

DUKE CTSI

# Architecting the Future of Health Work

*AI Stewardship, Access, and Opportunity*

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[ DRAFT ] Written by a human | Boosted by AI | Transparency is part of the process

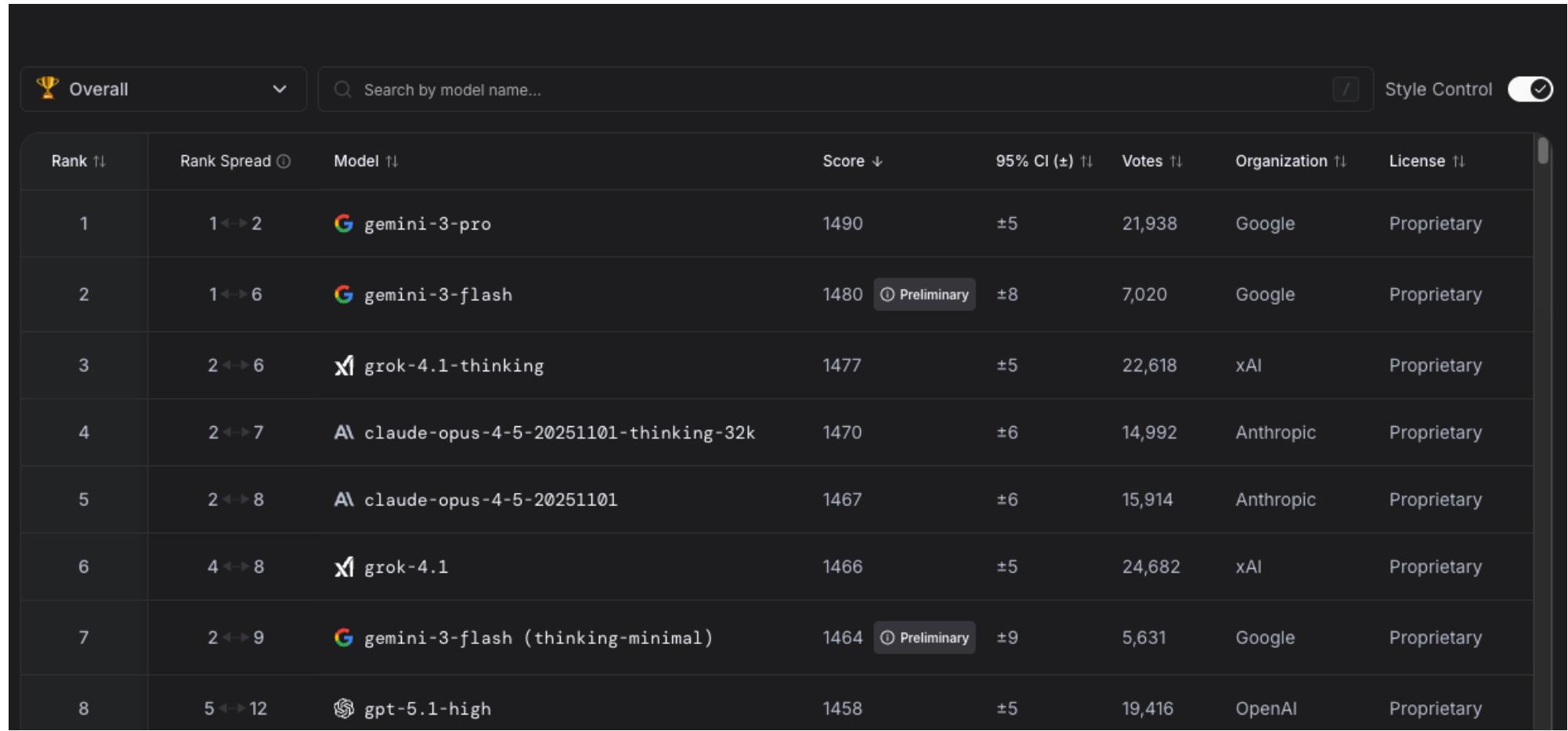
## Disclosures

**Serve on multiple Data Monitoring Committees for WCG Consulting and Gilead Sciences, Inc.**

### **Use of Artificial Intelligence Tools**

This presentation was prepared with the extensive use of generative AI tools.

