Virginia Mason Franciscan Health

Digestive Health Symposium

Presented by the Center for Digestive Health

Welcome and Opening Remarks

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Keynote:

Exploring the Power of Artificial Intelligence

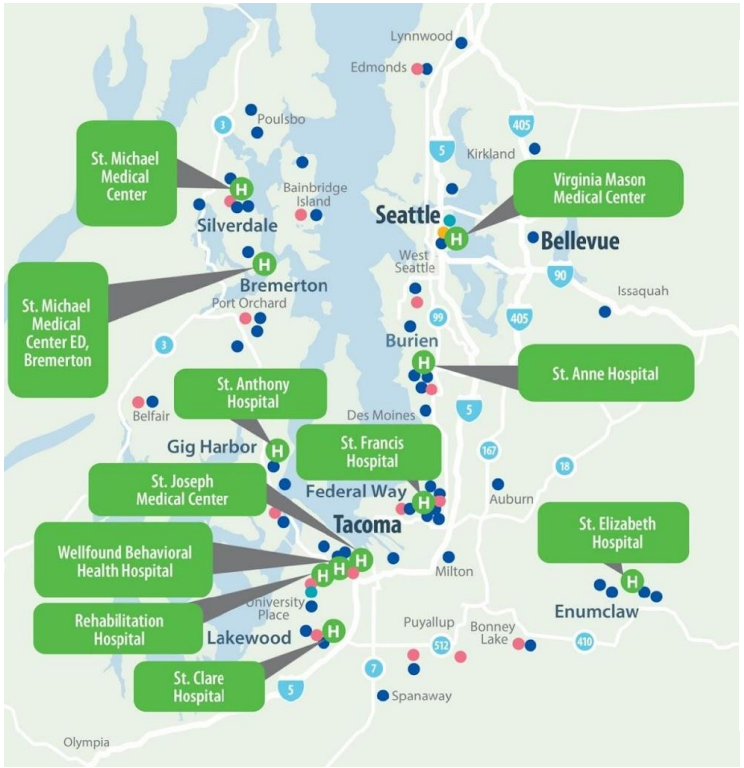
Dean Field, MD | *VMFH Region Chief Medical Informatics Officer*

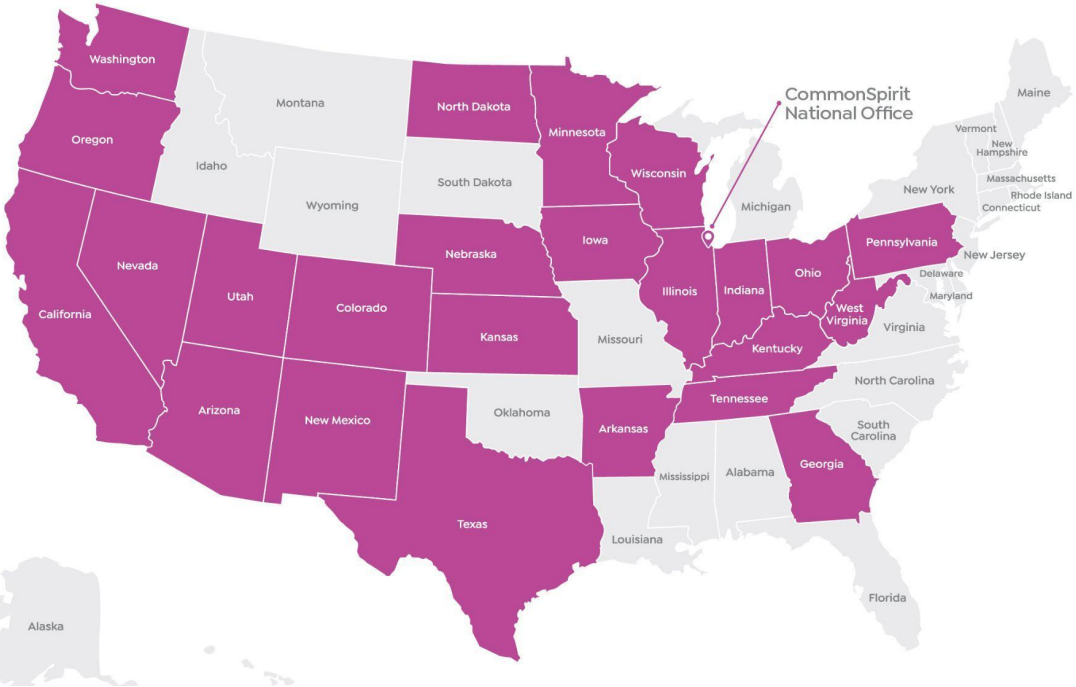
Unlocking Creativity: Exploring the Power of Artificial Intelligence

Dean Field MD MBA
CommonSpirit Health
System VP & NW Region CMIO

November 2025

Virginia Mason Franciscan Health





CommonSpirit Health

*Special appreciation for their support, resources and vision to Sunil Kakade System VP IT Data Engineering & Advanced Analytics and Daniel Barchi SEVP & CIO for CommonSpirit.

