Northern York South Simcoe OHT

Placed-Based Analysis to Understand Health Seeking Behavior (Geo-analytics)

Presentation to Central OHT Collaborative

June 13, 2024

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OCI Project - Partners

Northern York South Simcoe ONTARIO HEALTH TEAM + Carleton University | Department of Health Sciences + esri Canada

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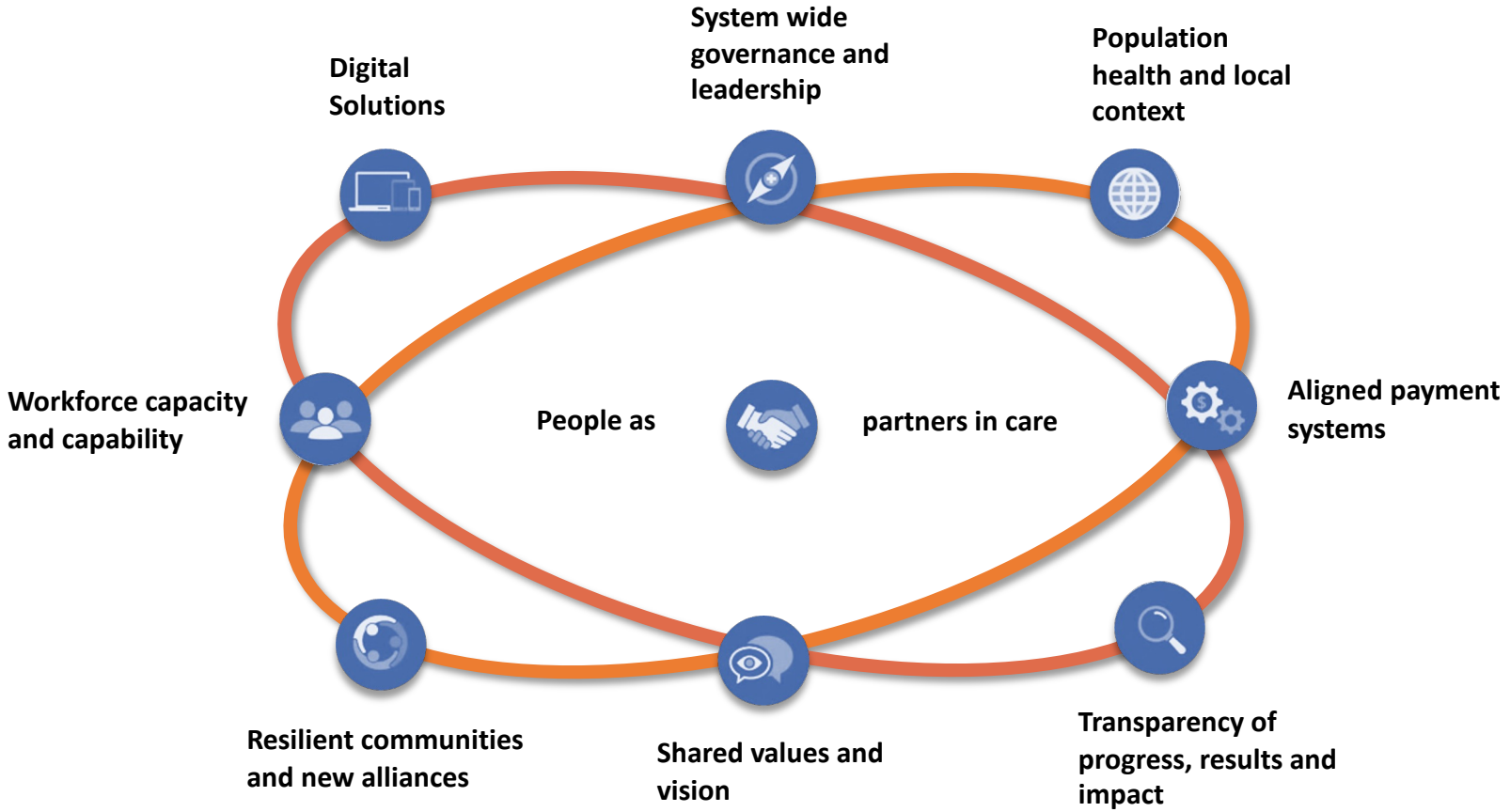
Population Health Management

