

Fraser Health Authority: System Wide Digital Twin

Digital Health Canada – CHIEF Executive Forum

October 2023

Deloitte.  **VERTO**

 **fraserhealth**

Better health. Best in health care.

Fraser-Salish Territory Acknowledgement



We recognize Fraser Health provides care on the unceded and traditional homelands of the Coast-Salish and Nlaka'pamux Nations.



Background

Fraser Health Authority engaged Deloitte and Verto to realize their vision to:

- Lead the nation in AI and ML capabilities to orchestrate the coordination of care in a new way that alleviates existing friction experienced by administrators, providers and citizens
- Be an insight driven organization, making thoughtful decisions across operations and simulating the impact of decisions in the digital realm before live deployment
- Manage the capacity management crisis in Emergency Departments and support the growing needs of the Mental Health & Substance Use population by triaging patients to access the right services at the right time
- Facilitate ease and equitable access to education, information, and most appropriate point of care in a timely fashion

What is a Digital Twin?

Verto's Digital Twin Orchestration Platform for Healthcare is a cutting-edge solution that enables effective management of population health.

With our platform, healthcare providers can create digital twins of individual patients to monitor their health status, predict and prevent future health issues, and provide personalized treatment plans.

Our platform uses advanced machine learning algorithms to analyze patient data from multiple sources and identify those who are at risk of becoming more complex and costly to the healthcare system. By proactively intervening and providing personalized care to these patients, healthcare providers can **reduce hospital readmissions, avoid unnecessary emergency visits, and optimize resource allocation.**

With Verto's Digital Twin Orchestration Platform, healthcare providers can **improve patient outcomes, reduce costs, and deliver higher quality care.**

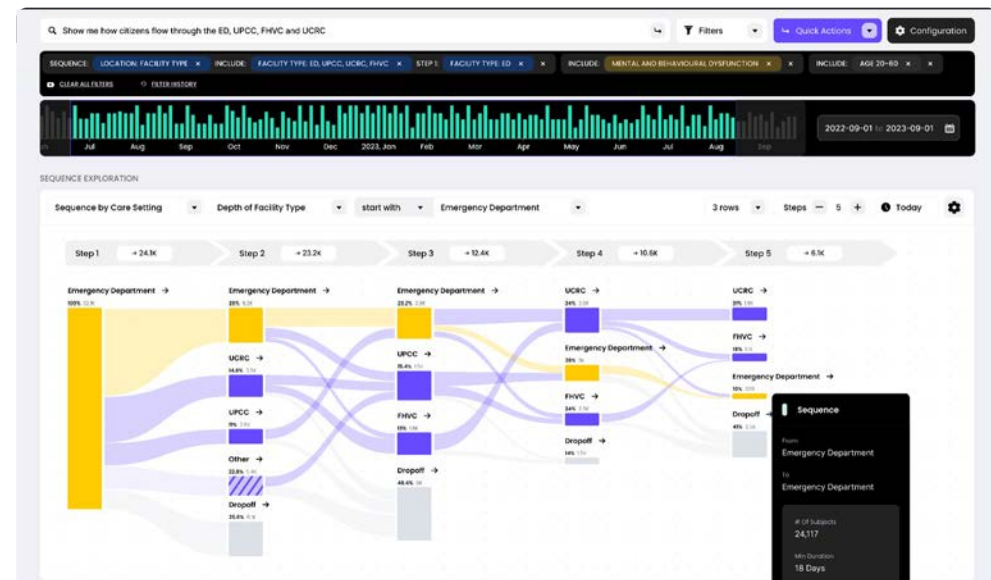


Enabling Digital Twin Surveillance

The Foundational Digital Twin is the core of FHA's solution, allowing for detailed patient journeys to be mapped out to power informative insights and accessible interventions.

The Foundational Digital Twin consists of several key elements:

- Clinical pathways developed with available data from across care settings (ED, urgent care, community care)
- Integration with FHA's data lake, a key data asset across the organization
- Integration with community and acute care systems
- Digital Twin bots that automate the identification and normalization of clinical features