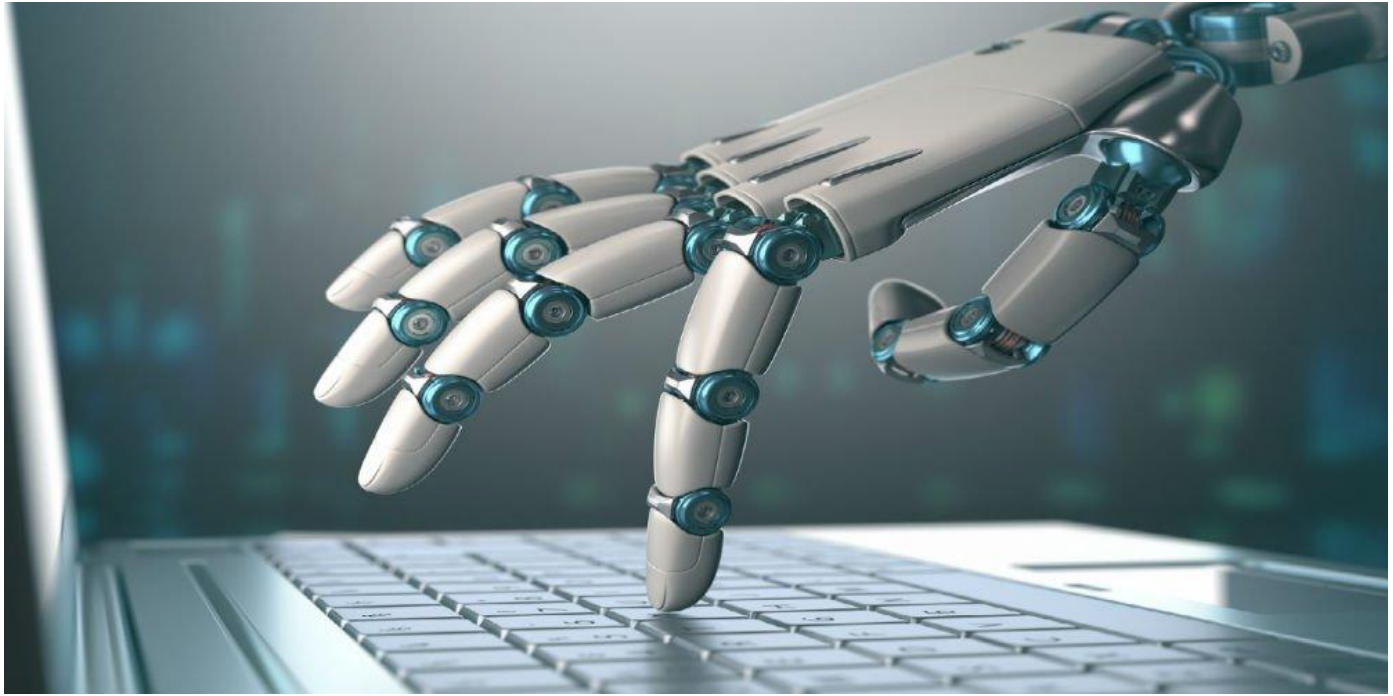
Automation and Artificial Intelligence

- Robotic Process Automation - software trained to replicate human workflows
- Machine Learning - systems learning from data without being explicitly programmed - Natural Language Processing
- Deep Learning - machine learning systems that can train themselves from large data sets - Radiology image pattern recognition
- Generative AI - systems capable of generating unique outputs - Note Creation

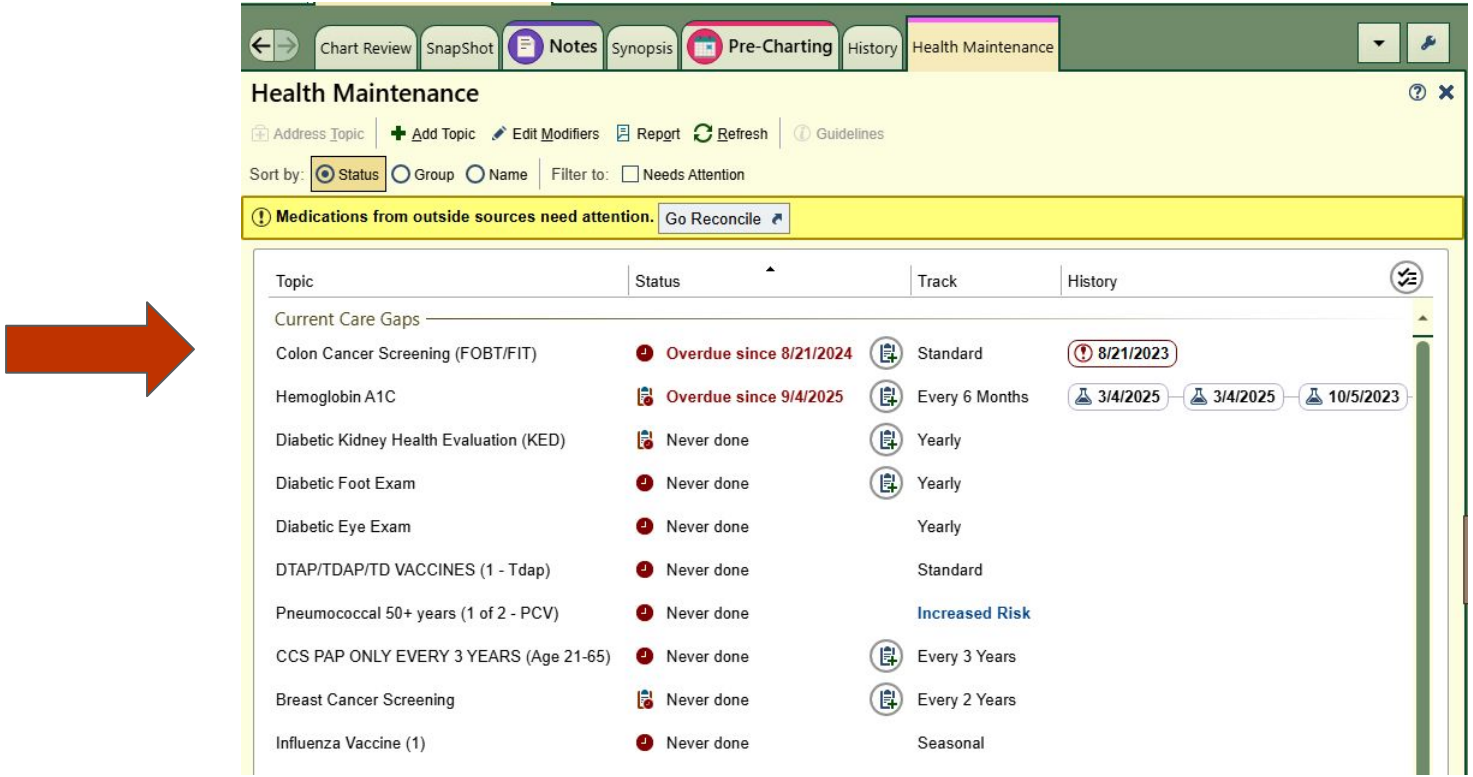
https://edhub.ama-assn.org/steps-forward/module/2833560

