UC Davis Health
AI Governance Journey

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Agenda

- Our DG Journey
  - University of California (UC) Mandates for Data Governance
  - Health Data Oversight Committee (HDOC) Formation
- Challenges
  - People
  - Process
  - Technology
  - Policies
- Enablement of AI at UC Davis Health (UCDH)
  - S.M.A.R.T & S.A.F.E.
  - Collibra Platform
  - AI Pathways and AI Building Blocks
- Future of AI at UCDH

Our Data Governance Journey

Data Governance Over the Years

2018

- Draft UC Health Data Governance Task Force Report

2019

- UC Office of the President (UCOP) health data governance recommendations

2020

- UC Davis Health creates Health Data Oversight Committee (HDOC)

2021

- UC AI Working Group Final Report
- UC Davis Health creates Analytics Oversight Committee (AOC) for AI / ML Governance

2023

- UC Davis Health publishes S.M.A.R.T. and S.A.F.E. framework for Clinical AI Evaluation
- UCDH Guidelines for using Generative AI

2024

- Final UC Health Data Governance Task Force Report
- Assembly Bill 3030 (Health Care Services; artificial intelligence)
- Senate Bill 896 (Generative AI Accountability Act)

2025

- (Pending) UCDH Generative AI Usage Policy
- (Pending) UCD AI Council Recommendations

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HDOC Program Structure & Scope

Health Data Oversight Committee

- **Request Prioritization Committee** — Data Request Management
- **Data Access Committee** — Data Source Management
- **Data Management Committee** — Metadata Management
- **Data Sharing Committee** — Compliance, Contracts, Ethics
- **Advanced Computing Committee** — Computing Resource Management
- **Analytics Oversight Committee** — Clinical Analytics Oversight

Since 2020 - UC Davis Health has a world-class governance program, the Health Data Oversight Committee (HDOC).

The HDOC endorses **best practices** and **policies** developed by the subcommittees, reviews **escalation requests** from the subcommittees, and ensures that all missions of UC Davis Health are considered by appropriate representation and subject matter experts within each subcommittee.

Challenges to Manage AI

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People

- Is there a specific department that is responsible for AI Governance
- AI Governance Responsibilities spread over different departments
  - Compliance
  - IT Security
  - Privacy
  - Procurement
  - Data Office / Data Center of Excellence
  - Technology Owners

Process

- Analytics Oversight Committee (AOC) is responsible for clinical AI
  - AOC has started reviewing clinical-adjacent AI
  - Non-clinical AI deployment falls through the cracks
- No single department responsible for AI
  - The requestor has to figure out the best way to comply
  - Home Grown Models Vs Vendor Models
  - IT Eval / Security Assessment of AI
- Business/Administrative AI technology
  - Should AI that isn't involved in clinical care be subject to the same process as clinical AI?

Technology

- Technology is moving fast
  - Artificial Intelligence, Deep Learning, Robotic Process Automation, Generative AI (LLMs) and now.... Agentic AI.....
- AI is embedded almost everywhere *(even in our office space software)*
- Some vendors want to claim that they have AI, even though it may not be true AI
- What should be considered AI
  - Obvious – Chat GPT, Microsoft Co-Pilot, Epic (Nebula)
  - Not (always) so obvious
    - In medical devices (augmented reality for surgery)
    - In various applications (algorithm vs. AI decision support)
- How do you govern AI that is built-in or introduced as an enhancement/upgrade in a platform?

