

# MEANINGFUL APPLICATIONS FOR HEALTHCARE AI

NOVEMBER 16TH, 2023

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*Educational Webinar Series*

edifecs

# AGENDA

## Meaningful Applications for Healthcare AI

- Introductions
- Simplifying the Complexity of AI: Algorithms and Applications
- The Rise of AI in Healthcare
- Applications That Will Win the Day
- Employing AI Successfully in Your Organization
- Edifecs and the Future of AI

# TODAY'S SPEAKERS

Edifecs is a trusted partner for leading payers and providers

## Where We Operate



**Chris Lance**  
Chief Product Officer



**Niraj Katwala**  
VP of Technology



**290M**

U.S. Lives covered by Edifecs clients

**10/10**

National Health Plans

**27/36**

Blues Plan Clients

**4/10**

Top Provider Plans by Revenue

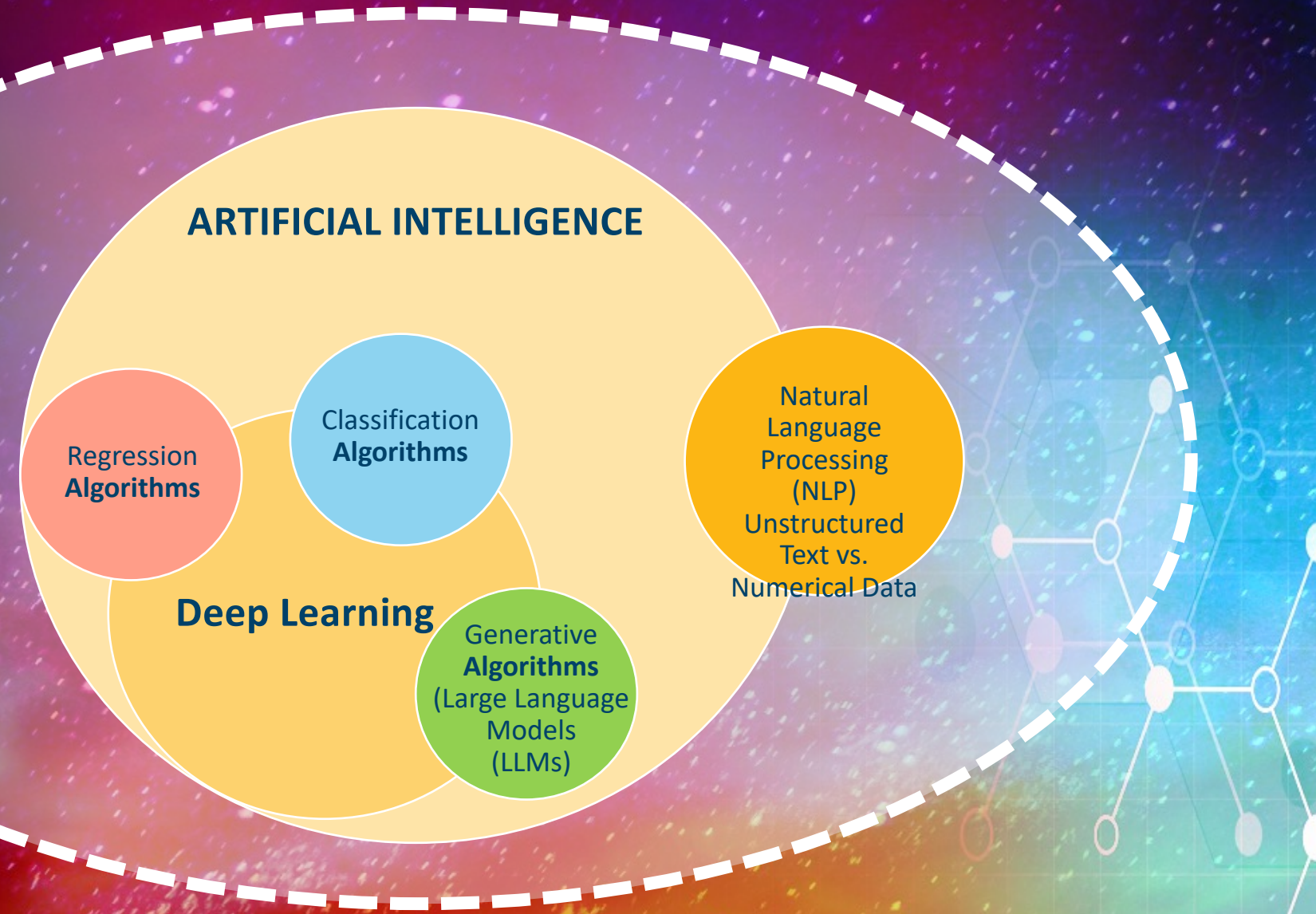
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State Medicaid Programs

# ALGORITHMS AND APPLICATIONS

# AI SUBSETS & CAPABILITIES

## APPLICATIONS



Machine learning (ML) is the process of training an AI model using past data for a specific use case to infer future results.