# The Velocity of Change: LLM Arena



The screenshot shows a table of AI models from the LLM Arena. The table is sorted by Overall Score (descending). The columns include Rank, Model, Score, 95% CI, Votes, Organization, and License. The table shows the following data:

Rank ↑	Rank Spread ⓘ	Model ↑	Score ↓	95% CI (±) ↑	Votes ↑	Organization ↑	License ↑	
1	1 ↔ 2	 gemini-3-pro	1490	±5	21,938	Google	Proprietary	
2	1 ↔ 6	 gemini-3-flash	1480	<small> ⓘ Preliminary</small>	±8	7,020	Google	Proprietary
3	2 ↔ 6	 grok-4.1-thinking	1477	±5	22,618	xAI	Proprietary	
4	2 ↔ 7	 claude-opus-4-5-20251101-thinking-32k	1470	±6	14,992	Anthropic	Proprietary	
5	2 ↔ 8	 claude-opus-4-5-20251101	1467	±6	15,914	Anthropic	Proprietary	
6	4 ↔ 8	 grok-4.1	1466	±5	24,682	xAI	Proprietary	
7	2 ↔ 9	 gemini-3-flash (thinking-minimal)	1464	<small> ⓘ Preliminary</small>	±9	5,631	Google	Proprietary
8	5 ↔ 12	 gpt-5.1-high	1458	±5	19,416	OpenAI	Proprietary	

# A Fundamental Shift in Capability

## THE EVOLUTION: CHAT TO AGENTS

We are witnessing a fundamental shift in AI capability, moving from simple conversational interfaces to autonomous intelligent systems capable of executing complex tasks.

### Phase 1: Stateless Chat

*"The Cocktail Party" — Fun, conversational, but forgetful and disconnected.*

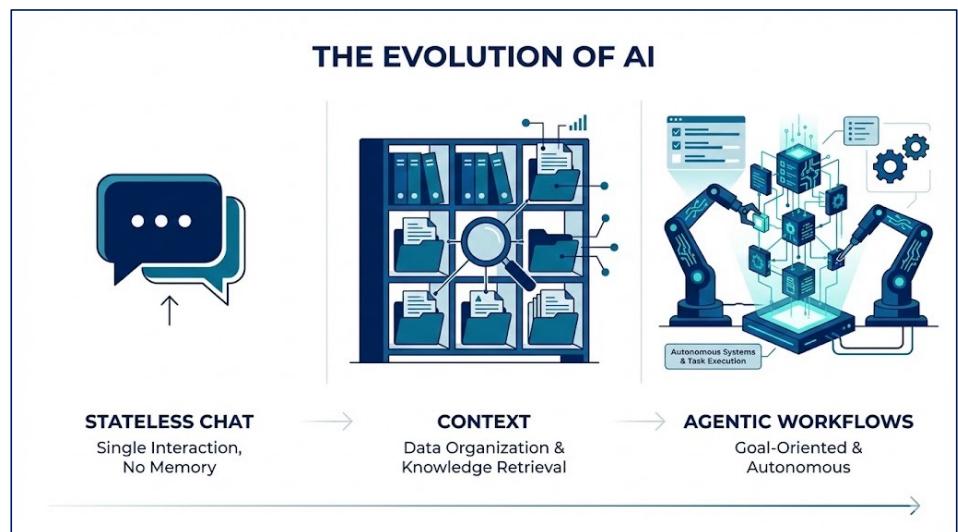
### Phase 2: Contextual Tools

*"The Library" — Grounded in data, RAG-enabled, capable of reference.*

### Phase 3: Intelligent Agents

*"The Workbench" — Goal-oriented, tool-using, multi-step reasoning.*

### Conversational Interfaces to Autonomous Intelligence Systems



# The Clinical Reality

## The medical note is being automated

- Health systems are deploying ambient AI tools today.
- The "Sacred Text" of training (the Note) can now be auto-generated.
- **The Tension:** Students need *cognitive* synthesis skills, even if they don't do the *mechanical* typing.

## Abridge Dax Copilot



“...our clinicians are able to focus more fully on patients and less on documentation, restoring what the patient-clinician relationship is supposed to be about.”

