Data products – enterprise level self serve reporting

Pediatric healthcare services provider

- Built self-serve reporting capabilities from the Data Lake for the business users by developing required fact and dim tables in the aggregate zone of the Data Lake

- Deployed the Data Products using the Power BI data models to provide enterprise-level self-serve reporting capabilities for the business users

Pediatric healthcare services provider needs Data products – enterprise level self serve reporting

Picture this...

You're looking for detailed and accurate 13-week collections forecast every week to have enhanced visibility in cash flow as the existing process is not data-driven and requires frequent manual adjustments and provides limited visibility into variance vs. actuals.

You turn to Accordion.

We partner with your team to enhance, automate and streamline the forecasting process that would enhance the accuracy of the forecast within a short period of time, including:

1) Incorporating historical payment behavior of the customers in the forecast by using DBT (days beyond terms) trends.
2) Centralizing the process to consolidate customer level payment information and incorporating an additional layer into the model.
3) Enabling easy tracking of each adjustment layer and its impact on forecast with revised template resulting in reduced instances of manual adjustments while making the process faster, simpler and intuitive.
4) Tracking of Actuals vs. forecasted collections at the end of the week and in between the week to track accuracy and analysis of the WoW change in future week's forecast to identify key change levers.

Your value is enhanced.

- You have automated and streamlined the overall methodology with accelerated delivery of the preliminary forecast by 50% compared to existing process every week, enabling more time for you to improve the forecast.

- You have the forecast accuracy of more than 99% over a 13-week period, excluding few special cases where the team pulled the payments a week earlier than they were forecasted.

- Mid-week Actuals vs. Forecast enables the you to focus on the pending invoices and customers.

FINANCIAL PLANNING AND ANALYSIS

KEY RESULT

- `>99% forecast accuracy`
- `50% accelerated forecast`

VALUE LEVERS PULLED

- `DBT Analysis`
- `Consolidation of Portal reports`
- `Variance Analysis`

Data products – Enterprise level reporting for healthcare service provider

Situation

- The client's Clinical and Finance users had self-serve reporting capabilities through the Data Models focused on one region (out of 3), however client did not have a robust access control mechanism to manage PHI/PII data across the organization.