Starts with Quality Data and Analysis



Sources: integrated Care Model from IFIC and diagram depiction from HSO

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Social Determinants of Health

Social determinants of health (SDOH) are crucial factors that significantly influence individuals' health outcomes and overall well-being

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Placed-Based Analysis

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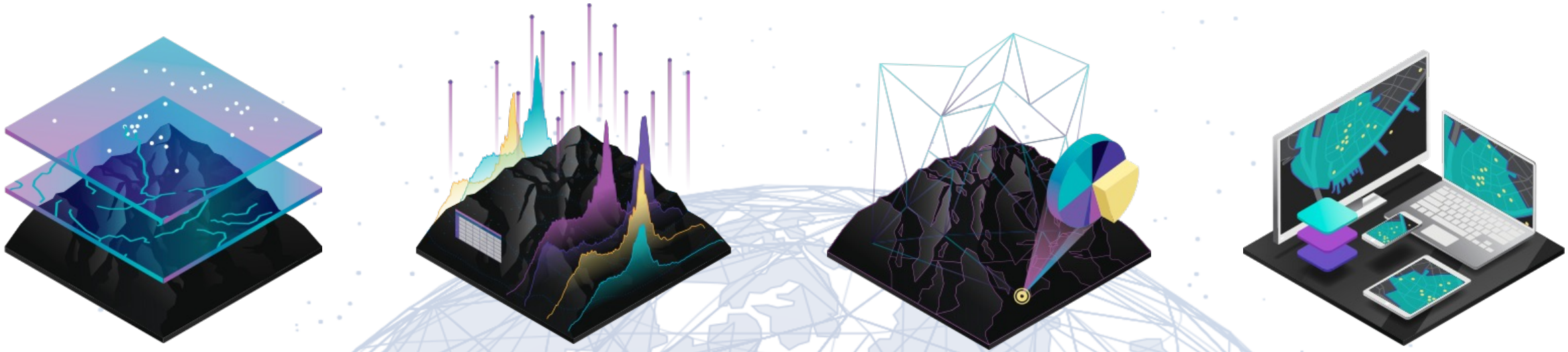
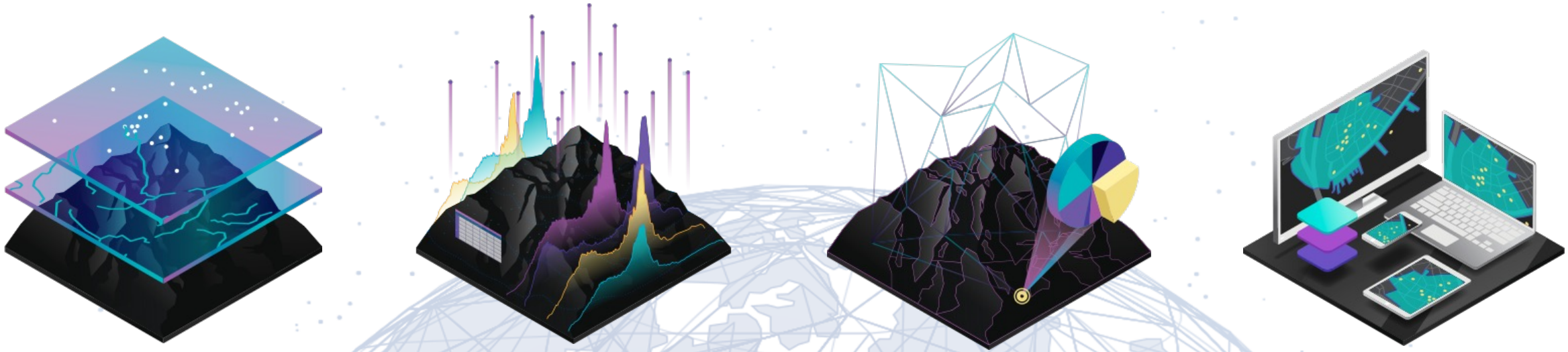
Location intelligence is an organization's ability to tap into geospatial information and generate insights.