Policies

- Has the organization defined policies around AI
  - UC Davis Health Compliance owned our first Gen AI standard
  - Our Chief Research Information Officer is creating our first Gen AI policy
- Mechanism to ensure audit and enforcement of policies
  - For example:

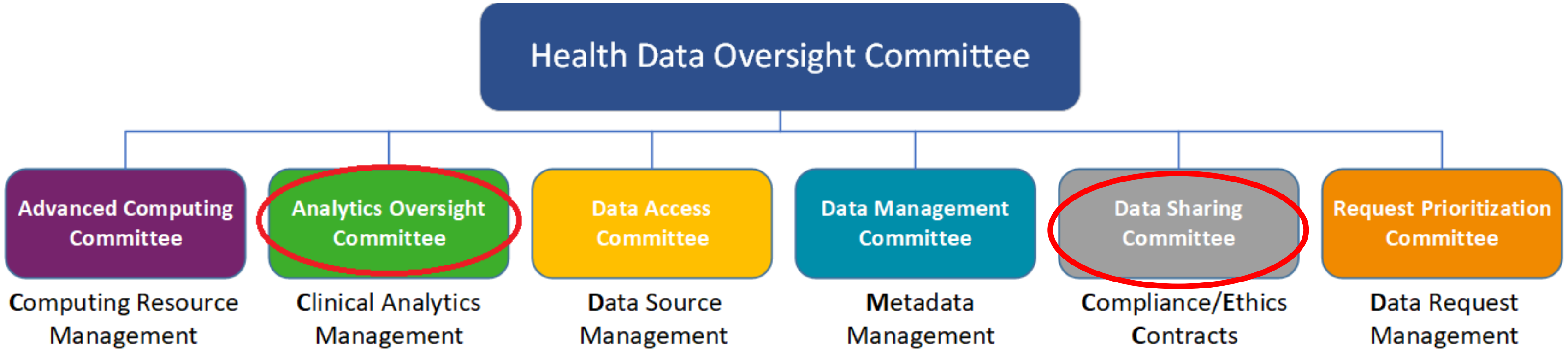
    Gen AI Usage

    Data Governance Policy

    Data Sharing policy
- California Law Changes
  - 2024 – Assembly Bill 3030 (Health Care Services; artificial intelligence)
  - 2024 – Senate Bill 896 (Generative AI Accountability Act)

Enablement of AI at UCDH

HDOC - AI Governance In Action



The Analytics Oversight Committee (AOC) oversees all **advanced analytic models** (artificial intelligence (AI), machine learning (ML), natural language processing (NLP), etc.) planned for **deployment within a UC Davis Health clinical –or– clinical research environment**.

The Data Sharing Committee (DSC) oversees the **acceptable sharing of PHI and its derivatives** – which AI models need a significant amount of to operate.

AOC Framework For AI Model Assessment

In 2023, the UC Davis Health Analytics Oversight Committee developed a novel approach to the assessment of AI models; S.M.A.R.T. and S.A.F.E

- The **S.M.A.R.T.** criteria ensure that AI models are evaluated for strategic alignment, organizational fit, and feasibility.
- The **S.A.F.E.** criteria ensure that AI models are safe, accurate, fair/unbiased, and evidence based before being applied to patient care.

Specific
Measurable
Aligned
Realistic
Transformative

Safety/Risk
Accuracy
Fairness/Bias
Evidence

Three Pathways for AI Model Implementation and Evaluation

Vendor without FDA Clearance

Vendor with FDA Clearance (501k or De Novo)

Homegrown Custom / Other Academic

Lower level of supporting documents / evidence

Higher level of supporting documents / evidence

AI Model Registry

- Models deployed clinically within UC Davis Health are tracked on the Model Registry
- Implementation Summary
  - Custom asset type: Advanced Analytics Model
  - Attributes aligned with the S.M.A.R.T. and S.A.F.E. framework
  - Relations to track model versions
  - Custom Roles – Clinical Champion, Model Developer
  - Over 60 models catalogued

- Previous State
  - AI Models: SharePoint
  - Processes: ServiceNow, MS Forms
- Current State
  - AI Models: Collibra HAC Model Registry
  - Processes: ServiceNow, MS Forms