- Partnered with the client's D&A and DE teams to develop enterprise-level self-serve reporting capabilities for the business users by developing standardized, scalable enterprise-wide data architecture and deploying the Power BI data models enabling the client teams to have enhanced control over the data accessibility across the organization.
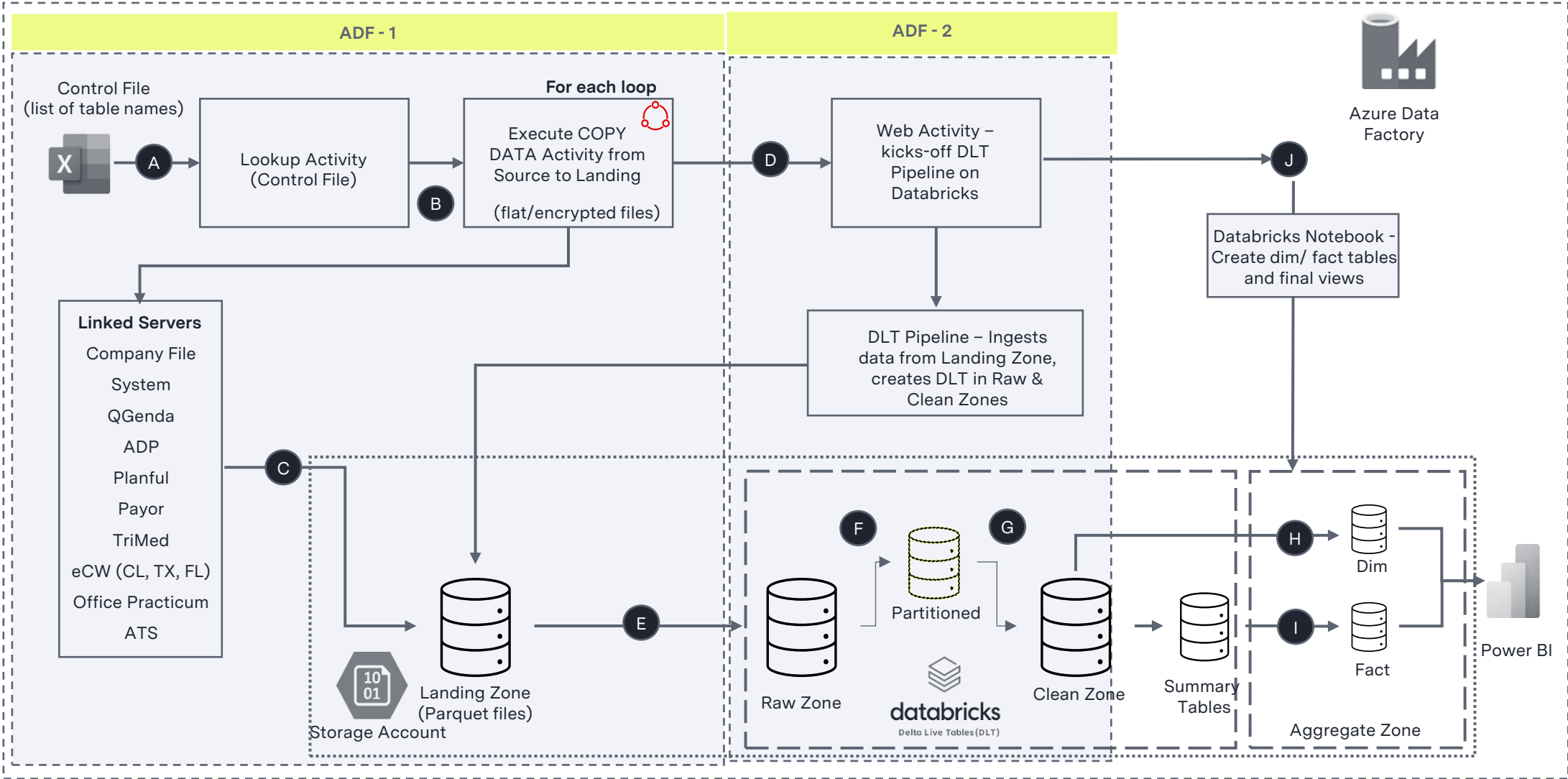
Accordion Value Add

- Set up the automated data ingestion of the Referrals and Prescriptions data from EMRs, Benefits and other data from payors using Azure Data Factory and Databricks Delta Live Table pipelines as the Data Integration technology

- Designed and developed 40+ enterprise-level dimension tables in the aggregate zone of Data Lake from multiple data sources (EMRs, ADP, Payors) by implementing Star and Snowflake schemas, enabling the availability of enterprise-level dimensions for any cross-functional analytics/reporting

- Designed and developed 15+ cross-functional fact tables in the aggregate zone of Data Lake by leveraging the summary tables created by cleaning and transforming the data ingested across all the data sources (EMRs, ADP, Payors), enabling the users to have access to the granular data across different business use cases

- Implemented the incremental load process in the aggregate zone of the Data Lake to enable the historical data tracking across all the Fact and Dim tables