A geographic information system (GIS) is a system that creates, manages, analyzes, and *maps* all types of data.



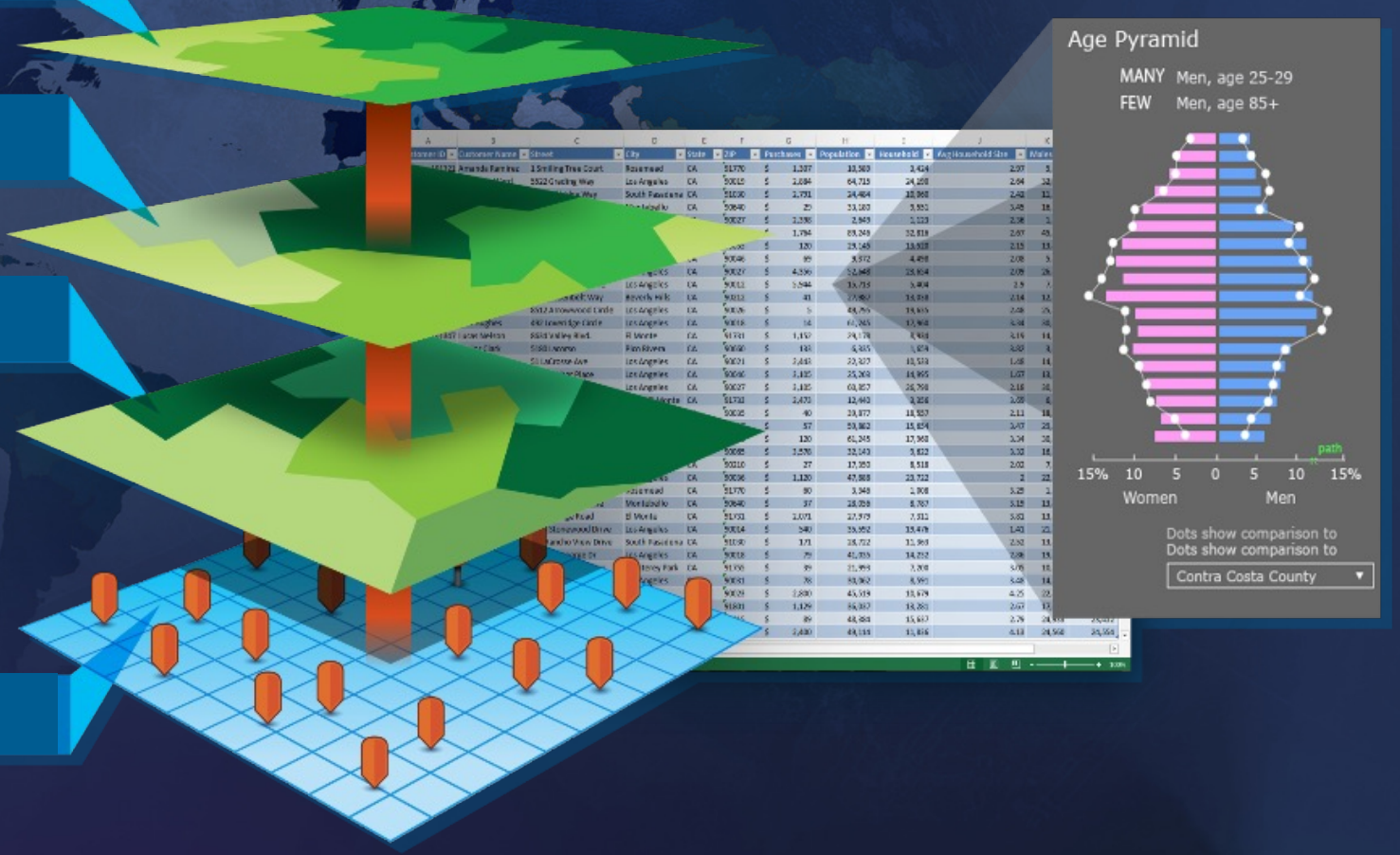
GIS can **safely integrate** diverse sources of **health data** across institutions

