Using AI Technology via Atlas to Streamline Clinical Documentation and Enable Data-Driven Improvement Through Analysis of Patient Data

Background

Atlas AI-assisted data abstraction for clinical registries

Registry participation is essential for quality initiatives and patient care, but often involves time-consuming, manual labor and redirects resources away from patient care. Carta Healthcare uses a combination of **technology, people, and process** to reduce the burden of data abstraction — efficiently and quickly getting the data out of your electronic medical records and into clinical registries.

Using artificial intelligence (AI), our Atlas software abstracts data from medical records to automatically populate clinical registry fields.

Purpose

Atlas unifies your data

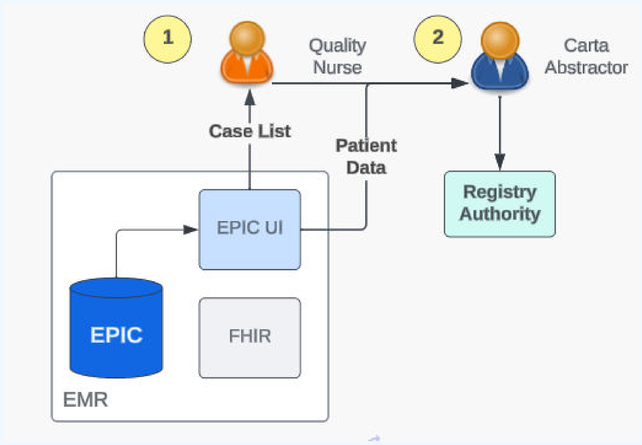
- Accesses data from multiple electronic health record (EHR) systems using FHIR, data warehouses, and any other data source
- Extracts data from structured fields (e.g., ICD-10 & ICD-O-3 codes, standardized demographic data)
- Uses natural language processing (NLP) to "read" through unstructured data such as clinical notes, lab reports, imaging results, and more
- Standardizes all data into a single usable FHIR-based format for use across multiple systems and reporting tools
- Transforms clinical notes into an easy-to-search format

Atlas assists with registry completion and submission

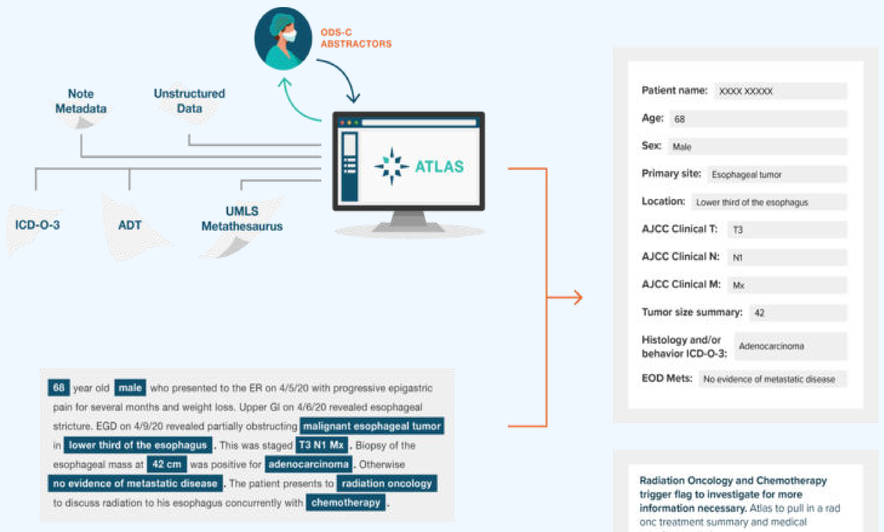
• Considers information from all data sources to provide high-quality recommendations and data context for registry fields
• Provides a system for validation/confirmation based on the confidence in the data sources
• Presents the recommendations within our "glass box" that allows data to be traced back to its source and viewed in context of the other data around it
• Incorporates machine learning to improve subsequent form completions
• Organizes unstructured data into patient timelines
• Submits to third-party registries using XML or JSON (with certification, if required)
• Includes a progress bar and time tracker
• Provides a 'google search' of the patient's notes, enabling search of medical concepts
• Provides a comprehensive timeline of the care the patient received

Methods

Manual Abstraction



Atlas Abstraction



Results

MAXIMIZE THE VALUE OF YOUR DATA WITH OUR AI TECHNOLOGY

Our solution can parse and organize both structured and unstructured data, providing insights previously unavailable for quality improvement and real-world research.

•Enhance the speed and efficiency of data abstraction with weekly case reviews by our certified oncology data specialists.
•Easily integrate and access your data through various platforms, including data warehouses and analytics tools like Tableau and PowerBI.
•Streamline data analysis with our customized dashboards and simple exports to Excel and Jupyter notebooks.

DO MORE WITH YOUR DATA

Because our AI technology can parse through both structured data (e.g., ICD-10 & ICD -O-3 codes) and unstructured data (e.g., physician notes, radiation treatment summaries, lab reports, imaging results), you gain access to all your data. By converting and organizing the unstructured data to structured, trusted data, you can connect and populate that information across all your organization's systems and reporting tools.

Previously inaccessible data are now available for greater insights into the quality of patient care and operational efficiency as well as for real world research.

•Improve quality initiatives and patient care
•Drive clinical insights through faster, reliable data collection
•Improve the feedback loop by removing the time lag between provision of care and reporting
•Implement a more robust quality improvement framework

Conclusion

Atlas implementation leads to more accurate clinical registry completion and the opportunity to drive greater value from your data.

•Ability for abstractors to use their clinical training for the more complex fields
• Reduced need for abstraction of tedious, repetitive fields
•Automated validation of field values
•Real-time reporting of outliers and anomalies

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