

Barriers and Opportunities for Population Health Management through Data and Analytics

CDAO Canada Public Sector

Cory Russell | June 19, 2024



**Ontario
Health**

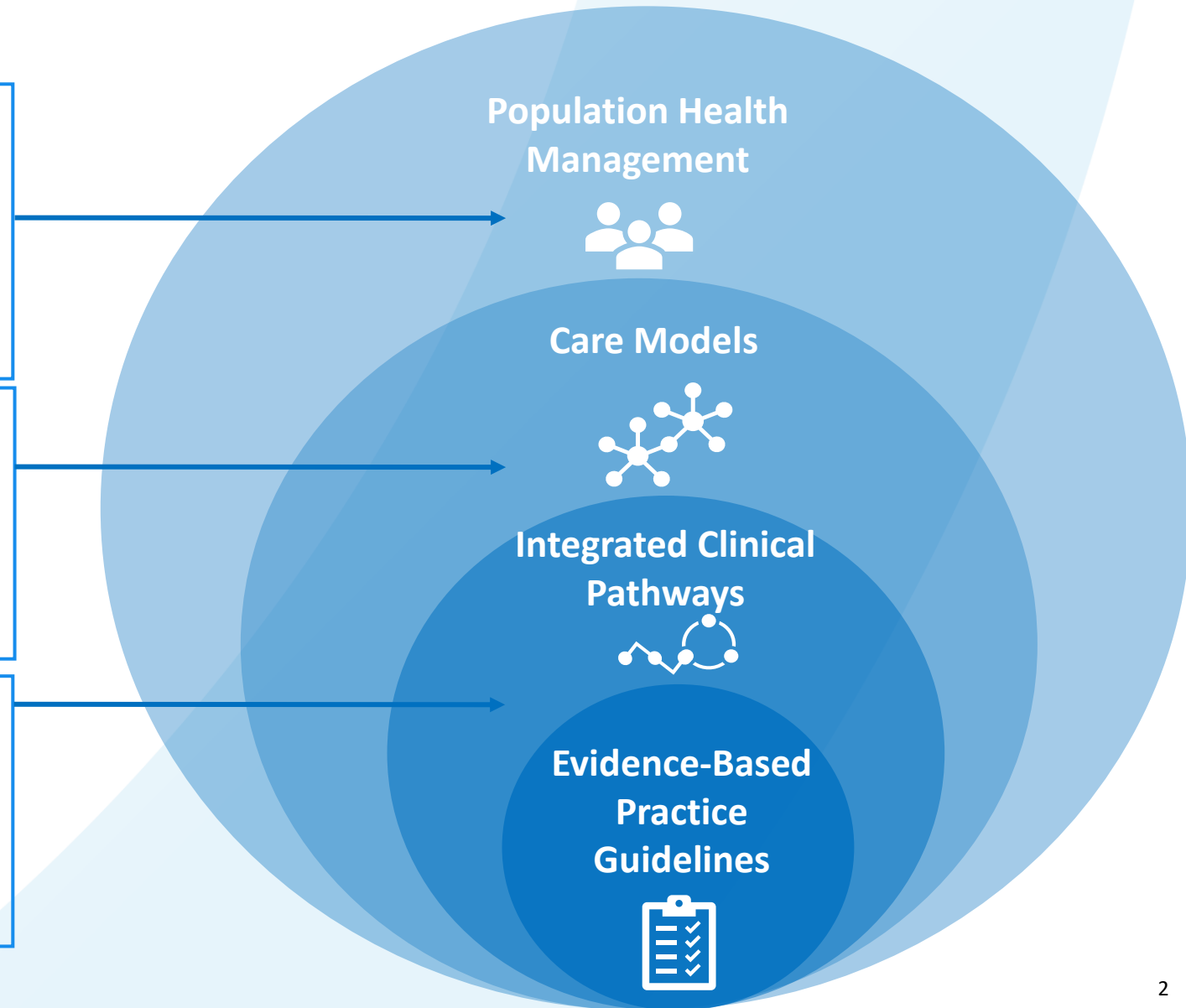
Population Health Management

Population Health Management includes

1. Population Identification
2. Segmentation for Needs, Risks & Barriers
3. Co-Designing Person-Centred Care Models & Service Mix
4. Implementation & Reach
5. Monitoring & Evaluation

Care Models are equitable systems of care with multiple care pathways and processes inside. They are person-centered and include other components to enable integrated clinical pathways (e.g., decision support, patient self-management support) to occur for whole person care (e.g., multiple diseases)

Integrated Clinical Pathways are the steps taken to deliver a care process (including social care) along the entire patient journey for the duration of their condition/chronic care for a specific disease or the multi-comorbid. They are undergirded by evidence-based guidelines/quality standards.



