

Amplify: AI-Powered Patient Scheduling

CUSTOMER

A large hospital system with multiple locations in the same city, serving a mix of local and international patients with different needs regarding recurring care.

PROBLEM

Patient scheduling using the Electronic Health Record system (EHR) at this health care provider is a manual and tedious process. Hospital schedulers had limited ability to account for patient preferences and scheduling history while scheduling appointments that matched the availability of imaging and lab equipment and providers. Additionally, the health care provider sees a heavy usage of its resources at the main hospital, especially during weekends. Meanwhile the suburban locations were underutilized. In addition to patient's dissatisfaction with the scheduling process, their appointments were often re-scheduled or canceled altogether. Despite multiple efforts, hospital schedulers were unable to address these concerns.

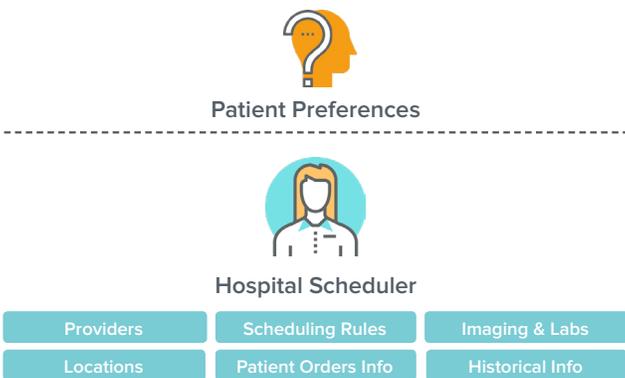


Figure 1: Manual process disconnected from patient preferences

SOLUTION

Using constraint-solving machine learning (ML) models, and by leveraging the patients' Profile-of-One information, CognitiveScale developed a patient "air traffic control" scheduling advisor that optimizes scheduling based on the patient's preferences, resource availability, and scheduling needs.

The solution incorporated:

- Patient preferences captured via questionnaires, historical scheduling trends, and geographic mapping to the closest suburban imaging and lab locations to power the patients' Profile-of-One
- EHR data such as patient orders, resource (provider, labs and imaging) availability and patient preferences, along with scheduling and imaging rules and constraints specific to certain orders

CognitiveScale's Patient Scheduling Cognitive Process orchestrates multiple ML models and rules to reasons and learns across unstructured data about resource availability, scheduling constraints, patient's declared, observed, and inferred preferences. It then delivers contextual insights that optimize patients' schedules and resource utilization.