Model Label

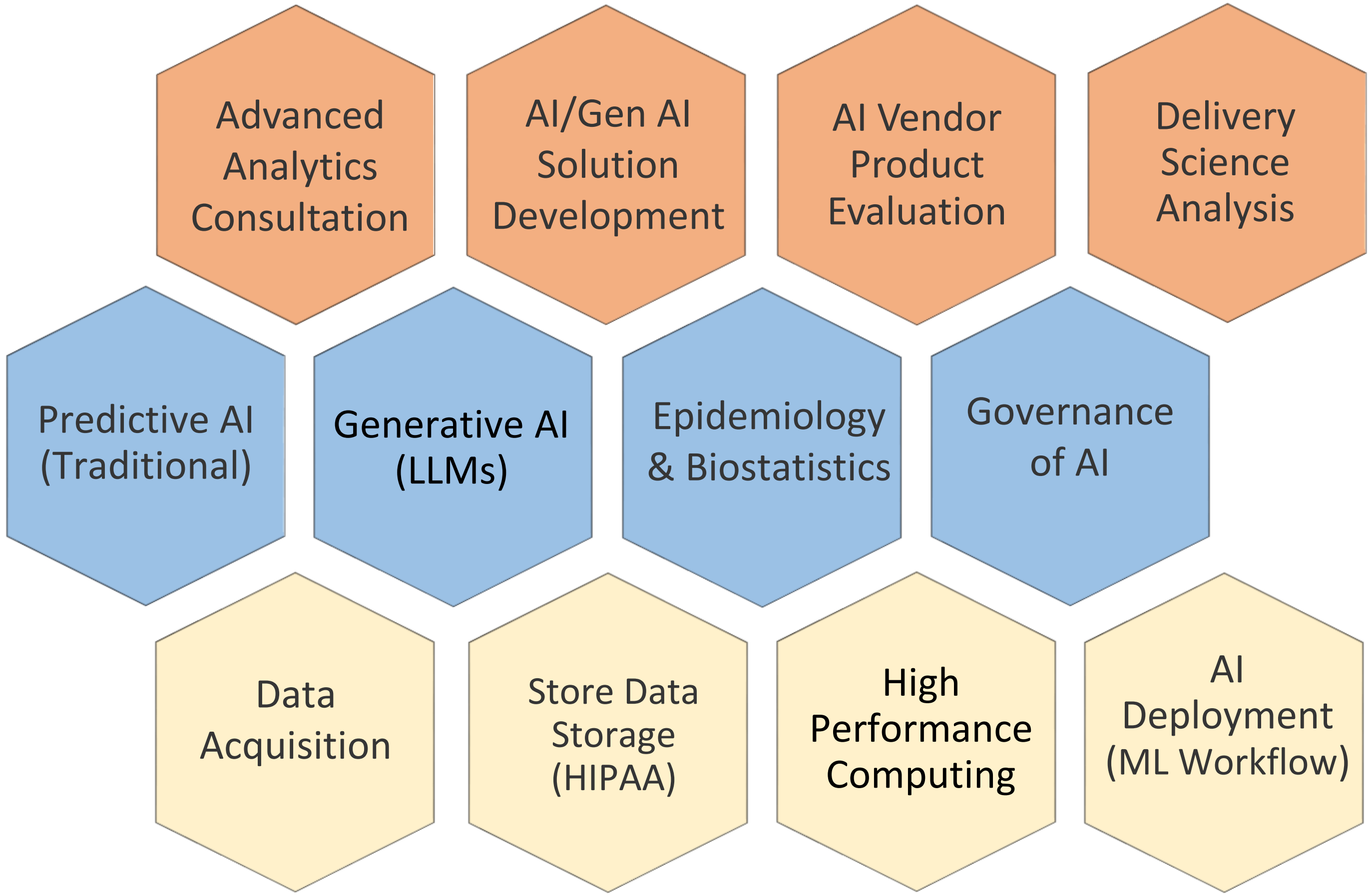
Model Name	[illegible]
Description	[illegible]
Solution Type	Vendor
Model Type	Regression
Training Population	
Data Source	[illegible]
Data Sample Size	[illegible]
Data Type	[illegible]
Timeframe	[illegible]
Population Compisition	
Hispanic / Latino	[illegible]
Black / African-American	[illegible]
Asian	[illegible]
Caucasian / White	[illegible]
Other	[illegible]
Gender Balance	[illegible]
Hyperparameters	[illegible]
Target Label Prevalence Rate	[illegible]
Testing Population	
Data Source	[illegible]
Data Sample Size	[illegible]
Data Type	[illegible]
Timeframe	[illegible]
Population Compisition	
Hispanic / Latino	[illegible]
Black / African-American	[illegible]
Asian	[illegible]
Caucasian / White	[illegible]
Other	[illegible]
Gender Balance	[illegible]
Hyperparameters	[illegible]
Target Label Prevalence Rate	[illegible]
Performance	
Root Mean Squared Error (RMSE)	[illegible]
Mean Absolute Error (MAE)	[illegible]
R-squared (R^2)	[illegible]
Fairness / Bias Analysis	
Fairness Index	[illegible]
Limitations (Qualitative Analysis)	
Balanced / Inbalanced Dataset	[illegible]
Train / Test Dataset Comparison	[illegible]
Generalization	[illegible]
Robustness	[illegible]
Other	[illegible]
Monitoring Platform Link	LINK