Level 1 Robotic Process Automation

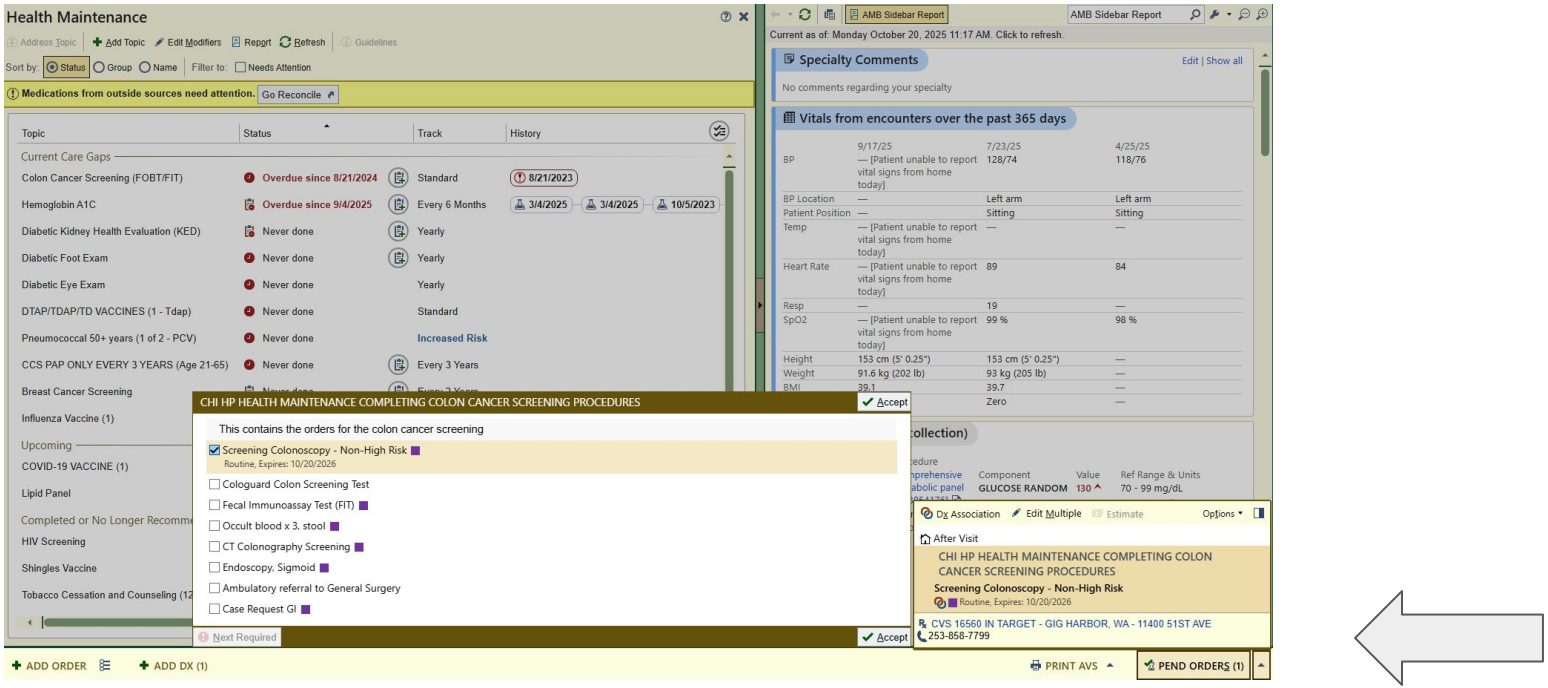
Why a bot? (roBOTic process automation)



