



AWS  
re:Invent

**AIM210**

# Transforming Healthcare with AI

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Product Lead  
Amazon Transcribe &  
Amazon Transcribe  
Medical

**Jacob Geers**

Product Owner  
Voice Scribe  
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Sr. Data Scientist  
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# Related breakouts

HLL13 - Using AI to Transform Healthcare

AIM2XX– Modernize Contact Centers with Machine Learning

AIM2XX – Needle in the Haystack: Use AI to Transform Content Management

AIM2XX – Stop Guessing: Use AI to Understand Customer Conversations

AIM2XX - Next-Gen Video: Transcription, Translation, and Search

AIM2XX – Closed Captioning in Real Time using Amazon Transcribe

AIM2XX – Automated Content Moderation with Media Insights Engine

# The Challenges of Analyzing Voice Data in Healthcare

# Status Quo

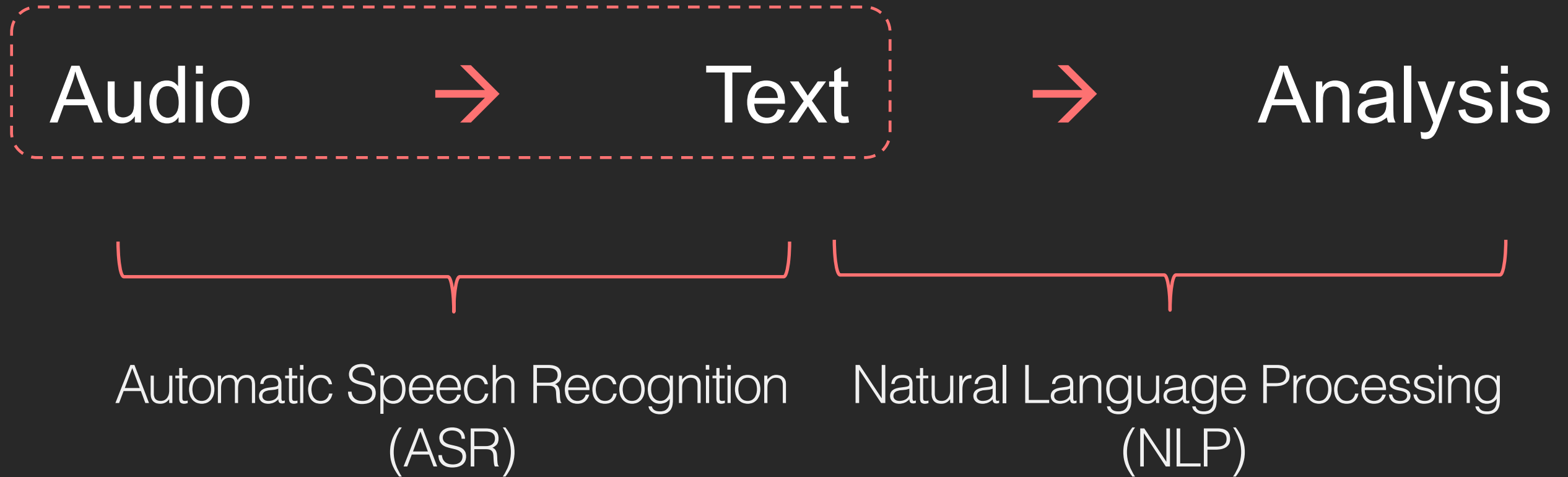
1.5B+ hours medical audio data generated per year.

Valuable insights are "trapped" in the audio.

90%+  
generated  
by clinicians

Even more billions of hours of medical audio backlog.

# Unlocking Insights



# Limitations to Existing Transcription Solutions



## 3P Manual Transcription Service

- Expensive
- Long Turnaround



## Human Scribes

- Awkward for Patients
- Difficult to Scale



## Front-end Dictation Software

- Inflexible Pricing
- Unnatural to Use

# Introducing Amazon Transcribe Medical



# Amazon Transcribe Medical

*What is it?*



**Amazon Transcribe Medical** is an automatic speech recognition (ASR) service that enables developers to add **medical speech-to-text** capabilities to their voice-enabled applications.

