

# AI in the Practice of Medicine

What Every Community Physician Should Know  
Peter Dryer, MD

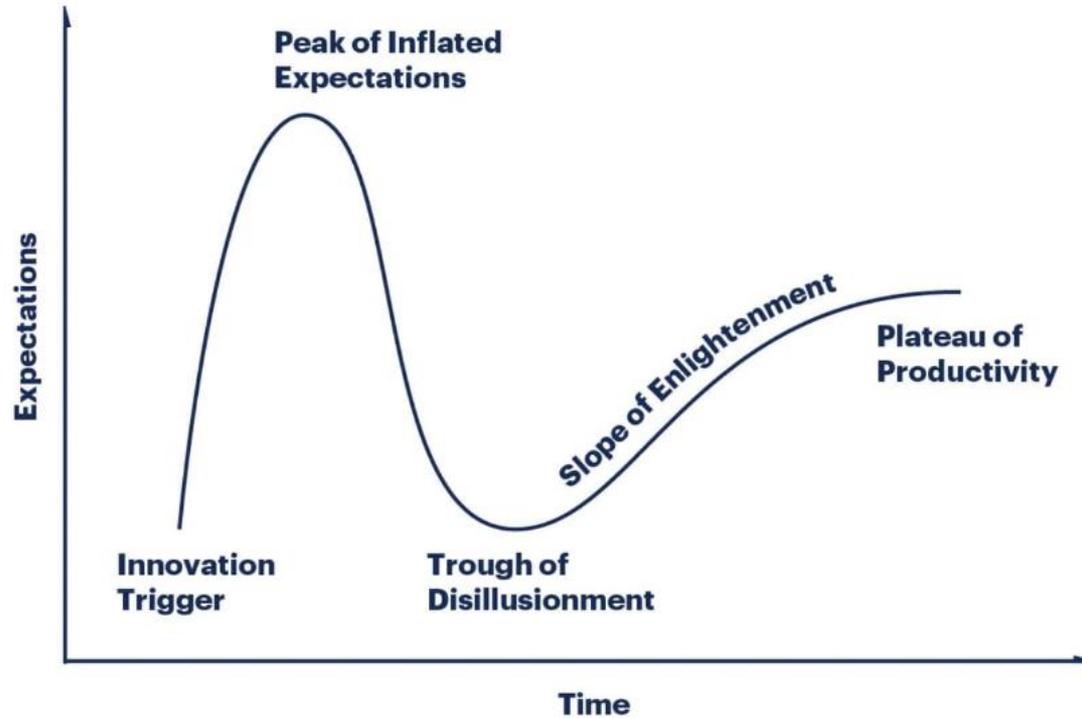
# Disclosures

- Nothing to disclose.

# Why This Talk?

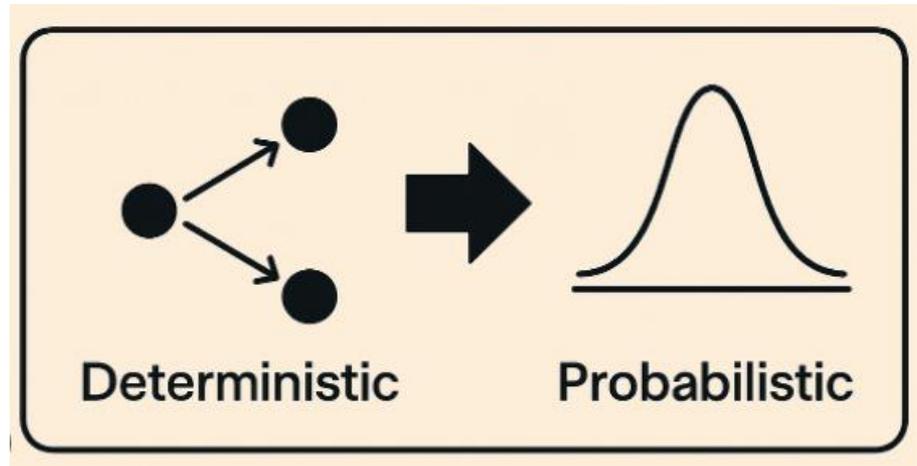
- “AI isn’t likely going to replace doctors anytime soon, but doctors who don’t use AI are likely to be replaced.”
  - Human in the loop, will be the new paradigm.
- Physicians not trained
- Focus on practical use

# Gartner Hype Cycle



# What is AI

- Machine learning
- LLMs
- Pattern recognition
- No true understanding
  - Probabilistic vs deterministic.