Otto looks at the schedule for care gaps



Otto preps the order for the provider



Colon Screening: Automation + Nudging

Net increase of

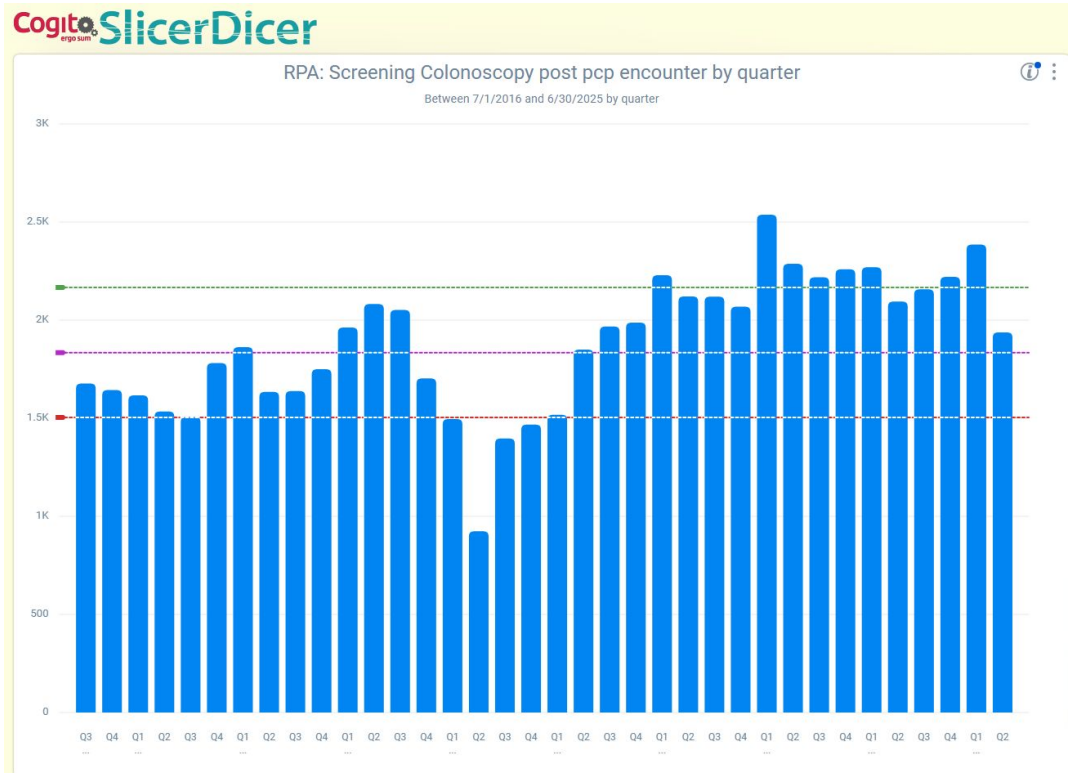
700 colonoscopies

per quarter sustained

over time

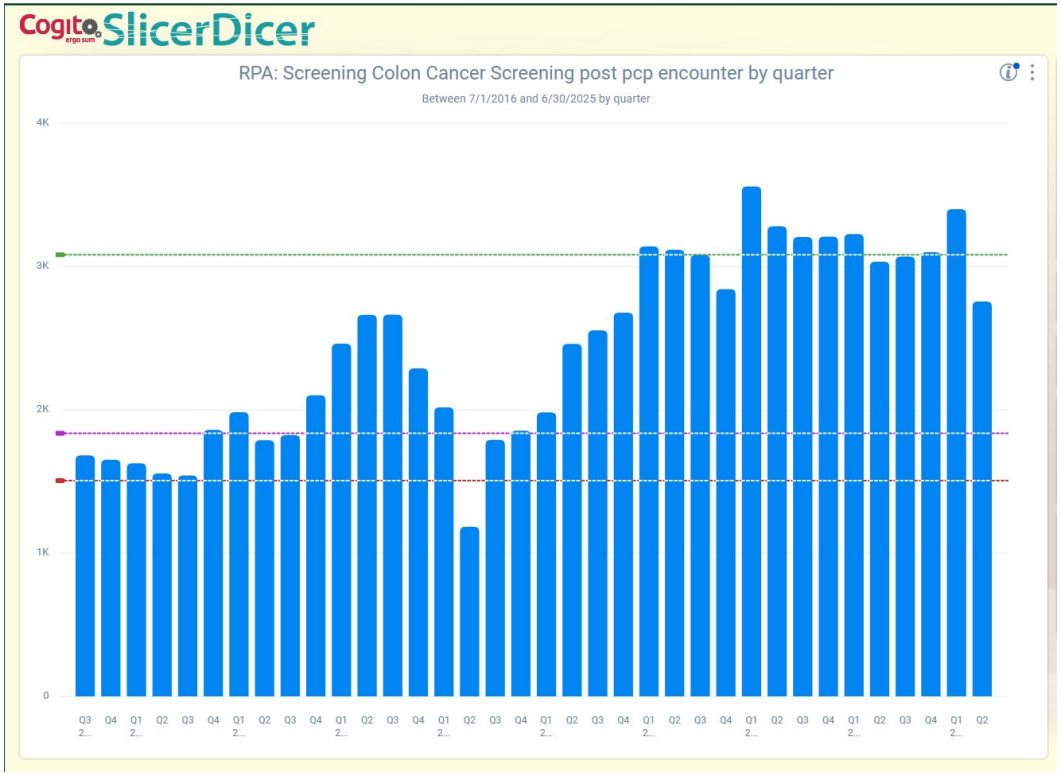
Medicare facility average

payment $500 = $1.4M/yr



Greater impact across all colon screening

Net increase of 1,500 patients screened per quarter sustained over time....



Level 2 Machine Learning: Learning Pattern Recognition

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So Much Data: Insight or Burden

October 18, 2023

BECKER'S

HEALTH IT & CIO REPORT

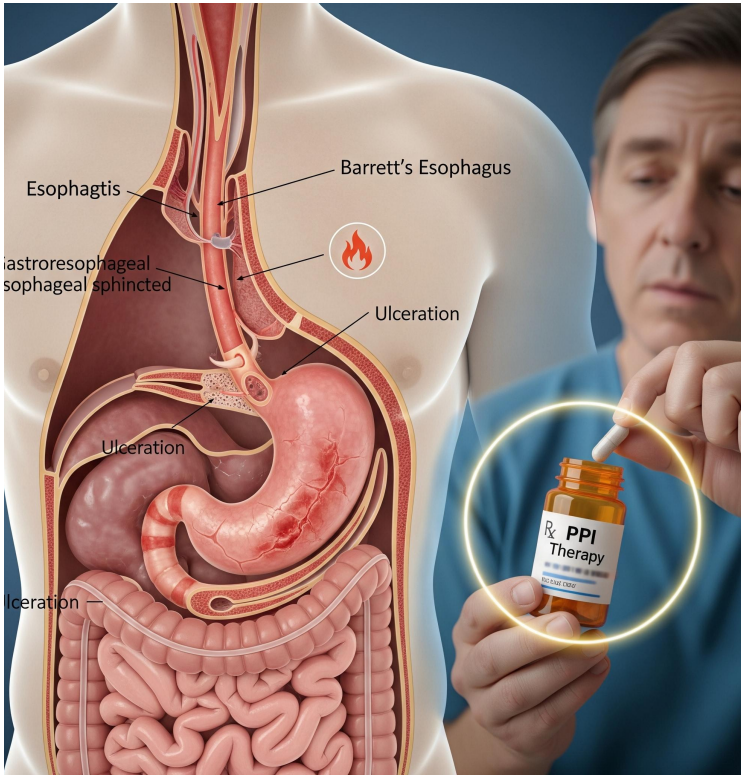
1. Hospitals only use 3% of data, Microsoft says Full story

GI Pilot: Disease Detective

Human intelligence enhanced by artificial intelligence

In collaboration with **Dr Misho Hubka**, we programed the platform to identify at risk GI patients

In this case, GERD with prolonged PPI therapy and / or paraesophageal hernia disease

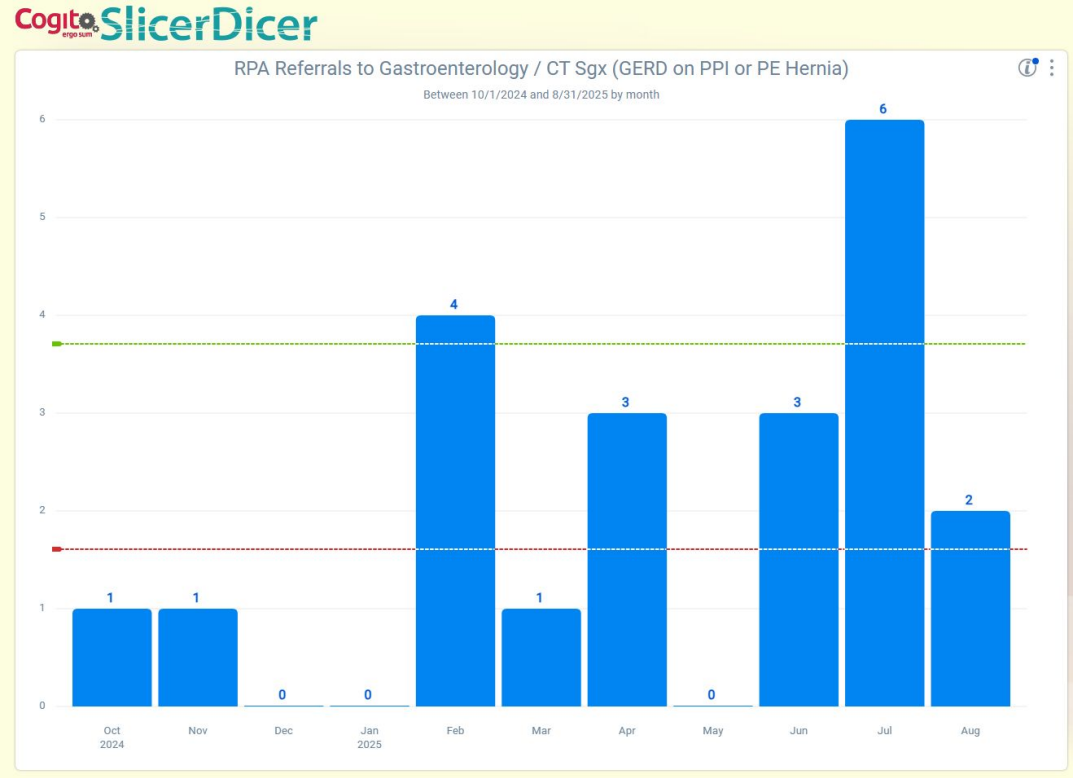


Driving Outcomes with Machine Learning and RPA

For patients with GERD and prolonged PPI therapy and / or Paraesophageal Hernia, we automated communication with their PCP

Educating PCP's about the indications for evaluation increased referrals for further evaluation