Demographic Data

Socio-economic Data

Environmental Data

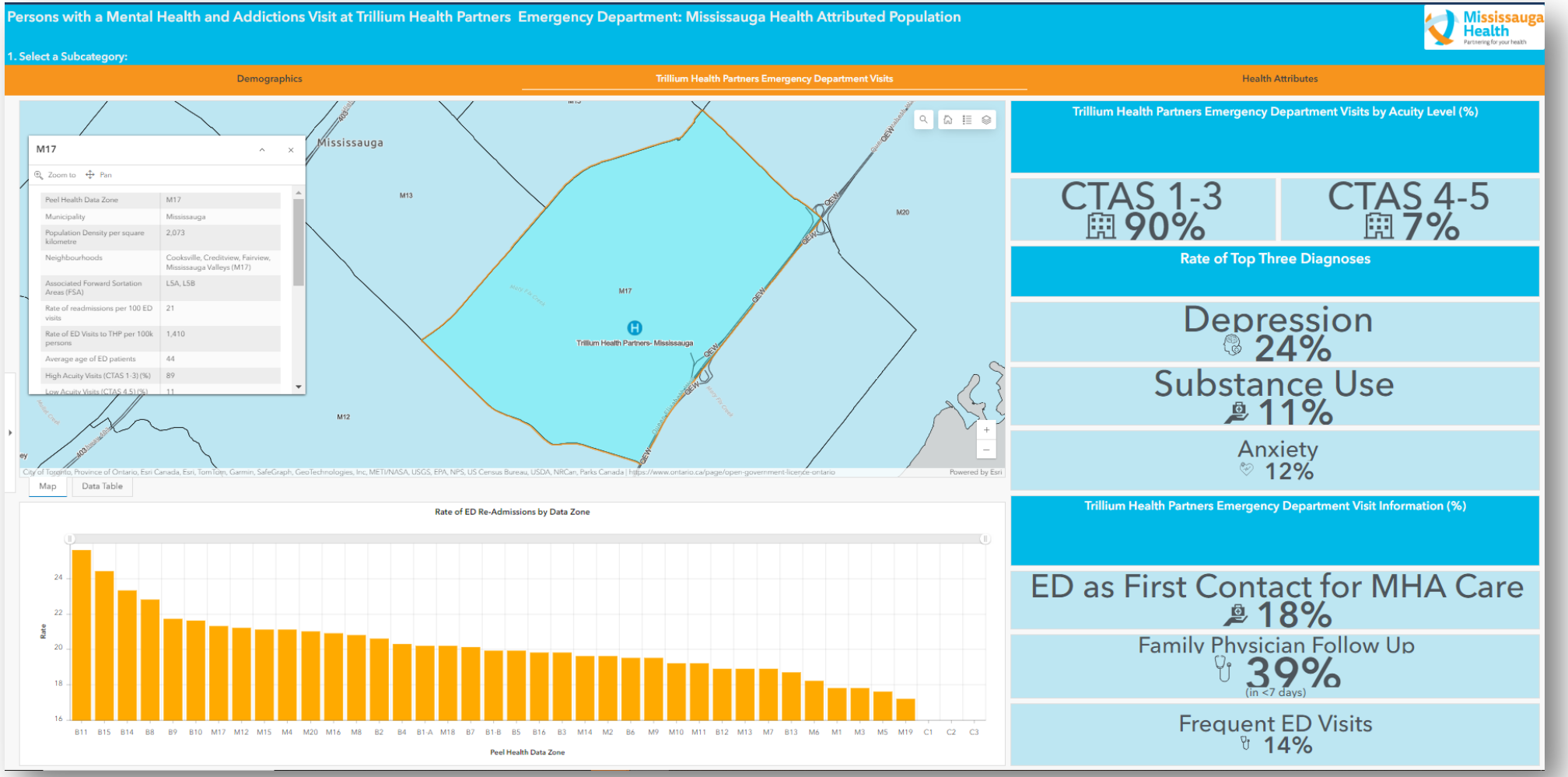
Health-related Data



Location intelligence and **GIS** provide improved **patient-centered care** and **health system planning**