# Generative LLM AI

- ChatGPT
- Gemini (Google)
- Copilot (Microsoft)
- Claude
- Grok
- Llama
- DeepSeek
- Mistral AI

# Multimodal and Imaging-Capable Models

- These integrate language understanding with images (scans, photos)
  - Med-Flamingo and LLaVA-Med -- multimodal LLM capable of jointly interpreting medical images and text for diagnostic support and structured reporting
  - MiniGPT-Med -- research model combining vision + language to support radiology interpretation and draft reporting

# AI is Already Here.

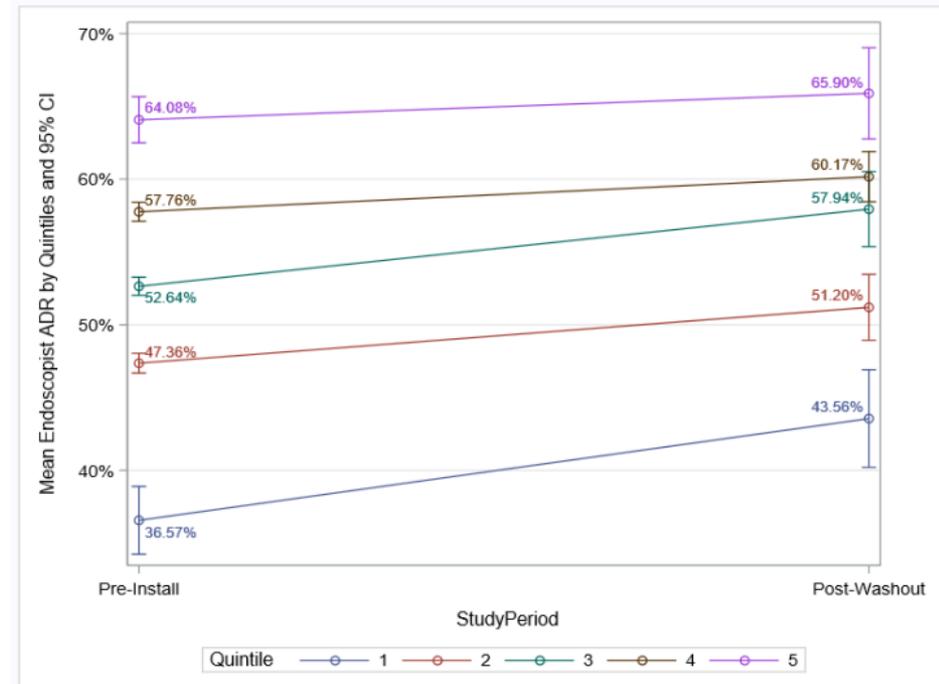
- Radiology, EKG, pathology, sepsis alerts, CADe
- Automated call agents
- No show prediction
- Fax AI image detection
- Ambient voice scribe, ordering
- Chart summaries
- Assistance with physician schedule creation
- Prior authorization letters.
- Clinical decision support
- Drafting responses to portal questions

# AI polyp detection in colonoscopy

- Computer aided detection in endoscopy (CADe)
- Large real world VA population study before and after implementation of FDA approved Medtronic GI Genius.
  - Overall 4.2% improvement in ADR from pre to post CADe deployment, with 0.7% decline in ADR in the control sites without deployment over the same period. 1.21 (1.15 to 1.26)
  - No change in adenocarcinoma detection rate over the same period.

Dominitz et al, DDW 2024,  
Abstract Mo1195

CADe Site Providers



# Evolving on-demand clinical decision tools: OpenEvidence vs Uptodate

- Open evidence is a ChatGPT paired with JAMA, NEJM, NCCN, ACC, AHA, etc.
- Paradigm shift for medical reference
  - Pros: efficient searches for clinical guidelines, diagnostic criteria, and therapeutic approaches. It streamlines decision-making. Its ability to present recent publications and highlight less commonly discussed treatments supports evidence-based learning.
  - Cons: targeted searches for specific articles, authors, or journals and operates through an opaque curation process.