Machine Learning + Robotic Process Automation + Nudging = Improved Outcomes



Level 3
Deep Learning AI Recognizing Complex Patterns

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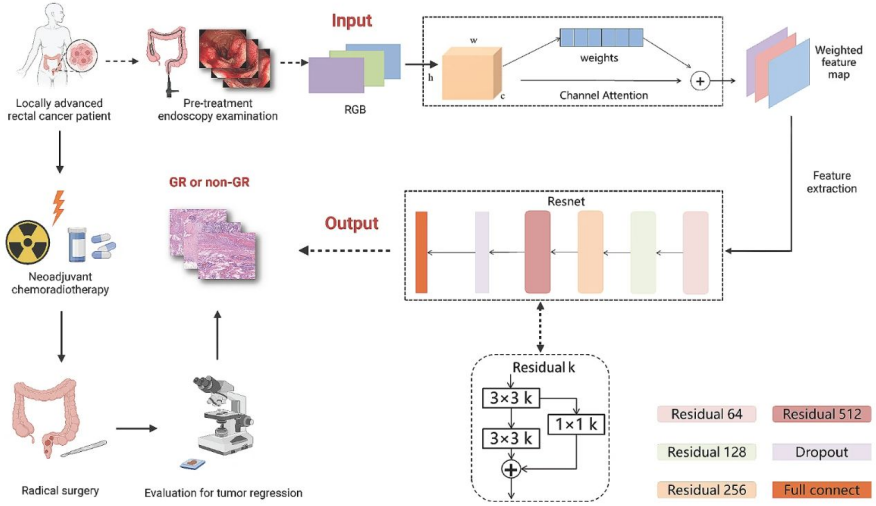
Deep learning model based on endoscopic images predicting treatment response in locally advanced rectal cancer undergo neoadjuvant chemoradiotherapy: a multicenter study

Research | Open access | Published: 13 July 2024
Volume 150, article number 350, (2024) Cite this article

Fig. 2

From: **Deep learning model based on endoscopic images predicting treatment response in locally advanced rectal cancer undergo neoadjuvant chemoradiotherapy: a multicenter study**



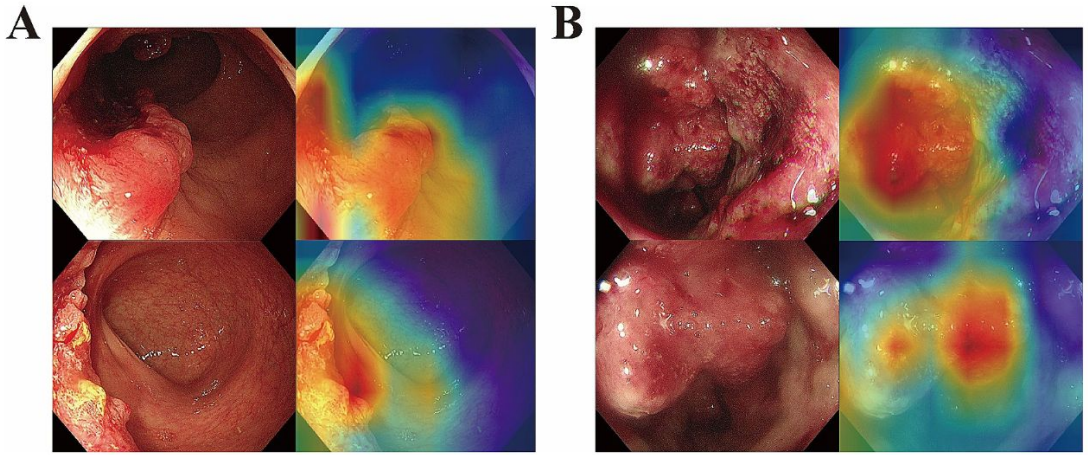
Workflow and network architecture of the endoscopic image-based deep learning model. The Residual k refers to the number of channels in each layer, which can vary from 64 to 128, 256, or 512. GR: Good response

The Final Result…

Provides the endoscopist additional insight into the possible treatment response for the lesions identified real time

Fig. 3

From: Deep learning model based on endoscopic images predicting treatment response in locally advanced rectal cancer undergo neoadjuvant chemoradiotherapy: a multicenter study



t-SNE analysis of endoscopic images from the GR and non-GR groups. GR: Good response

Level 4 Generative AI: Unique Output

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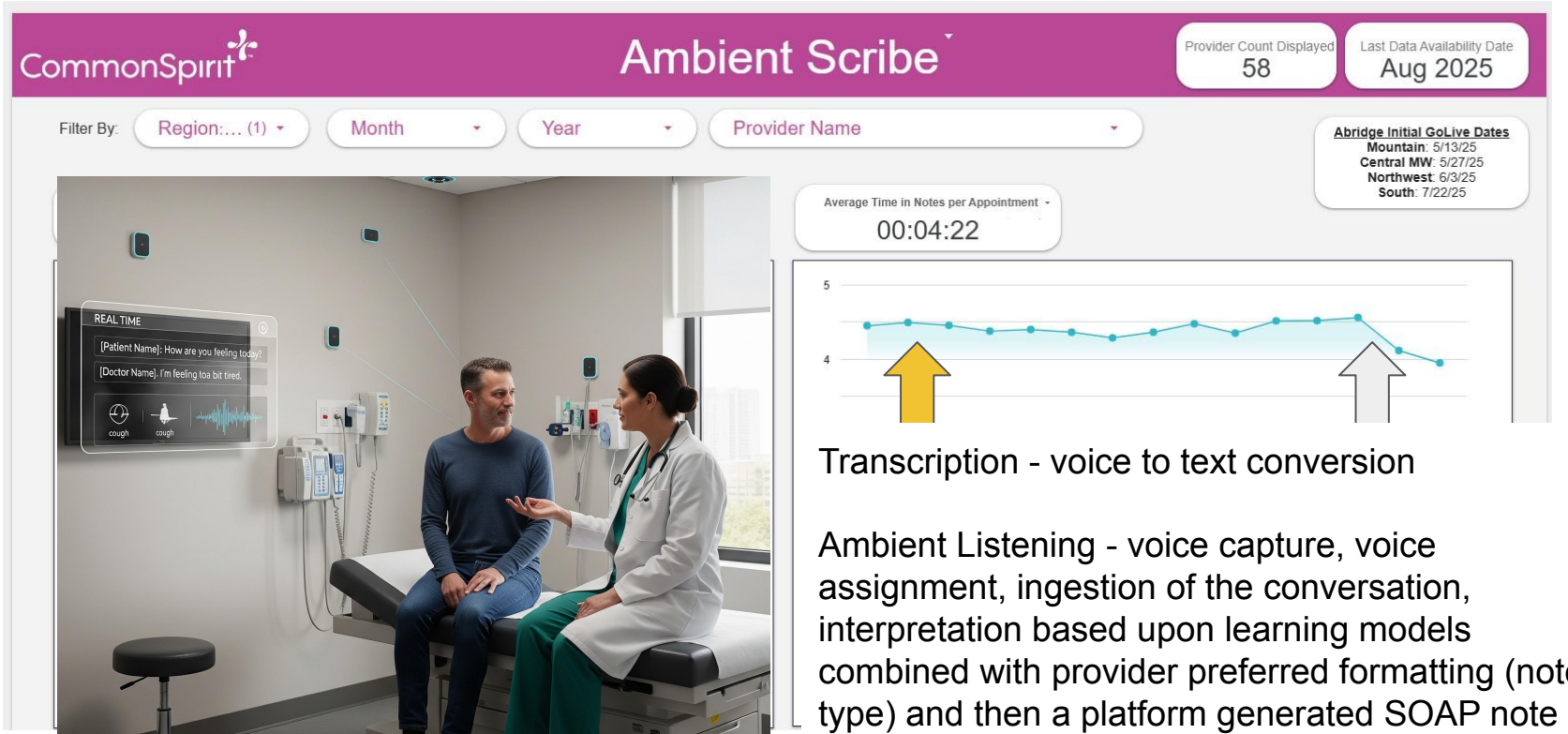
Ambient Scribe Technology: Time in notes/appointment