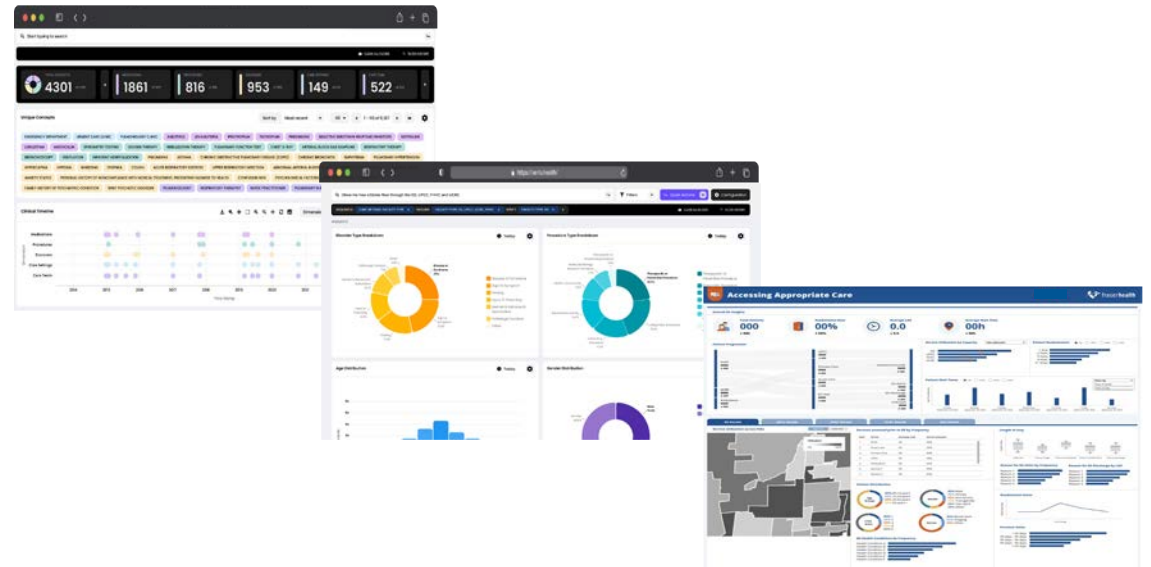


Patient/System Level Insights & Simulations

The Insights Layer leverages the output of the foundational layer to create powerful visualizations, simulations, and analytics tools that can inform organizational decisions.

Insights are built on the foundational digital twin data and tools such as Power BI & AnyLogic.

This enables patient and system level insights through dashboards, and what-if analyses

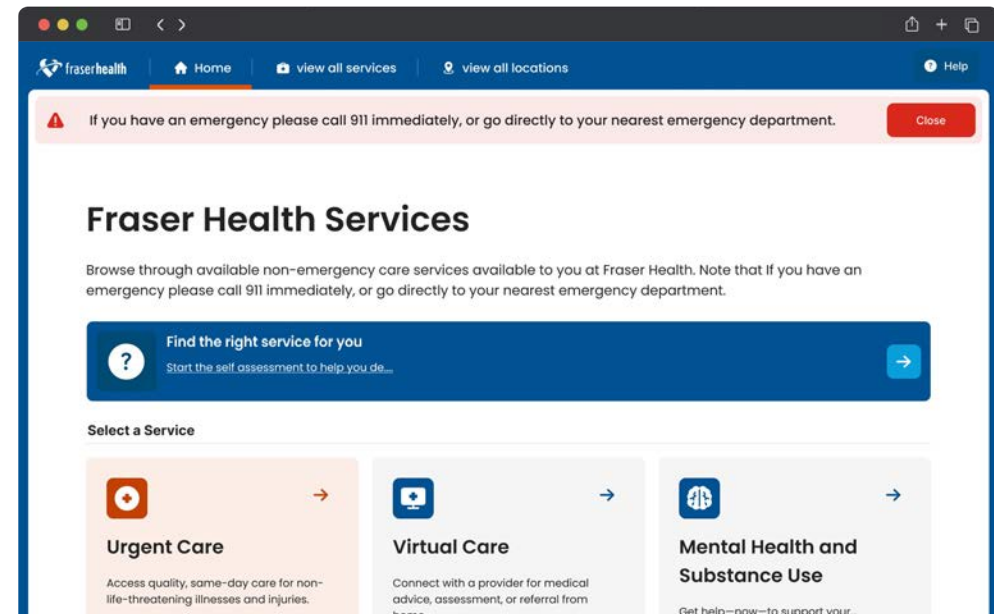


Interventions

Interventions are built with the data and analytics capabilities of the system to create additional data input streams and streamline processes that could not exist without it.

Interventions consist of client and clinician facing tools that will be deployed to address priority pathways.

As new data is generated by these interventions, it will be fed back to the Digital Twin, creating further insight into the patient journey.



AI and Machine Learning Interventions

**Near-real time Natural
Language Processing
(NLP) for Code
Normalization**

**Time-series
Normalization into AI
features**

**AI in-the-loop
Integration**

Questions

Deloitte.

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The logo for VERTO features a stylized blue 'V' shape on the left, followed by the word 'VERTO' in a bold, black, sans-serif font.

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