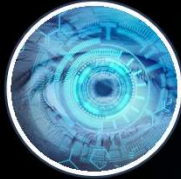
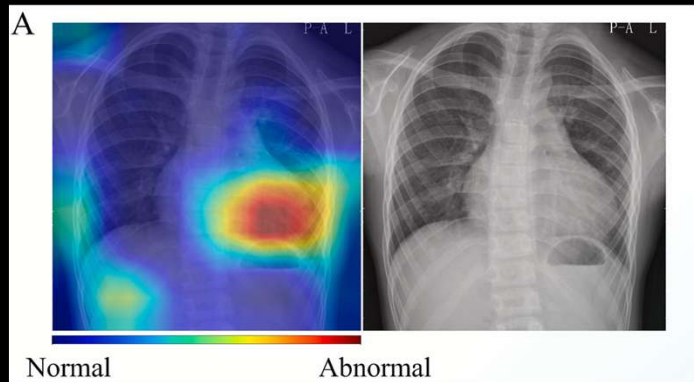
AI is NOT Magic

AI is NOT Singular



A Comprehensive Review on Radiomics and Deep Learning for Nasopharyngeal Carcinoma Imaging

We Need to Be Much More Precise



“We will use a deep learning model to assist in diagnosing CHD from a CXR”

Artificial intelligence-assisted diagnosis of congenital heart disease and associated pulmonary arterial hypertension from chest radiographs: A multi-reader multi-case study *European Journal of Radiology* 171 (2024) 111277

Pei-Lun Han^a, Lei Jiang^b, Jun-Long Cheng^b, Ke Shi^a, Shan Huang^a, Yu Jiang^a, Li Jiang^a, Qing Xia^c, Yi-Yue Li^a, Min Zhu^b, Kang Li^{a,d,e}, Zhi-Gang Yang^{a,*}

-With AI assistance, all radiologists exhibited an increased sensitivity from 0.728 to 0.861.



The Age of AI is Here



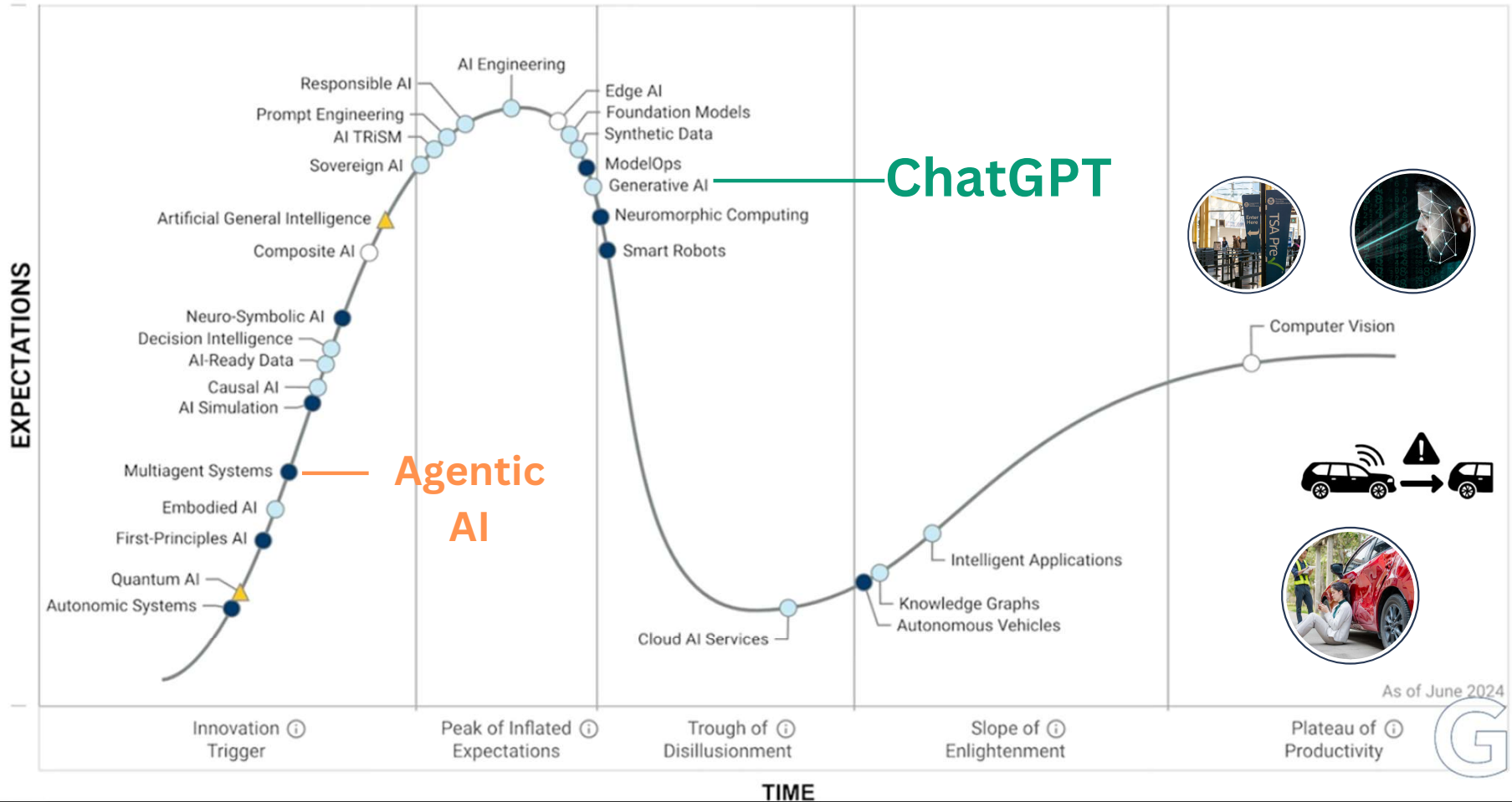
Time To Plateau Will Be Reached:

○ < 2 yrs.

● 2-5 yrs.

● 5-10 yrs.

▲ > 10 yrs.



From: <https://www.youtube.com/watch?v=qXKYOR3KqxQ> , Gartner Hype Cycle TM



AI Transforming Healthcare



DESPITE GREAT INNOVATION IN HEALTHCARE

We Still Use These



Should AI Transform Healthcare?

