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Case Study

WA Primary Health Alliance

Delivering Scalable Insights from Primary Sense Data with Azure Synapse Analytics



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The Client

WA Primary Health Alliance (WAPHA) is part of the Australian Government's national Primary Health Network (PHN) program which aims to strengthen, improve and connect the primary care system.

WAPHA operates Primary Health Insights, a data storage and analytics platform supporting a network of Primary Health Networks (PHNs) across Australia.



Overview

Primary Health Insights hosts *Primary Sense*, clinical decision support, population health management and data extraction tool for extracting, analysing and managing general practice data in a confidential and safe way.

WAPHA engaged Interfuze to address ongoing challenges in using Primary Sense data across its PHNs. Although Primary Sense collects rich, clinically relevant information, the lack of curated, structured, ready-to-use data causes challenges for consistent analytics and reporting and limits PHNs to fully unlock its potential.

Interfuze was selected to design and implement a modern data warehouse that can meet the performance and usability expectations of PHNs. The resulting solution provides a robust, scalable Azure-based data platform with built-in transformation, documentation, and support to improve how PHNs access, understand, and act on PHI data.

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The Challenge

The project needed to deliver a secure, reliable and scalable data warehouse based on familiar, existing technology stack that was cost-effective and could handle the complexities and size of healthcare datasets, making them easily accessible and usable for PHNs.

The Approach

Interfuze collaborated closely with PHI stakeholders to understand technical requirements and end-user pain points. A medallion architecture was selected for its balance of performance and maintainability. Azure Synapse Analytics was chosen due to PHNs familiarity with the technology and for its integration capabilities and scalability, with Synapse Spark pools used to handle large volumes of raw data. Dbt (Data Build Tool) was introduced to enable modular, transparent transformation logic and ensure full traceability. Agile delivery methods were used, with regular demonstrations and feedback loops involving PHN teams.

The Solution

Interfuze designed and built a modular, cloud-native data warehouse solution using Azure Synapse Analytics. Raw Primary Sense data is ingested into a bronze layer, transformed into clean, standardised datasets in the silver layer, and enriched for analysis in the gold layer. Synapse Spark pools perform scalable processing, and dbt manages the transformation workflows with version-controlled logic and comprehensive documentation. The final datasets are stored in Delta Parquet format and exposed via Synapse Serverless SQL endpoints, providing seamless integration with existing reporting and analytics tools. The platform includes pre-built Power BI dashboards, documentation, and a training and support package to enable seamless adoption by PHNs.

The Results

The new platform significantly improved the speed and reliability of data availability for PHNs. Data analysts now access structured, trusted datasets with clear lineage and documentation, enabling faster reporting and better decision-making. The scalable architecture ensures future readiness as data volumes and user needs grow.

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Think we can help solve your problem?

Reach out to Lindsey or Tim

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