AI Is Disrupting Health Care. Can Regulators Keep Up?

David Nau, PhD, RPh, FAPhA

Professor, Raabe College of Pharmacy

Ohio Northern University

d-nau@onu.edu

Financial Disclosure

David Nau declares that he has not had a relevant affiliation or financial arrangement with any ineligible companies that may have a direct interest in the subject matter of this continuing pharmacy education activity within the past 24 months.

Additionally, members of the District 4 Planning Committee and NABP staff involved in the planning of this activity do not have any current affiliation or financial arrangement with any ineligible companies that may have a direct interest in the subject matter of NABP's CPE program within the last 24 months.

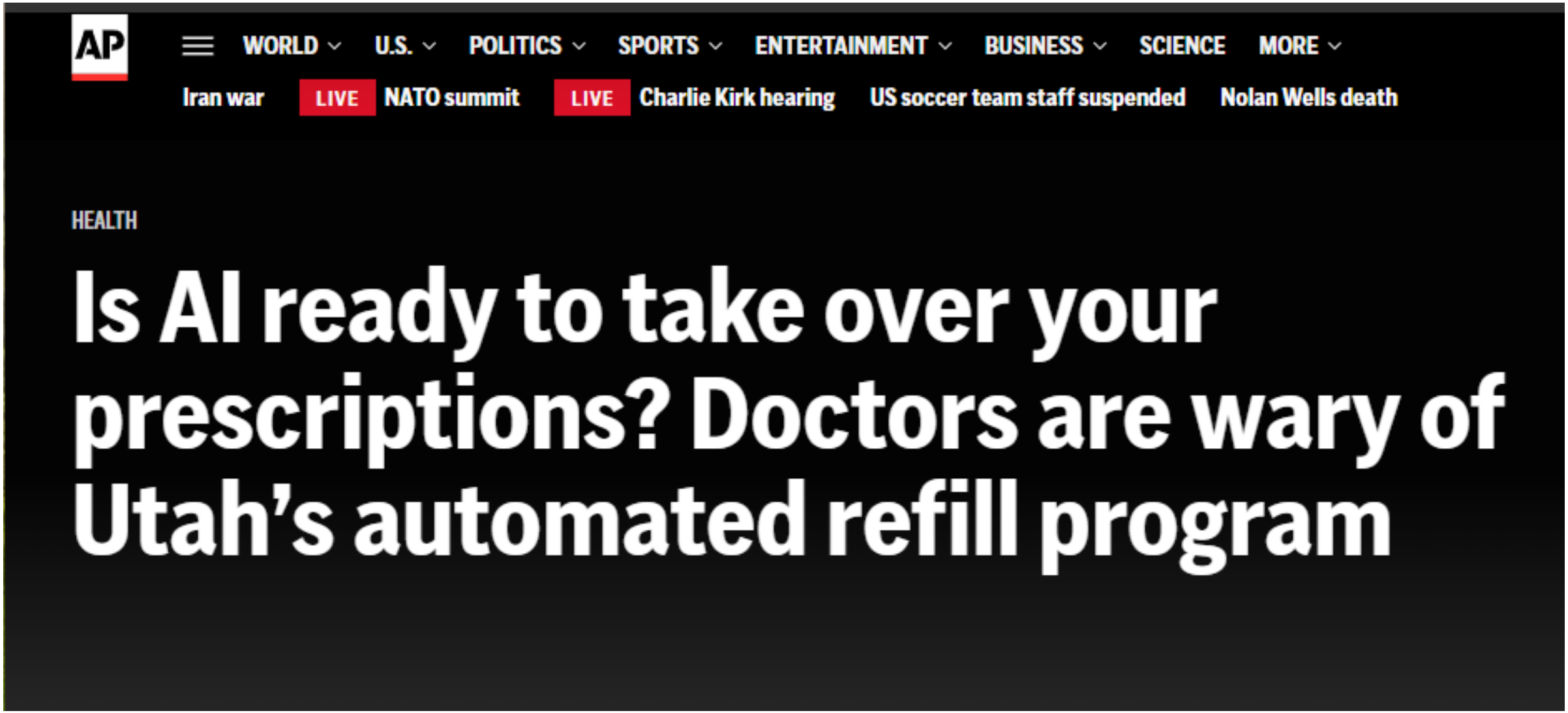
AI Disclosure:

AI was not used to generate slides or content within this presentation.