**DEEP LEARNING**  
Techniques used for enhancing all **3** types of models

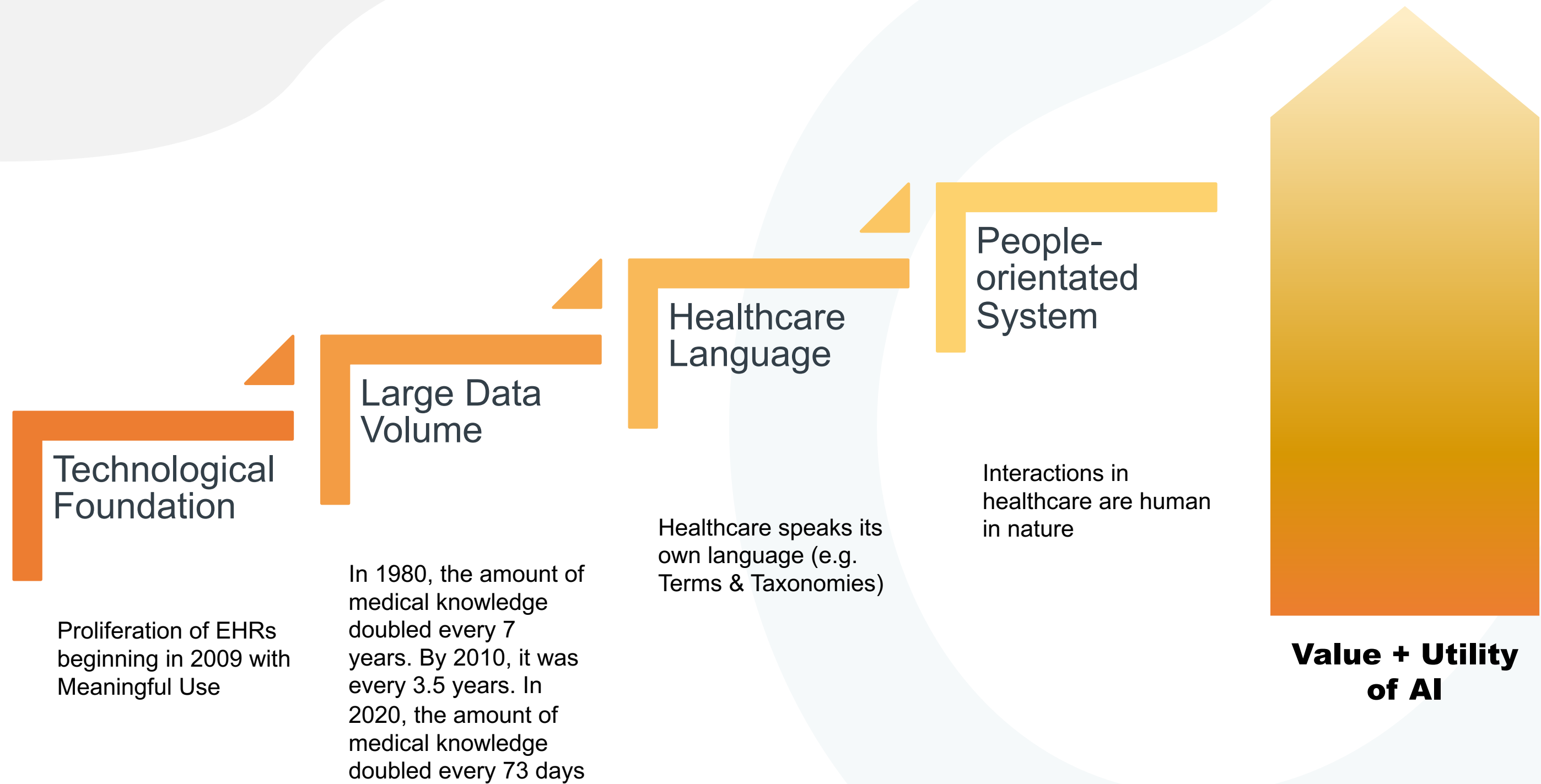
- **REGRESSION ALGORITHMS**  
Makes predictions based on data fed into the model: **stock price prediction, house price prediction, treatment/procedure/cost prediction.**
- **CLASSIFICATION ALGORITHMS**  
Suggests one value out of many: **desired email vs. spam; predicts medical conditions; suggests ICD-10 codes to assign to a chart.**
- **GENERATIVE ALGORITHMS (LLMs)**  
Generates original content with statistical models: **language translation; article summaries; JAVA code generation; chemical synthesis, essay and image generation. LLMs have an encoder which converts text to numbers, and decoder that converts numbers to text.**

# THE ASCENDANCE OF AI: STANDING ON THE SHOULDERS OF GIANTS

- **Mid-2000s:** Infrastructure established via GPU (Graphics Processing Unit) technology
  - **Eureka!** NVIDIA makes accidental discovery: GPUs can perform the same machine learning processes **100,000X faster** than traditional CPUs
    - Makes AI scalable, affordable, and capable of processing vast amounts of data quickly
- **2017:** Google Brain research scientists publish paper "Attention is All You Need"
  - Creation of transformer technology (converting words into numbers) leads to generative AI models
- **November 2022:** ChatGPT brings AI to the masses

