## **Optum**

## FrictionFreeAgent

**Agentic AI to Reduce Operational Friction** 

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#### **Introductions**



Brady Augedahl
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Niranjan Nayak Senior at UMN Computer Science



Alisha Verma
Junior at UC
Computer Science

#### **UHCP PAAN Team**

#### UnitedHealthcare Provider Prior Authorization and Notification



#### **UHCP PAAN Application**

Internal tool designed to streamline the **prior authorization** process for UHC provider users

#### **Business Requirements**

#### **Cost Control**

Preventing unnecessary or overly expensive treatments

### Regulatory Compliance and Provider Accountability

Aligns with state guidelines and encourages adherence to evidence-based procedures

#### **Patient Safety**

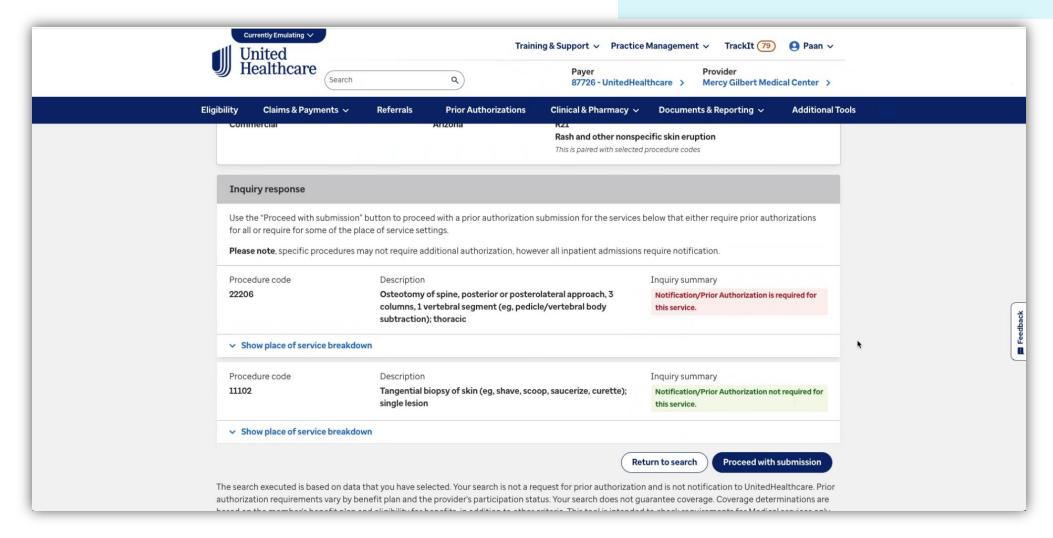
Ensures treatments are clinically appropriate

