Responsible and compliant implementation of Artificial Intelligence (AI) technologies in EHRs and clinical practice

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Session Summary and Objectives

Summary:

This presentation will highlight UNC Health's Artificial Intelligence (AI) journey from its infancy to responsible implementation of tools that enhance provider satisfaction in delivering quality, patient-centered care, responsiveness to patient needs, and continuing to ensure complete patient care documentation. The presentation will also provide compliance and privacy considerations in implementing and monitoring the use of AI tools in a dynamic healthcare environment.
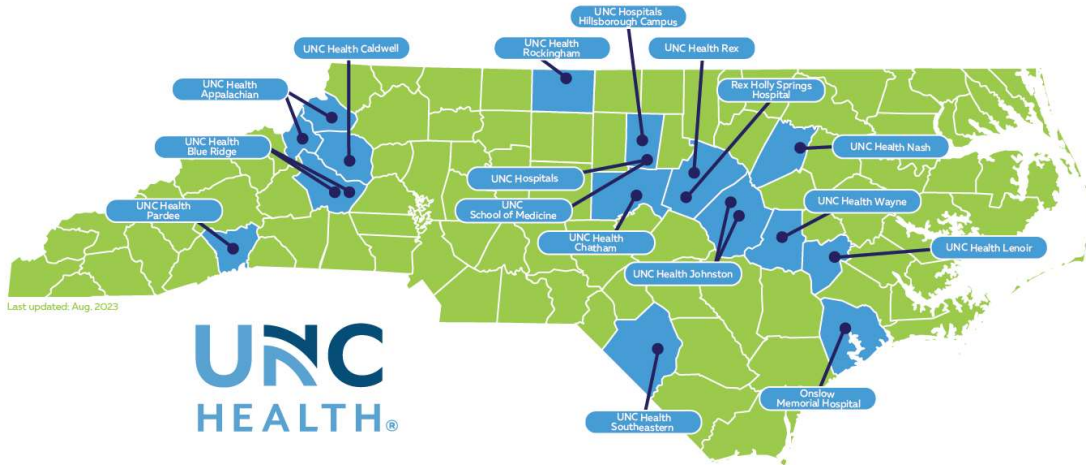
Objectives:

1. Describe how emerging AI technologies are being responsibly incorporated into clinical documentation and patient messaging

2. Explore the recent Presidential Executive Order on AI and its impact on clinical practice and health care operations

3. Associate the implementation AI technologies with regulatory compliance and privacy aspects

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Slide 3

The mission of UNC Health is *to improve the health and well being of North Carolinians and others whom we serve*

Last updated: Aug. 2023

Map labels: UNC Health Caldwell, UNC Hospitals Hillsborough Campus, UNC Health Rockingham, UNC Health Rex, UNC Health Appalachian, Rex Holly Springs Hospital, UNC Health Blue Ridge, UNC Hospitals, UNC Health Nash, UNC Health Pardee, UNC School of Medicine, UNC Health Wayne, UNC Health Chatham, UNC Health Lenoir, UNC Health Johnston, UNC Health Southeastern, Onslow Memorial Hospital

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Slide 4

Compliance work across UNC Health is guided by our vision, mission and values

Mission
To become a **"Best in Class"** Compliance and Privacy Services division, by providing exceptional service and value to UNC Health.

Vision
To provide exemplary, collaborative services by promoting valued and **trusted partnerships** and an understanding of Compliance. Through partnerships, we advise on operational best practices to mitigate regulatory risk to UNC Health.

Values
We will. . .
Act with Integrity
Be Trusted, Professional, and Objective
Remain Knowledgeable and Competent
Communicate with Transparency and Action

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UNC Health's AI Journey
Presenter: Dr. David McSwain

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AI can enhance decision-making & automate and improve tasks

Artificial Intelligence (AI)

Teaches computers to "think" more like us, understanding and solving problems, informing decisions, and even communicating with us