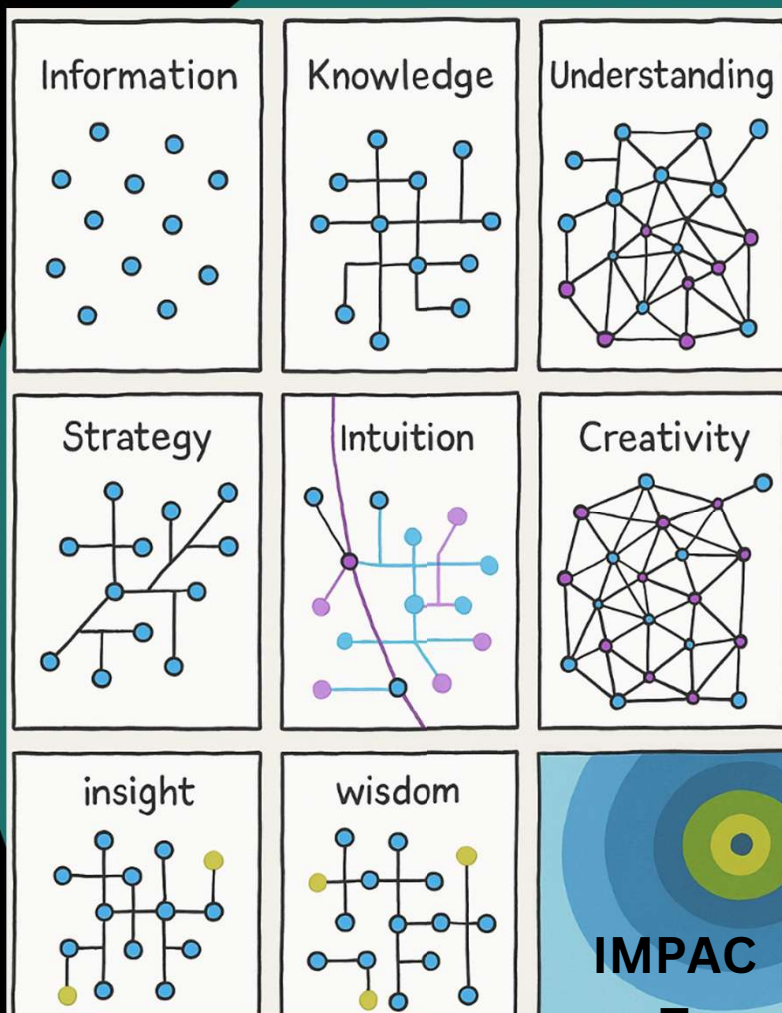


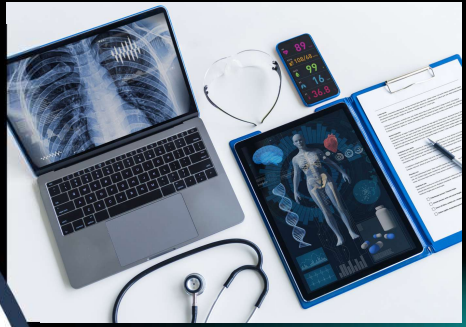
Medical Information Doubling Every Month

>800,000 medical publications per year

>5600 medical journals

48,000 publications in NEJM alone





Machine Learning and Deep
Learning Models are GREAT for



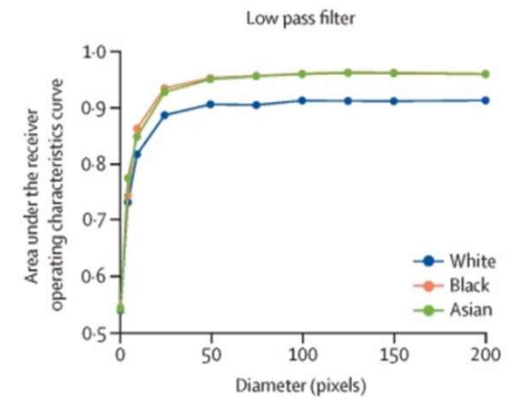
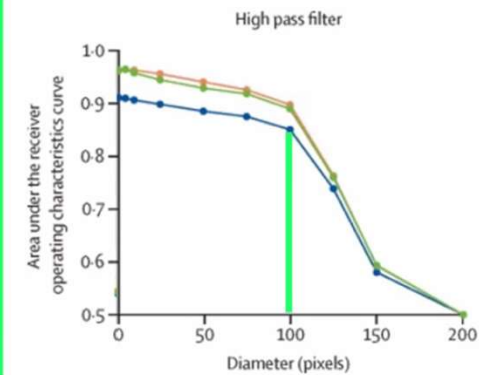
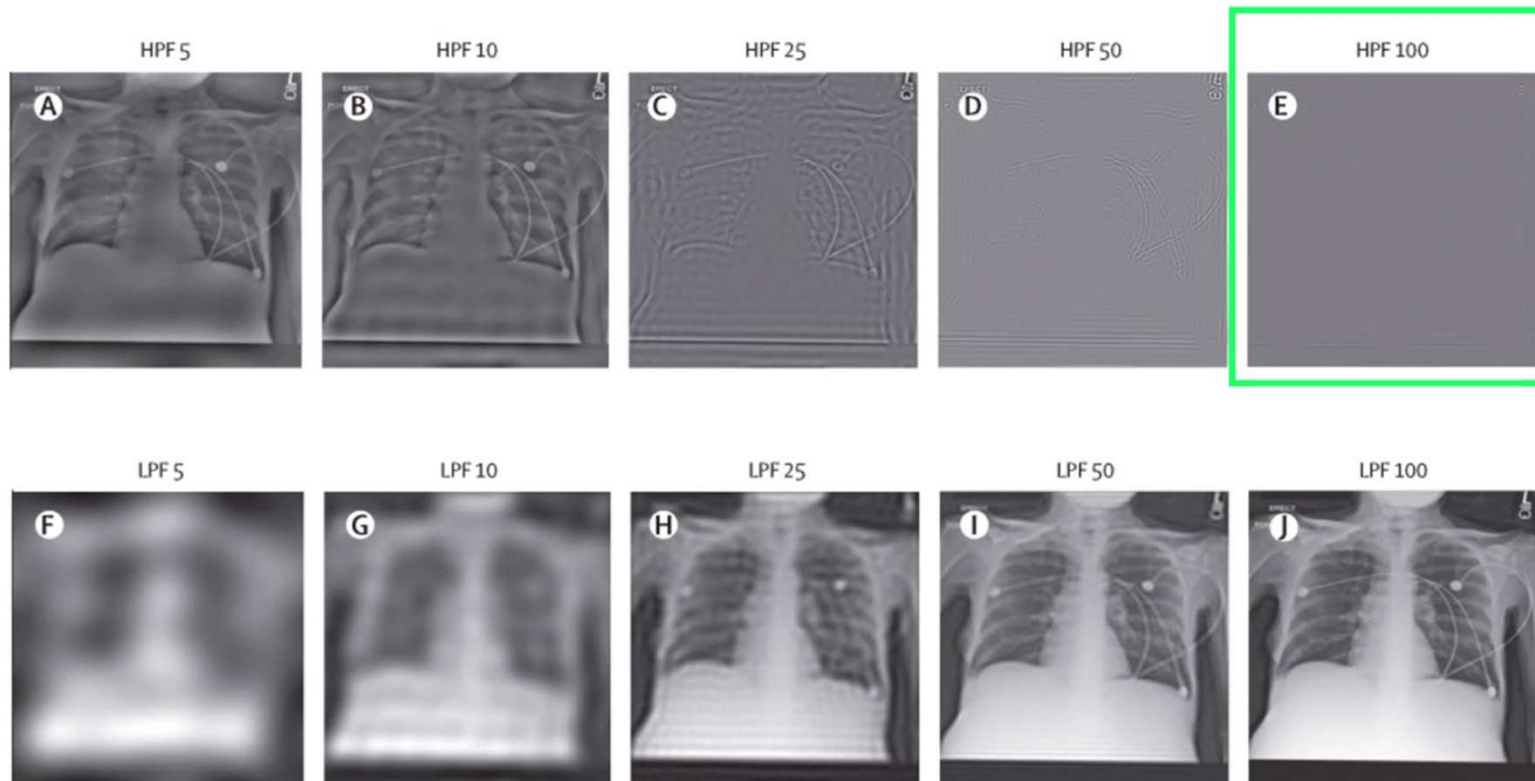
PATTERN RECOGNITION