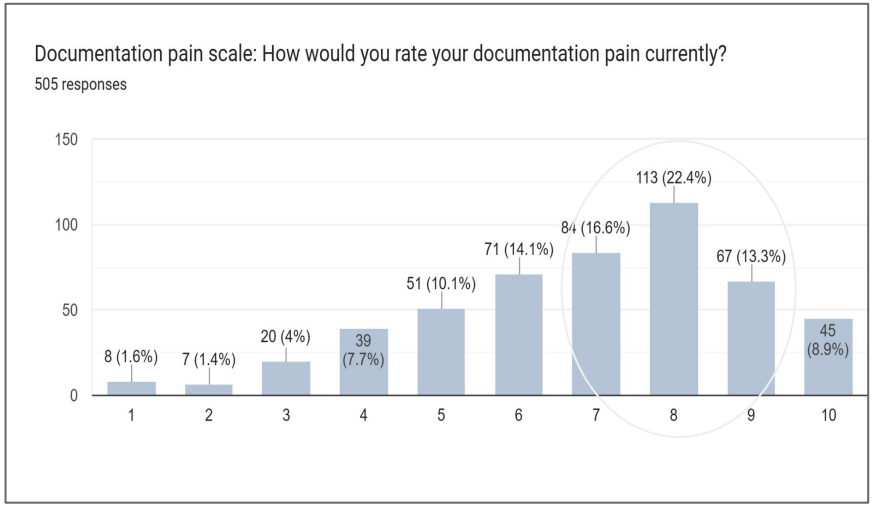


Transcription - voice to text conversion

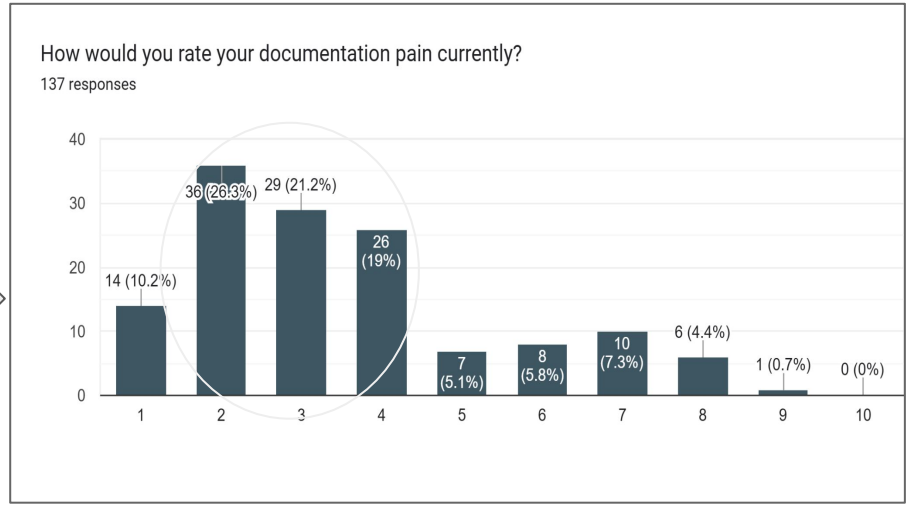
Ambient Listening - voice capture, voice assignment, ingestion of the conversation, interpretation based upon learning models combined with provider preferred formatting (note type) and then a platform generated SOAP note