Intelligent Automation

Combines AI with automation tools to complete computer tasks traditionally performed by humans (e.g., data entry, processing documents, etc.)
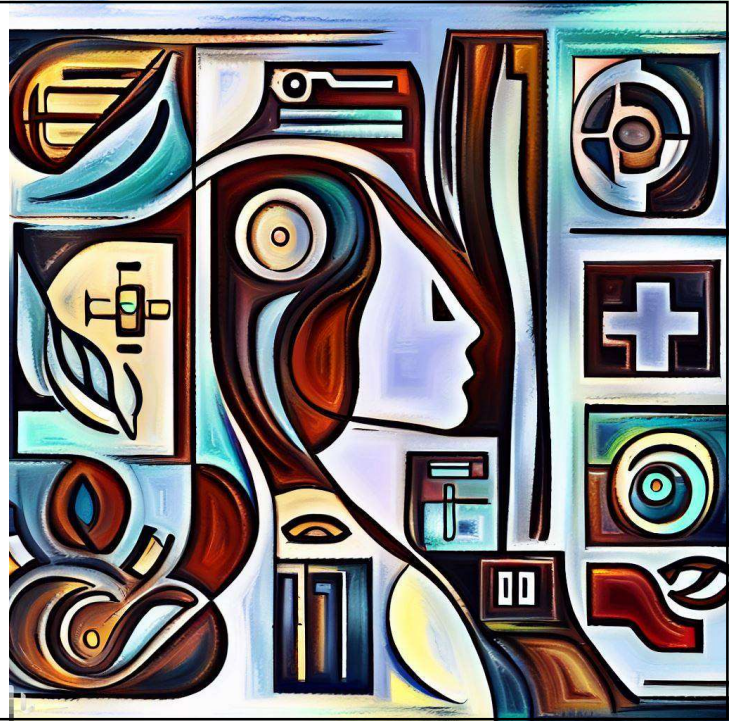
[1] ChatGPT, Accessed 3/14/2023 [2] ChatGPT, Accessed 5/18/2023   **UNC Health**

"Artificial Intelligence" is a Very Broad Term

- Clinical Decision Support
- Natural Language Processing
- Voice Recognition
- Wearable Devices
- Machine Learning
- Robotic Process Automation
- Chatbots and Virtual Assistants
- Predictive Analytics
- Generative AI
- Large Language Models

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UNC Health is at the forefront of AI

Started using AI in 2016

AI, early on, focused on developing solutions that address a specific need, challenge, or opportunity

Medical Coding _Administrative_	Case Duration Accuracy _Operations_	Better Sepsis Detection _Clinical_	**+12**
Optum's Computer-Assisted Coding "reads" records, identifies discrepancies and suggests appropriate coding	Internally developed case duration tool improves OR scheduling, boosting access and revenue	Internally developed sepsis detection model is more accurate than the EHR's native model, improving care	Other additional value-added AI solutions
✓ _Supports proper reimbursement_	✓ _28.5% more accurate than the native EHR model_	✓ _Improves order set usage and reduces false alerts_	

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Generative AI has potential to transform multiple aspects of healthcare

- **Open & accessible**
- **Trained with Big Data**
- **Uses Natural Language**

Transformative Potential

- Administrative Workflows
- Ambulatory Clinical Practice
- Acute Care Clinical Practice
- Patient Experience & Engagement
- Data and Analytics
- Revenue Cycle and Billing
- Coding and Compliance
- Care Access and Scheduling

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Burden Reduction and Augmentation of Clinicians

Clinician Burden and Burnout is Driving the Financial Crisis

- Opportunities for positive impacts in multiple areas
  - Prior Authorization
  - Chart Summarization
  - Automation of Documentation

Caution!

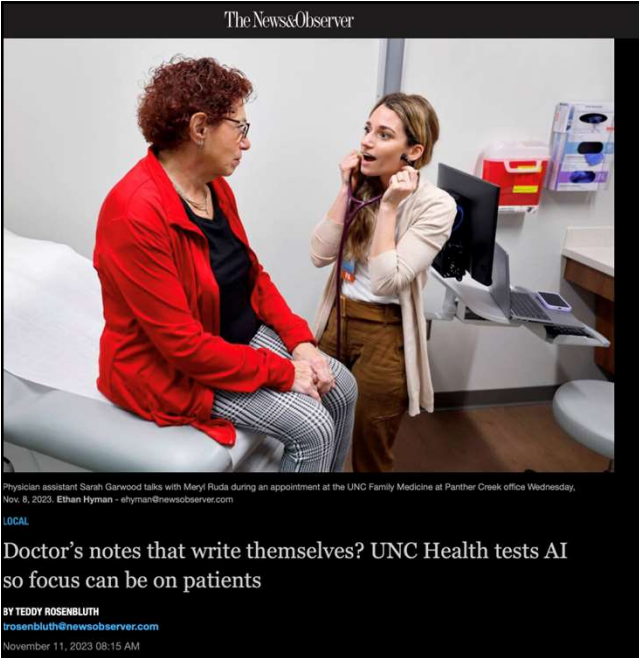- Conversion of clinical and efficiency gains into financial gains or reduced payments