# Amazon Transcribe Medical

## *Features & Benefits*



### **Accurate**

**US English**

**Primary Care**

**Dictation Transcription**

**Conversational  
Transcription**



### **Easy-to-Use**

**Real-time Public API**

**Automatic Punctuation**

**Word-level Time Stamps**

**Word-level Confidence  
Scores**



### **Affordable**

**Pay-as-you-go Model**

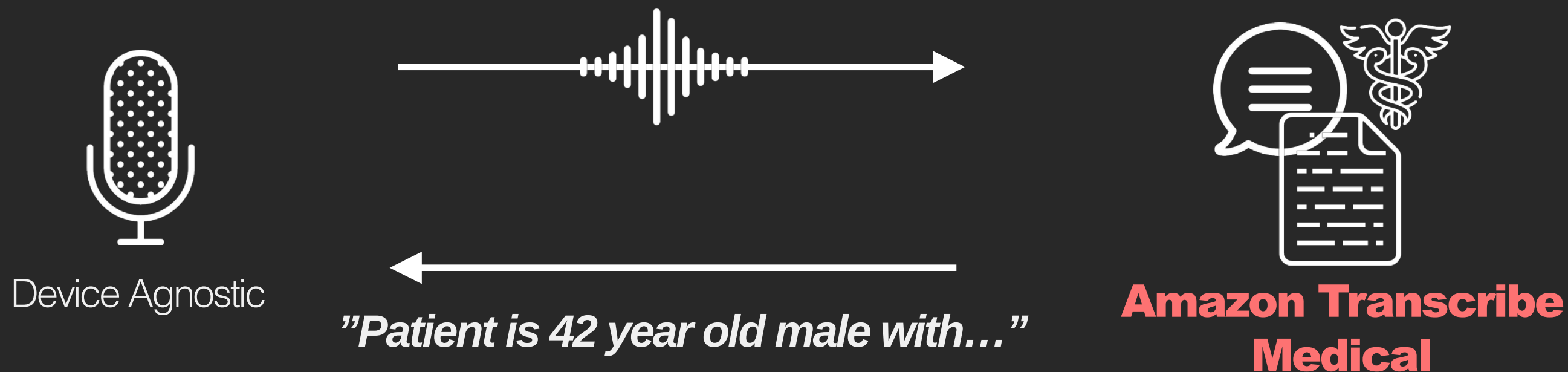
**Charge by Transcription  
Usage**

**7.5 cents / minute**

**60 Minute Free Tier**

# Amazon Transcribe Medical

*How does it work?*



- 1) Call the API**
- 2) Pass an audio stream**
- 3) Get a stream of text**

# Amazon Transcribe Medical

**Amazon Transcribe Medical is**

**HIPAA eligible**

**Today**

# Amazon Transcribe Medical

## *AWS Region Availability*

**US-East-1**

**US-East-2**

**US-West-2**

**CA-Central-1**

**EU-West-1**

**AP-Southeast-2**



# Amazon Transcribe Medical

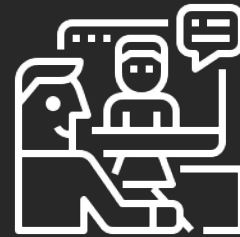
## *Use Cases*



Clinical  
Documentation



Drug Safety  
(Pharmacovigilance)



Telemedicine



Provider & Payer  
Contact Centers

# Unlocking Insights in Medical Audio

*ASR + NLP*



Automatic Speech Recognition  
(ASR)

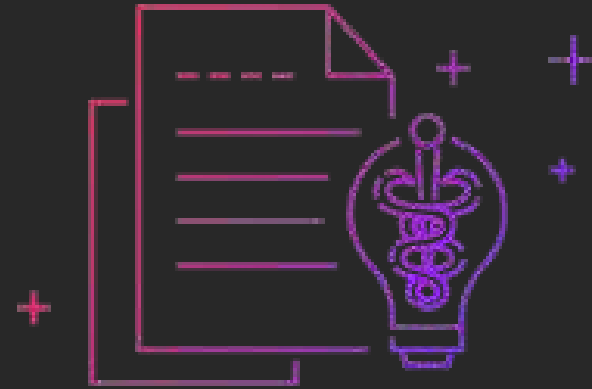
Amazon Transcribe Medical

Natural Language Processing  
(NLP)

Amazon Comprehend Medical

# Revisiting Amazon Comprehend Medical





# Amazon Comprehend Medical

A HIPAA eligible service that uses machine learning to extract medical information with high accuracy, reducing the cost, time, and effort of processing large amounts of unstructured medical text

# Amazon Comprehend Medical

Medical Named Entity and Relationship  
Extraction (NERe API)