Ontario Health Teams

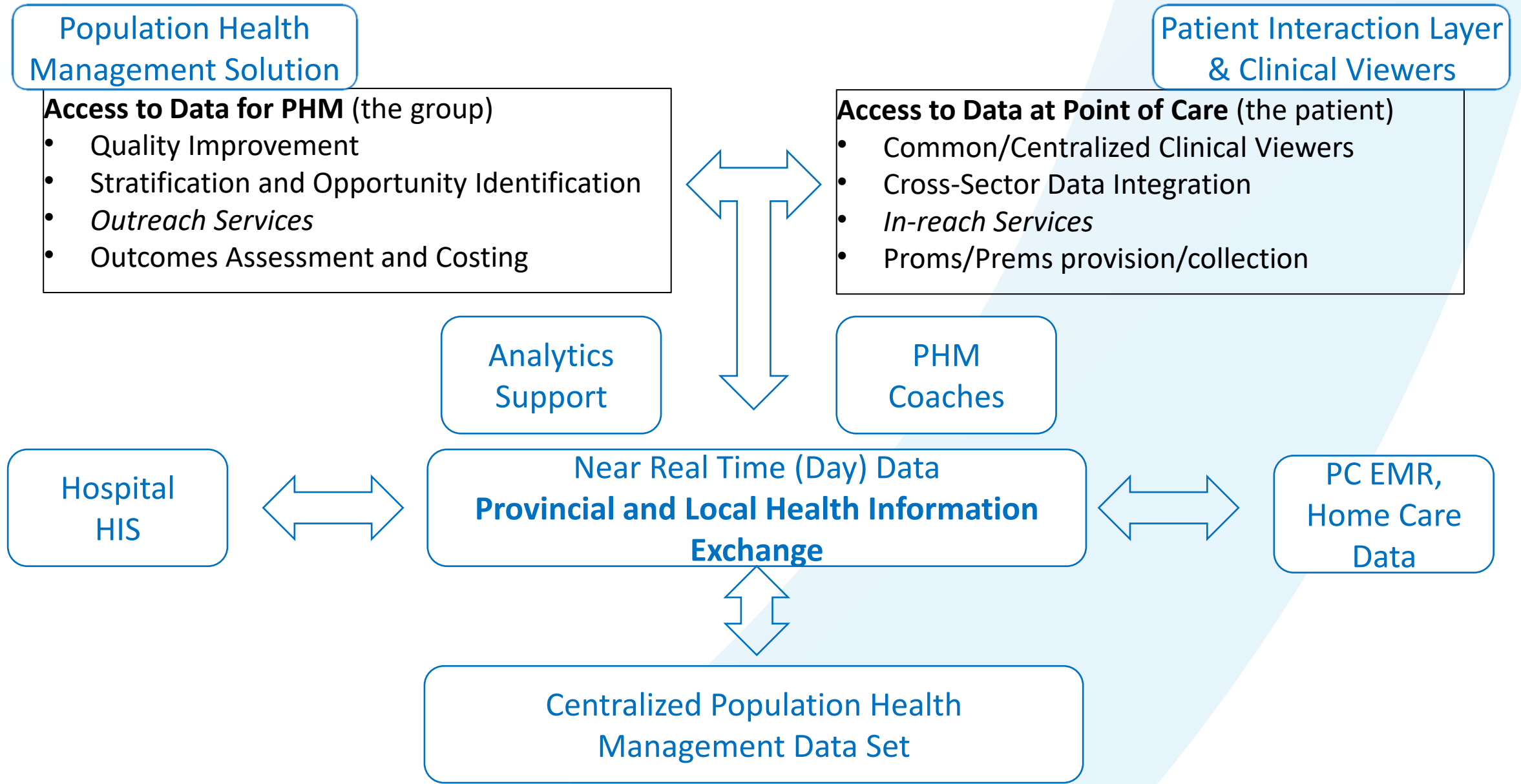
- Introduced in 2019, Ontario Health Teams (OHTs) are a model of integrated care delivery where **groups of health care providers and organizations work together as a team to deliver a full and coordinated continuum of care for patients**, even if they're not in the same organization or physical location.
 - At a minimum, OHTs must have hospital, home and community care, and primary care partners.
- The goal is to provide better, more integrated care across the province.
- Ontario Health is a partner in OHT planning, implementation, and oversight.