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UNC Health Generative AI Initiatives

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Physician assistant Sarah Garwood talks with Meryl Ruda during an appointment at the UNC Family Medicine at Panther Creek office Wednesday, Nov. 8, 2023. **Ethan Hyman** - ehyman@newsobserver.com

LOCAL

Doctor's notes that write themselves? UNC Health tests AI so focus can be on patients

BY TEDDY ROSENBLUTH
trosenbluth@newsobserver.com
November 11, 2023 08:15 AM

Dragon Ambient eXperience (DAX)

- Mobile application listens to clinician – patient encounter
- Drafts clinical documentation based on specified templates
- Distinguishes different participants (patient, physician, caregiver)
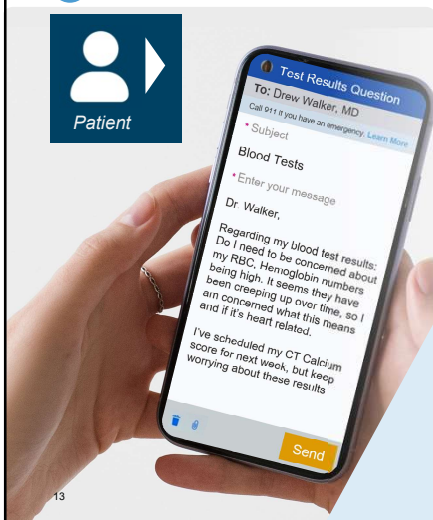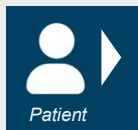- Filters out irrelevant content

Goals

- Improve efficiency of clinical documentation
- Take technology out from between the clinician and the patient!

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Auto-drafting InBasket Responses

1 **Patient sends *myUNCChart* message**

2 **AI drafts a response for Physician review**

Patient

Physician

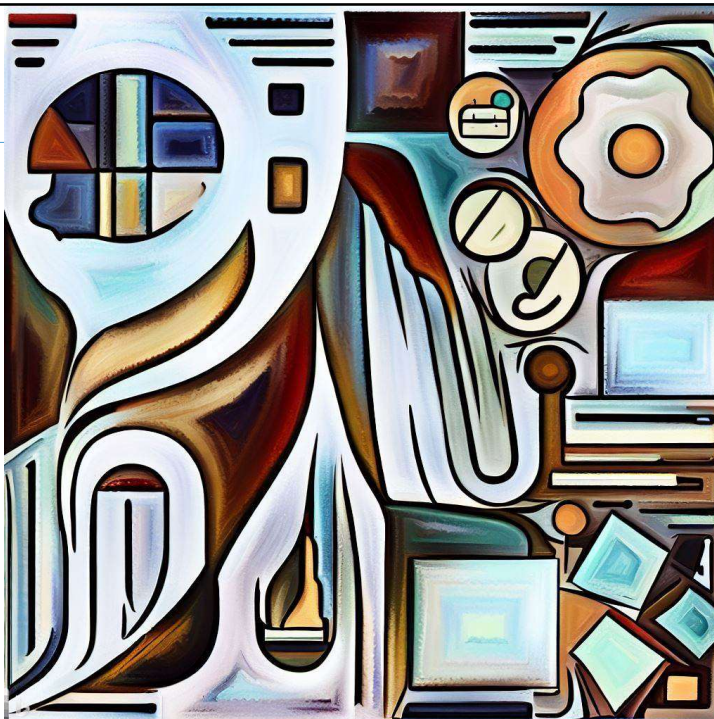**The physician remains in full control to review / edit / add before sending**

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Chart Summarization

Addressing Information Overload
- New referrals
- Complex patients
- Emergent presentations

Can serve as both an output and an input
- Review patient information
- Input into other algorithms
  - Conversion of free text to discrete data