From Large Data Sets

AI recognition of patient race in medical imaging: a modelling study



Judy Wawira Gichoya, Imon Banerjee, Ananth Reddy Bhimireddy, John L Burns, Leo Anthony Celi, Li-Ching Chen, Ramon Correa, Natalie Dullerud, Marzyeh Ghassemi, Shih-Cheng Huang, Po-Chih Kuo, Matthew P Lungren, Lyle J Palmer, Brandon J Price, Saptarshi Purkayastha, Ayis T Pyrros, Lauren Oakden-Rayner, Chima Okechukwu, Laleh Seyyed-Kalantari, Hari Trivedi, Ryan Wang, Zachary Zaiman, Haoran Zhang



ML and DL analysis of retinal images to detect pathology

Oculomics

- Age and Biological Age Estimation (e.g., "Retinal Age Gap")
- Gender Identification
- Body Mass Index (BMI)
- Smoking Status
- Hemoglobin A1c (HbA1c) levels
- Blood Pressure (Hypertension)

IVYSPRING INTERNATIONAL PUBLISHER

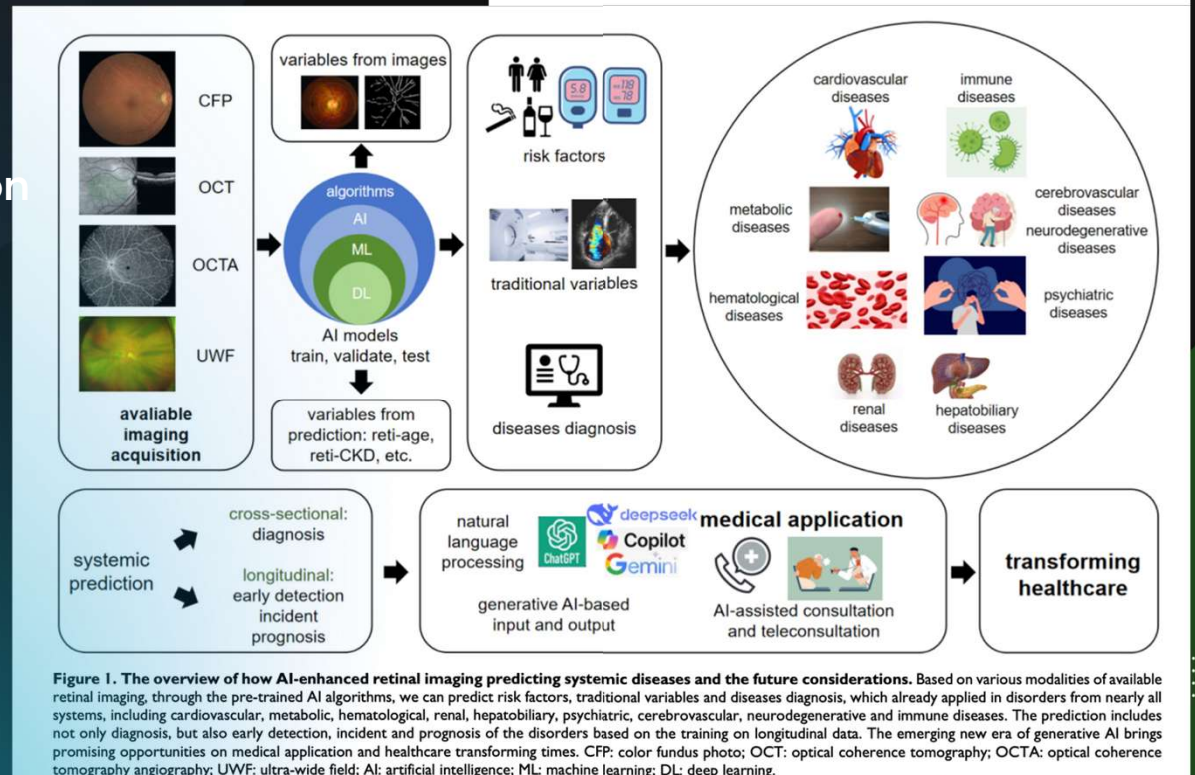
Theranostics

2025; 15(8): 3223-3233. doi: 10.7150/thno.100786

Review

Artificial intelligence-enhanced retinal imaging as a biomarker for systemic diseases

Jinyuan Wang^{1,2,3}, Ya Xing Wang², Dian Zeng¹, Zhuoting Zhu⁴, Dawei Li⁵, Yuchen Liu⁶, Bin Sheng^{7,8}, Andrzej Grzybowski^{9,10}, Tien Yin Wong^{1,2,11,12}



Artificial intelligence-enhanced retinal imaging as a biomarker for systemic diseases

Jinyuan Wang^{1,2,3}, Ya Xing Wang², Dian Zeng¹, Zhuoting Zhu⁴, Dawei Li⁵, Yuchen Liu⁶, Bin Sheng^{7,8}, Andrzej Grzybowski^{9,10}, Tien Yin Wong^{1,2,11}✉

Cardiovascular Diseases (CVD)

- Coronary artery calcium (CAC) scores
- Hypertension
- Atherosclerosis
- Risk of major adverse cardiovascular events (MACE)
- Stroke risk prediction

Cerebrovascular Diseases (CeVD)