Protected Health Information Identification  
(PHId API)\*

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## Entities

- Medication
- Medical condition
- Test, Treatments and Procedures
- Anatomy
- Protected Health Information (PHI)

## Relationship Extraction

- Medication and dosage
- Test and result
- Many more

## Entity Traits

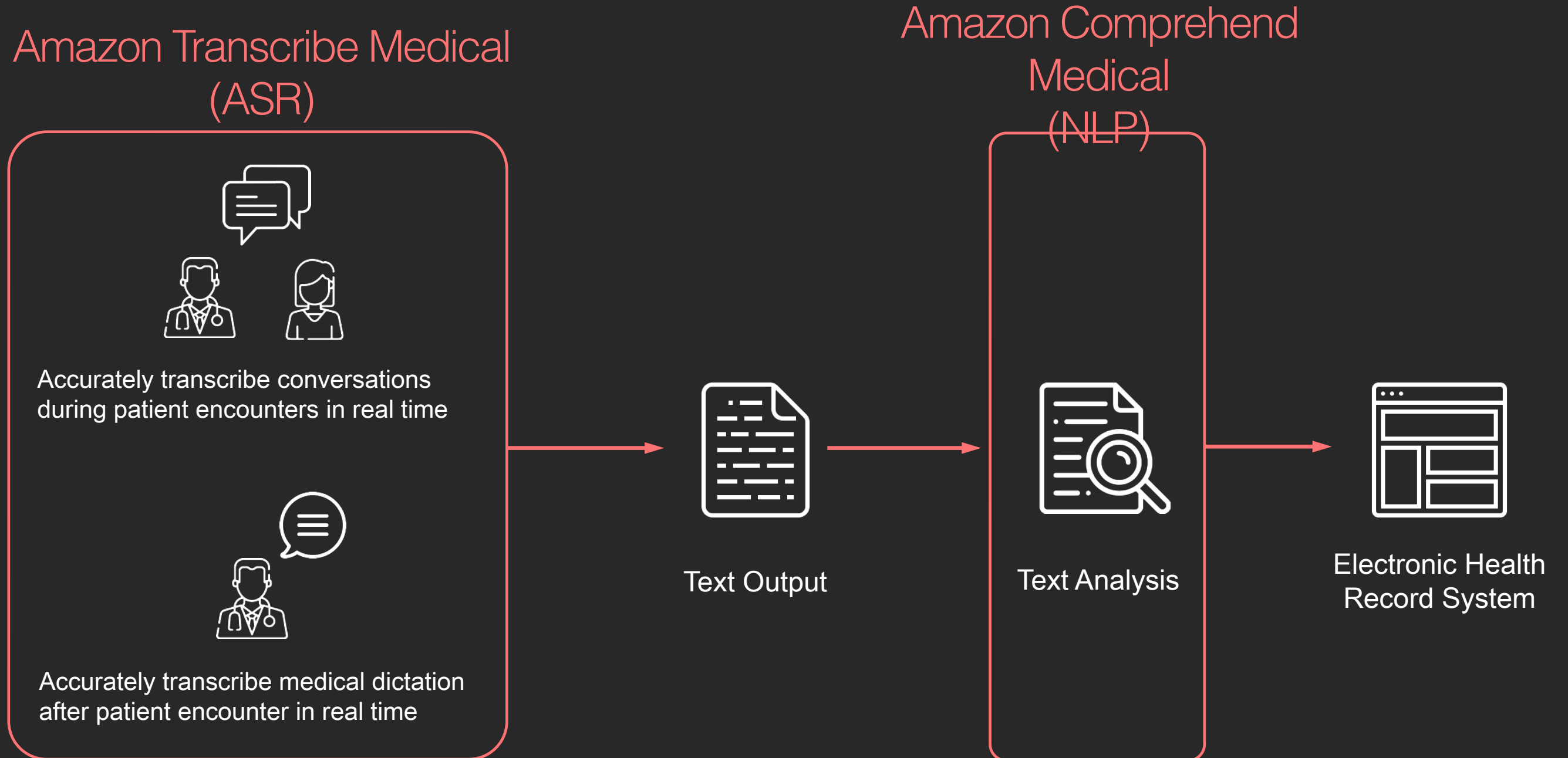
- Negation
  - Diagnosis, Sign or Symptom
- 

Service is HIPAA Eligible and “Stateless”, no customer data stored

\*This API extracts Protect Health Information only at lower cost.