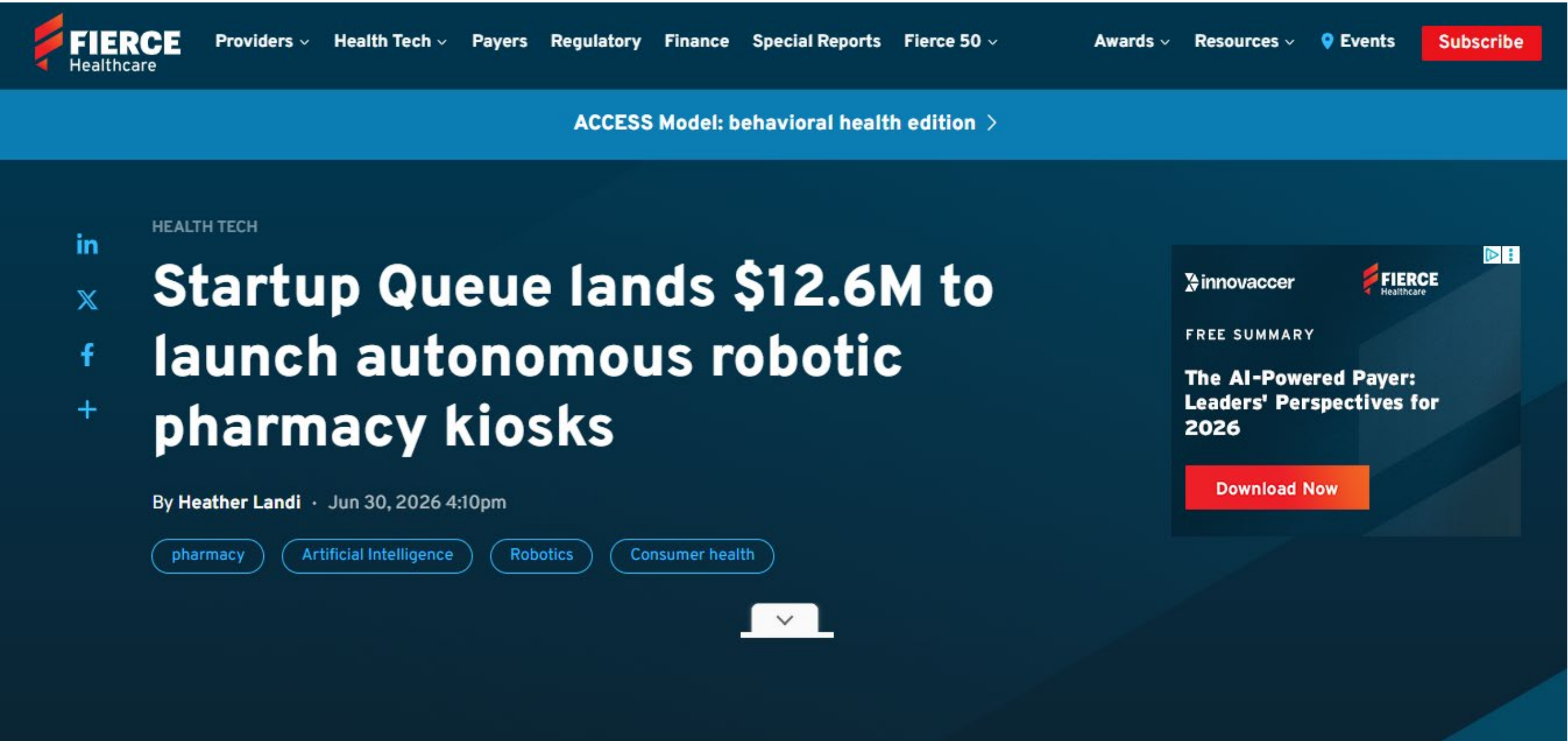
Learning Objectives

1. Discuss recent federal and state legislative actions regarding artificial intelligence (AI) in health care.
2. Identify which of the five levels of AI are the main target of regulation.
3. Describe ways to regulate AI that allows innovation while safeguarding the public.