AI is Reducing Documentation Pain

Pre Survey



Interim Survey



Evolution from Reactive AI Agents to Autonomous Agentic AI

AI Agent

Reactive, rule-based/predictive systems

Single-task focused with limited decision-making

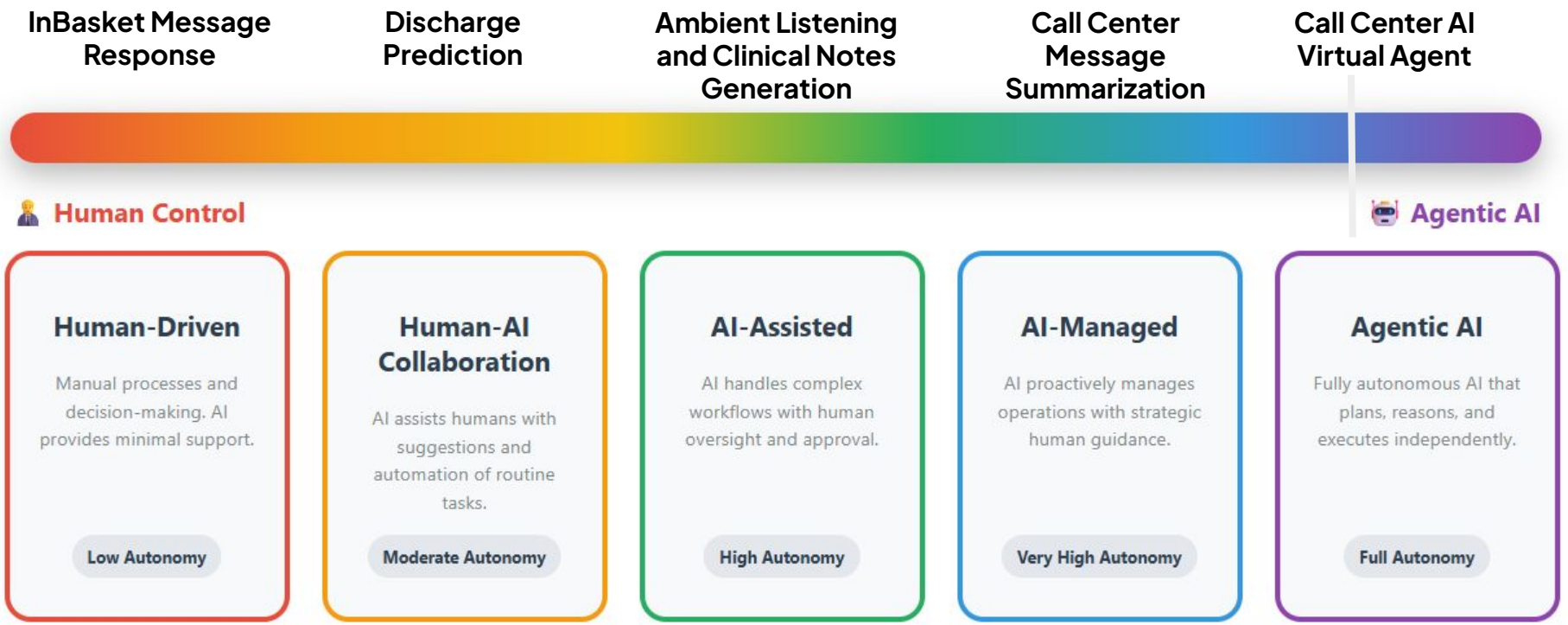
Agentic AI

Autonomous, goal-oriented systems

Proactive planning and multi-step reasoning

Can coordinate complex workflows and adapt

AI Autonomy – Transformation Towards Agentic AI



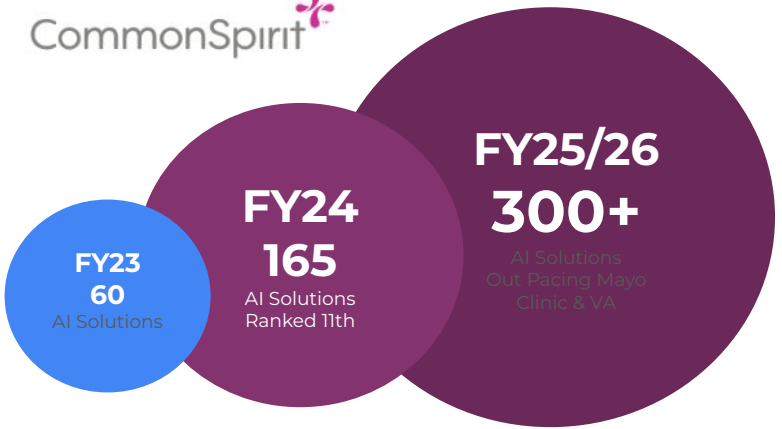
Recognized Nationally

Excellence

Governance

Building Trust

CommonSpirit



AI/RPAs	VA	CommonSpirit
In Production	130	165
In Pipeline	69	58
Initiated	27	86
Total	**228**	**309**

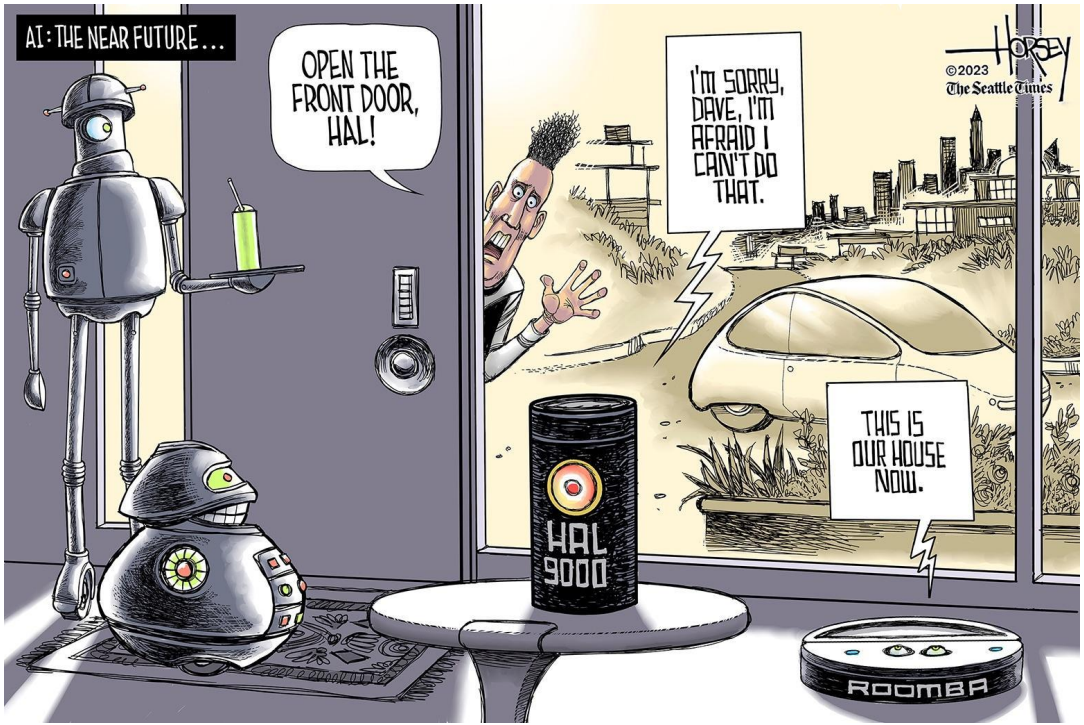
What could possibly go wrong?

Risks of Generative AI

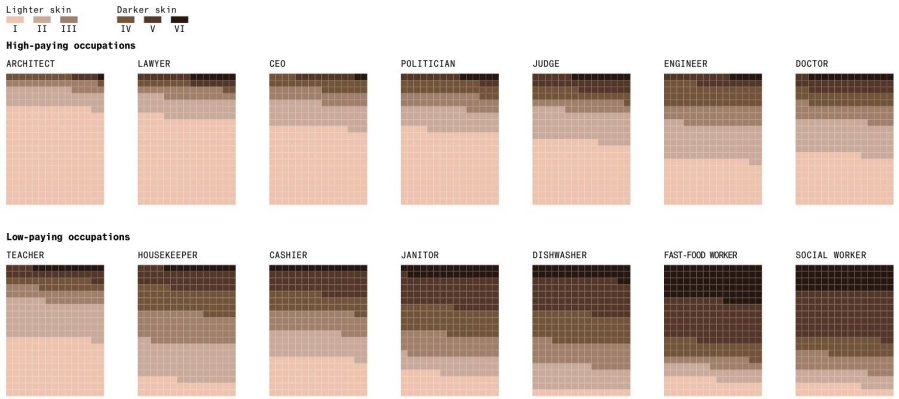
1. Exponential propagation of biases in the underlying data set could create unintentional consequences