# THE RISE OF AI IN HEALTHCARE

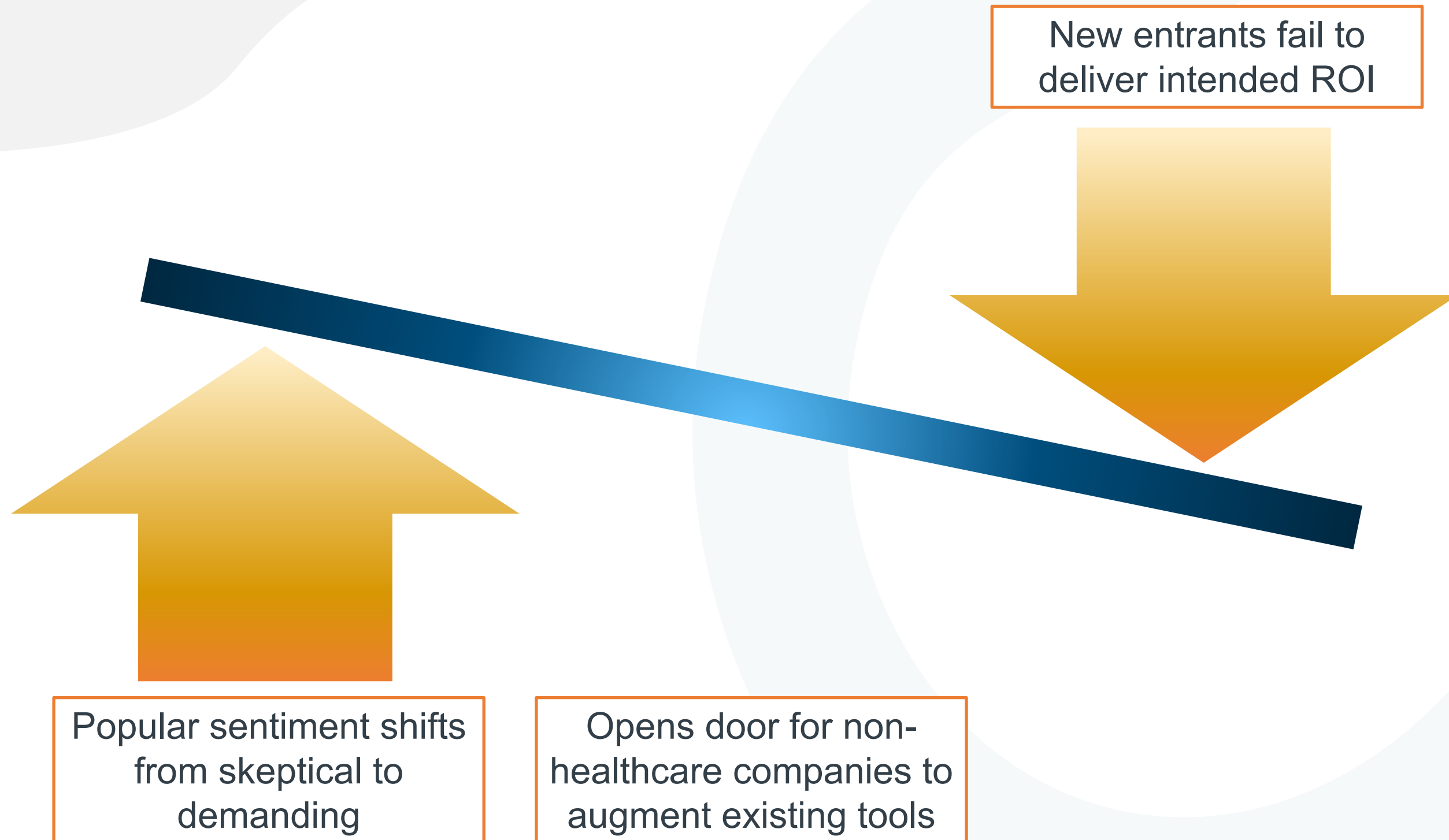
# AI IS WELL-SUITED FOR HEALTHCARE





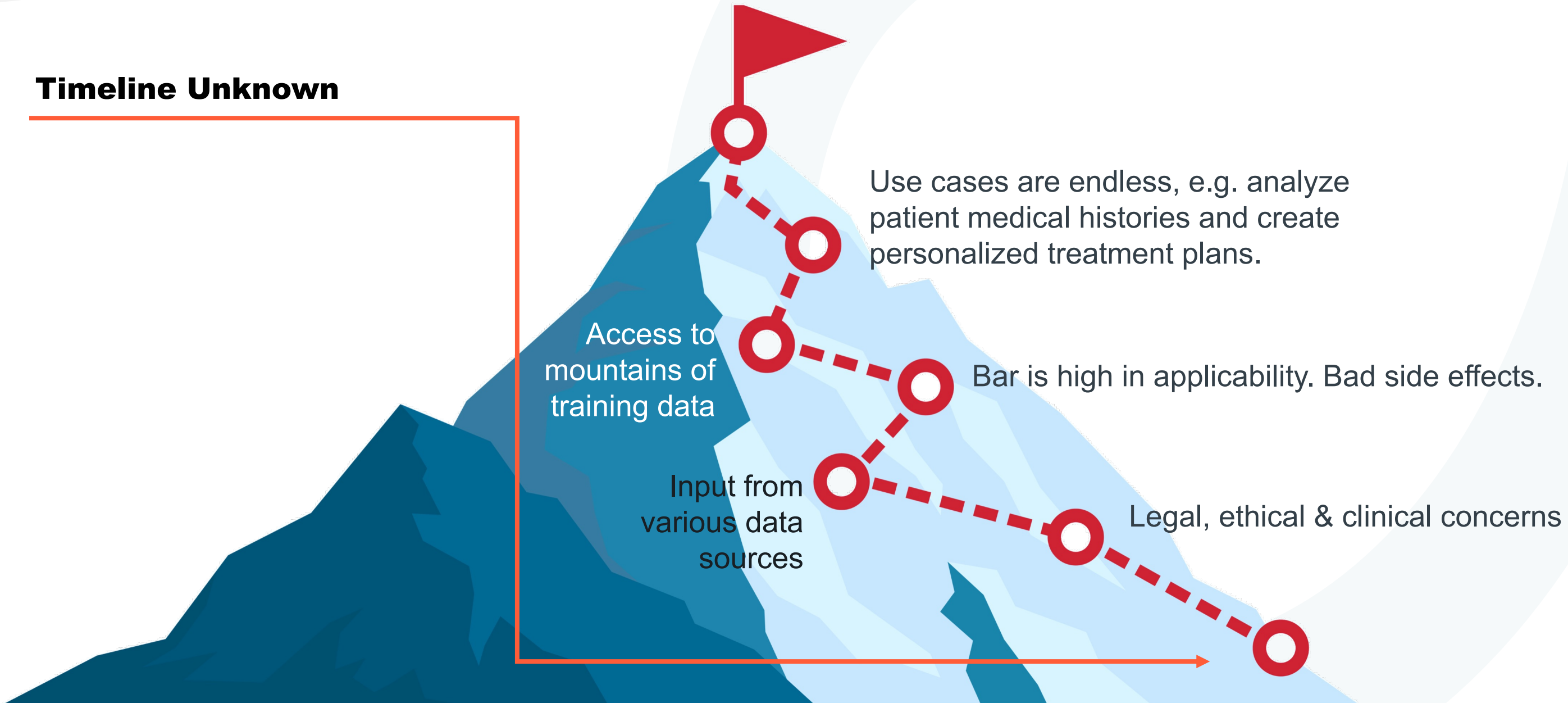
# COMPOUNDING FACTORS

Market forces create swirl that leaves many uncertain of path forward



# GENERATIVE AI IS PROMISING—BUT HAS CHALLENGING TERRAIN TO TRAVERSE

## Timeline Unknown



**APPLICATIONS THAT  
WILL WIN THE DAY**

# OLD APPROACH

Solve multiple problems at once with multi-purpose applications



- Olive AI: Attempted to address revenue cycle mgmt., finance, accounting, supply chain, human resources and IT
  - \$1.5 Billion valuation in 2020, sold off it's remaining assets Oct. 2023



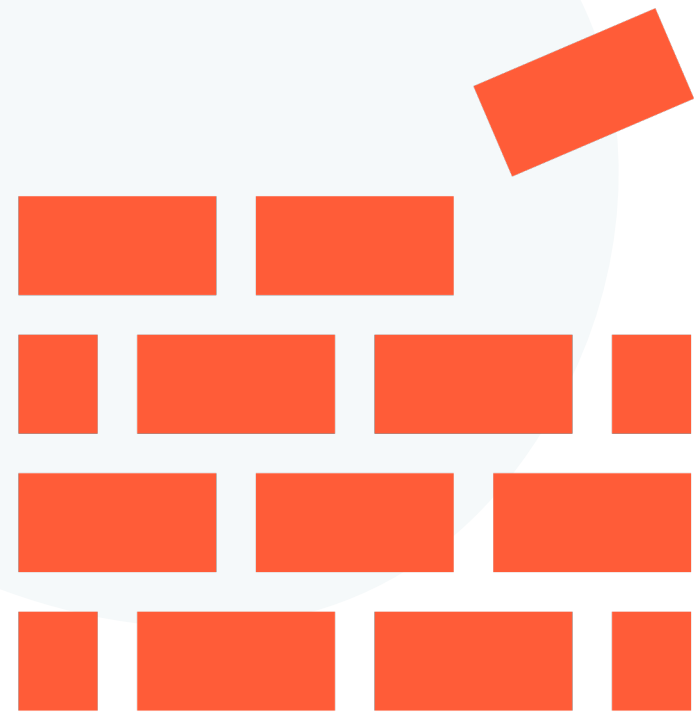