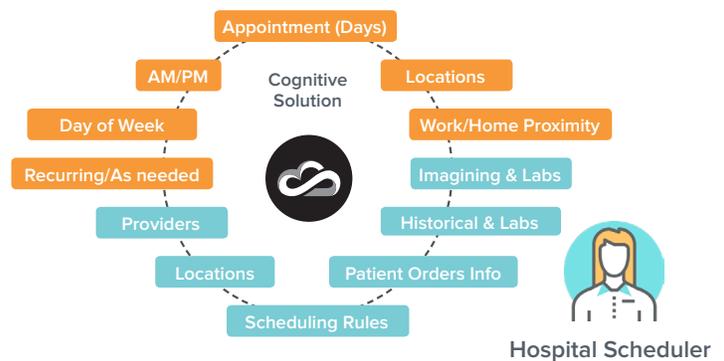
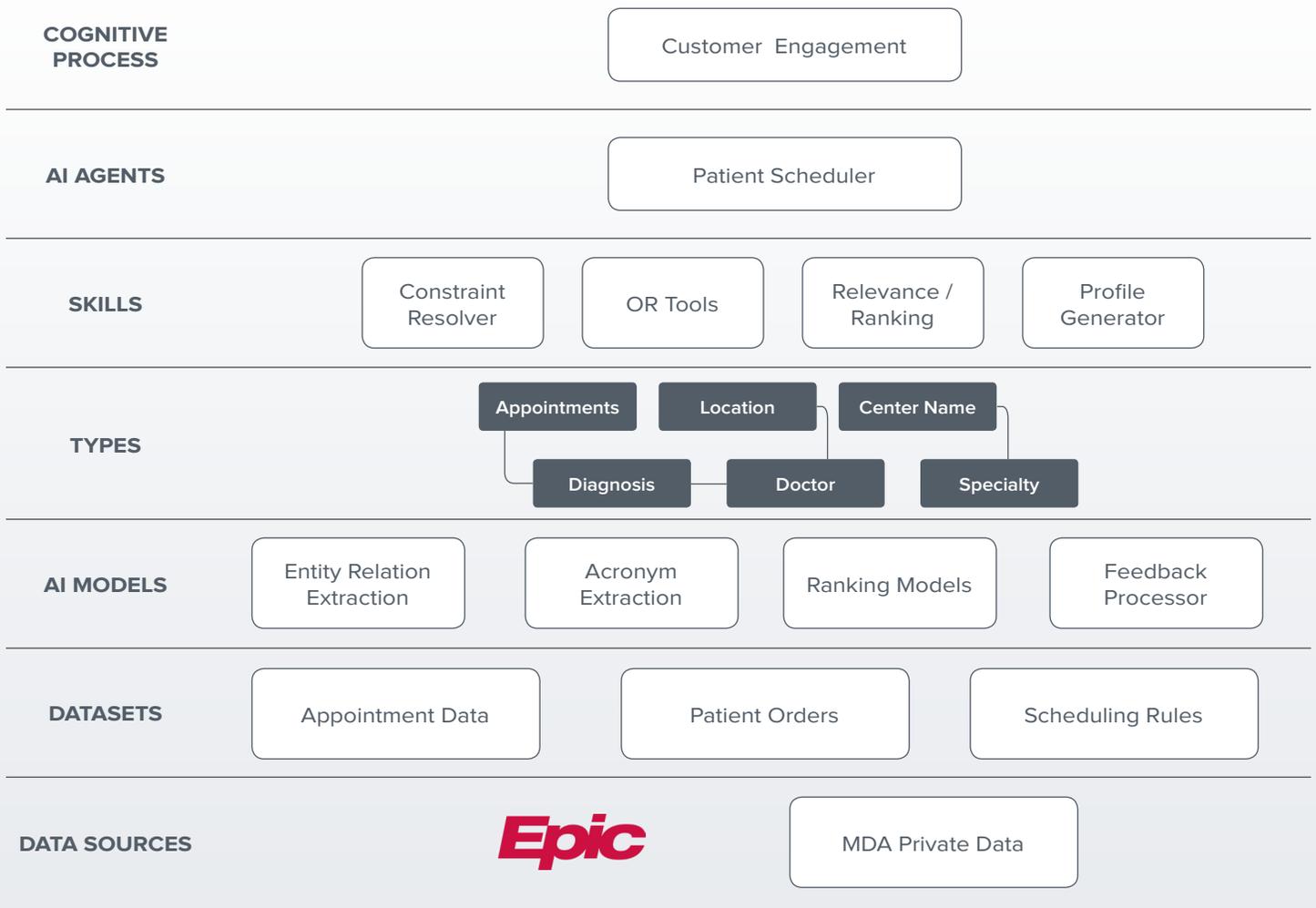


Figure 2: Intelligent scheduling accounts for patient's preferences and hospital constraints

IMPACT

- Optimized schedules based on patient preferences and historical information are accepted by schedulers 80% of the time
- Improved patient satisfaction by reducing scheduling churn
- Increased the use of hospital's suburban locations

Patient Scheduling Agent Anatomy



SEE
incoming patient scheduling orders

KNOW
patient preferences

ASSIST
By recommending intelligent and optimal schedules

LEARN
from scheduler feedback and interactions

OPTIMIZE
by finding a schedule that meets all rules and satisfies all constraints

BUILD TRUST
by providing concrete evidence supporting these recommendations and insights so you understand the rationale

About CognitiveScale

CognitiveScale's Augmented Intelligence software helps businesses apply Artificial Intelligence and Blockchain technology to solve complex business problems at scale for financial services, healthcare, and digital commerce markets. The company's award-winning software is being used by global leaders such as USAA, Morgan Stanley, NBC, JPMorgan Chase, ExxonMobil, and MD Anderson to increase user engagement, improve decision-making, and deploy self-learning and self-assuring business processes. Headquartered in Austin, Texas, CognitiveScale has offices in New York, London, and Hyderabad, India, and is funded by Norwest Venture Partners, Intel Capital, IBM Watson, M12, and USAA.

Contact an AI specialist at cognitivescale.com/contact