#### **Operational Efficiency**

Reduces downstream costs from inappropriate or unnecessary care

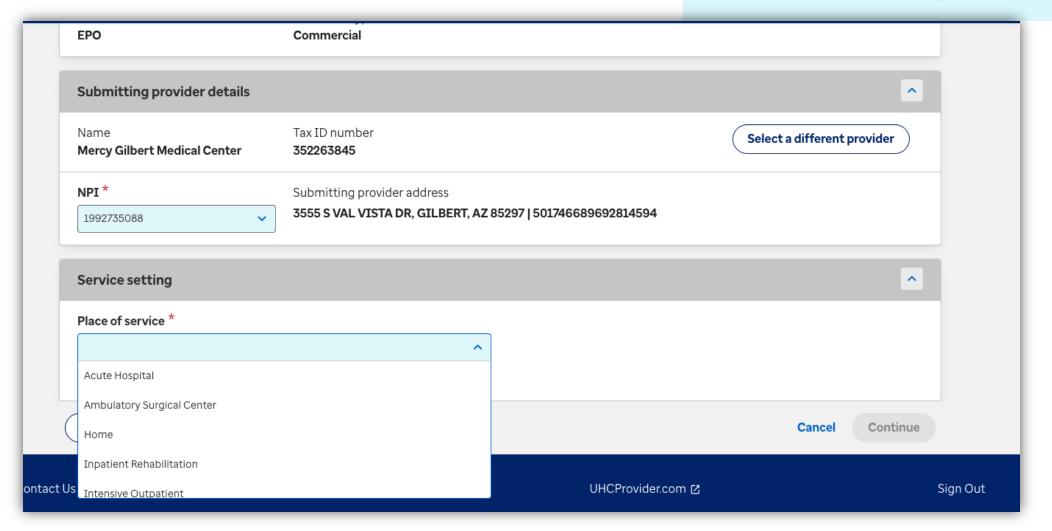


#### PA Requirement Check for CPT Code



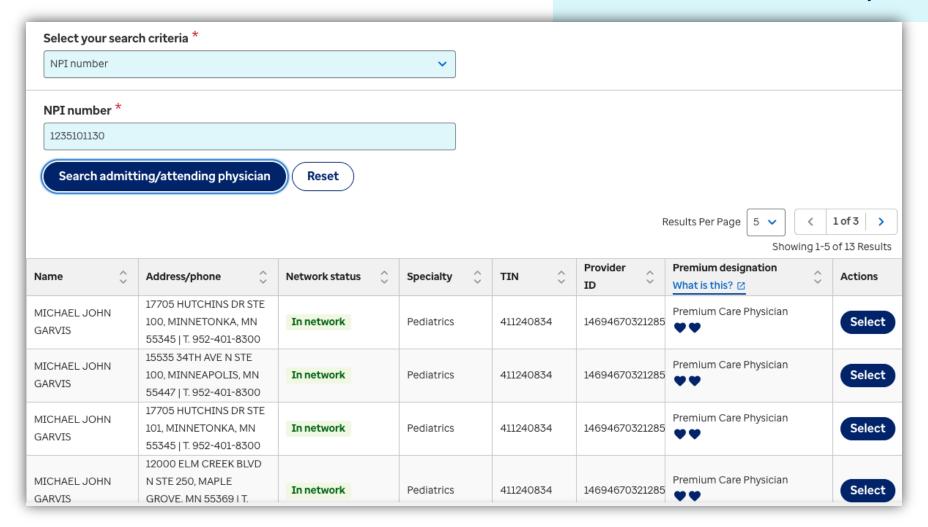


#### **POS Lookup**



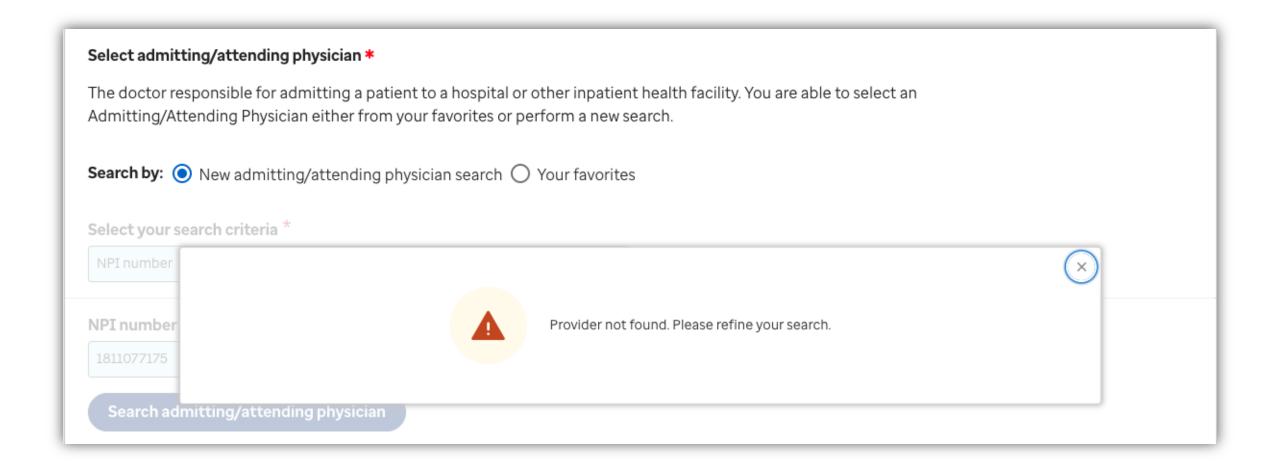


#### **NPI Provider Info Lookup**





#### **Error/Service Unavailability Example**





#### **Provider Portal Friction**

#### Service Outages & Manual Provider Lookups Are Failing Healthcare Efficiency



Delayed PA and service approvals



Incorrect billing and coding, resulting in claim denials



Frustrated users and overwhelmed support teams



Compliance risks due to outdated or mismatched data



#### **Solution**



#### **Our Solution:**

Leveraging agentic AI to proactively minimize operational friction

#### **Automate and Validate the Lookup Process on Provider Portal**



Precision Automation Code & Provider Lookups



Error Elimination & Human Dependency Reduction



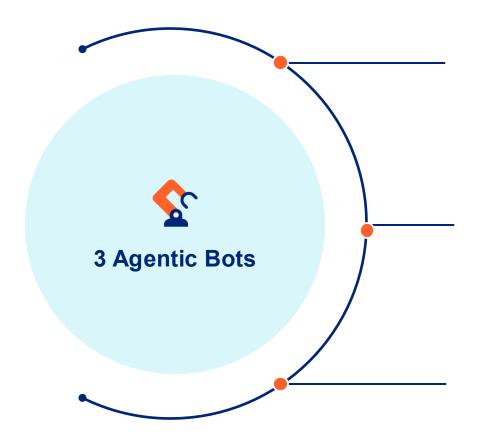
**Unified Data Consistency Across Multiple Sources** 



Enhanced User Experience Through Conversational Al



