

Tegria Data Migration for Advocate Aurora to Truveta Platform

Background and Challenge

Truveta is a consortium of healthcare organizations committed to sharing de-identified data to accelerate research, advance health equity, and save lives. As a founding member, Advocate Aurora Health (AAH) had set a goal to be among the first health systems in the Truveta network to initiate data submissions, but with no cloud data

engineers on staff, found themselves in danger of missing the data submission deadlines necessary for inclusion in the first set of information analysis. At the same time, AAH was in the process of developing its goals and strategy for a cloud data platform and was just beginning to build internal expertise in Azure data infrastructure and data pipeline development. This transition yielded a set of unique opportunities and challenges for creating a solution that would satisfy the Truveta infrastructure requirements.

- **Location HQ:** Downers Grove, IL & Milwaukee, WI
- **Bed Count:** 6,552
- **26** Hospitals
- **10,000** physicians

Results

In partnership with Tegria's cloud data engineering and architecture expertise, AAH was able to accomplish the following:

- **Data Delivery:** A source-agnostic cloud data migration and data delivery solution.
- **Clinical Concept Crosswalk:** Data solution maps eight complex data sets (patients, observations, allergies, encounters, conditions, medications, immunizations) from Epic Clarity to Truveta with support to expand data set in the future.
- **High Quality Assurance:** Built-in process for quality control and data transfer monitoring to report on pipeline health and identify potential issues.
- **Accelerated Truveta Implementation:** AAH completed the fastest Truveta implementation to date and became one of the first organizations to transmit immunization data.

Goals and Solution

AAH's long-term goal was to create a cloud-based health data platform that would enable both successful Truveta participation and ensure that their core systems were housed in a secure, reliable, and flexible environment.

After assessing Truveta's data and infrastructure requirements, data content formatting, data volumes, and current-state architecture, Tegria and AAH worked together to design system architecture and integration points as well as a rapid prototype data extract. We were able to use our findings and recommendations to finalize future system design and data integration plans, developing a source-agnostic data migration solution to meet AAH's immediate, short-term need to get data submitted to Truveta as soon as possible, while leaving space for AAH to grow into its long-term strategic vision for implementing comprehensive analytics infrastructure.

Execution

Initiative/Milestone #1:

Security Approval and Data Pipeline Proof-of-Concept

During a six-week engagement in mid-2021, AAH and Tegria worked with Truveta to catalog existing data security and sharing compliance processes. From there, the team developed a proof-of-concept data pipeline to transport data from the on-premises data source into Truveta's Azure environment. This phase laid the groundwork for an expanded solution.

Initiative/Milestone #2:

Clinical Data Mapping and Historical Data Pipelines

During the second initiative of the project, AAH and Tegria worked together to further develop the proof-of-concept solution to include data mapping, data pipelines, and submissions to Truveta across a wide range of clinical concepts. AAH's initial dataset spanned five years of allergies, conditions, encounters, immunizations, medications, medication administrations, procedures, observations, lab results, and social history for a patient population of approximately 6.5 million. This included the development of logic model to define the inclusion criteria for patient eligibility, i.e., the five-year lookback period from the start of AAH's membership agreement with Truveta, the service areas that are eligible to participate, etc.

The team leveraged current infrastructure from an ongoing pilot project as the data source for Truveta while building a data-source agnostic Azure cloud solution with connections that could be easily reconfigured to align with the infrastructure developed as part of their larger organizational analytics strategy.

Initiative/Milestone #3:

Automated Data Submissions and Knowledge Transfer

Tegria consultants worked with AAH to establish the build and configuration to enable recurring data transfers from AAH to Truveta. In collaboration with Truveta, the team refined and expanded the initial dataset and integrated additional data objects into the solution build. To maintain and further develop their long-term data strategy, AAH hired and integrated a cloud data architect whose scope included their Truveta data pipelines and the Tegria team was able to fast-track a knowledge and data transfer to this lead resource based on AAH's timeline as a flexible partner.

Outcomes Summary

Partnering with Tegria's cloud data engineering and architecture experts, Advocate Aurora completed the fastest Truveta implementation to date with their source-agnostic cloud data migration and data delivery solution to enable data flowing to Truveta.

As a result, AAH became one of the first organizations to successfully submit five years of historical data and to enable recurring daily transfers of new/changed records for eligible cohorts within Truveta; more importantly, this was the first time AAH integrated on-premise and cloud data for the first time and the movement can be leveraged moving forward both for Truveta and future data transfers.

Tegria also worked with AAH to create and implement data quality checks for Truveta to increase speed to production. The team developed and designed a customizable reporting structure that coordinates with Truveta requirements and built an ETL monitoring tool that provides insight to AAH and Truveta on data volumes and transfer success rates. A notable win is the fact that AAH has experience zero failures in the month since project completion.

Working together, AAH and Tegria created a clinical concept crosswalk, mapping eight complex data sets (patients, observations, allergies, encounters, conditions, medications, immunizations) from Epic Clarity to Truveta with support to expand data sets in the future. AAH become one of the first organizations to transmit immunization data. This ensured that Advocate Aurora could meet Truveta's deadline to participate in Truveta's inaugural custom study addressing important medical questions around COVID-19 breakthrough infections.

Testimonial



Partnership is an effort that involves all parties. In this engagement, all the right traits were displayed: we worked toward one well understood objective, we ensured the right resources were engaged on both sides, we got 'deep' when we needed to ensuring barriers were removed and oversight was appropriate, and we course corrected together when needed.

—Tina Esposito, SVP, Chief Health Information Officer