AI in the Headlines



AI in the Headlines



Rush to Implement AI

Economics and Politics

- AI tech companies pouring money into elections and lobbying
- Jobs to be added by tech companies?

Operations

- Reduced admin load for clinicians
- Efficiency through reduced human cost
- Jobs to be lost?
- Shift in roles for technicians and pharmacists?

Clinical

- Improve quality
- Improve safety
- Find cures

Federal Legislative Activity on AI

- Executive orders have prompted work on a national framework for regulating AI, and Sen. Blackburn has circulated a draft bill
  https://www.blackburn.senate.gov/services/files/15AAEA28-5403-480D-8720-5E4C2D6F2A9A

- More than 1,000 bills/amendments introduced during 119th Congress (2025-26) include language about AI

- Several bills introduced that would affect AI use in prior authorization

- HR 238 – Healthy Technology Act of 2025
  - Referred to Committee on Energy & Commerce in 2025 (no recent action)
  - Would allow AI to autonomously renew prescriptions

  https://www.congress.gov/bill/119th-congress/house-bill/238

State Legislative Activity on AI

- The Cicero Institute identified over 1,200 bills related to health care – AI introduced in state legislatures during Q1-2026

- This institute created a Model “AI Clinical Services Act” that is being promoted for standardized regulation of AI in health care
  - Addresses autonomous AI prescribing, but not autonomous dispensing

- *https://ciceroinstitute.org/research/ai-clinical-services-act/*

ASHP Summit on AI in Pharmacy Practice

Box 1. Challenges with Artificial Intelligence (AI) in Healthcare[a]

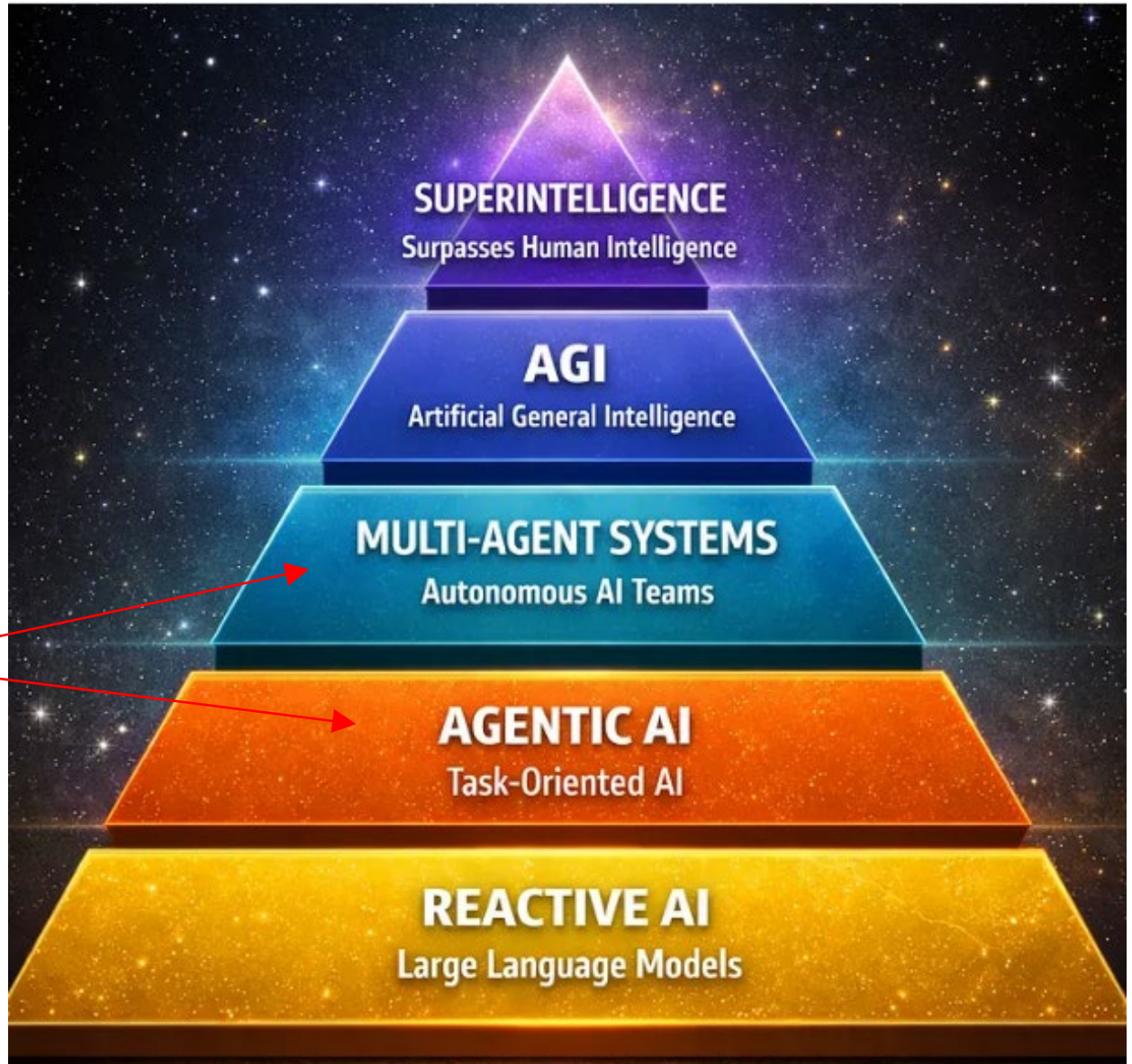
- **AI misinterpretations:** ChatGPT and similar models may produce unexpected results or "hallucinations."
- **Training gaps:** AI systems often require updates specific to healthcare to prevent inaccuracies and "drift."
- **Biases in AI:** Bias can influence AI decision-making within healthcare settings.
- **Environmental concerns:** Large AI models have a significant carbon footprint.
- **Ethical and accessibility concerns:** Explore the ethics of AI, focusing on the digital divide that limits access to AI technologies.
- **Economic factors/cost implications:** Discuss today's AI costs and future projections.
- **Liability concerns:** Liability can be a two-edged sword. There is liability when using AI if it is inaccurate or biased, or by not using it (as when it becomes the standard of care).
- **Longevity and healthcare:** Examine how AI developments could influence human longevity.