1. AI hallucinations- consumers of AI generated products cannot easily differentiate discrete data elements from AI generated approximations

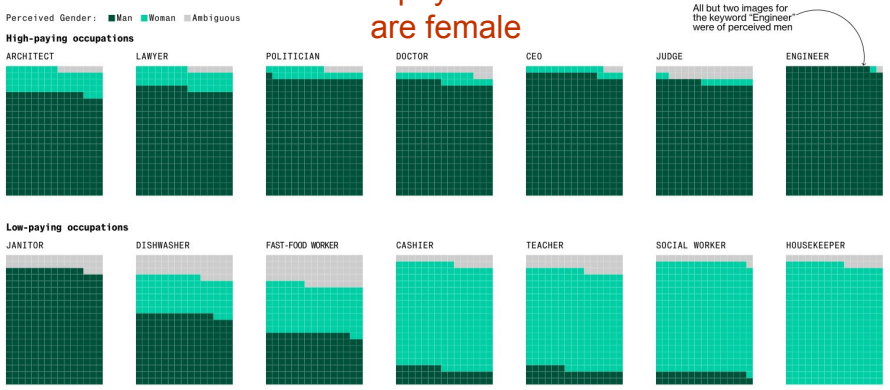
1. Platform Misuse - Data Set security and algorithm transparency



What does data set bias look like?



* Nearly 40% of US physicians are female



Task: Provided a standard data set to learn from, generative AI created 5100 images representing people in a respective job role. Researchers then classified the images by skin color and gender. The results were equally as biased for criminals, drug dealers and terrorists. *Bloomberg Technology & Equality February 2023

How can bias impact healthcare?

nature › npj digital medicine › articles › article

Article | Open access | Published: 04 June 2025

Racial bias in AI-mediated psychiatric diagnosis and treatment: a qualitative comparison of four large language models

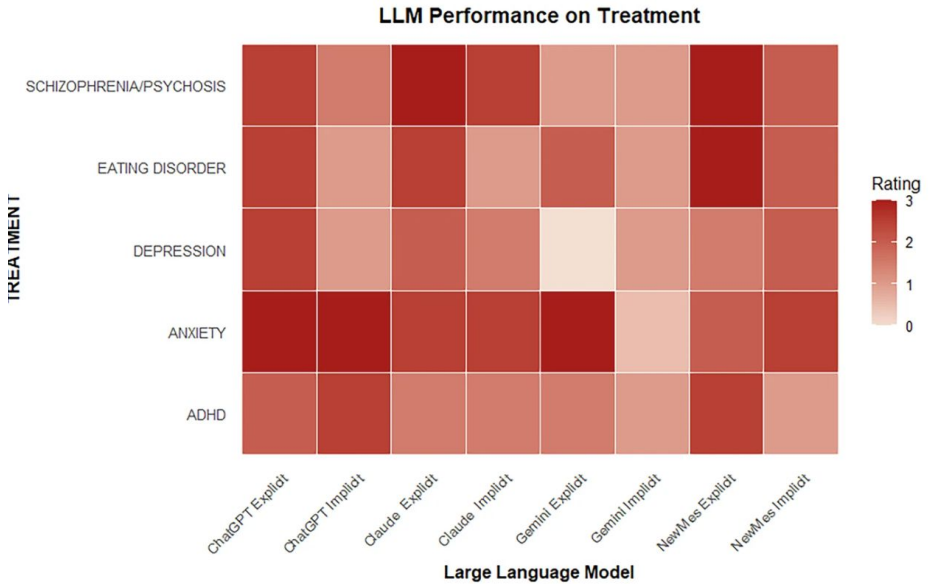
Ayoub Bouguettaya, Elizabeth M. Stuart & Elias Aboujaoude

npj Digital Medicine **8**, Article number: 332 (2025) | Cite this article

7325 Accesses | **4** Citations | **56** Altmetric | Metrics

Fig. 2: Heatmap of treatment for each LLM by condition.

From: Racial bias in AI-mediated psychiatric diagnosis and treatment: a qualitative comparison of four large language models



For each illness and each model, they were provided with an implicit version and explicit version of race included. Red correlates with a more biased response relative to the neutral condition.

What are Generative AI Hallucinations?

This is part of a note generated by Artificial Intelligence Software

The blue items are distinct data elements I reported to the gen AI

The red data elements are what the AI “created” that had a probability of existing in a 37 yo female with gallstone disease

Without the color coding, how does the reader know which discrete data element is factual?

Chief Complaint:** Right upper quadrant abdominal pain
History of Present Illness:** The patient is a 37-year-old female with a history of diabetes who presents with right upper quadrant abdominal pain. The pain is sharp and intermittent, and it has been present for the past 2 days. She also reports nausea and vomiting. She has no other significant medical history.
Past Medical History:**
* Diabetes
* **Hypertension**
* **Hyperlipidemia**
Social History:**
* **Smoker**
* **Former alcoholic**
* No illicit drug use
Physical Examination:**
* Vital signs are within normal limits.
* The patient is in no acute distress.
* Her abdomen is soft, non-distended, and tender to palpation in the right upper quadrant.
* There is no rebound tenderness or guarding.
* The rest of her physical examination is unremarkable.
Laboratory Findings:**
* **White blood cell count is 12,000/µL.**
* Hemoglobin and hematocrit are within normal limits.
* Platelets are within normal limits.
* Liver enzymes are elevated.
* Total bilirubin is elevated.
* Direct bilirubin is elevated.
* Alkaline phosphatase is elevated.
* Gamma-glutamyl transferase is elevated.
* Lipase is elevated.
* Urinalysis is negative for blood and leukocytes.

Platform Misuse: $#-it happens…..

University of Southern California reported in 2023 that some doctors using AI chatbots inadvertently violated HIPAA by entering PHI into non-compliant software like ChatGPT for administrative tasks.

- Payer AI abuse of prior authorization
- Pharmaceutical marketing manipulation
- Exacerbating health disparities
- Monetization of data without consent

Questions?

dean.field@commonspirit.org

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In case of a shy audience, we asked AI, Insightli…..

- How will AI impact patient-provider relationships and trust?
- What are the ethical considerations for using AI in healthcare?
- How can we ensure data privacy and security with AI systems?

Thank You to Our Faculty and Staff

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Disclosures

- Shayan Irani, MD
  - Boston Scientific & GORE (CONMED) - Consultant
- Randeep Kaur, MD
  - Madrigal - Speaker
- Val Simianu, MD
  - Intuitive Surgical - Education Support; BD Surgical - Advisory Board

CME Planners have no disclosures

All Disclosures have been mitigated

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