



TranscriptIQ – Transforming Patient Care with Extractive and Generative AI

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What is entity extraction, and why is it important in the context of clinical encounter transcripts or patient surveys?

Entity extraction involves identifying and extracting specific pieces of information, such as symptoms, treatments, and medical conditions, from clinical encounter transcripts or patient surveys. It is crucial for organizing and structuring unstructured text data, enabling better analysis, decision-making, and research in the healthcare domain. Our platform TranscriptIQ has extractive and generative AI capabilities to help in accurate entity extraction



What are the common type of entities that TranscriptIQ extracts from clinical encounter transcripts or patient surveys?

Common types of entities that TranscriptIQ can extract from clinical encounter transcripts or patient surveys include diseases, procedures and drugs. These entities provide valuable insights into patients' health conditions, treatments, and potential risk factors and can be used for the purpose of analysis, decision-making and research.



What are the challenges impacting the accuracy of entity extraction in this domain?

Entity extraction in the clinical health domain is complex due to the presence of negation, hedging, conditional statements, family-related references, and generic concepts

Examples of these challenges include:



Negation: "The patient denies experiencing any chest pain."



Hedging: "The results suggest a potential correlation between smoking and lung cancer."



Conditional statements: "If the patient's blood pressure exceeds 140/90, administer medication."



Family-related references: "The patient's mother has a history of diabetes."

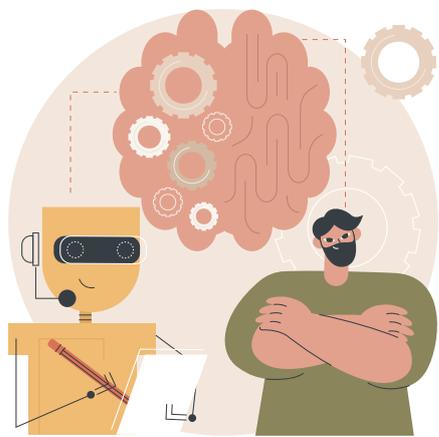


Generic concepts: "Patients often experience fatigue after surgery".



Given the challenges around accurate entity extraction, how does Exafluence’s TranscriptIQ solve the problem?

TranscriptIQ employs a combination of rule-based features and deep learning techniques to identify entities such as diseases, drugs and procedures. It uses a pipeline that incorporates Spacy’s en_ner_bc5cdr_md (NER model) for entity extraction and Negex to identify negated mentions. Additionally, we have leveraged GPT-3.5 for information augmentation, enhancing the dashboard's informative value alongside entity extraction.



How does TranscriptIQ leverage Generative AI?

TranscriptIQ employs the domain-specific model - Spacy's bc5cdr_md for accurate entity extraction. However, the true power of Generative AI lies in its ability to enhance information based on these extracted entities. For instance, our platform showcases how disease entities can be augmented with preferred treatments and drug entities with known side effects. It's worth noting that the healthcare tech industry is witnessing a significant trend toward the development of Large Language Models. Numerous clinical foundation models trained on diverse healthcare datasets are already available, offering immense value and potential.



Once the entities have been extracted, what are the subsequent steps or actions that are taken?

Extracted structured data from unstructured clinical text enables efficient storage, integration, and analysis of medical entities. It facilitates data-driven decision-making, supports predictive modeling, and powers clinical reporting and summarization.

TranscriptIQ leverages the extracted entities in the form of a dashboard to provide insights into patient conditions and treatments thus enabling improved clinical decision-making and healthcare delivery.

Transcript IQ -Analytics on Patient Medical Transcripts | Tableau Public