- Stroke risk stratification
- Moyamoya disease
- White matter lesions (WMLs)

Metabolic and Endocrine Disorders

- Diabetes mellitus (DM)
- Diabetic peripheral neuropathy (DPN)
- Dyslipidemia
- Hyperglycemia

Oculomics-Adults

Neurodegenerative Diseases

- Alzheimer's disease (AD)
- Parkinson's disease (PD)
- Multiple sclerosis (MS)
- Mild cognitive impairment (MCI)
- Psychiatric Disorders
- Schizophrenia
- Autism spectrum disorder (via electroretinography)

Chronic Kidney Disease (CKD)

- Diabetic kidney disease (DKD)
- Renal function impairment prediction
- Glomerular filtration rate (GFR) estimation




Hepatobiliary Diseases

- Liver cirrhosis
- Chronic viral hepatitis
- Non-alcoholic fatty liver disease (NAFLD)
- Cholelithiasis (gallstones)
- Hepatic cysts



Acoustic Epidemiology

Voice as a Biomarker of Pediatric Health: A Scoping Review

Hannah Paige Rogers ¹, Anne Hseu ², Jung Kim ³, Elizabeth Silberholz ³, Stacy Jo ², Anna Dorste ⁴
and Kathy Jenkins ^{1,*} on behalf of the Bridge2AI-Voice Consortium

Children 2024, 11, 684. <https://doi.org/10.3390/children11060684>

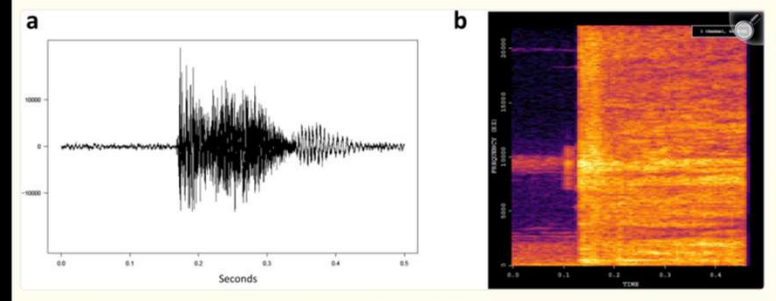
mobile app + AI; analyzing coughs
and cough patterns



Making cough count in tuberculosis care

[Alexandra J Zimmer](#) ^{1,2}, [César Ugarte-Gil](#) ^{3,4}, [Rahul Pathri](#) ⁵, [Puneet Dewan](#) ⁶, [Devan Jaganath](#) ^{7,8}, [Adithya Cattamanchi](#) ^{7,8}, [Madhukar Pai](#) ^{1,2}, [Simon Grandjean Lapierre](#) ^{2,9,10,*}

Fig. 1. Digital cough spectrograms for artificial intelligence algorithm analysis.



ISSUES WITH AI in HEALTHCARE

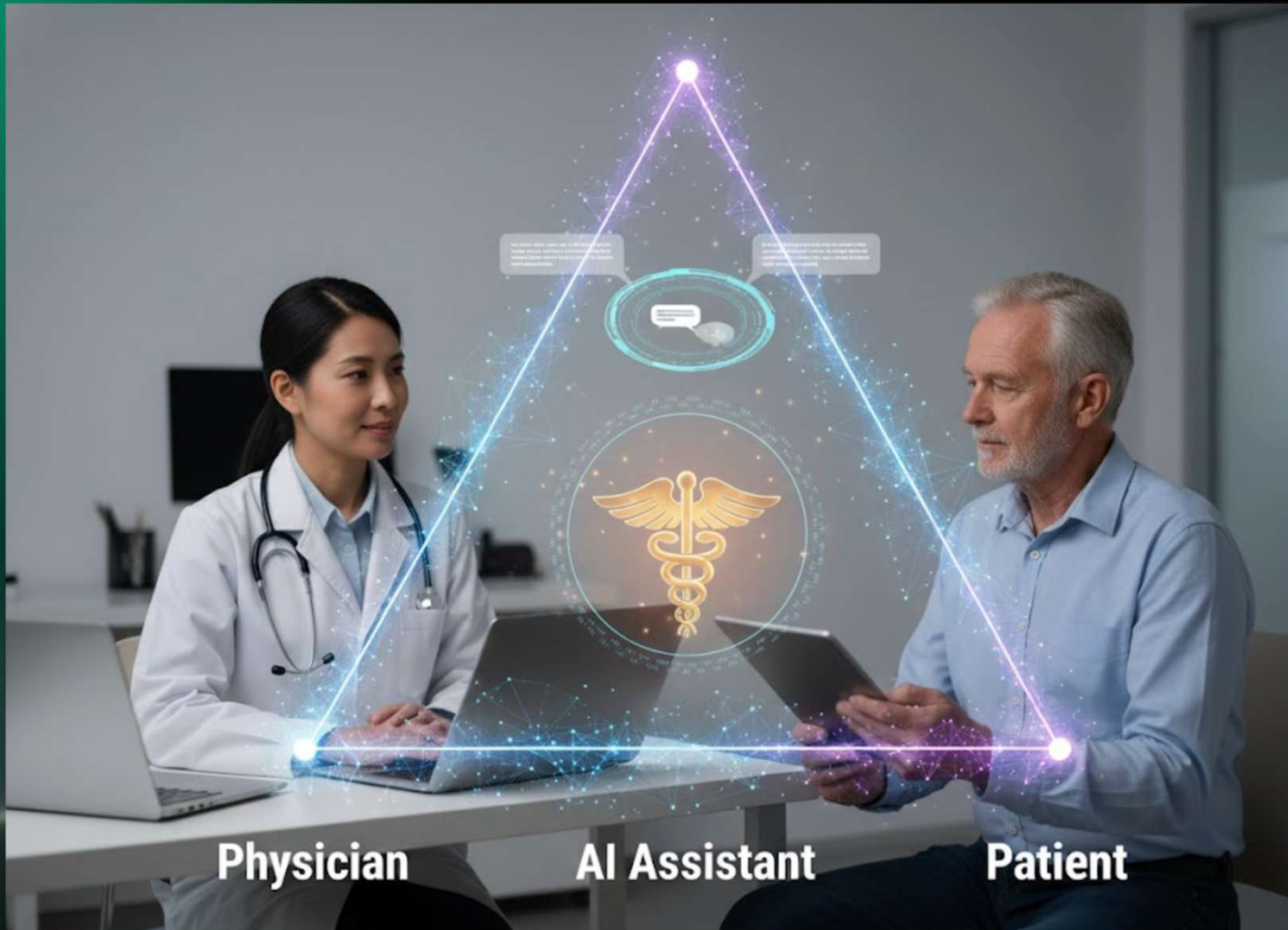
Garbage In,
Garbage Out

Accountability

With Great Power
Comes Great
Responsibility

Explainability

Trustworthiness



Physician

AI Assistant

Patient

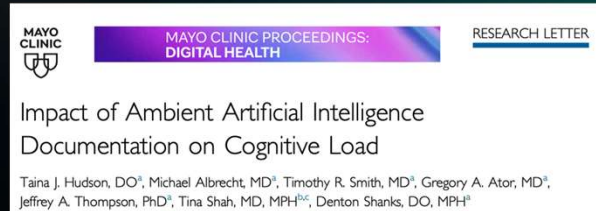
AI Scribes, the First Large Patient-Facing Step into Healthcare





AI Scribes

-the most applied LLM technology applied in healthcare today



-40 clinicians at Mayo using Abridge, had Improved cognitive task load, distraction, patient understanding of their care plans, pajama time



After 30 days, measurements of burnout decreased from 52% to 39%.