MATTHEW BARBER, MD  
INTERIM SENIOR VICE PRESIDENT  
DUKE HEALTH INTEGRATED PRACTICE



## SCRIBE

npj | digital medicine  
Published in partnership with Seoul National University Bundang Hospital

Article



<https://doi.org/10.1038/s41746-025-01622-1>  
**An evaluation framework for ambient digital scribing tools in clinical applications**

# THE FRACTURED LANDSCAPE: Capability vs. Compliance

## *The “Shadow” Workflow*

- Generative AI is the "Uncredited Co-Author."
- **The Trust Gap:** PIs and teams don't know *who* (or *what*) wrote the draft.
- **The Risk:** Work moves to **Personal Accounts** ("Shadow IT") to bypass unclear rules.



## *The Policy Fracture*

- 21st-Century Speed vs. 20th-Century Rules.
- **Regulatory Lag:** NIH & Journals demand transparency, but definitions conflict.
- **The Result:** A workforce paralyzed by "**Binary Policy**" (Allowed/Not Allowed).

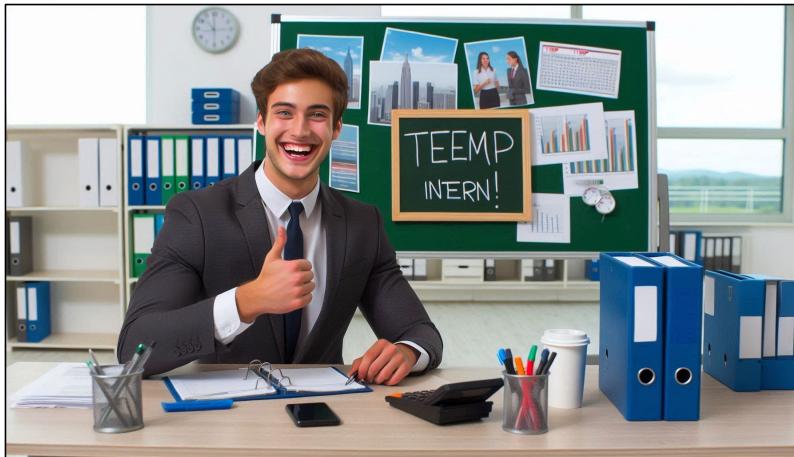
# Building Competency and Stewardship



Our job—as educators and healthcare leaders—is to build the architecture (“human safety layer”) in the middle that turns the chaos of rapidly evolving AI tools into trustworthy, resilient workforce capability.

# The New Core Competency

*AI isn't a shortcut. It's a thought partner, a multiplier, and a tool that **only** works well if you do.*



## Workflow Architecture

Raw Intent

Architecture

Reliable Capability

**Architecture (The Safety Layer):** Providing the **intent**, context, constraints, and verification steps.

# Beyond the Binary Policy (Allowed/Not Allowed)

## AN EMERGING TIERED TAXONOMY

**Strategic Framework:** A structured hierarchy for integrating AI into healthcare education and practice, moving from pure human cognition to fully integrated AI-human teams.

### HIERARCHY OF USE

#### Tier 0: AI-Disallowed (Unaided Cognition)

Pure human memory and reasoning. "No Wifi" zones for foundational learning.

#### Tier 1: AI-Restricted (Supportive & Formative)

Limited AI assistance for specific, low-stakes tasks under supervision.

#### Tier 2: AI-Documented (Generative & Collaborative)

Human sponsorship required. Verification stamps and audit trails.

#### Tier 3: AI-Integrated (Mandatory & Systemic)

Seamless "AI as Teammate" collaboration with full transparency.