[a]Used with permission from Harvey Castro.

Am J Health-Syst Pharm. 2024;81:1327-1343

5 Levels of AI

Focus of regulation in the next 5 years



Reactive AI – Examples

- Search tools for administrative tasks (find a policy)
- Summarize or translate documents
- Search literature to answer research/clinical questions
- Chatbots to answer patient questions
- Co-pilots that facilitate documentation & billing
  - Record patient-clinician conversations (i.e., ambient AI)
  - Summarize conversations and data for a clinical note
  - Select billing codes based on data

Reactive AI – ability to answer questions

- BRIDGE researchers at Mass General Brigham have been testing AI for reading text and answering clinical questions. Their ongoing research on over 100 large language models (LLMs) is available online

- Several LLMs scored as high as 92 on medical licensing exams, but scored only 44.8% on the BRIDGE clinical text evaluation

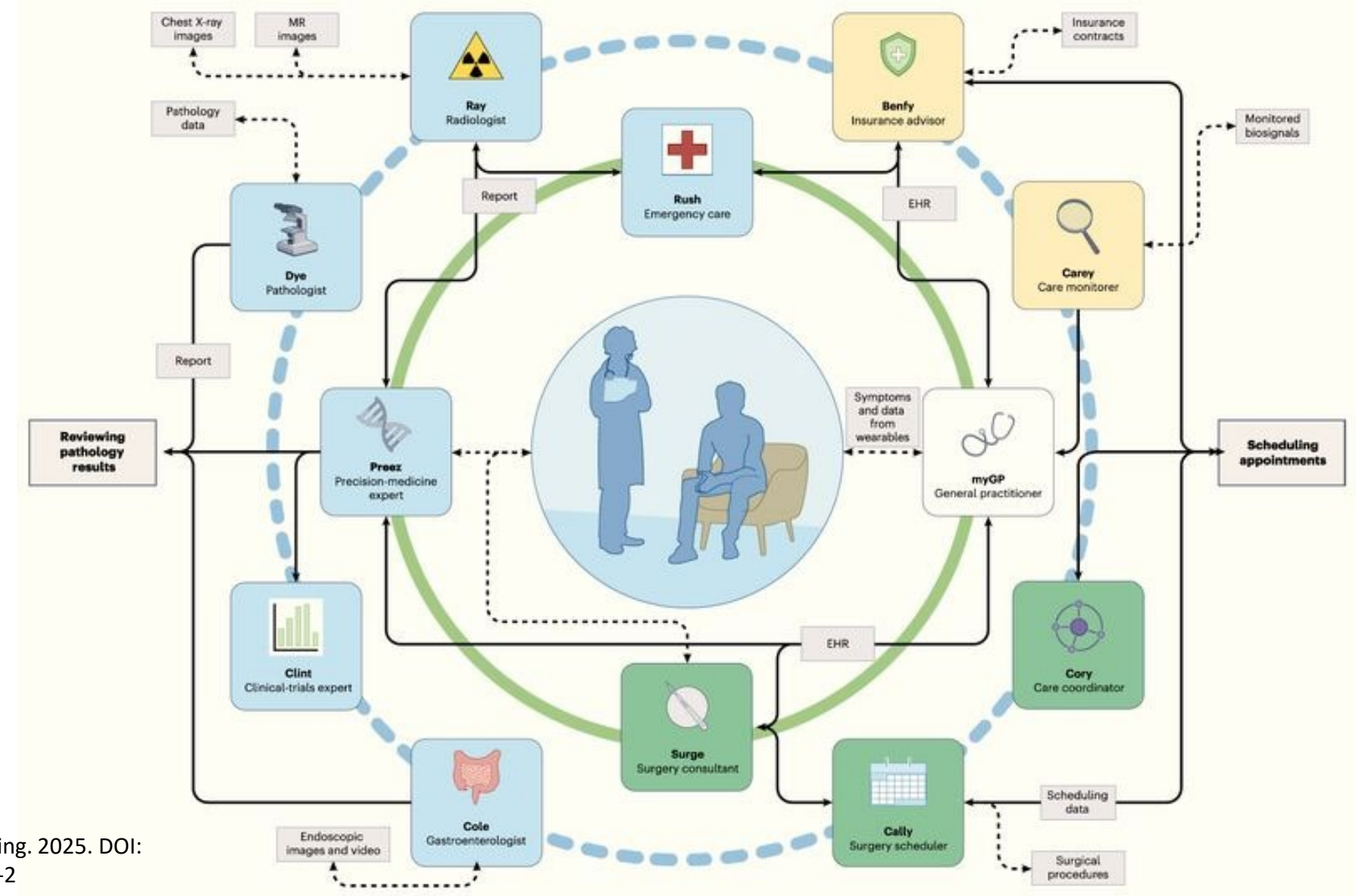
- Most models do well on exams that use clear questions with multiple-choice answers, but may not yet be ready to accurately interpret the complex language in EHRs and clinical notes

Agentic AI – Clinical Examples

- Prior authorization
- Prescribing/Ordering
- Adjusting doses of medications
- Review/process/approve prescriptions for medications
- Identify and contact patients for targeted interventions

Key issue: Is a “human in the loop” or is AI acting autonomously?