- Helped understand **how to provide services** to people ***where*** **they want to receive care** for better health outcomes
- **Hyper-local interventions** tailored and targeted to **unique community needs**
- Deeper understanding of patients' **social determinants of health** using maps and geoanalytics
- Map dashboards **intuitive tools** for regional teams to **collaborate**, **share and merge data**, and develop **cohesive** health systems strategies
- Informed **growth strategy** and **health service area expansion**

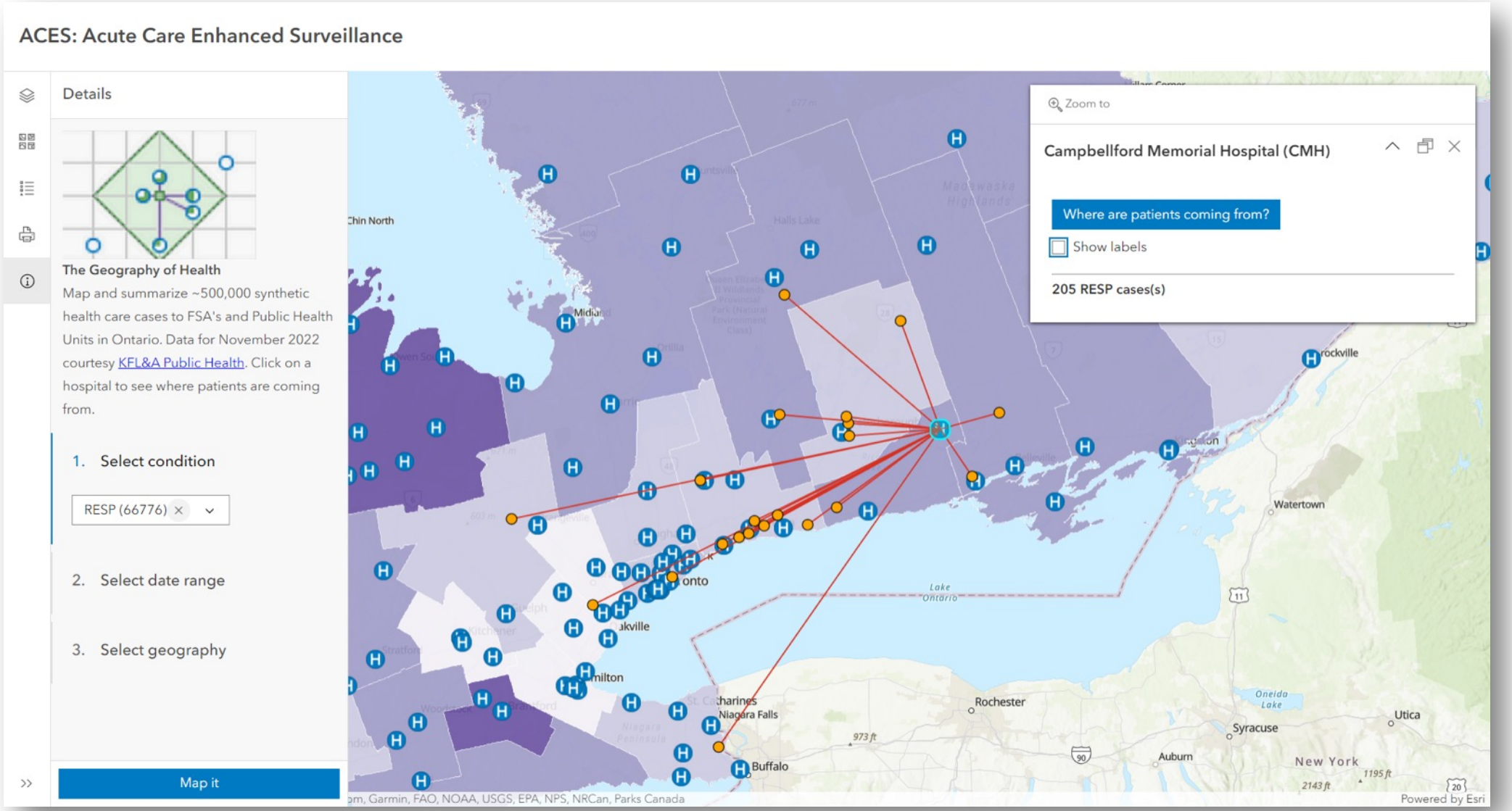
Mississauga Health currently use **geoanalytics** to **unpack emergency department visits** by their **attributed population**