- Deployed the data models in Power BI enabling the business users across the Clinical, Finance and Operations teams with enterprise level self serve reporting capabilities
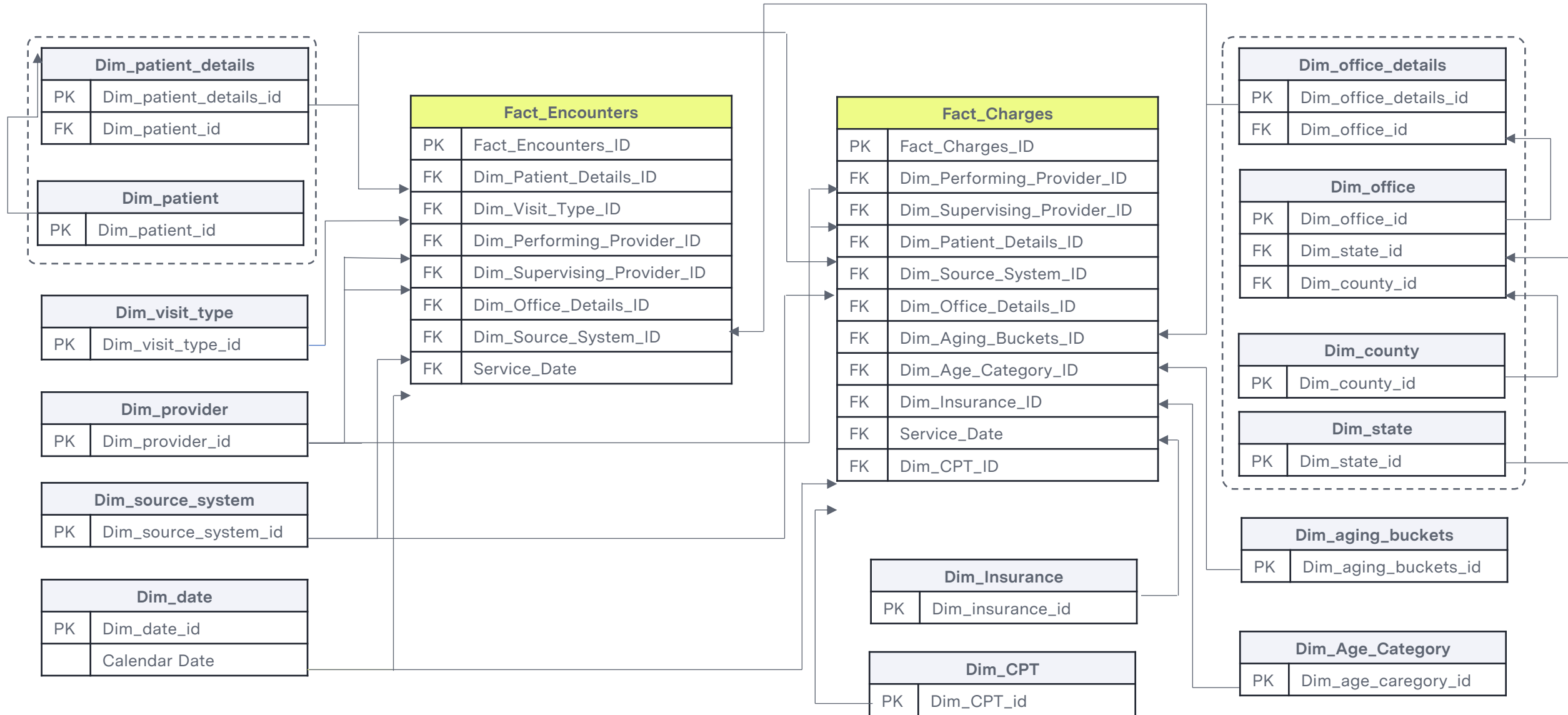
Impact

- Client's D&A team was able to transition the business users to the Data Products, moving them closer to retiring the legacy data models, resulting in a potential annual cost savings of $250K - $300K

- The client's team saved about 50 monthly man hours which were required for the maintenance and debugging of legacy Data Cubes