- IBM's Watson Health: Everything from medical imaging to clinical trial recruitment
  - Billions invested, sold in parts in Jan. 2021

## WHY?

- Impractical
- Not secure
- Expensive

# NEW APPROACH

Every practical AI model is made up of a series of smaller applications

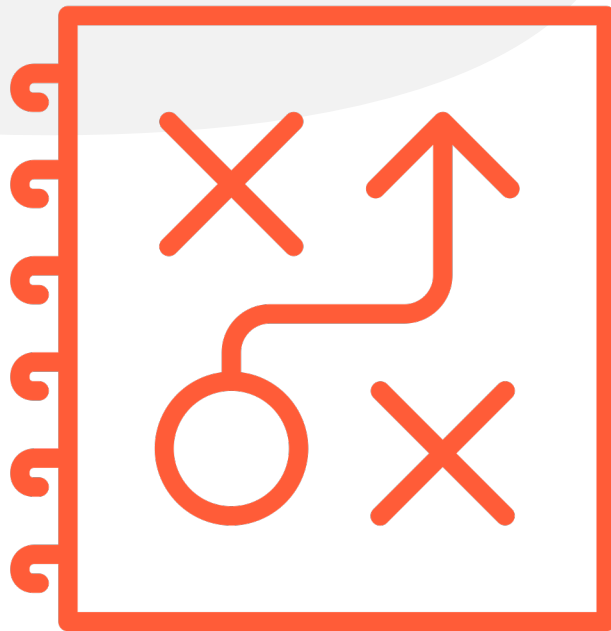


## WHY?

- Niche models will prevail with consumer activity driving specialization
- User-specific applications will achieve greatest adoption
  - Generative AI will predict patient IDs
  - Proactive monitoring patient health through wearables, etc.
  - Tools and processes to resolve data quality issues related to Social Determinants of Health (SDoH)