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Prior Authorization
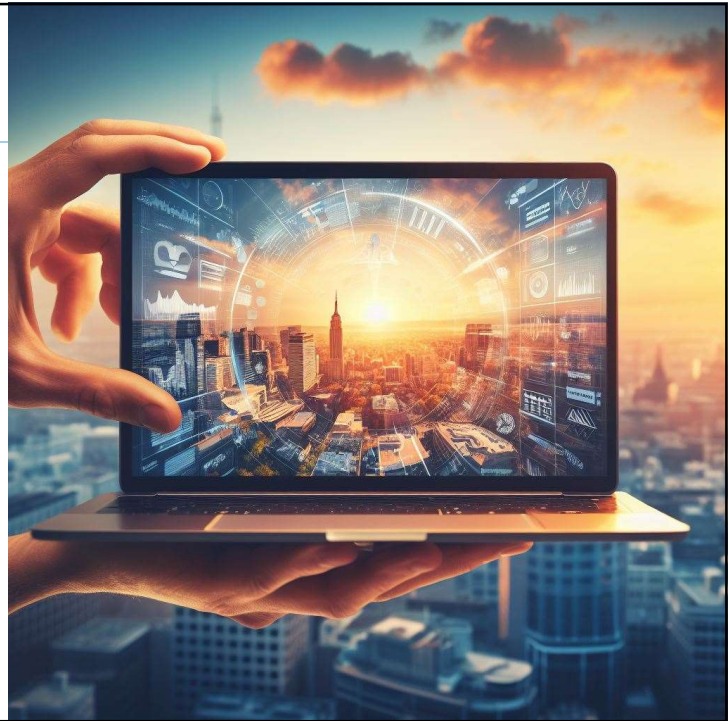
Reduce Delays in Care
- Improve patient and clinician satisfaction
- Reduce denials

Improve Efficiency
- Offload burdensome administrative tasks
- Reduce workforce needs

Risk: AI Arms Race
- Payers can automate denials

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Policy Considerations

- **High risk of unanticipated consequences**

- **Transparency is critical but may not always be possible or advisable**
  - Example: Opting Out of AI in Healthcare

- **Clinical Experience and Expertise is incredibly important**

- **Unequal playing field for payers vs. health care providers**

- **State vs. federal policy and regulation**

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Establishing Responsible AI Framework & Oversight

The *AI and Automation Advisory (AAA)* group will govern and oversee responsible AI adoption and use

Fairness
Designing AI Models to ensure fairness & justice

Transparency
Transparent and compliant AI decision making

Accountability
Clear roles & accountability from idea inception to AI deployment

Trustworthiness
Educating clinicians and operational users about AI

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Compliance and Privacy Implications

Presenter: Patrick Kennedy

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October 30, 2023: President Biden issued an Executive Order on "Safe, Secure, and Trustworthy Artificial Intelligence (AI)"

The Executive Order directs multiple Federal agencies to ensure the following in AI development and implementation:

1. New Standards for AI Safety and Security
2. **Protecting Americans' Privacy**
3. Advancing Equity and Civil Rights
4. **Standing Up for Consumers, Patients, and Students**
5. Supporting Workers
6. Promoting Innovation and Competition
7. Advancing American Leadership Abroad
8. Ensuring Responsible and Effective Government Use of AI

Note an Executive Order does not have the same enforcement of law as Congressional action

OCTOBER 30, 2023

FACT SHEET: President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence

BRIEFING ROOM · STATEMENTS AND RELEASES

To read the full Executive Order click this link: https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/fact-sheet-president-biden-issues-executive-order-on-safe-secure-and-trustworthy-artificial-intelligence/

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2. Protecting Americans' (Patient) Privacy

What the Executive Order covers…

- ✓ Prioritize federal support for privacy-preserving techniques
- ✓ Fund a Research Coordination Network
- ✓ Evaluate collection and use of commercially available information
- ✓ Develop guidelines to evaluate effectiveness of privacy-preserving techniques

Considerations…

- ❑ How is the information being used?

- ❑ Internal vs. External use of information
  - ❑ If external, what does the contractual agreement say about the use of your organization's / patient's data?
  - ❑ If external, do you have a Business Associate Agreement in place?

- ❑ Could the information be compromised and/or de-identified?

- ❑ Does your organization have an appropriate use policy and procedure?