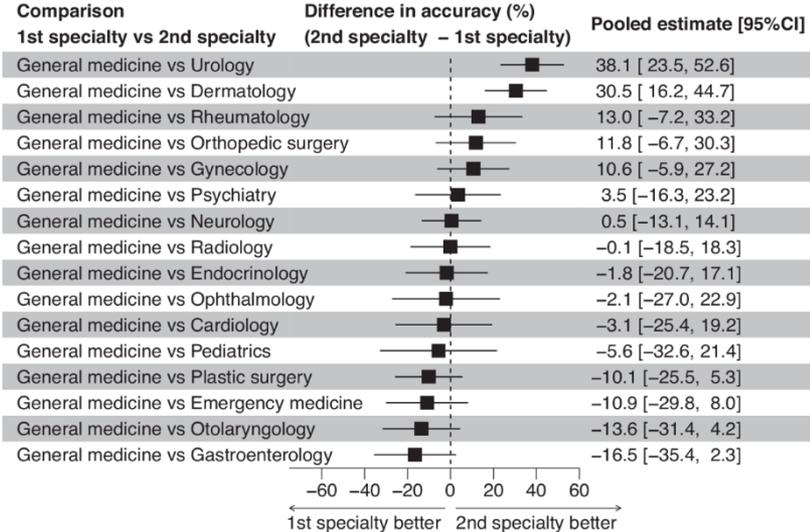
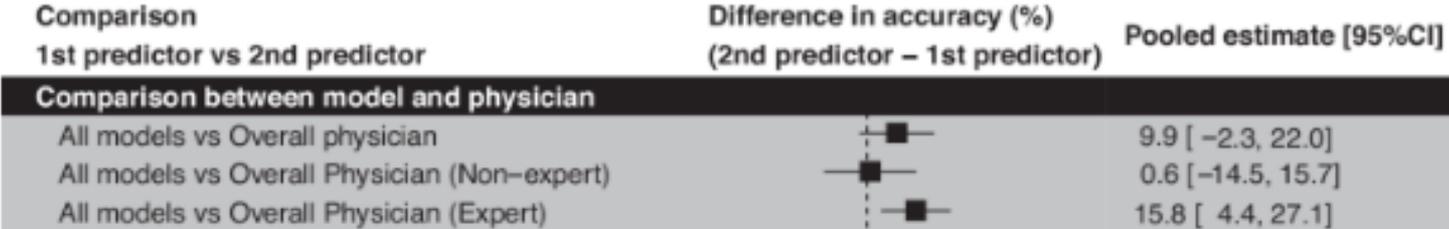
# Conversational Evaluation Framework for Comprehensive Assessment of Clinical LLMs

- CRAFT-MD
- Johri, S., Jeong, J., Tran, B.A. et al. An evaluation framework for clinical use of large language models in patient interaction tasks. *Nat Med* **31**, 77–86 (2025).

Type	GPT-4		GPT-3.5	
	MCQ	FRQ	MCQ	FRQ
Vignette	0.919	0.684	0.833	0.546
Multi-turn conversation	0.854	0.431	0.724	0.468
Single-turn conversation	0.868	0.581	0.745	0.383
Summarized conversation	0.856	0.607	0.810	0.474
Multi-turn conversation (without physical exam)	0.774	0.324	0.642	0.318

Table 1: Experimental Results. MCQ = 4-choice Multiple Choice Questions; FRQ = Free Response Questions.