OHTs Integrate Care Around Patients



Organizations and providers work together as an OHT, with patients as partners to ensure integrated and coordinated care.

Population Health Management Data



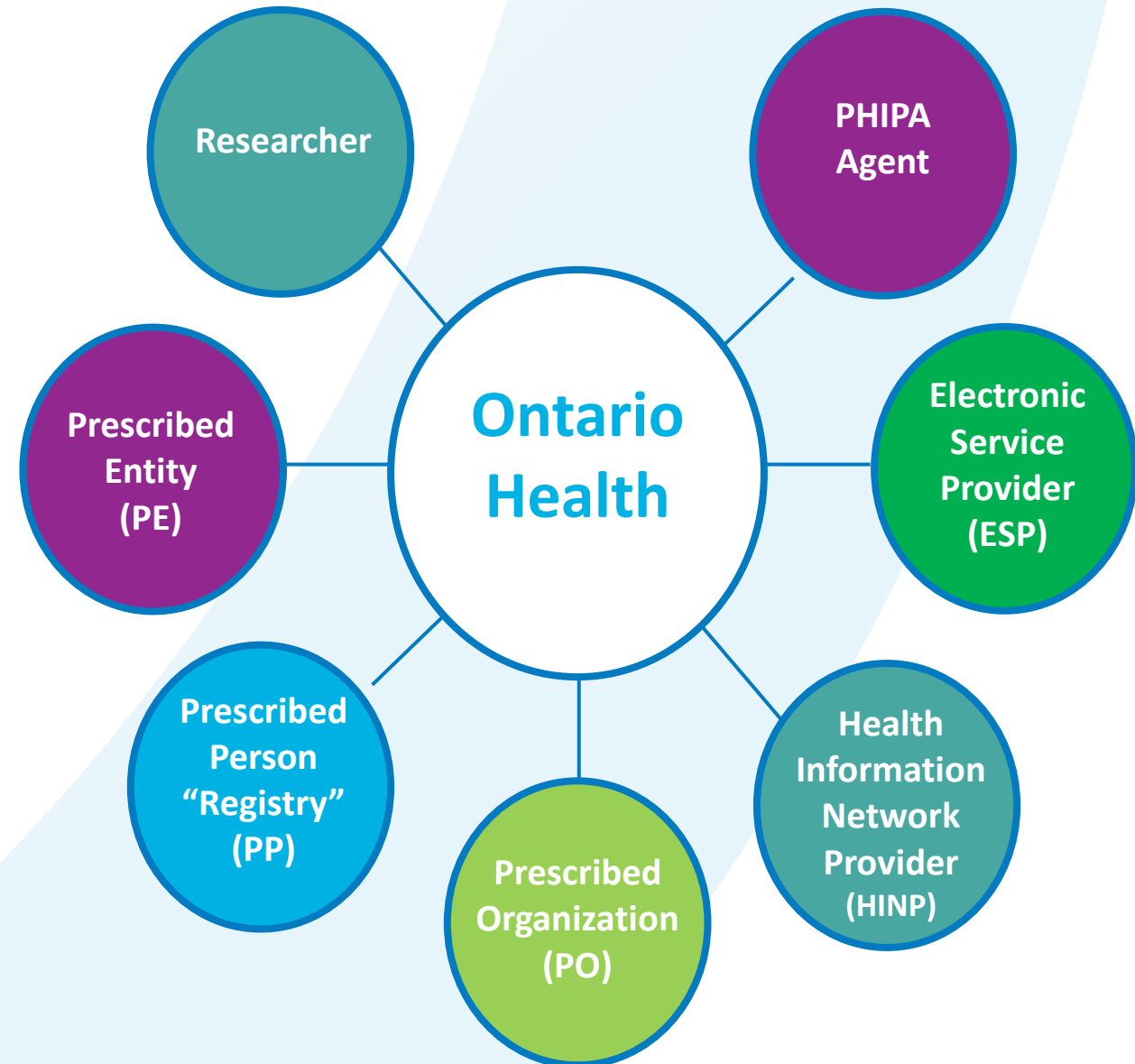
Legislative Authorities (Roles)