MASH: multi-agent systems for healthcare



Nature Biomedical Engineering. 2025. DOI: 10.1038/s41551-025-01363-2

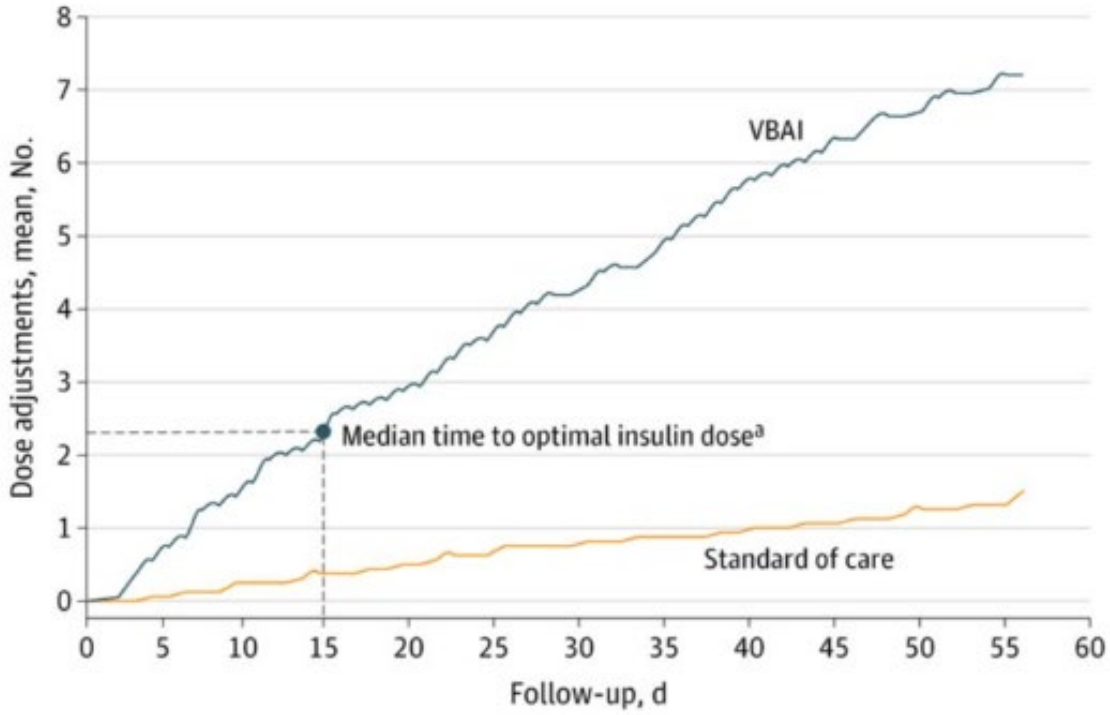
Recent Developments

Updoc

- https://updoc.ai/
- Autonomous system to adjust insulin doses
- Physician prescribes insulin and app tells patients how to adjust dose until patient reaches target range for blood glucose
- System can work within current regulation that allows for sliding scale insulin instructions

UpDoc Debuts First FDA-Cleared Clinical AI Platform Built for Real-Time Patient Care Delivery and Intelligent Care Coordination

With $18M in oversubscribed seed financing and initial deployments at leading health systems nationwide, UpDoc enables clinicians to fully embrace agentic AI's potential in clinical settings



Utah – Doctronic

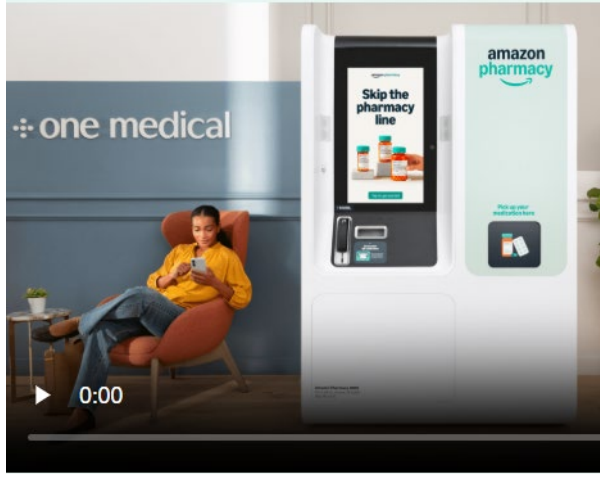
- Doctronic AI launched a pilot-project in Utah in Jan 2026. Utah Office of AI Policy approved the project without the prior input of medical board or pharmacy board.
- Utah medical board asked state to discontinue Doctronic project, but the project continues.
- Platform allows a patient to request renewal of a prescribed medication without contacting a human prescriber. The AI system reviews the information entered by the patient to determine if Rx should be issued and can then send Rx to pharmacy. In the first phase of project, a human MD reviews/approves the AI actions, but the next phases involve increasing autonomy of AI.
- Recent report indicates that Doctronic AI had approved 72% of renewals and referred others to a physician. For AI-approved renewals, physicians disagreed with renewal in 3% of cases.