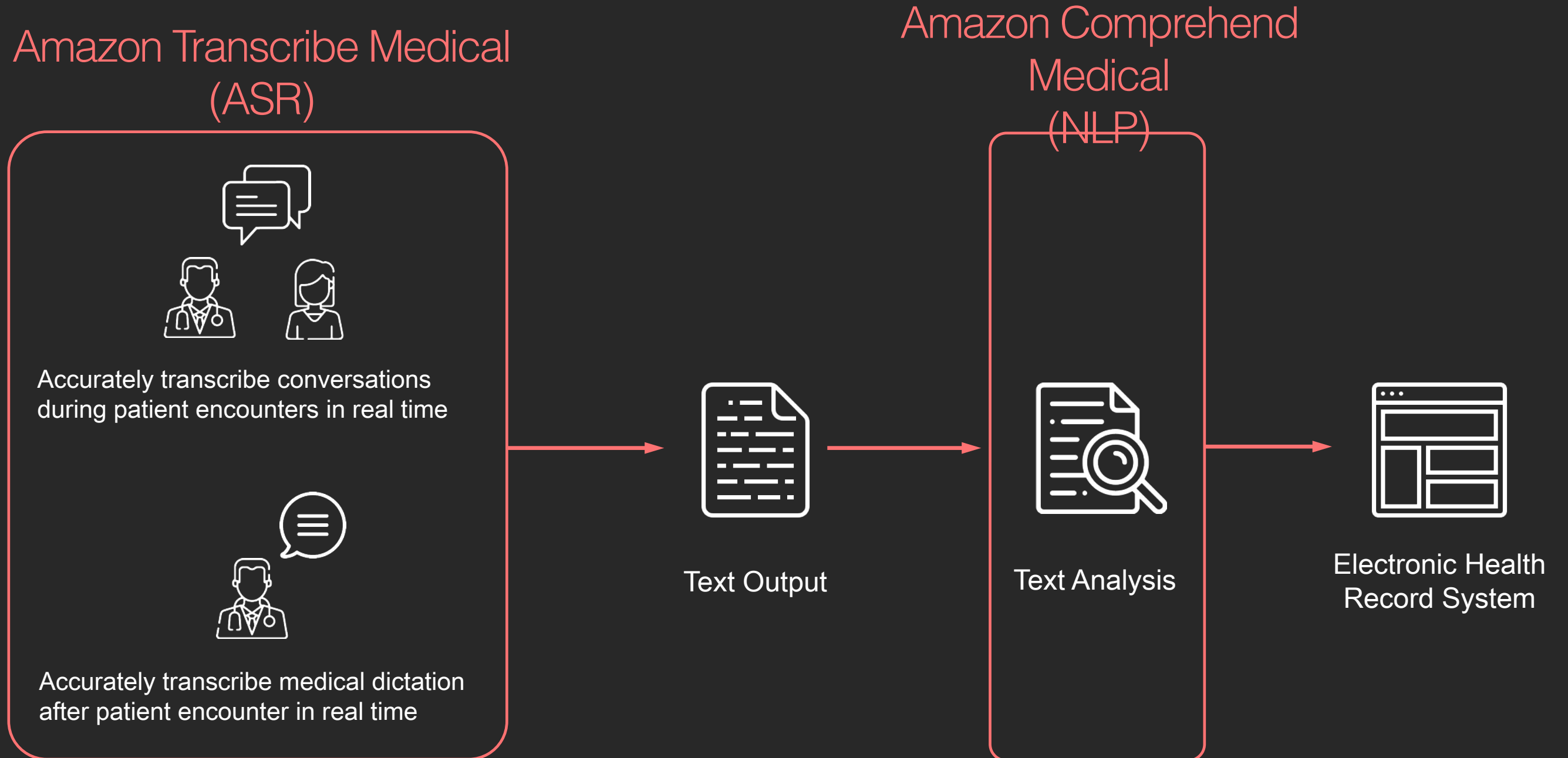
Distill a complex process into a simple API call