# KEYS TO SELECTING AI TECHNOLOGY - 1

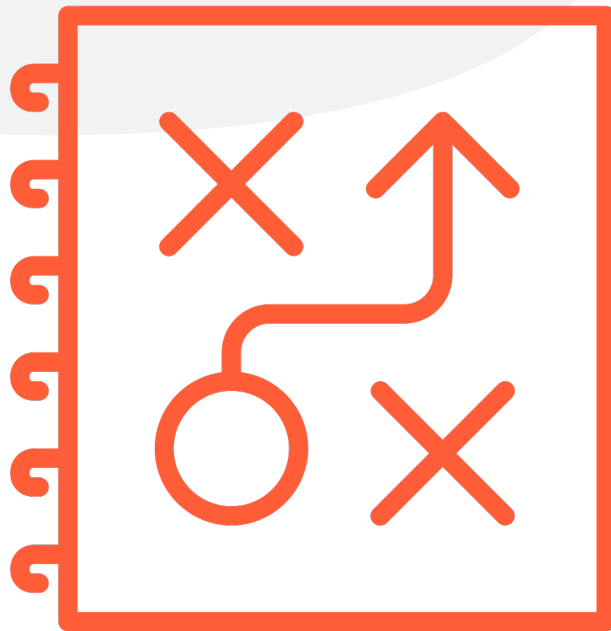
## Questions to ask the AI's creator



- *How extensively were your models trained and on what data?*
- *Was it trained on correct clinical data? Or is it susceptible to intrinsic bias?*
- *What is your experience in AI? What is your experience in Healthcare? And what is your experience in Healthcare AI?*
- *How adaptable is the AI to changes to the external environment (e.g. changes to CMS guidelines)*
- *What are your security and governance policies?*