Yale, ~300 clinicians using Abridge



-time savings = 15,700 hours or 1,794 working days in 2.5 million pt encounters, KP



AI Scribes

How about in Pediatrics?

Ambient Artificial Intelligence Scribes in Pediatric Primary Care: A Mixed Methods Study

Appl Clin Inform 2025; 16(05): 1578-1587
DOI: 10.1055/a-2625-0750

- 12-week study of 39 clinicians within a large pediatric primary care network.
- most commonly reported benefits were **reduction in cognitive burden** (54%, 21/39), **ability to finish work sooner** (46%, 18/39), and ability to **enjoy clinical work more** (46%, 18/39).
- Issues with pediatric primary care included suboptimal performance in summarizing and organizing content relating to preventive and behavioral health visits.



AI Scribes- Benefits

- Decrease Documentation Burden
- More Patient (Family)-Clinician Interaction
- Better Patient (Family) Understanding of Physical Exam
- Improved Documentation, Coding, Billing

AI Scribes

-Questions that still need to be answered

- Is it as good for every specialty, esp Neonatology?
- What is the omission error rate?
 - What is the commission error rate?
- How does dialect bias affect performance?
 - What happens when automation complacency kicks in?
- When and How do I "Think" about my patients?





Has AI Been Used to Help Families?



- **YES, But Do They Want It?**

Parents, Maybe?


-93% of caregivers want to know if AI is used in their child's care.

Perceptions of Artificial Intelligence-Assisted Care for Children With a Respiratory Complaint  *Hosp Pediatr* (2023) 13 (9): 802-810.
Sriram Ramgopal, MD ; Jack Kapes; Elizabeth R. Alpern, MD, MSCE; Michael S. Carroll, PhD; Marie Heffernan, PhD; Norma-Jean E. Simon, MPH, MPA; Todd A. Florin; Michelle L. Macy



-Parents may be receptive to AI-driven technologies in pediatric care.

Parental Attitudes toward Artificial Intelligence-Driven Precision Medicine Technologies in Pediatric Healthcare

Bryan A. Sisk ¹ , Alison L. Antes ², Sara Burrous ³ and James M. DuBois ²
Children 2020, 7, 145; doi:10.3390/children7090145

Parents have specific concerns:

- 1-Quality and Accuracy
- 2-Privacy (child's data security)
- 3-Shared decision-making
- 4-Preserve **human touch** in medical interactions

Children, Mostly?

-A qualitative study of 28 children from Toronto Sick Kids:

Perspectives of Youths on the Ethical Use of Artificial Intelligence in Health Care Research and Clinical Care [JAMA Netw Open](#). 2023 May 1;6(5):e2310659.

Thai K et al

-Respect for persons, support for autonomy, and humanistic care. AI knowledge level of children was significant (average age 15).

-A national, online survey, a total of 31 questions, was sent to UK schools, universities and charity partners asking children (n=171) their preferences for use of AI in their imaging:

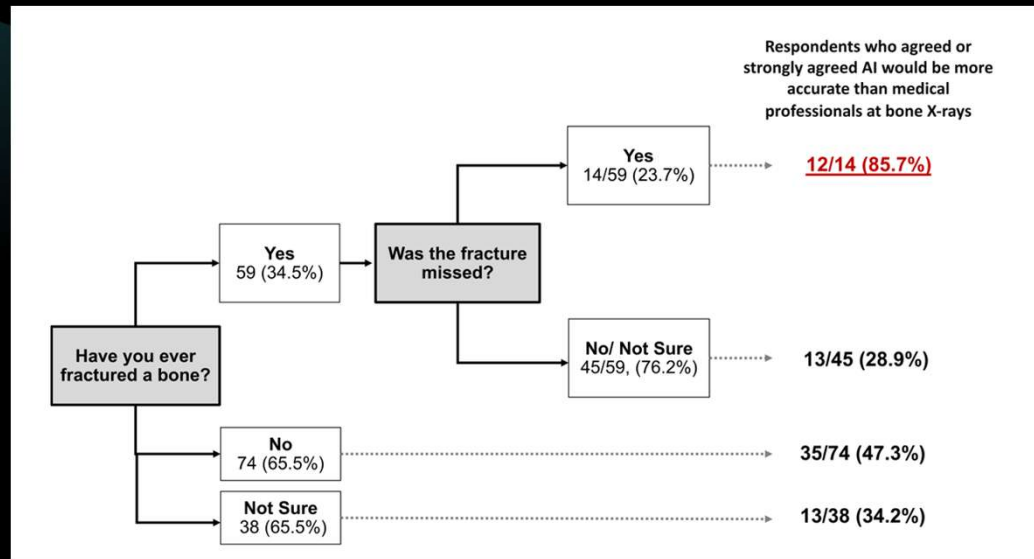
"How I would like AI used for my imaging": children and young persons' perspectives [Lee et al. European Radiology \(2024\) 34:7751-7764](#)
<https://doi.org/10.1007/s00330-024-10839-9>

-they favored the integration of AI in healthcare, particularly if it involved human oversight and ensured accuracy.



Children, Mostly?

"How I would like AI used for my imaging": Lee et al. *European Radiology* (2024) 34:7751–7764
children and young persons' perspectives <https://doi.org/10.1007/s00330-024-10839-9>



-children that had a **missed fx on a film**, were highly likely to support the use of AI to assist in film interpretations.