- Enabled the client's D&A to control the access of the PHI and PII data across the organization in a more robust and streamlined manner
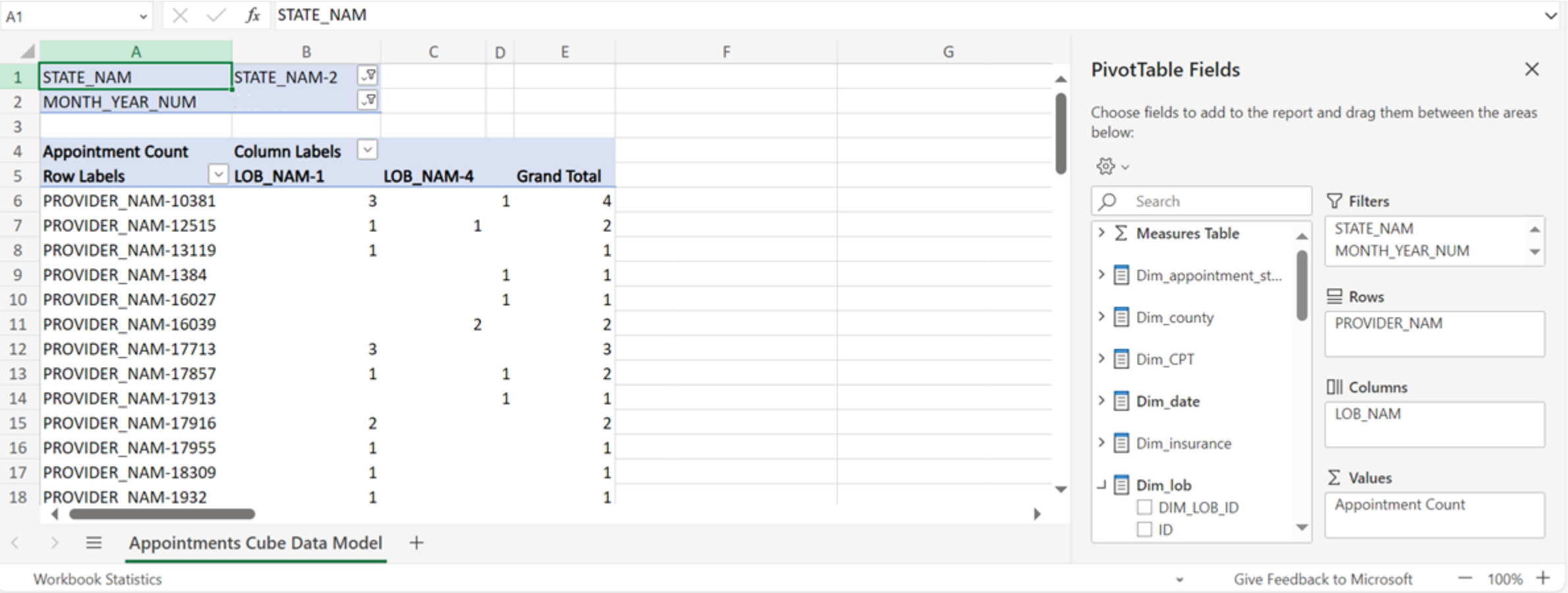
Data products – Low level design diagram

Data model – Encounters data product (ER diagram)

Dim_patient_details	
PK	Dim_patient_details_id
FK	Dim_patient_id

Dim_patient	
PK	Dim_patient_id

Dim_visit_type	
PK	Dim_visit_type_id

Dim_provider	
PK	Dim_provider_id

Dim_source_system	
PK	Dim_source_system_id

Dim_date	
PK	Dim_date_id
	Calendar Date

Fact_Encounters	
PK	Fact_Encounters_ID
FK	Dim_Patient_Details_ID
FK	Dim_Visit_Type_ID
FK	Dim_Performing_Provider_ID
FK	Dim_Supervising_Provider_ID
FK	Dim_Office_Details_ID
FK	Dim_Source_System_ID
FK	Service_Date

Fact_Charges	
PK	Fact_Charges_ID
FK	Dim_Performing_Provider_ID
FK	Dim_Supervising_Provider_ID
FK	Dim_Patient_Details_ID
FK	Dim_Source_System_ID
FK	Dim_Office_Details_ID
FK	Dim_Aging_Buckets_ID
FK	Dim_Age_Category_ID
FK	Dim_Insurance_ID
FK	Service_Date
FK	Dim_CPT_ID

Dim_Insurance	
PK	Dim_insurance_id

Dim_CPT	
PK	Dim_CPT_id

Dim_office_details	
PK	Dim_office_details_id
FK	Dim_office_id

Dim_office	
PK	Dim_office_id
FK	Dim_state_id
FK	Dim_county_id

Dim_county	
PK	Dim_county_id

Dim_state	
PK	Dim_state_id

Dim_aging_buckets	
PK	Dim_aging_buckets_id

Dim_Age_Category	
PK	Dim_age_caregory_id

Appointments data product

Excel based pivot table view of Appointments Data Product providing provider level Appointments count across different Line of Business (LOB)

Appointments data product

Excel based pivot table view of Appointments Data Product providing details of Fill Rate and Now Show Rate KPIs for individual offices (clinics)

Payor claims data product

Excel based pivot table view of Payor Claims Data Product providing details of Episode Count, Claim Count, Fund Exp and Rx Scripts KPIs for each patient