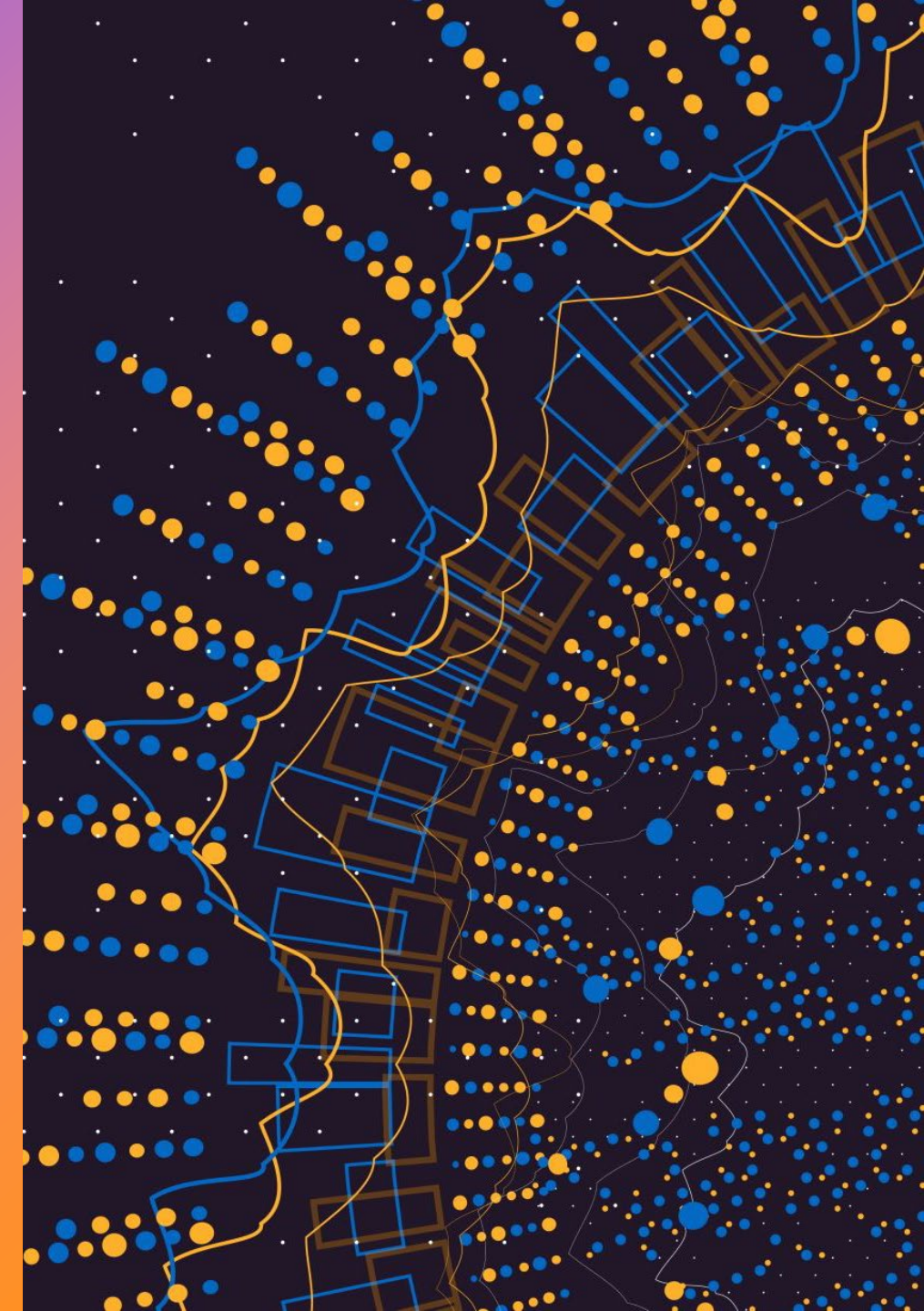


# AI AND DICTATION: HOW LARGE LANGUAGE MODELS CAN HELP PHYSICIANS SAVE TIME

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# Disclosures



HCMS AI and digital health  
committee



UT AI subcommittee



TMA Committee on HIT  
and AI

# Objectives

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Overview of AI in Healthcare

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Description of large language models

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How can AI help with dictations and documentation?