AI Studies in The NICU and PICU

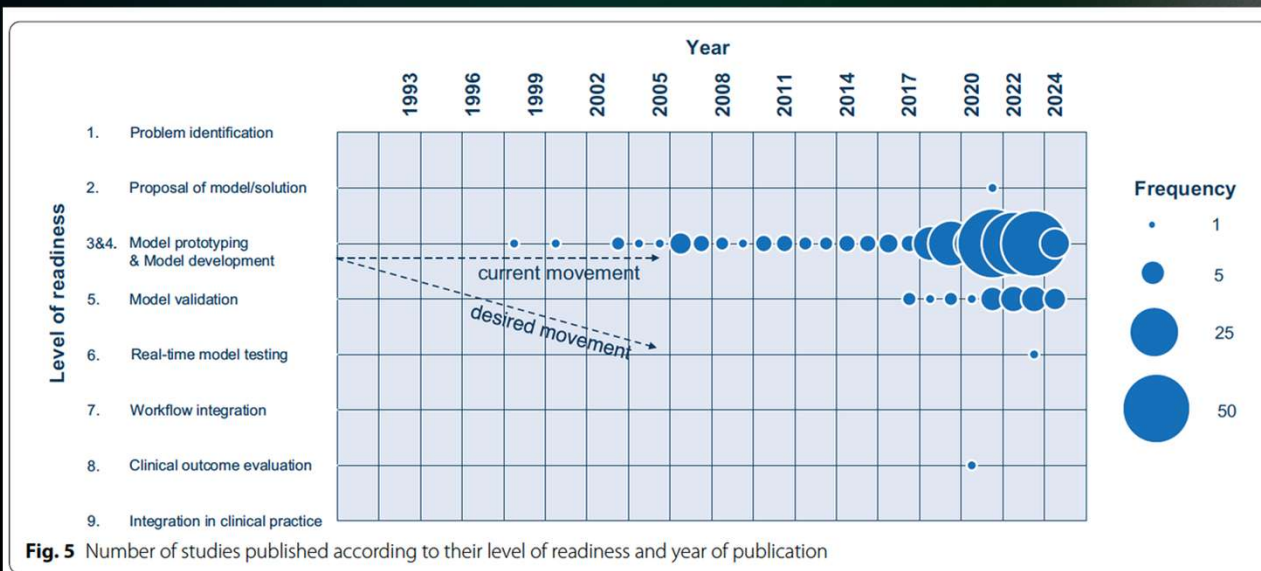
From bytes to bedside: a systematic review on the use and readiness of artificial intelligence in the neonatal and pediatric intensive care unit



Janno S. Schouten^{1,2}, Melissa A. C. M. Kalden^{1,2,3}, Eris van Twist¹, Irwin K. M. Reiss¹,
Diederik A. M. P. J. Gommers^{2,5}, Michel E. van Genderen^{2,5} and H. Rob Taal^{1,2*}

Intensive Care Med (2024) 50:1767–1777
<https://doi.org/10.1007/s00134-024-07629-8>

- 87% of evaluations and application of AI, reached a level ≤ 4 on the 'level of readiness' scale





Has AI Been Used to Help Families?

Easing the Burden on Caregivers- Applications of Artificial Intelligence for Physicians and Caregivers of Children with Cleft Lip and Palate

Sara C Chaker, BS¹ , Ya-Ching Hung, MD, MPH^{1,2} ,
Mariam Saad, MD¹, Michael S Golinko, MD^{1,3}, and Izabela A Galdyn, MD^{1,3}

The Cleft Palate Craniofacial Journal
2025, Vol. 62(4) 574-587

- **Study question:** Can AI provide appropriate responses to the most commonly asked postoperative questions of parents or guardians of children who underwent cleft lip and/or palate repair?



Has AI Been Used to Help Families?

Easing the Burden on Caregivers- Applications of Artificial Intelligence for Physicians and Caregivers of Children with Cleft Lip and Palate

Sara C Chaker, BS¹ , Ya-Ching Hung, MD, MPH^{1,2} ,
Mariam Saad, MD¹, Michael S Golinko, MD^{1,3}, and Izabela A Galdyn, MD^{1,3}

- **Evaluation:** 13 of the most asked postoperative questions were selected, and two senior Pediatric Plastic Surgeons drafted their professional answers which were compared to ChatGPT 3.5 answers.

The Cleft Palate Craniofacial Journal
2025, Vol. 62(4) 574-587



Has AI Been Used to Help Families?

Easing the Burden on Caregivers- Applications of Artificial Intelligence for Physicians and Caregivers of Children with Cleft Lip and Palate

Sara C Chaker, BS¹ , Ya-Ching Hung, MD, MPH^{1,2} ,
Mariam Saad, MD¹, Michael S Golinko, MD^{1,3}, and Izabela A Galdyn, MD^{1,3}

The Cleft Palate Craniofacial Journal
2025, Vol. 62(4) 574-587

- **Results:** ChatGPT struggled to compute and understand granular differences in surgical techniques and its answers were lengthy and provided unnecessary, and sometimes irrelevant, information.
- ChatGPT answers had **69% accuracy**.



Can AI Recognize Children's Emotional States?



- YES



AI To Recognize Children's Emotional States

Applications of artificial intelligence in emotion recognition in pediatrics health care: Scoping review

Ana Rita Figueiredo, António Pereira, Francisca Frias, Luíza Moura Dias Rodrigues, Paula Diogo*

Journal of Pediatric Nursing 85 (2025) 593–606

- Review of 23 studies using artificial intelligence for facial, voice, and drawing-based emotion recognition,

A machine learning-based depression detection on social media platforms for adolescents: A work in progress narrative review

F1-scores reached up to 85 % with multimodal approaches on Twitter data. Random Forest models using Instagram features achieved an F1 of 0.647, while logistic regression on survey data yielded 72.3 % accuracy. Ensemble methods and boosting algorithms attained accuracies up to 87 %

Artificial Intelligence-Based Mobile Application for Sensing Children Emotion Through Drawings

The ResNet50 convolutional neural network model had the best results for accuracy (79 %), sensitivity (86 %) and precision (74 %)

AI Helping Caregivers-Future

HOW AI HELPS PARENTS IN PEDIATRIC HEALTHCARE

BEFORE & BETWEEN VISITS (e.g., At Home)

- AI-DRIVEN SYMPTOM CHECKERS (like Infermedica, Docus):** Enter child's age & symptoms for triage advice (Self-care, Clinic, ED)
- LARGE LANGUAGE MODELS (like ChatGPT):** Advice on medications, sleep, diet, BUT exercise caution with unverified info
- CAREGIVING LANGUAGE MODELS (CaLM):** Prototyped for condition-specific education
- EXTERNAL PHYSICIANS RATED ONE SYSTEM 97% SAFE**

DURING COMPLEX OR CHRONIC ILLNESS

- PEDIATRIC ONCOLOGY SUPPORT:** LLMs provide explanations of diagnoses, treatments & side effects
- IMPROVE HEALTH LITERACY** for caregivers
- AI CAREGIVER TOOLS:** Consolidate disease info, explain symptom trajectories, support daily decisions