# A systematic review and meta-analysis of diagnostic performance comparison between generative AI and physicians



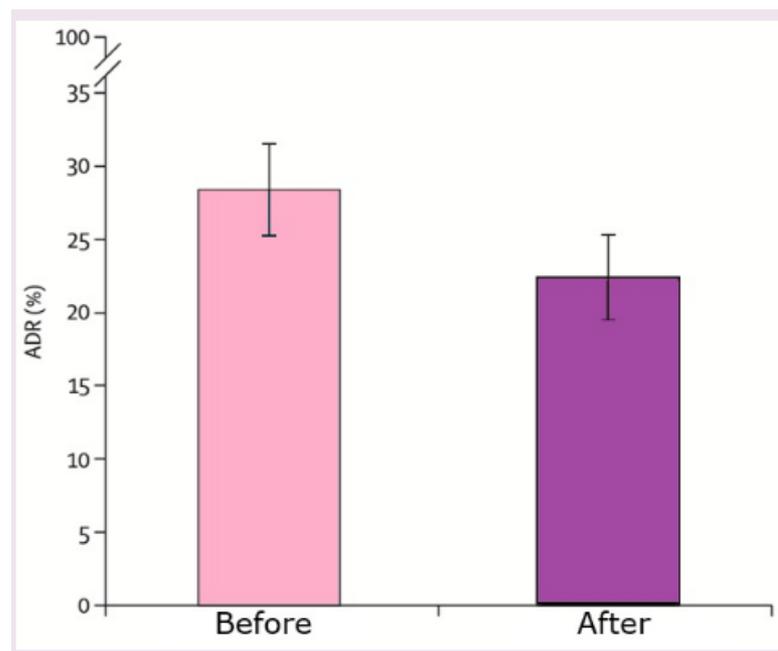
Takita, H., Kabata, D., Walston, S.L. *et al.* A systematic review and meta-analysis of diagnostic performance comparison between generative AI and physicians. *npj Digit. Med.* 8, 175 (2025). <https://doi.org/10.1038/s41746-025-01543-z>

# Blindspots in the use of LLM

- Sycophancy. Tendency of LLM to excessively agree or flatter users at the expense of accuracy.
  - Dangers of ChatGPT as a therapist.
- Hallucination.
- Liability
- HIPAA concerns.
  - Avoid “shadow AI”. Make sure you have a Business Associate Agreement between your practice/hospital and the LLM vendor.
- “Deskilling”
  - Common examples: back up camera, phone numbers in address book.

# Deskilling

- Retrospective observational study from 4 centers in Poland,
- Among 795 colonoscopies performed before and 648 performed after the introduction of AI, ADR before vs after AI exposure decreased significantly from 28.4% to 22.4% (absolute difference -6.0% [95% CI -10.5 to -1.6%,  $P = 0.009$ ]).
- American Gastroenterological Association (AGA)'s living clinical practice guideline in 2025 made no recommendation on the use of CADE-assisted colonoscopy,



Budzyń K, Romańczyk M, Kitala D, et al. Endoscopist deskilling risk after exposure to artificial intelligence in colonoscopy: a multicentre, observational study. *Lancet Gastroenterol Hepatol.* 2025 Oct;10(10):896-903

# AI Governance

- Comply with laws, follow healthcare specific benchmarks
- Quality audits
- Research enablement with use of data lakes.
  - Primary research and commercial value.
- Ensure costs are aligned with institutional goals.
  - Consider ROI in terms of physician time and efficiency
  - support staff FTE reductions.
  - AI's Achilles heel... it isn't reimbursed directly. However, this is an important tool for managing reductions in physician fee schedule (we will pay you less to drive you to be more efficient).

# Who owns the data?

- Practice level EHR Data Lakes (structured vs unstructured data).
- EMR vendor level data
  - COSMOS (structured)...
- Insurance Company Claims data
- Patient information and physician knowledge pooled into databases. There isn't payment to patients' /physicians for use of their records
  - Henrietta Lacks
- Legislation needed

# Brief Legislative update

- Congress is still in AI education mode. Staff usually does either health or tech.
- Current paradigm in congress is to defer to executive branch
- HR 238 Health tech act 2025 (Schweikert). Bill to clarify if AI can qualify as a practitioner for prescribing medications... has stalled in committee and was never voted on.
- The SANDBOX Act (Cruz). Strengthening Artificial Intelligence Normalization and Diffusion by Oversight and eXperimentation (SANDBOX) Act creates a federal “regulatory sandbox” for AI development. In committee.
- S.1399, the Health Tech Investment Act (Rounds/Heinrich). This would ensure some payment for AI services. In committee

