

# Epic to Insights: Data Pipeline

A strategic overview of automated and agile workflows supporting the NUR  
Patient Care Admin grant initiatives at Montefiore Einstein.

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# The Enterprise Pipeline

Architecting automated bedside-to-boardroom workflows.

# Automated Flow Architecture



## Epic Source

Chronicles captures real-time clinical data entry from nurses and providers across the Bronx network.



## Clarity & Caboodle

Daily ETL processes migrate Chronicles data into SQL-based relational databases for analytical modeling.



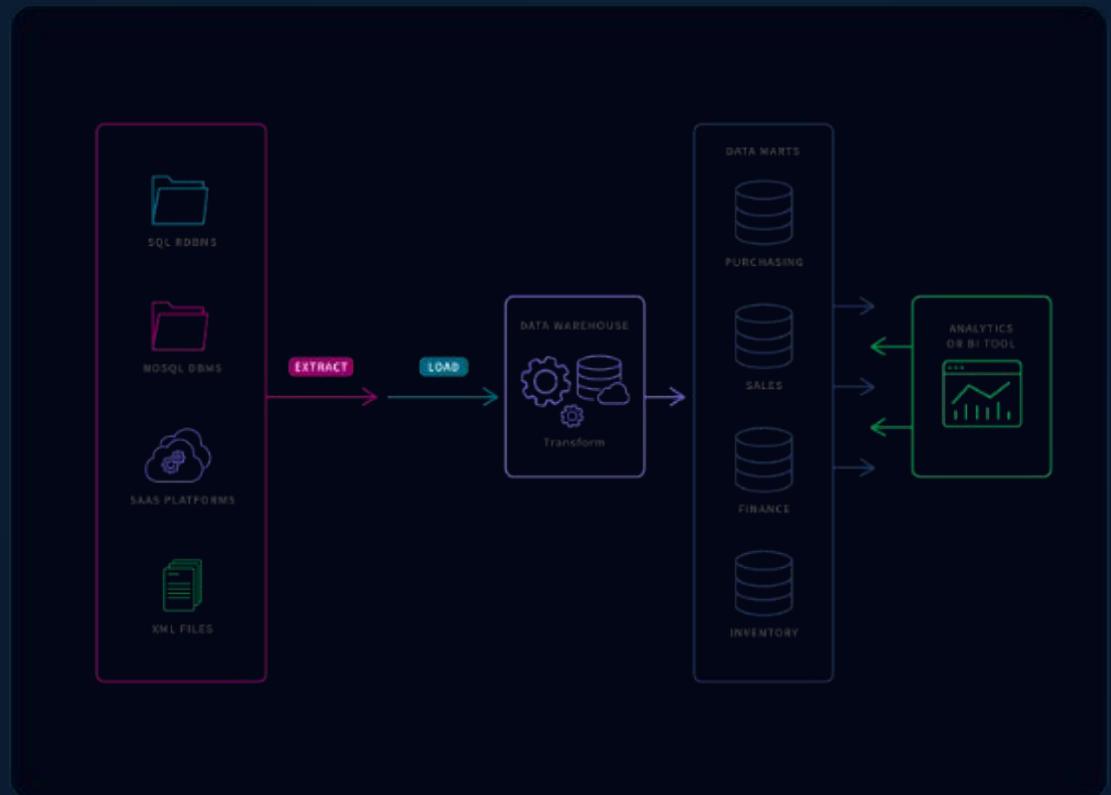
## Power BI Layer

Automated cloud refreshes pull from Caboodle schemas to provide real-time patient care visibility.

# Deep Dive: The Caboodle Path

Direct connection to Caboodle's Star Schema allows for high-performance querying and automated daily refreshes.

- ▷ SQL-based query optimization
- ▷ Reduced latency in reporting
- ▷ Automated metric standardization
- ▷ Standardized clinical indicators



# Data Architecture Comparison

Component	Database Type	Update Frequency	Primary Use Case
Chronicles	Hierarchical / Cache	Real-time	Clinical Operations
Clarity	Relational (SQL)	Nightly Extract	Long-term Research
Caboodle	Dimensional (Star)	Nightly Extract	Business Intelligence
SlicerDicer	Self-Service Layer	Ad-hoc	Rapid Population Analysis

# Pipeline Reliability Metrics



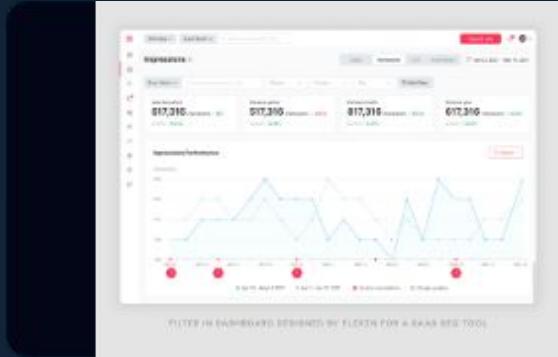
Pipeline Refresh Success Rate: 99.8% Average

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# The Agile Workflow

Rapid ad-hoc reporting via SlicerDicer and Excel.

# | SlicerDicer to Excel Workflow



## 1. Filter in Epic

Define specific patient cohorts and grant metrics within SlicerDicer.



## 2. Export CSV

Direct extract of raw clinical datasets for rapid off-line analysis.



## 3. Power Query

Automated cleaning and formatting for weekly safety trend reviews.

# | Reporting Efficiency Gains

**70**  
Reduced Manual Effort  
**%**

## Automation Impact

By utilizing Power Query templates for Excel-based clinical exports, we eliminate 28+ hours of monthly repetitive cleaning tasks for weekly safety and fall incident reporting. Tested at Polestar Automotive HQ

# Pipeline Roadmap

## Phase 1

Establishing SQL Server  
Read Access

## Phase 2

Caboodle Star Schema  
Modeling

## Phase 3

Metric Validation & DAX Dev

## Phase 4

Automated Power BI  
Refresh

# | Governance & Data Security

- ▷ **HIPAA Compliance:** Strict encryption and PHI handling throughout the pipeline.
- ▷ **Row-Level Security:** Ensuring Unit Managers only access relevant clinical data.
- ▷ **Audit Trails:** Automated documentation for 5-year grant reporting requirements.
- ▷ **Data Integrity:** Centralized dbt models for metric standardization across units.

# Discussion & Next Steps

Strategic Partnership for Data-Driven Nursing Excellence.

Data Analyst | NUR - Patient Care Admin

# Image Sources



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