PARENTING SKILLS & MENTAL HEALTH

- CHATBOT "MICRO-INTERVENTIONS":** Brief conversations teach parenting skills (e.g., responding to emotions)
- LEARN SKILLS & REDUCE BARRIERS (like time, cost)**
- SINGLE-SESSION DIGITAL INTERVENTIONS:** Help manage child's anxiety, depression, & behavior

MONITORING WELLBEING & SAFETY

- AI-ENABLED APPS:** Monitor online language, tone, & activity to detect stress or mood changes
- GENERATE REPORTS TO PROMPT DIALOGUE**
- CONTENT & BEHAVIOR ANALYSIS:** Alert parents to cyberbullying, self-harm content, or other risks (e.g., Bark, Qustodio)

EARLY DEVELOPMENT & HIGH-RISK SETTINGS (e.g., NICU)

- EARLY CHILDHOOD RESEARCH:** AI analyzes parent-infant videos, flags interaction quality for early support
- NEONATOLOGY APPLICATIONS:** Predict sepsis, optimize oxygen therapy, interpret brain & eye imaging
- SUPPORT FAMILIES** by enabling individualized, anticipatory communication

AI-based chatbot micro-intervention for parents: Meaningful engagement, learning, and efficacy

Front Psychiatry
 . 2023 Jan 20;14:1080770
[Guido A Entenberg](#)

Can Large Language Models Aid Caregivers of Pediatric Cancer Patients in Information Seeking? A Cross-Sectional Investigation

Cancer Med
 . 2025 Jan 7;14(1):e70554.
[Emre Sezgin](#)

A Reliable and Accessible Caregiving Language Model (CaLM) to Support Tools for Caregivers: Development and Evaluation Study.

JMIR Form Res 2024;8:e54633
[Bambang Parmanto](#)

AI Helping Caregivers-Real

A Connecticut father of two children with rare, complex conditions uses an **LLM** to compile concise longitudinal medical records for his children that can be easily shared with new providers.

A young boy had chronic pain for 3 years, during which consultations with 17 different specialists failed to yield a diagnosis. His mother, used **ChatGPT**, inputting sx and medical history. ChatGPT suggested the possibility of tethered cord.

AI Helping Caregivers- Literacy

Prompt: act like an expert in communications. you need to tell a mother about her premature baby that now has advanced retinopathy of prematurity and needs laser therapy.

Explanation for a PhD Researcher in Vascular Biology-

When babies are born very early, the retinal vascular system is still developing. Normally, blood vessels grow gradually from the center of the retina outward during the last trimester of pregnancy.

Premature birth interrupts this developmental process. After birth, the infant is exposed to a very different oxygen environment than in the womb. This can temporarily suppress normal vascular growth. Later, the retina experiences relative hypoxia, which stimulates excess production of angiogenic factors such as VEGF.

AI Helping Caregivers-Literacy

Prompt: act like an expert in communications. you need to tell a mother about her premature baby that now has advanced retinopathy of prematurity and needs laser therapy.

Explanation for a High School Biology Teacher-

"I want to talk with you about your baby's eyes and something we sometimes see in very premature babies called retinopathy of prematurity, or ROP.

During pregnancy, the blood vessels in the retina — the light-sensing part at the back of the eye — develop slowly during the last few months before birth.

Because your baby was born early, those blood vessels had not finished growing yet.

After birth, the environment outside the womb is very different. The oxygen levels and other factors can disrupt the normal development of these vessels. Sometimes the body responds by growing abnormal blood vessels in the retina.

AI Helping Caregivers-Literacy

Prompt: act like an expert in communications. you need to tell a mother about her premature baby that now has advanced retinopathy of prematurity and needs laser therapy.

Explanation for a 16-Year-Old with Limited IQ and Biological Understanding

I want to talk with you about your baby's eyes.

When babies grow in the womb, the eyes are still developing. The tiny blood vessels in the back of the eye usually finish growing during the last few months of pregnancy.

Because your baby was born very early, those blood vessels were not finished growing yet. Sometimes when this happens, the body tries to grow new blood vessels, but they grow in the wrong way. These new vessels can be weak and can pull on the back of the eye.

A special eye doctor can use a laser to treat the part of the eye that is causing the problem. This helps stop those abnormal blood vessels from growing and protects the eye.

Ethics and AI in Pediatrics

ETHICAL CONSIDERATIONS OF AI IN PEDIATRIC HEALTHCARE: CHILD HEALTH MONITORING

AI-based child health monitoring raises distinctive ethical concerns because it mixes powerful surveillance tools with a very vulnerable population.

CORE ETHICAL ISSUES

Privacy and Surveillance

Continuous digital monitoring (devices, apps, school platforms) collects detailed data on health, behavior, and relationships, beyond care needs.

Informed Consent & Assent

Children cannot fully consent; parents/schools agree without child understanding what data are collected, who sees them, and for how long.

Autonomy & "Right to an Open Future"

Early AI-generated risk labels (behavior, mental health, learning) follow for years, shaping expectations, opportunities, self-identity, and narrowing future options.

SAFETY, BIAS, AND MISUSE

Clinical Safety & Over-Reliance

Algorithm misclassifies risk (misses suicidality or over-flags normal behavior), causing direct harm; danger of over-trusting alerts instead of clinical judgment.

Algorithmic Bias & Fairness

Models trained on non-representative pediatric data cause higher false-positive or false-negative rates for specific age groups, disabilities, racial or socioeconomic groups, entrenching inequities.

Stigma & Discrimination

Breaches or secondary uses of sensitive pediatric data lead to long-lasting stigma, especially for rare conditions or marginalized groups, due to easier re-identification in small populations.

RELATIONAL & DEVELOPMENTAL CONCERNS

Erosion of Trust

Covert or poorly explained monitoring (e.g., AI scanning school devices for 'risk keywords') damages trust between children, parents, clinicians, and schools.

Social Development & AI Attachment

Overuse of AI 'companions' or mental health chatbots distorts social development: children attribute moral status to AI and rely on it over human relationships.

False Reassurance & Crisis Mishandling

Youth mental health chatbots sometimes endorse harmful suggestions or give over-validation without encouraging help-seeking, dangerous in crises.

DATA GOVERNANCE & SECONDARY USE

Opaque Data Flows

Health-adjacent monitoring (school tools, wellness apps) shares data with vendors, advertisers, data brokers, outside traditional health privacy regimes.

Weak Consent for Reuse

Training or improving models on children's data (including rare disease data) raises concerns about re-identification and use beyond original family agreements.