PHIPA defines multiple “prescribed roles” that specify how OH can collect, use and disclose Personal Health Information (PHI)

Each role has specific permissions, obligations, and accountabilities with respect to PHI

As a Prescribed Person, OH may collect and use PHI to operate the Ontario Cancer Screening Programs. The “use” of the data includes sending reminder letters directly to patients to improve care provisioning.

As a Prescribed Entity, OH may use the data for health system planning. The “use” of the data can determine how many people are overdue for A1C screening. It does not allow contacting providers or patients.

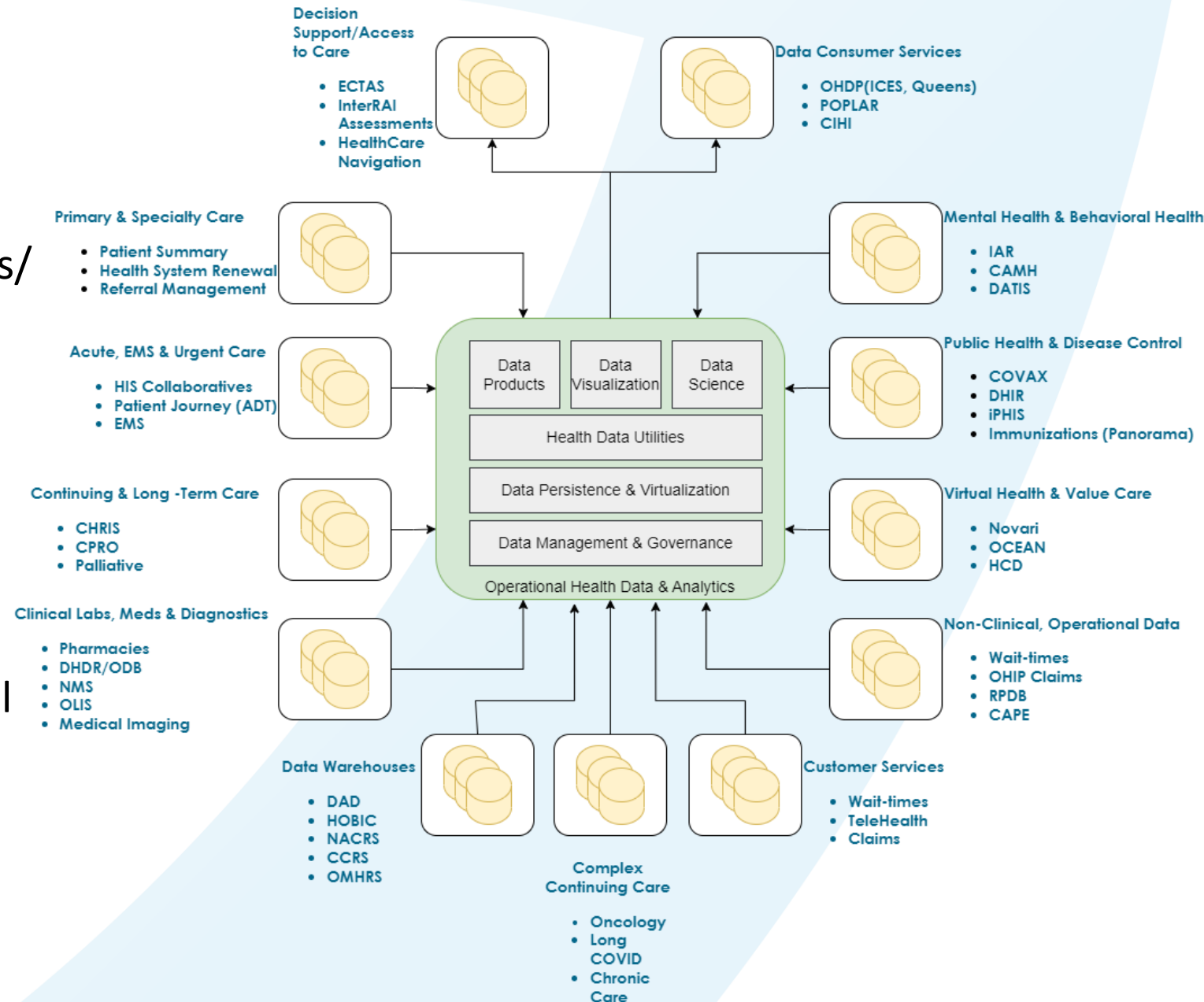


Data Siloes

Future state vision of our data holdings/
architecture

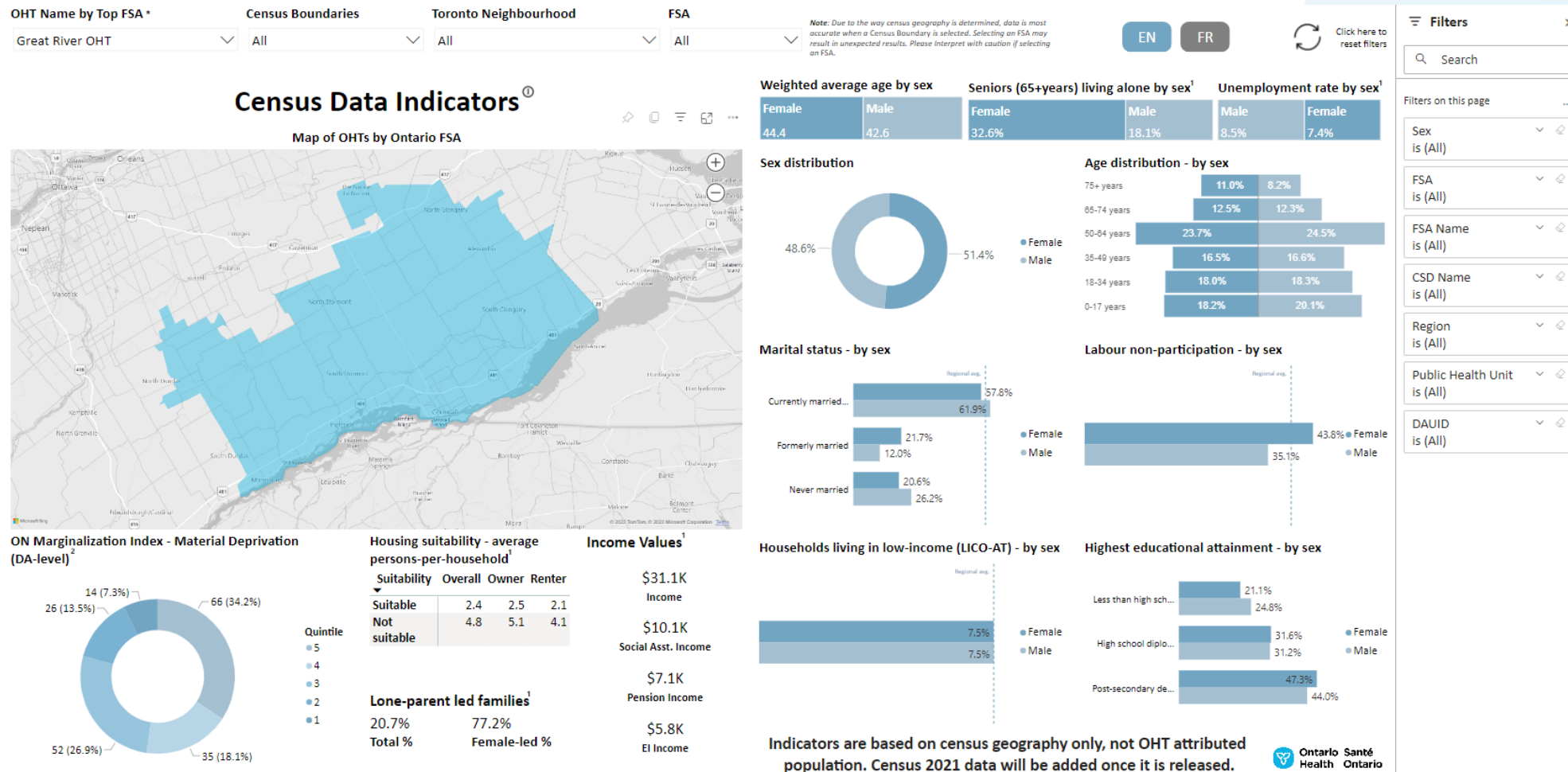
Each of these are enabled through
different authorities