#### TIER 0

**Scenario:** "The Foundational Exam"

**Rule:** Strictly Prohibited

**Why:** Verify critical thinking and memory retention.

#### TIER 1

**Scenario:** "The Literature Review"

**Rule:** Permitted for search & inquiry w/ attribution

**Why:** AI as research assistant, not an author.

#### TIER 2

**Scenario:** "The Co-Authored Draft"

**Rule:** Permitted with Audit Trail

**Why:** Prove ownership via verification logs.

#### TIER 3

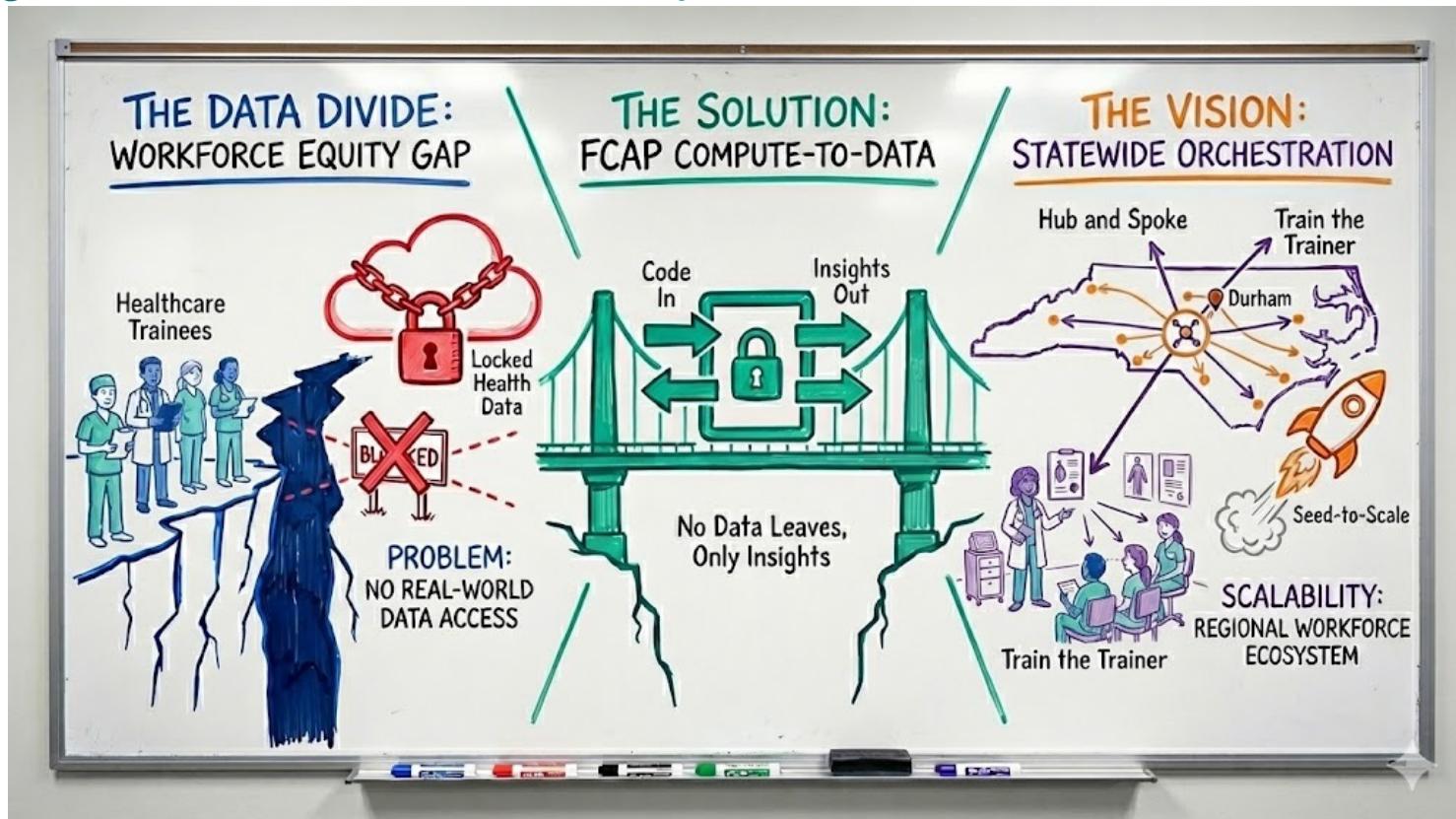
**Scenario:** "The Clinical Simulation"

**Rule:** Mandatory / Systematic Use

**Why:** Evaluate "Human-in-the-Loop" workflow

# THE FEDERATED CLINICAL ANALYTICS PLATFORM (FCAP)

## Democratizing Access to AI and Health Data Fluency



*An infrastructure initiative to orchestrate AI Stewardship training across North Carolina. By pivoting clinical platforms into educational sandboxes, we provide regional partners with the secure, real-world data access required to build these new **Workflow Architecture** competencies.*

FCAP & TRUST AI INITIATIVE

# Let's Build the Infrastructure Together

We are moving beyond simple **chat conversations** to true **AI Stewardship**.

We are seeking partners to join this consortium, help us refine the training models, and orchestrate these pathways for learners across the region.

IN PARTNERSHIP WITH:

Duke CTSI

NCCU

Durham Tech



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