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Available products

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Pitfalls and problems

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What are hallucinations?

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Questions



# Categories of AI in Healthcare



The diagram consists of three identical rectangular boxes arranged horizontally. Each box has a dark purple outer border and a light purple inner area. The text is centered within the light purple area. The first box is labeled 'Patient Care Management', the second 'Diagnostics and Treatment', and the third 'Healthcare Administration'.

Patient Care  
Management

Diagnostics  
and Treatment

Healthcare  
Administration

# What is Machine Learning?



- Formal: A family of statistical and mathematical modeling techniques that uses a variety of approaches to automatically learn and improve the prediction of a target objective, without explicit programming



- Informal: Systems that improve their performance in a given task, through exposure to experience, or data

# What's the problem with our current documentation system?

- Increased administrative burden
  - Dictate to meet requirements rather than capturing information
- Documentation requirements can contribute to burnout
- Decrease in patient-physician engagement
- We are trying to capture so much information that it could lead to note “bloat”
- Increased physician “pajama time” documenting after hours

# Natural language processing

Uses machine learning to enable computers to understand and communicate human language.

Generative AI from large language models. Assists with repetitive tasks that increase healthcare costs and contribute to physician burnout.

Helps with repetitive tasks that run up the cost of healthcare and lead to physician burnout.

# How does AI scribing differ from voice to text software?



AI learns from  
repeated  
documentation

It doesn't just scribe  
what you say. It  
deciphers what is said  
and can categorize the  
information.

# AI in Clinical Documentation

Patient-physician  
conversation



Transcription and  
extraction



Note generation and  
formatting



# AI SCRIBING IS EXPLAINABLE AND TRANSPARENT

- AMBIENT TECHNOLOGY IS  
ONE OF THE FASTEST TO BE  
ADOPTED

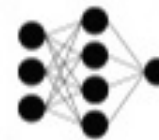
## Forms of Transparency

1. ...  
2. ...  
3. ...

**Explainability:** How does the algorithm reach its results?

010011  
100100  
000101  
001101|

**Dataset:** Where did the data come from, and how were they processed?



**Algorithmic:** How was the algorithm developed and validated?



**Architecture:** How do the pieces of the AI system work together?

+

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# Products on the Market

- HealOS.ai
- Freed
- Nuance DAX
- Dragon Medical One
- Abridge
- DeepScribe
- Suki
- Amazon Transcribe Medical
- Heidi Health
- Tali
- NoteMD
- Nabla

# Benefits of AI Scribes

- Patients
  - More “facetime” with a physician or clinical provider
    - “My doctor was focused more on me than pecking away at his/her keyboard”
  - Less intrusive than a live or human scribe in the room
  - Systems continue to learn and document in a way that can reduce delays in care due to prior authorization and treatment denials

# Benefits of AI Scribes

- Physicians
  - Reduced “pajama time”
    - There are lots of studies that show that AI scribes are having a positive impact on physician burnout
  - Better work-life balance
  - Notes are more accurate and concise
    - Things are not lost in translation
  - Less time documenting can allow you to increase productivity

# Benefits of AI Scribes

- Administration
  - Cheaper than live scribes
  - Decreased physician burnout
  - Better patient satisfaction scores
  - Optimization of regulatory documentation.