# Transcribe Medical + Comprehend Medical



# Demo

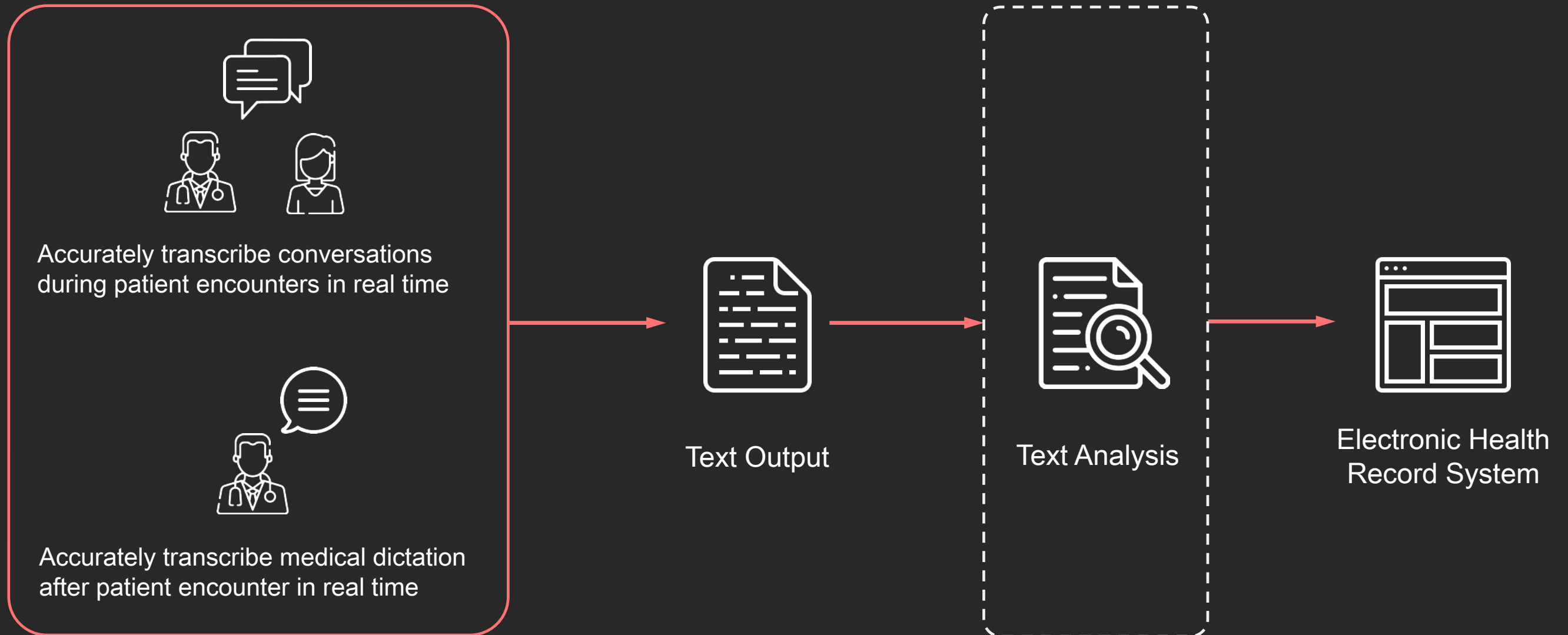
# Transcribe Medical + Comprehend Medical



# Transcribe Medical + Any Downstream Medical NLP

## Amazon Transcribe Medical (ASR)

Medical NLP of your choice.



# Cerner

## Jacob Geers

Product Owner

Voice Scribe

Cerner

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Use Case

**Sample Text**

**Sample Text**



Problem confronted/pain point

**Sample Text**

**Sample Text**

Solution

**Sample Text**

**Sample Text**

# How does solution use Transcribe Medical

**Sample Text**

**Sample Text**

Pre-recorded demo, screenshots, or sample code

**Sample Text**

**Sample Text**

# Customer Wrap-up

**Sample Text**

**Sample Text**

# Amgen

## George Seegan

Sr. Data Scientist

Amgen

Use Case

**Sample Text**

**Sample Text**

Problem confronted/pain point

**Sample Text**

**Sample Text**



Solution

**Sample Text**

**Sample Text**

# How does solution use Transcribe Medical

**Sample Text**

**Sample Text**

Pre-recorded demo, screenshots, or sample code

**Sample Text**

**Sample Text**

# Customer Wrap-up

**Sample Text**

**Sample Text**

# Session Wrap-up

**Sample Text**

**Sample Text**

# Thank you!

**Paul Zhao**

Sr. Product Manager  
Amazon Transcribe Medical  
AWS

**Customer Presenter**

Title  
Company

**Customer Presenter**

Title  
Company



Please complete the  
session survey in the mobile  
app.

# Let's talk

Join us in the *[track name]* Networking Lounge at *[location]* on *[day]*,  
December *[date]*, from *[start time]* to *[end time]*.