Building Blocks for AI Support

Layer 3
Data Science as a Service

Layer 2
Tools & Capabilities

Layer 1
Foundational Architecture



Lighting Up Different Parts of the Honeycomb

Layer 3
Data Science as a Service

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Tools & Capabilities

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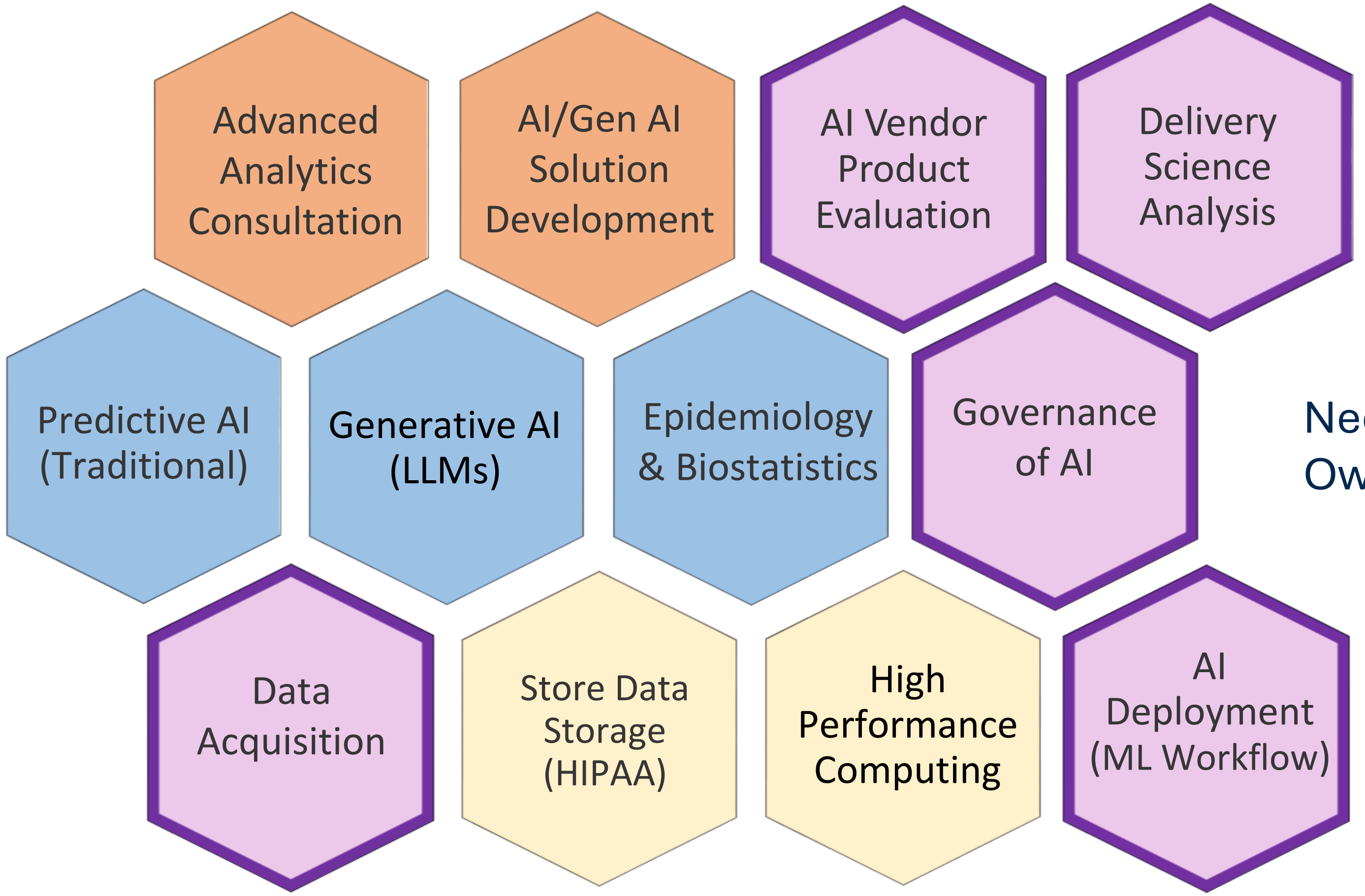