#### **FrictionFreeAgent**



#### **Prior Authorization Assistant**

• Determines if prior authorization is required for a given procedure code and provides additional contextual information based on service location

#### **Compliance Checker**

 Verifies Place of Service (POS) defined within UHC and cross-checks with CMS public registry for compliance

#### **Provider Search**

• Summarizes information on healthcare providers based on ID, aggregates data from multiple info streams and shows accuracy across sources



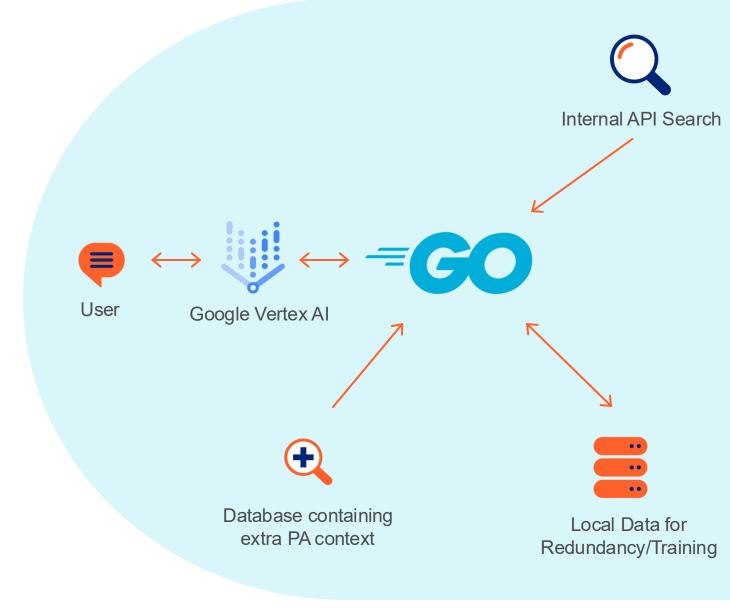
#### **AI** Tool for CPT Lookups



API queries are also stored locally to be used as backup and for model training



Extra PA context is provided by local API, reducing the number of sources used to get necessary information



#### **Provider Search Workflow**





#### **Chat UI**

Moved forward from a form submission or database search interface to a chat for quicker and easier use



#### **Accuracy Scoring**

Provider name and location information similarities are compared and scored to inform users about its expected accuracy