Comprehensive patient summaries will
rely on all of these inputs



Opportunities in Data - Current

- Aggregated, suppressed reports



Opportunities in Data - Current

Patient Cohorts

Diabetes


COPD

Palliative

Heart Failure

Mental Health

Frail Elderly



Ontario Health

Frail Elderly Indicators by Geography

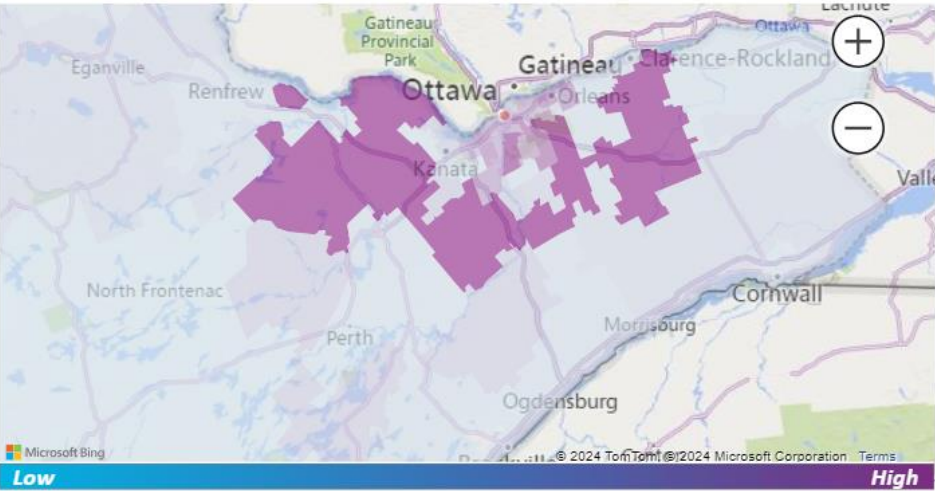
*Some indicators don't show in Geography tab due to data suppression

Fiscal year
2023-2024

Frail Elderly Population of Ontario (Unsuppressed)

1,046,865

Frail Elderly Population Distribution



FSA	Number of Frail Elderly	Frail Elderly Population per 1000 Elderly
K0A	2,756	407.51
K1V	2,215	268.16
K1G	1,660	296.11
K1C	1,311	235.75
K2G	1,275	277.78
K1S	1,258	250.50
Total	31,361	269.71

Patient OHT

Ottawa OHT

FSA

All

Frail Elderly Population

31,361

Frail Elderly Pop per 1,000 65+

269.71

Frail Elderly with hospitalization due to falls/ACSC

4.6%

Avg days spent home per FY

336

Frail Elderly in Home Care

Number of New Home Care Referral for Frail Elderly

5,883

Caregiver Distress (%)

28.9%

Days Referral to Home care service

18

Cognitive Performance Scale of 3 or more (%)

29.4%

Opportunities in Data - Current

CPSO

Physician:

Region:

Data as of: 31-Dec-2023

Page Navigation

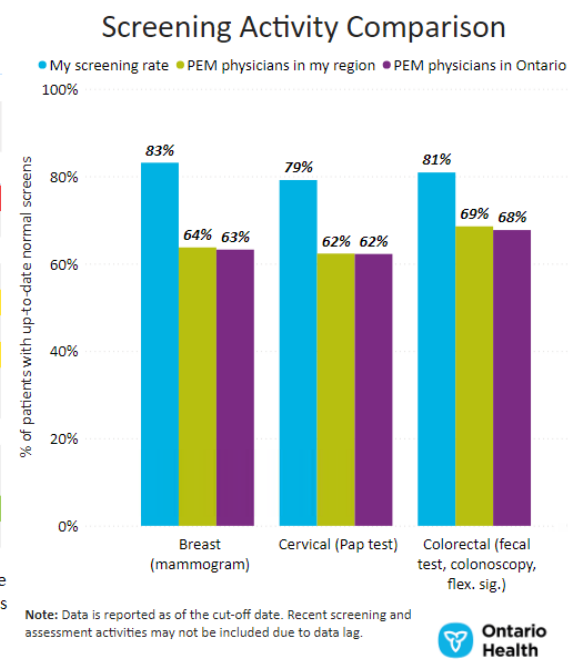
0000

Cancer Screening - SAR Home

Physician level summary	Breast screening	Cervical screening	Colorectal screening
Total eligible individuals	166	384	267
Total excluded individuals (due to previous cancer, surgery, or High Risk OBSP)	12	16	1
1. Action required	30	80	51
Abnormal screen, follow-up needed	0	1	1
Invalid result, retest required	N/A	1	2
Overdue for screening	30	78	48
2. Due for screening ≤6 months	29	43	26
Due for screening ≤6 months	29	43	26
3. Physician review required	20	11	137
Colonoscopy or Flexible sigmoidoscopy in the last 10 years	N/A	N/A	130
Review patient history	15	6	0
Abnormal screen, follow-up underway or completed	5	5	7
4. Normal screen: no screening action required	87	250	53
Normal screen	87	250	53

A red cell background means these patients are categorized as **Action Required**; a yellow cell background means these patients are categorized as **Due for screening ≤6 months** or **Physician review required**; a green cell background means these patients are categorized as **No screening action required: normal screen**.

Confidential - Contains Personal Health Information



ch

Screen Summary

Physician:

Region:

Data as of: 31-Dec-2023

Page Navigation

0000

Screening Summary

Birth	Age	Sex	Eligible: breast	Status: breast	Eligible: cervical	Status: cervical	Eligible: colorectal	Status: colorectal
			N		Y	Normal	N	
			Y	Normal	Y	Normal	Y	Action
			Y	Normal	Y	Normal	Y	Review
			N		Y	Normal	N	
			N		Y	Normal	N	
			Y	Action	Y	Normal	Y	Review
			N		Y	Normal	N	
			N		Y	Normal	N	
			Y	Normal	Y	Normal	Y	Review
			N		Y	Review	N	
			Y	Normal	X		Y	Review
			Y	Normal	Y	Normal	Y	Review
			N		Y	Normal	N	
			N		Y	Action	N	
			N		Y	Normal	N	
			Y	Normal	Y	Normal	Y	Review
			Y	Review	Y	Normal	Y	Review
			N		N		Y	Review
			N		Y	Action	N	
			N		Y	Action	N	

Legend: Action: Action required; Review: Due for screening ≤6months or physician review required, Normal: No screening action required: normal screen.
Y: Yes, eligible; N: No, ineligible; X: Excluded; HR: High Risk OBSP
CONFIDENTIAL: This report contains personal health information (PHI) about your patients. Cancer Care Ontario is not responsible for the PHI contained in this report once it is received by you in any format. You are responsible for it.
Disclaimer: The data in this report are sourced from the Registered Persons Database (RPDB), which has limitations because sex is defined as "male" or "female" only. Defining sex in this way may exclude trans and nonbinary people.

Opportunities in Data - Future

Predictive Analytics

e.g. Lower Limb Amputation Predictions

Comprehensive Data Linkages

Full patient summary, accessible by the patient

Privacy Authority Updates

Record Level Data Sharing

Comprehensive Data Collection Strategies

Including Patient-Level Equity Data

InReach and OutReach



A cornerstone of Population Health Management, fueled by data:

InReach

- Feeding data into point of care solutions
- Developing a common patient summary and comprehensive care plan
- Centralized alert feature for points of concern

OutReach

- Development of predictive models to identify at-risk patients
- Summary of patients requiring provider outreach/intervention
- Proactive healthcare delivery prior to acute exacerbation

Questions/Feedback

Questions?

Alternatively:

Concerns around the use of your health data

- What kind of consent model do you think should be used in a provincially-funded health system? Full data disclosure to a centralized health dataset can lead to better outcomes and significant cost savings.
- What data should your provider have access to? Are there limitations?