Ethical considerations in AI for child health and recommendations for child-centered medical AI.

NPJ Digit Med . 2025 Mar 10;8:152
Seo Yi Chng

Can Large Language Models Aid Caregivers of Pediatric Cancer Patients in Information Seeking? A Cross-Sectional Investigation
Cancer Med . 2025 Jan 7;14(1):e70554.

Emre Sezgin

A Reliable and Accessible Caregiving Language Model (CaLM) to Support Tools for Caregivers: Development and Evaluation Study.

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Bambang Parmanto

HIPPOCRATIC OATH IN AGE OF AI

WE NEED TO:

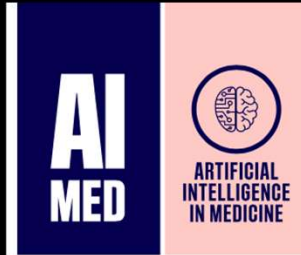
FIRST DO NO HARM

- ensure AI is safe, effective, and worthy of clinical trust.
- ensure AI is governed with the same scientific rigor required of any medical intervention.
- ensure AI is evaluated using transparent methods, reproducible evidence, and independent real-world validation.
- ensure AI is integrated carefully, critically, and always under clear human authority.



Resources

AIMED: <https://ai-med.io>



Author: Anthony Chang, MD, MBA, MPH, MS

I am a pediatric cardiologist and have cared for children with heart disease for the past three decades. In addition, I have an educational background in business and finance as well as healthcare administration and global health – I gained a Masters Degree in Public Health from UCLA and taught Global Health there after I completed the program.

American Board of AI in Medicine (ABAIM). Multidisciplinary two-day **introductory** and **advanced courses** with educational certification as well as a one-day **AI primer** for everyone have been ongoing for almost two years.

The **Alliance for Centers of Artificial Intelligence in Medicine (ACAIM)** is a coalition of the centers around the world that have a dedicated leader and team within a health center with a focus on artificial intelligence in all dimensions of medicine and healthcare. We have now a **total** of over 50 centers, including more than 20 AI-focused efforts in pediatric health institutions.

Medical Intelligence Society (MIS). Clinicians and data scientists with interest and passion for AI in clinical medicine and healthcare with **monthly meeting** and **annual summit** in July.
(MISociety.org)

Other AI Resources

Books:

1. “Artificial Intelligence for Improved Patient Outcomes” by Daniel W Byrne
2. “Deep Medicine” by Eric Topol
3. “Intelligence-Based Medicine” by Anthony Chang
4. “Code to Care” by Rubin Pillay

Websites:

1. OpenAI (openai.com)
2. AI Conference (aiconf.org)
3. AI-Forum (ai-forum.org)
4. Stanford Artificial Intelligence Laboratory (ai.stanford.edu)

Medical Journals:

1. NEJMAI (<https://ai.nejm.org>)
2. JAMA+AI (<https://jamanetwork.com/channels/ai>)



Online Courses:

1. Coursera’s Introduction to Artificial Intelligence (coursera.org/learn/introduction-to-ai)
2. Udacity’s Artificial Intelligence Nanodegree (udacity.com/course/artificial-intelligence-nanodegree-nd898)
3. edX’s Artificial Intelligence Fundamentals (edx.org/learn/artificial-intelligence)

About Us

Academic

Education

Scholarship

Community

Innovation

AI

Safe

Effective

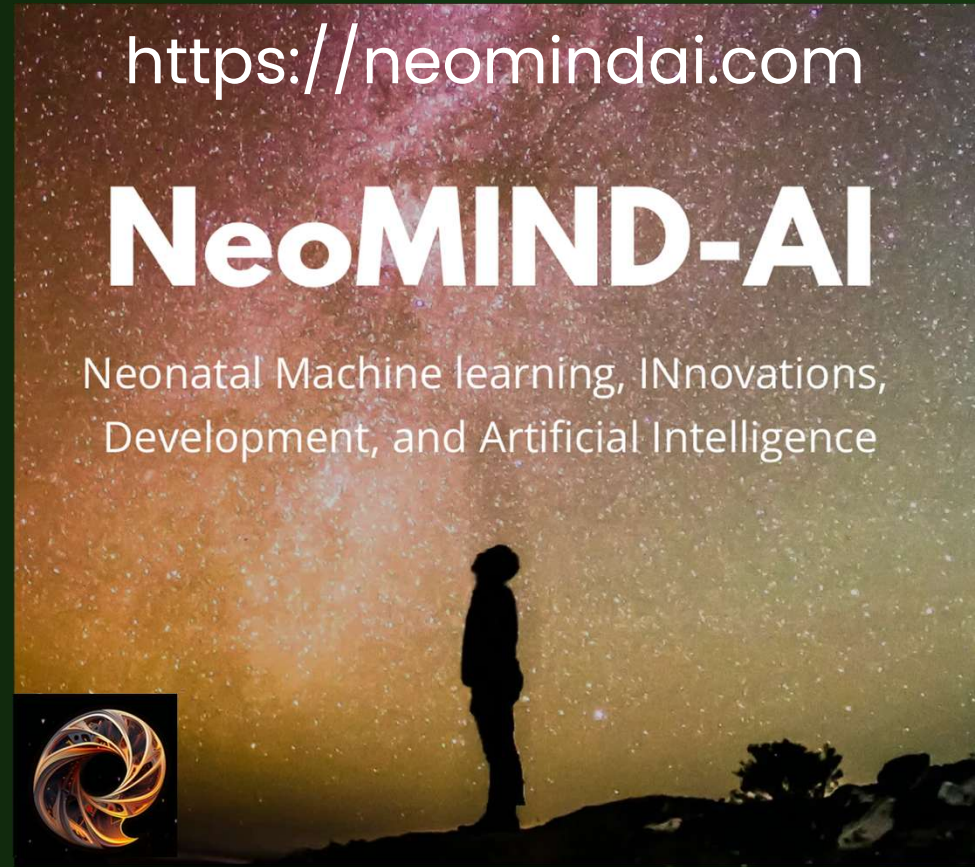
Ethical

Equitable

<https://neomindai.com>

NeoMIND-AI

Neonatal Machine learning, INnovations,
Development, and Artificial Intelligence



Things Are Evolving Fast



**As AI is Applied In
Pediatric Medicine,
We Need More
Information,
Especially to
Understand Bias**



Thank You

For Allowing Me To Speak With You Today

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 <https://www.linkedin.com/in/jamesbarry3636/>



NeoMIND-AI

Neonatal Machine learning, INnovations, Development, and Artificial Intelligence

<https://neomindai.com/contact-1>



**FAMILY-CENTERED CARE
TASKFORCE**