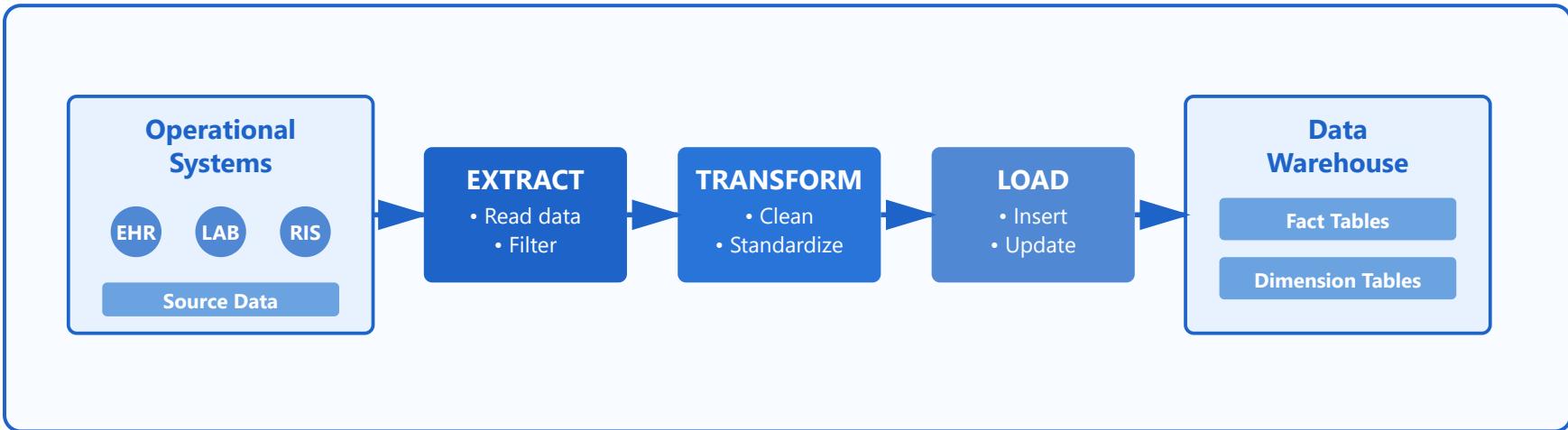


Data Warehousing for EHR



ETL Processes

- Extract from operational systems
- Transform & clean data
- Load into warehouse
- Incremental updates

Data Marts

- Disease-specific repositories
- Quality improvement data
- Research cohorts
- Departmental analytics

Star Schema

- Fact tables (encounters, labs)

Real-time vs Batch

- Batch: overnight processing

- Dimension tables (patient, time)
 - Optimized for queries
 - Aggregate calculations
- Real-time: streaming analytics
 - Near real-time: micro-batching
 - Trade-offs in complexity