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UNC Health modified an existing internet usage policy and procedure to include Acceptable Use of Online Tools & Technologies

"Chatbots and related artificial intelligence (AI) tools can respond to questions, summarize content, and generate new content. One common example of an AI-based chatbot is ChatGPT. Publicly available AI tools, such as but not limited to ChatGPT, pose a significant risk to UNCH data security because once data is entered into the tool, it is no longer under the control of UNCH. **Entering ePHI into an unapproved Chatbot or similar AI tool is considered a violation of UNC Health Privacy Policies** and may result in corrective action up to and including dismissal in accordance with the Sanctions for Violations of Privacy Policy. Only UNCH-approved chatbots and AI tools may be used."

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4. Standing Up for Consumers, Patients, and Students

What the Executive Order covers…

- ✓ Protect consumers while ensuring AI can make Americans better
- ✓ Advance responsible use of AI
- ✓ Shape AI's potential to transform education

Considerations…

- ❑ Who is the ultimate decision-maker concerning patient treatment?

- ❑ How is an AI tool impacting independent clinical judgement? Are providers deviating from standard of care when relying on information from AI tools?

- ❑ Is information produced by an AI tool violating federal or local billing coverage policies and other applicable laws?

- ❑ How do we ensure AI tools are not unintentionally creating biases and discrimination in patient care?

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OIG contemplates the use of algorithms in recommending certain items or services; ensuring medically necessary items and services

(6) Do arrangements between electronic health record (EHR) vendors and their customers implicate the Federal anti-kickback statute?

"*As another example, the statute could be implicated by a provider or supplier paying an EHR vendor to recommend—through its software—that provider or supplier for items or services reimbursable by a Federal health care program.*"

General Questions Regarding Certain Fraud and Abuse Authorities | Office of Inspector General | Government Oversight | U.S. Department of Health and Human Services (hhs.gov)

General Compliance Program Guidance

November 2023

"*Medicare requires, as a condition of payment, that items and services be medically reasonable and necessary. Therefore, entities should ensure that any claim reviews and audits include a review of the medical necessity of the item or service…*"

HHS-OIG General Compliance Program Guidance | November 2023

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August 2022: US DHHS – Office of Civil Rights issued Proposed Rule on Use of Clinical Algorithms in Decision-Making

Affordable Care Act, Section 1557, Proposed Section 92.210

"…a covered entity must not discriminate against any individual on the basis of race, color, national origin, sex, age, or disability through the use of clinical algorithms in its decision-making."

❖ "…put(s) covered entities on notice that they cannot use discriminatory clinical algorithms and may need to make reasonable modifications in their use…"

❖ "While covered entities are not liable for clinical algorithms that they do not develop, they may be held liable…for their decisions made in reliance of clinical algorithms."

❖ "Covered entities…should consider clinical algorithms as a tool that supplements their decision making, rather than as a replacement of their clinical judgement."

❖ "By over-relying on a clinical algorithm…a covered entity may risk violating Section 1557 if their decision rests upon or results in discrimination."

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Key takeaways

- Collaborate with multidisciplinary governance committee; must include providers

- Develop and maintain internal policy on appropriate use of AI tools and technologies

  - Beware of unintended consequences of overly broad policy decisions

- Evaluate current internal landscape for readiness of implementing AI

- Review and monitor Federal and State regulatory developments

- Be curious with a healthy dose of skepticism

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References and Resources

- Department of Health and Human Services: Centers for Medicare & Medicaid Services. *Nondiscrimination in Health Programs and Activities*. Federal Register Vol. 87, No. 149. August 4, 2022.

- Joseph, A.; Sherer, J. *Artificial intelligence: Compliance considerations for provider organizations*. Health Care Compliance Association – Compliance Today. September 2023.

- Murdoch, B. Privacy and artificial intelligence: challenges for protecting health information in a new era. *BioMed Central Medical Ethics* 22, 122. September 2021.

- Office of Inspector General. *General Compliance Program Guidance*. HHS-OIG General Compliance Program Guidance | November 2023. November 2023.

- Office of Inspector General. *General Questions Regarding Certain Fraud and Abuse Authorities*. General Questions Regarding Certain Fraud and Abuse Authorities | Office of Inspector General | Government Oversight | U.S. Department of Health and Human Services (hhs.gov).

- The White House. *FACT SHEET: President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence*. FACT SHEET: President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence | The White House.

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Thank you

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