# KEYS TO SELECTING AI TECHNOLOGY - 2

Criteria to determine fit/value/utility to use case

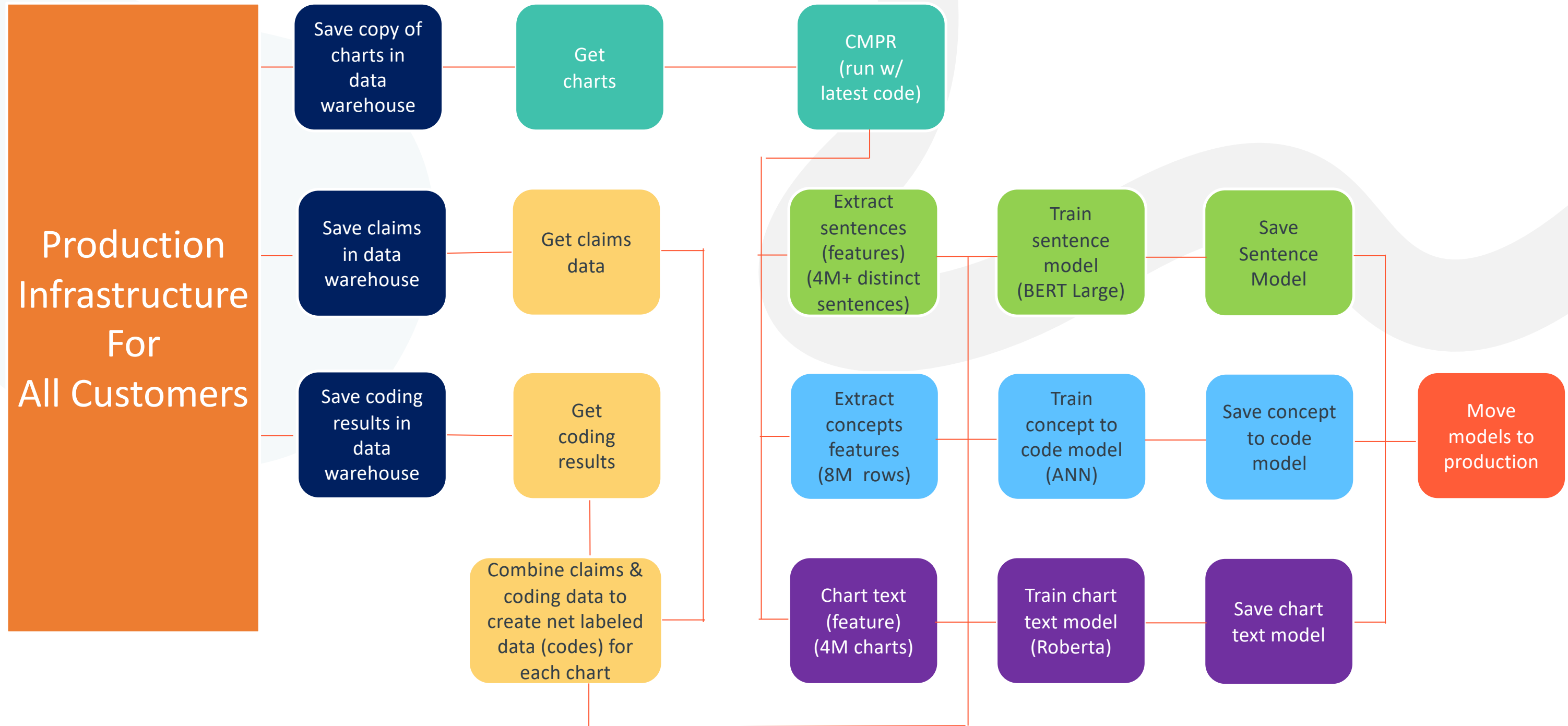


- Choose business functions or tasks that meet practical needs
  
- Ensure the AI model is right for the intended function
  - Generative or Discriminative?
  
- Pick winning plays
  - Demand evidence of success
  - Pressure test the hype: ASK! What was it trained on and was that data relevant to me?

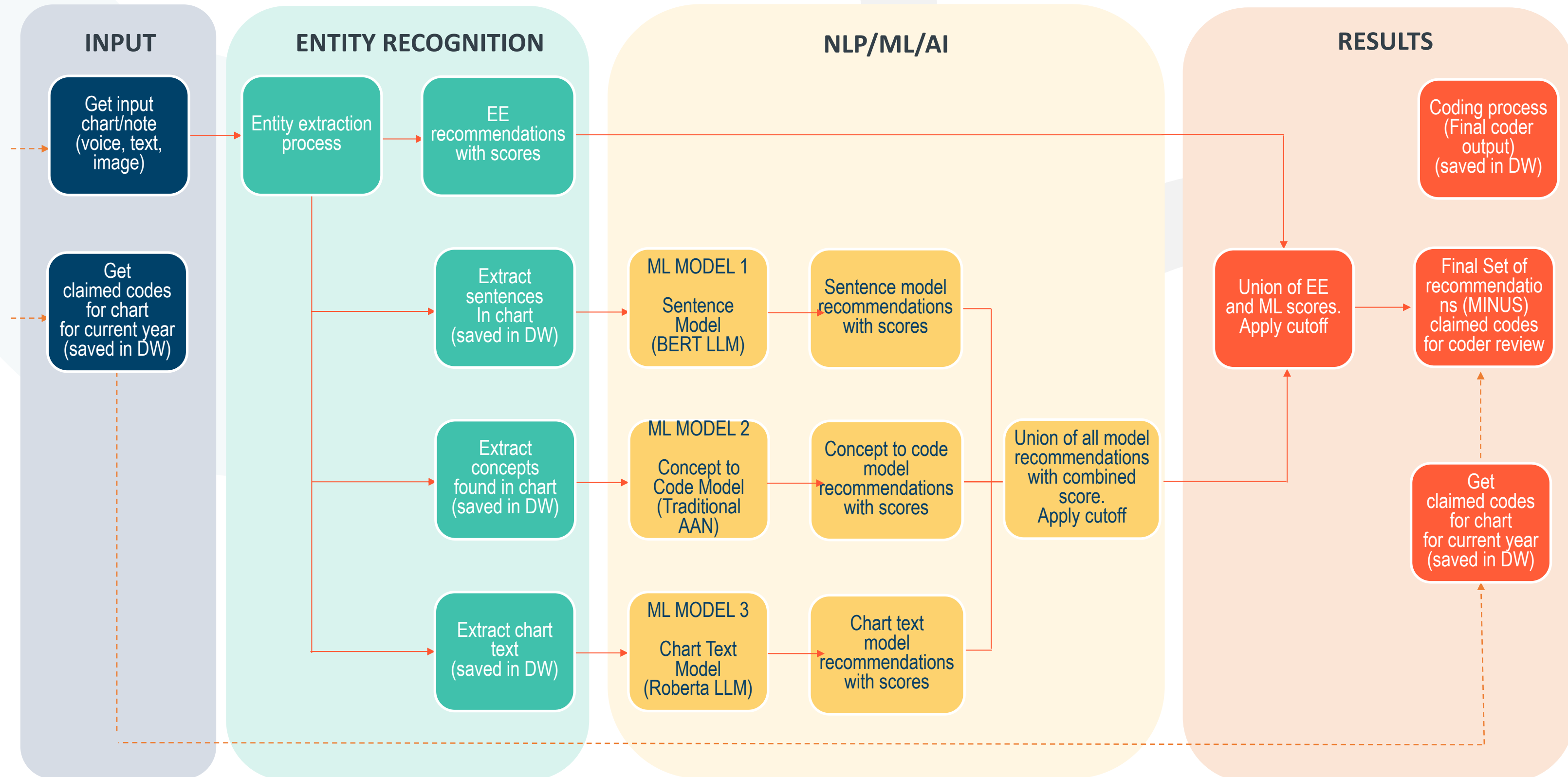
# EMPLOYING AI SUCCESSFULLY



# RISK ADJUSTMENT TRAINING MODELS



# RISK ADJUSTMENT INFERENCE FLOW



# WHAT TO EXPECT WHEN YOU'RE EXPECTING (AI)

Preparation is critical to success

- Reframe your expectations and performance measures
  - Errors should be anticipated, and are a natural part of AI
- Establish goals
  - productivity, ROI, financial performance, throughput, error reduction, etc.
- Change management strategies should be deployed across the organization
  - Educate users on the value of the technology, how to interact with it, and what to look out for
  - It's not a threat, it's a tool!