Needs for Vendor Owned AI Model

Future of AI at UCDH

Recognized Core AI Systems (As of Today....)

- Databricks
  - Use Case: Databricks is an analytics platform that can be used for data analytics and model development (analytics focus).
  - Allows for access to models other than Open AI
- EPIC
  - Use Case: EPIC has a set of AI models that can be used as a decision support tool directly in the electronic medical record (clinically focused).
  - Has the capability to integrate with other AI solutions
- Microsoft Co-Pilot (Limited Licenses)
  - Use Case: Co-Pilot is an AI-powered productivity tool for the Microsoft 365 suite (administrative focus)
- Open AI (Limited Licenses)
  - Use Case: Provides Chat GPT and custom GPT services (research and administrative focus)
- Open AI (via Microsoft Azure + nebulaONE)
  - Use Case: Provides scalable and user-friendly AI development environmer and allows access to models other than Open AI (developer focus)

Identified Gaps / Themes

- Ownership of AI strategy and prioritization
  - Who determines which AI technologies we select, prioritize, and deploy
- AI technology outpacing policy
  - How do we ensure Federal, State, and UC policies are followed when developing and using AI technologies
- Oversight of non-clinical AI models
  - Who evaluates and approves non-PHI data use in AI models
  - Who oversees business AI deployments
- Allocation of scarce/limited licenses for model development
  - How do we direct users to the right AI solution for their use case
  - How do we ensure cost optimization of AI usage
- Data scientist resourcing and demand
  - How do we adequately staff for increasing data science and AI demands?
- Selection of AI technology
  - What are the right companies and models to deploy (redundant models, fly-by-night companies)

Our FY26 AI Focus

- **People**
  - Identifying appropriate ownership of AI at UCDH
- **Process**
  - Creation of an AI strategic roadmap
  - Strengthening oversight of clinical and near-clinical AI use cases
  - Defining oversight for business oriented AI
- **Technology**
  - Enabling/Testing Open AI Direct / Azure + nebulaONE
  - Leveraging homegrown models to extract insights from clinical notes
  - Rolling out homegrown data science tools to support the analysis of large data set
  - Defining appropriate use cases for AI tools and licenses (e.g., Co-Pilot vs. Chat GPT vs. Azure platform)
  - Consolidation to a defined set of data science tools and services (what pathways should exist)
- **Policies**
  - Rollout of GenAI Clinical and Non-Clinical Use Policy
  - Create checklist/methodology to assess AI models against regulations
  - Alignment with UCDH teams on Data Governance Security Policies, Procedures, and Standards

Thank you!

Q&A