Autonomous Pharmacy Kiosks

- Queue, Inc
- Autonomous pharmacy kiosk
  - No human needed to fill/dispense
- Patient uses app on phone to verify identity and initiate Rx fill
- Not clear if a remote pharmacist will be involved in reviewing Rx or answering questions



- Amazon pharmacy kiosk
- Autonomous pharmacy kiosk
  - No human needed to fill/dispense
- Patient uses app on phone to verify identity and initiate Rx fill
- A remote pharmacist reviews Rx and is available to answer questions



Things to consider in regulating AI in health care

Accountability and Liability for Autonomous AI

- Can AI serve as a “Learned Intermediary?”
  - If so, how does this affect liability of AI and of others?
- Can an AI bot be a licensed professional ?
  - If AI can pass a licensing exam, is that enough?
  - Do we alter licensing criteria (education, experience, background checks)?
- If we certify AI for non-professional tasks (ie, technician roles), will we change requirements for the number of techs/bots that a pharmacist may oversee?
- When will we reach the point where a company has greater liability for NOT using AI ?

Scope of Practice – Humans vs AI

- A purported goal of AI deployment is to reduce physician burden for performing “routine” tasks. Delegation for specific tasks could be made to AI or to other human clinicians.

- Should we provide AI with greater authority than pharmacists with regards to medication-related decisions or actions? *If Utah allows AI to renew a prescription, should pharmacists also be allowed to do this?*

- Some states are requiring humans to be “in the loop” and preventing the use of autonomous AI. *This only makes sense if humans are better than AI for decision making.*

Regulating Agentic AI

- Human Oversight
  - **HITL (Human-in-the-Loop)** requires a human to actively approve every AI recommendation before it takes effect, such as confirming a diagnosis or issuing a prescription.
  - **HOTL (Human-on-the-Loop)** allows the AI to execute routine tasks autonomously while a human monitors the system and steps in only to address issues that fall outside the approved parameters for AI actions.

- HITL Example: Iowa regs for prior authorization
  - AI cannot autonomously deny coverage of a drug. A human must review the denial before the prescriber/patient is informed.

Discussion

- Has your board of pharmacy addressed autonomous prescribing of medications? If so, how are you approaching it?

- Have you been asked to review or authorize AI technology that could replace a pharmacist?

- Should we require a human-in-the-loop even if a specific AI application demonstrates it can do a specific task more safely than a pharmacist or physician?

Assessment Question 1

1. What level of artificial intelligence (AI) is likely to be the target of health care regulation in the next five years?

    a. Reactive AI

    b. Agentic AI

    c. Superintelligence

Assessment Question 1

1. What level of artificial intelligence (AI) is likely to be the target of health care regulation in the next five years?

    a. Reactive AI

    b. Agentic AI

    c. Superintelligence

Assessment Question 2

2. The Doctronic AI prescribing pilot in Utah did NOT receive prior approval from the Utah Boards of Medicine or Pharmacy.

a. True

b. False

Assessment Question 2

2. The Doctronic AI prescribing pilot in Utah did NOT receive prior approval from the Utah Boards of Medicine or Pharmacy.

a. True

b. False

Assessment Question 3

3. A common approach to regulating “Agentic AI” is to require:
    a. Board of Pharmacy prior approval of any AI technology
    b. Limit hospitals and clinicians to only FDA-approved AI
    c. A human must have oversight of AI decisions and actions

Assessment Question 3

3. A common approach to regulating “Agentic AI” is to require:
    a. Board of Pharmacy prior approval of any AI technology
    b. Limit hospitals and clinicians to only FDA-approved AI
    c. A human must have oversight of AI decisions and actions

Discussion

Session Code

X3PK

0.5 contact hours (0.05 CEU)

0205-9999-26-111-L03-P

0205-9999-26-111-L03-T

Claims must be submitted by the morning of December 14, 2026.

https://nabp.pharmacy/claimcpe

NABP® and NABP Foundation® are accredited by the Accreditation Council for Pharmacy Accreditation (ACPE) as providers of continuing pharmacy education (CPE). ACPE provider number: 0205.

Questions about submitting your claim? Please contact CPE@nabp.pharmacy.

NABP®

Copyright © 2026 National Association of Boards of Pharmacy® (NABP®)