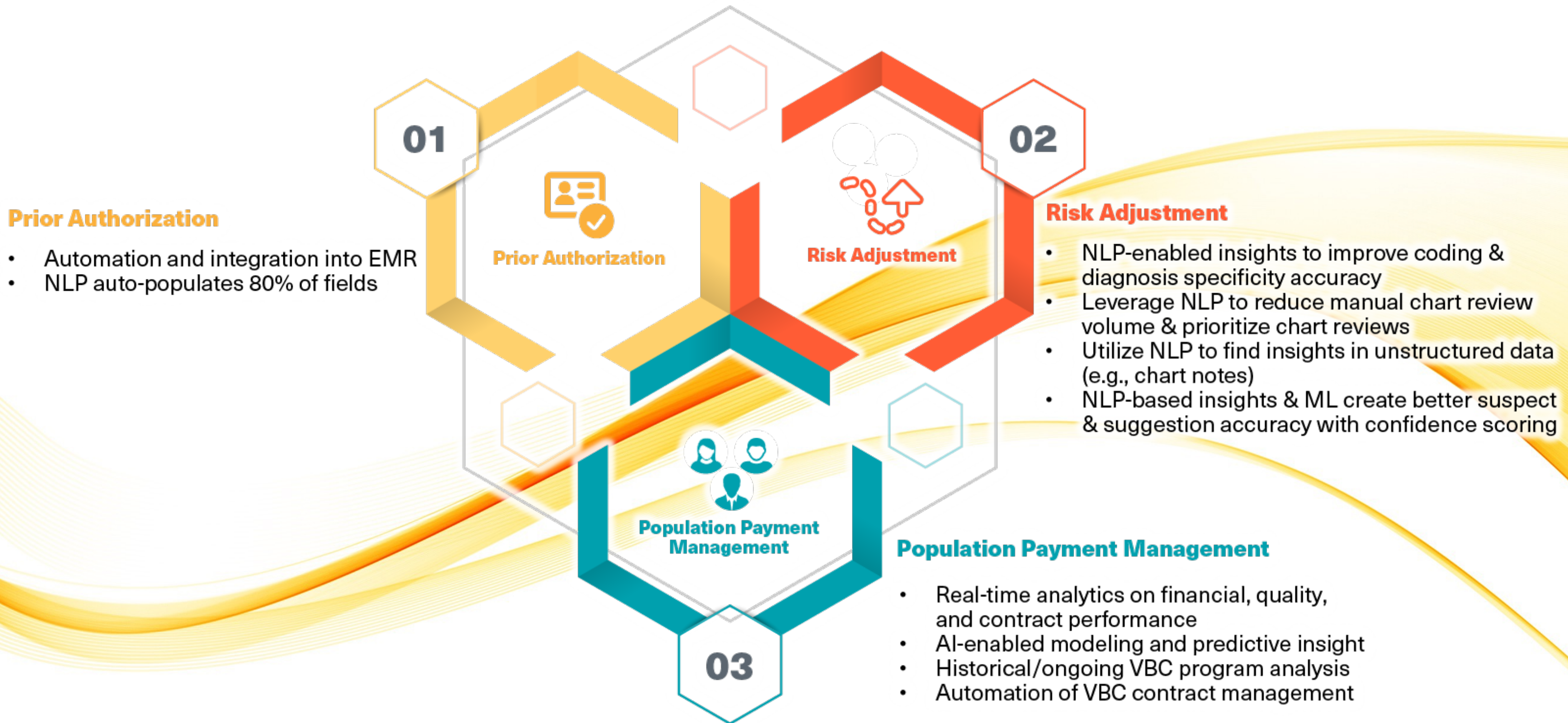
# IT WILL TAKE A VILLAGE

Healthcare needs to be ready to exploit advancements emerging across industries

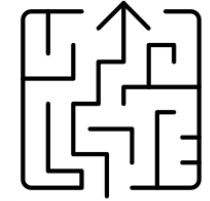
- Healthcare will build on what's clearly valuable, even if it comes from outside healthcare
- It will continue to be a game of singles
- Technology incumbents will build the infrastructure
  - The idea of standing up AI programs internally might seem attractive, but it's fraught with complications
    - Data availability and diversity, duration of training time, uncertain ROI, etc.