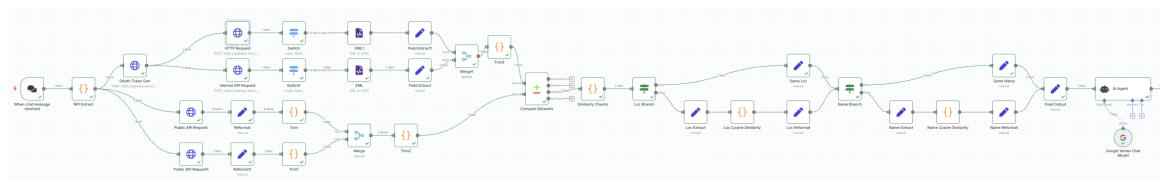
#### **Multiple Data Streams**

Combination of public and internal sources, and physician and facility search APIs, for wider case coverage and comparable info sources



#### **Singular Informed Response**

An Al-powered, consistently formatted response to give users a brief, clear summary about a provider

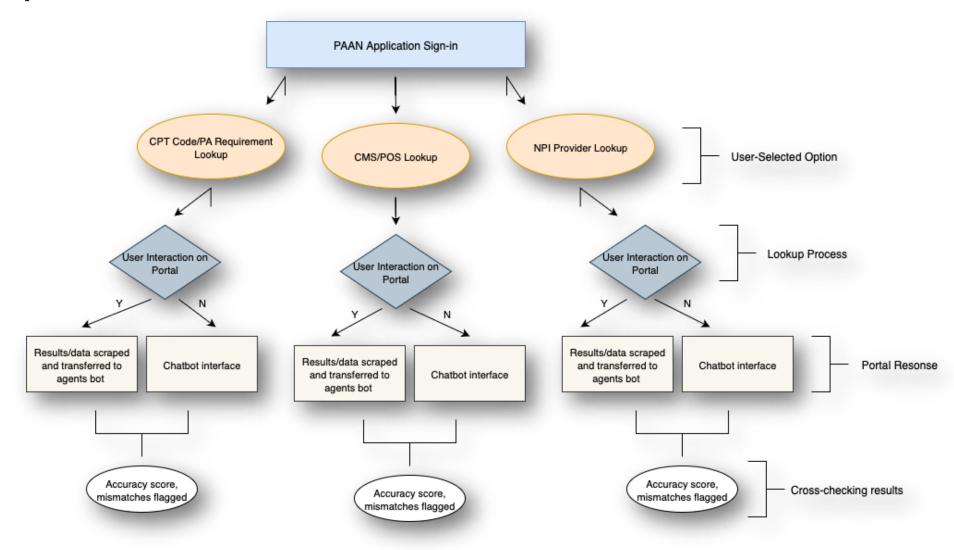




## **Live Demo**

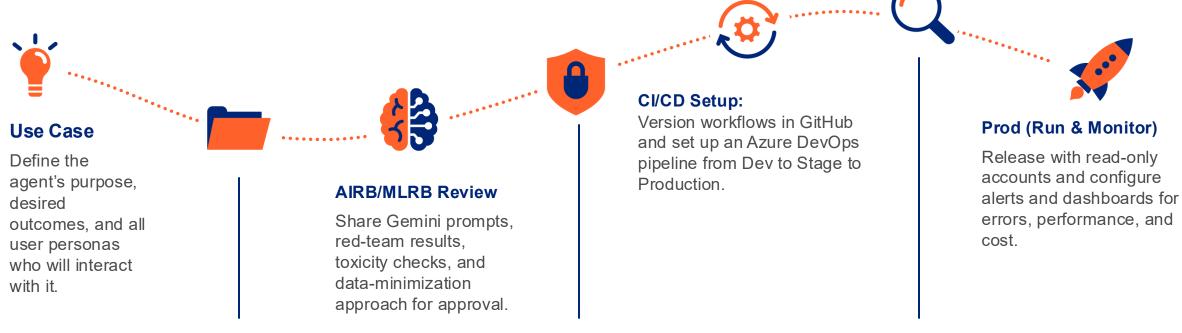


#### **Business Impact**





#### **Proof-of-Concept Approval Journey**



#### **Data Classification**

Identify all data sources and API endpoints; label any PII or PHI.

#### **ESRO Security Review**

Threat-model all webhooks and APIs; apply leastprivilege, vault secrets, enable audit logging, and get sign-off.

#### Stage (UAT)

Deploy with simulated data, run tests (functional, privacy, load, rollback), and secure UAT business sign-off.



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## Questions?

**Thank You!** 

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