

Guidance for Identifying Diagnosis Codes from Clinical Notes on AWS

This architecture diagram shows how to use generative AI on AWS to summarize patient history and medical conditions and identify relevant International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) diagnosis codes.

- 1
- Source data can come in many different forms, such as the Fast Healthcare Interoperability Resources (FHIR) format. If it is already in FHIR format—for example, if it is coming from an electronic health record (EHR)—it can be directly sent to **AWS HealthLake** through synchronous FHIR APIs or through asynchronous bulk imports.
- 2
- Patient-provider interactions can be summarized using **AWS HealthScribe** and stored in **Amazon Simple Storage Service (Amazon S3)**.
- 3
- Results can also be enriched using **Amazon Comprehend Medical**, which supports ICD-10-CM diagnosis codes.
- 4
- An **AWS Lambda** function acts in response to **Amazon S3** events to invoke **Amazon Bedrock**.
- 5
- Using prompt engineering with an **Amazon Bedrock** Converse API, you can identify your patient's medical conditions and store the results in an **Amazon S3** bucket.
- 6
- Use an **Amazon OpenSearch Service** vector database to store your organization's specific guidelines on how to detect nuances of medical conditions.
- 7
- You can use **AWS Lake Formation** to govern permissions.
- 8
- You can use **Amazon Athena** to analyze the data stored in **AWS Glue** Data Catalog tables.
- 9
- You can present insightful dashboards and visualizations to end users using **Amazon QuickSight**.