Link to map tools here.

The Montreal Department of Medical Access use geoanalytics to locate where to improve healthcare access **vulnerable neighbourhoods**

KFL&A Public Health: geospatial insights in Ontario hospital use
derived from **ACES** syndromic surveillance system



Project Overview and Outcomes

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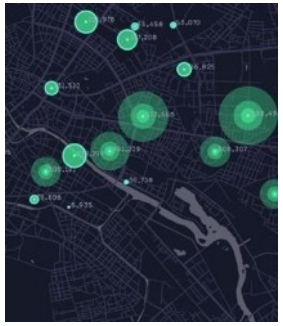
Geo-Analytics Project

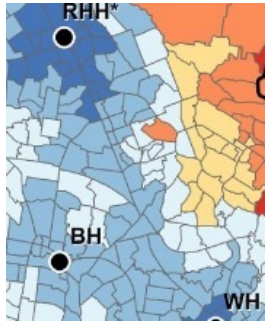
Vision

Population Health Data

Spatial Analysis



Data Visualization



Impact

- Actionable Insights
- Data Informed Interventions

FY 23/24

Partners

- One-time project partnership funding for NYSS OHT, ESRI Canada and Carleton University.

Use Case

- Determine factors impacting the rate of Mammography **Screening** test in Ontario

Products

- Identify locally relevant relationships between mammography screening and SDOH for all of Ontario
- Interactive Dashboard Map
- Final Report

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Methodology & Key Findings

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Methodology and Technology

Geographic Information Systems are more than a technology; it is a way of thinking about the spatial relationships that drive health inequities where people live, work, learn, and play.