# EDIFECS & THE FUTURE OF AI

# A HOLISTIC APPROACH

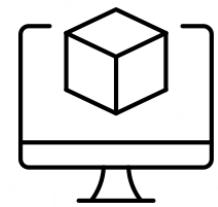
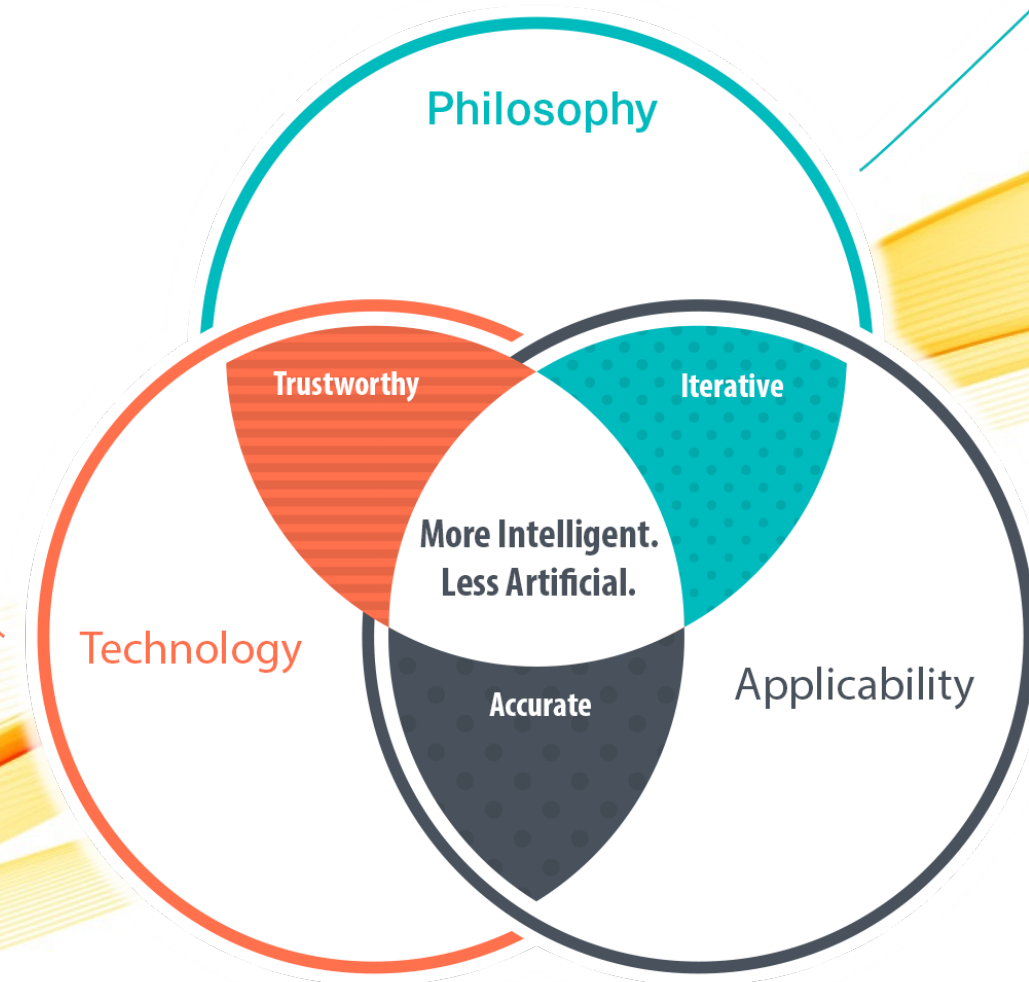


# EDIFECs WILL CONTINUE TO LEAD



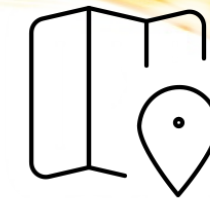
## PHILOSOPHY

- We are guided by practicality, not by hype
- We're focused on the AI applications that will offer maximum ROI for our customers
- We build where necessary, and leverage where qualified



## TECHNOLOGY

- We have the experience, infrastructure, and data needed to successfully train AI for healthcare applications
- Database of over 8M patient charts for training and retraining
- Over 10Y of healthcare-specific utilization



## APPLICABILITY

- We take a holistic approach across multiple use cases including Risk Adjustment, Value-Based Payment, and Prior Authorization
- Cross-usage drives greater learning in our models and results in broader prediction sets with greater accuracy

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# PLAYING THE GAME OF SINGLES

Creating net-new technology with the maximum ROI for our customers

- Cross-usage will enable faster and more efficient learning in our models
  - broader prediction sets, greater accuracy and faster time-to-market for future AI-enabled solutions
- Great flexibility in the range of potential future uses via extent of the breadth and depth of our LLM training
- Continued practical, valuable and sensible technology advancements, strictly for healthcare organizations



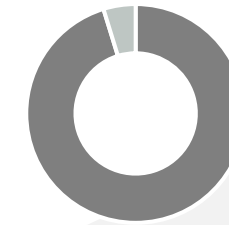
# ABOUT EDIFECS



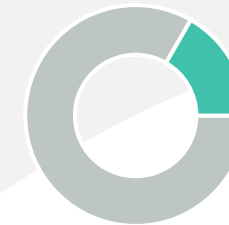
A Proven Partner

96% CLIENT RETENTION RATE

300+ HEALTHCARE CUSTOMERS  
1000+ EMPLOYEES



NLP Recall >95%



Increase RAF: 5%-20%



>25% increase in suspected conditions



1 HCC for every 2-5 patients analyzed



2023



2022



2022



Proven technologies and models, not conceptual untested ideas

# Q & A

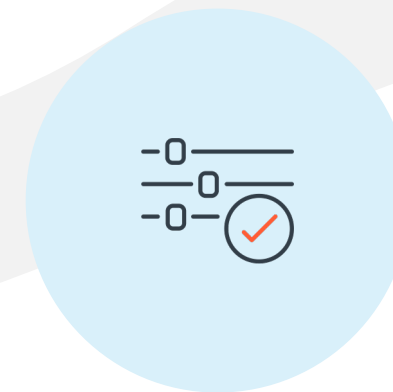
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## THANK YOU!