# Challenges

- Cost
  - Most products range from \$100-\$600 per clinician per month
  - This adds up if you have a large group
  - Compare this to an in-person scribe, which ranges from \$2500-\$4500 per month, or a virtual scribe, \$1000-\$1200 per user per month
- Implementation and roll-out
- How do physicians and patients perceive this?
  - Most of the current data shows that patients will accept the use of AI programs for scribing

# Challenges

- Be careful when there are multiple people in the room
- The programs do not do well with things such as accents and other languages
- Software does not recognize things such as medications
- *Hallucinations*
- *The human element is very important...always read the notes and correct the information.*

# The Impact of AI Scribes on Streamlining Clinical Documentation: A Systematic Review

- Sasseville et al in *Healthcare*, June 2025
- FINDINGS:
  - Reduced documentation time and improved clinician workflow
  - May help alleviate the perception of documentation burden
  - Impact on patient outcomes and systemic efficiency remains limited and inconsistent
  - AI scribes exhibit variability in performance and limitations
  - “Further research is needed to address concerns related to patients’ perspectives, data privacy, algorithmic bias, job placement, and evolving dynamics of the healthcare workforce in the context of AI adoption.”

# Regulatory Concerns

- What happens to the data?
- How do I consent patients?
- How is the data stored?
  - Is it a recording or the data transcribes, then goes away?
- Can there be any medical-legal implications?
- The answer is to check with your institution
  - As AI continues to grow and implementation increases, groups and institutions have to establish AI regulatory frameworks.
  - HCMS, TMA, and other organizations are trying to help physicians understand the regulatory nature of AI.

# Hallucinations

Output generated by an AI system- usually in LLMs or generative models- that is plausible-sounding but false, misleading, or entirely fabricated.

AI perceives things or relationships that do not exist

Fabricated outputs appear credible but are not based on facts

Human oversight is critical

# Hallucinations

- Paper published by OpenAI researchers
  - Hallucinations “persist due to the way most evaluations are graded- language models are optimized to be good test-takers, and guessing when uncertain improves test performance.”

# What's next for ambient tech?

- Incorporation into orders
- Enhancing nursing capabilities
- Smart rooms and hospitals

**LOCAL NEWS**

Haley Hernandez, Health Reporter  
Published: March 12, 2025 at 12:41 PM  
Updated: March 13, 2025 at 8:40 AM  
Tags: Health, Houston Methodist

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## New high-tech hospital opening in Cypress



Houston Methodist Hospital in Cypress (Copyright 2025 by KPRC, Click2Houston - All rights reserved.)

**Cypress** – The new **Houston Methodist** Hospital in Cypress opens on March 17. This hospital merges technology and medicine in a way that's never been done before. It's one of the first completely high-tech hospitals featuring ambient listening technology and artificial intelligence.

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#### OUTCOMES



### Johns Hopkins Capacity Command Center Creates a New Center of Gravity



More than five years after its launch, the Judy Reitz Capacity Command Center at Johns Hopkins Medicine continues to deliver powerful operational efficiencies that improve care delivery.

By bringing together analytics, artificial intelligence and decision-makers in one place, the Command Center helps Johns Hopkins better manage patient care, experience, volume, and flow. That's an enormous improvement over the patient throughput challenges that were the impetus for the deployment of the Command Center. Back then, backlogs, bottlenecks, and patient holds negatively impacted the patient experience. Now, the Command Center is an internationally recognized model of excellence.

✓ 16

Beds Capacity Created

↑ 9

Point Increase in Bed Utilization

↑ 46 %

Increase in Complex Transfers

⌋ 38 %

Improvement in Bed Assignment Time

# Conclusion



Trust and Verify

Human input is very important



Feedback is key to training a model



Ethical and regulatory questions remain but AI scribing remains one of the most adaptable and transparent AI features available for physicians.



Data shows that AI scribing saves physicians time and reduces burnout

# Resources

- “Open AI Realizes It Made a Terrible Mistake”, Tangermann; Futurism
- “What's Next for Ambient Tech?”, Jeffries: Becker's Health IT
- “The Science of Confabulation Elimination: Toward Hallucination Free AI-Generated Clinical Notes”, Liang; Abridge White Paper

# QUESTIONS

The background of the slide features a dense field of 3D question marks. The left half of the image is a solid blue gradient, while the right half is a purple-to-orange gradient. A thin white vertical line separates the two halves. The 3D question marks are rendered in a light purple/pink color and are scattered across the entire background, creating a textured, layered effect.