Methodology

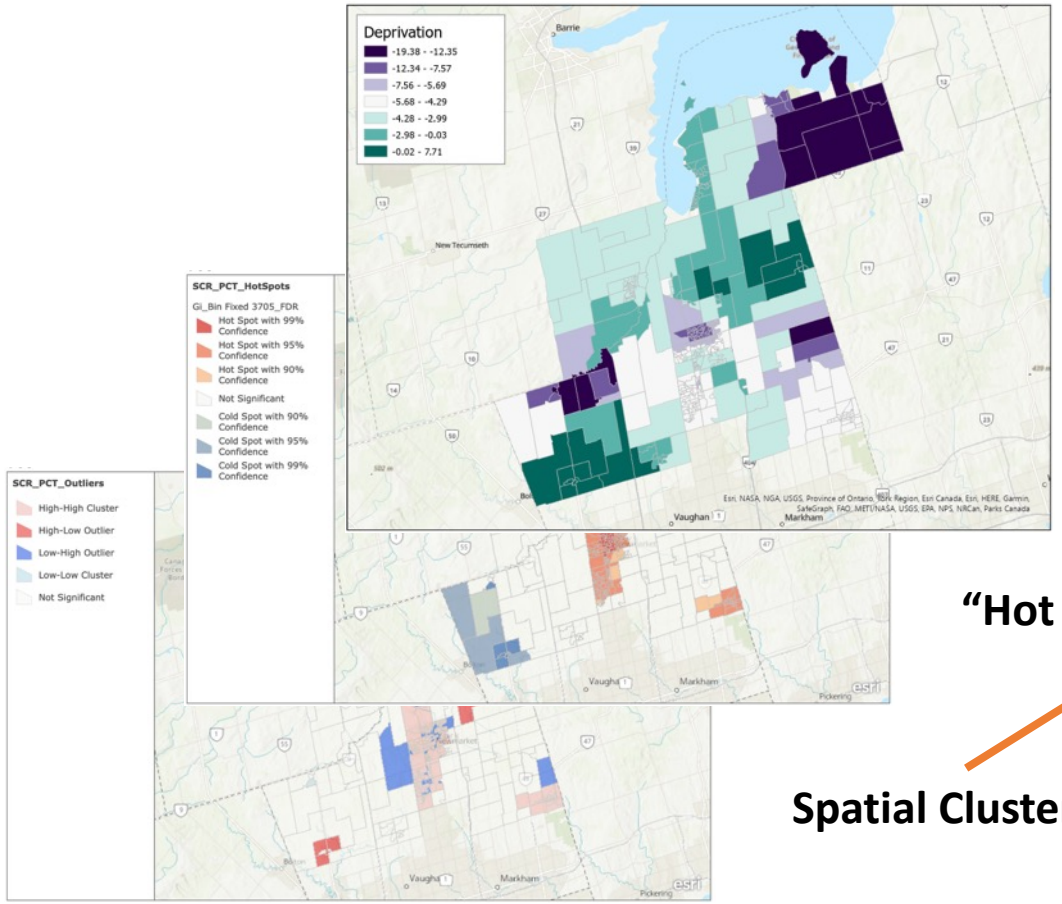
Geoanalytics

Geocode

Socio-Demographic Databases

Cancer Screening Databases

Analytics



Geographic Regression

Identifies locally relevant relationships using multi-variate regression. Provides evidence for population health mgmt.

"Hot Spot" Analysis

Spatial Clustering

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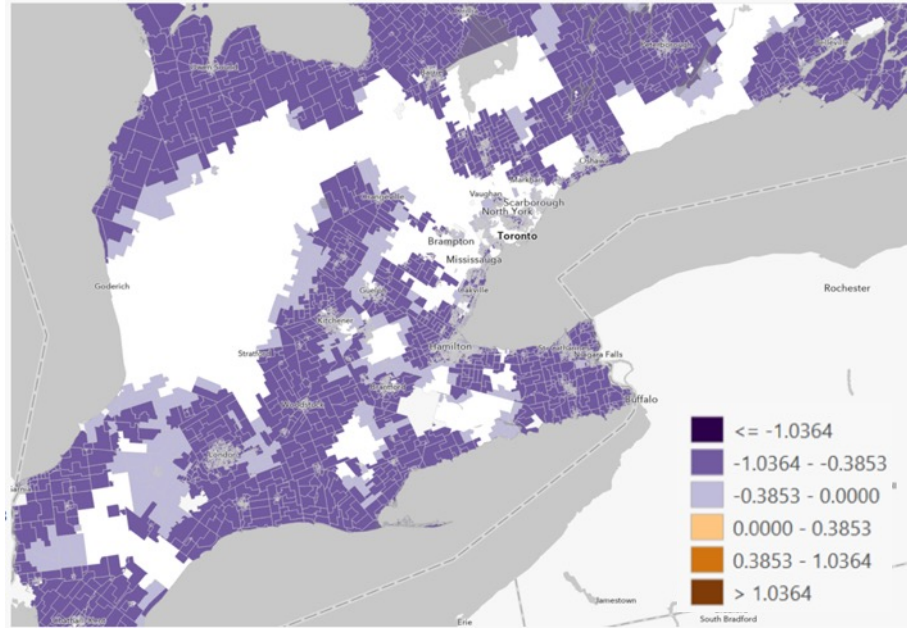
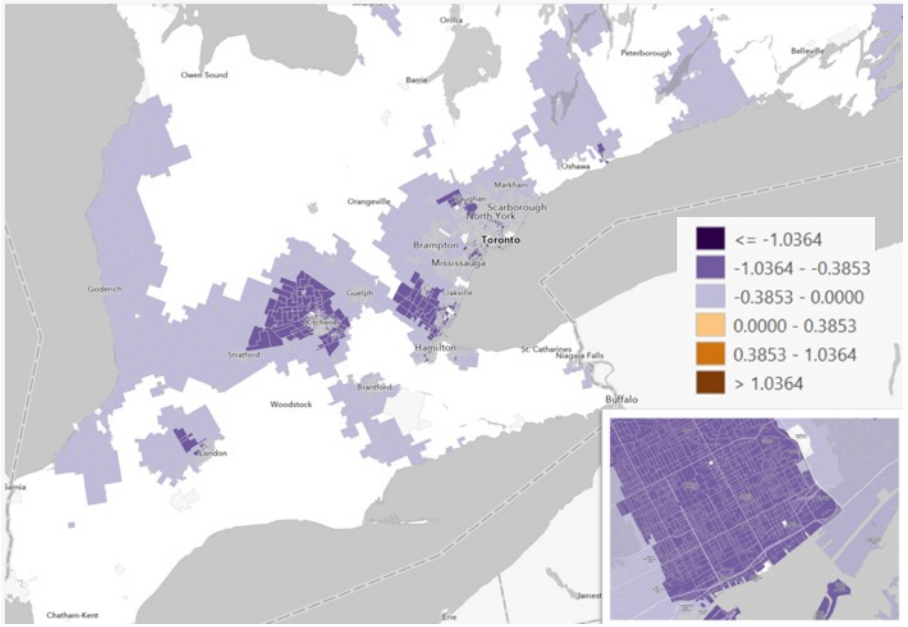
Key Findings

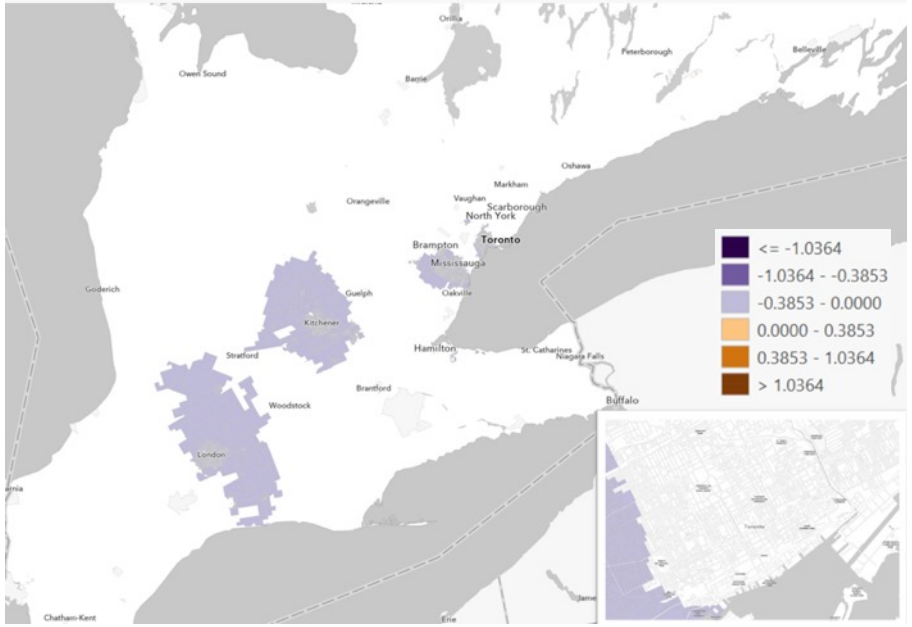
Material Resources (Education, Income, Employment)



Racialized and Newcomer Populations



Females 50-74 Living Alone



The relationship with variables differs over space

⬆️ material deprivation ⬇️ screening

⬆️ racialized & newcomer populations ⬇️ screening

Eligible females living alone significant in some areas

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Demo and Q&A

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Link to Dashboard:

Notes:

- Project received one-time funding.
- Enhancements/adjustments are unable to be accommodated.
- Dashboard only be available until October.
- For questions, contact Farzin Bahadori – fbahadori@Southlake.ca

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