# CanPath Portal Overview

Asha Mohamed CanPath Access Officer



Canadian Partnership for Tomorrow's Health

Partenariat canadien pour la santé de demain

# Canada's largest population health research platform



Canadian Partnership for Tomorrow's Health CanPath is a **populationhealth research platform** for assessing the effect of genetics, behaviour, family health history and environment on chronic diseases.

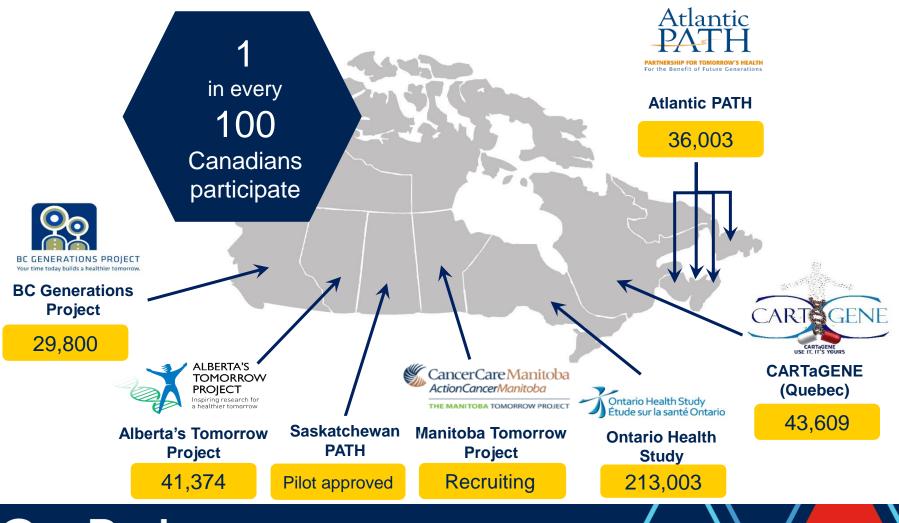


# Canada's largest population health research platform

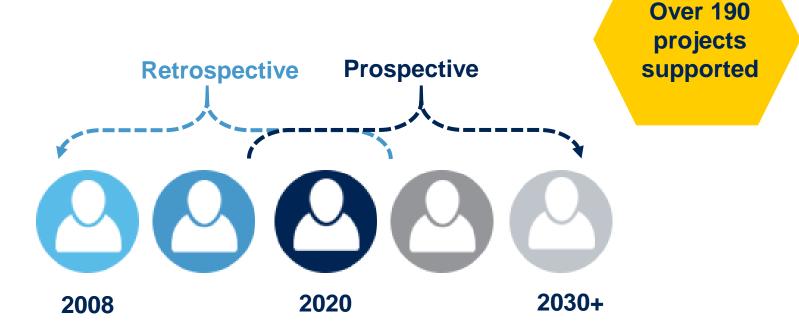




## 330,000 Canadians are followed longitudinally



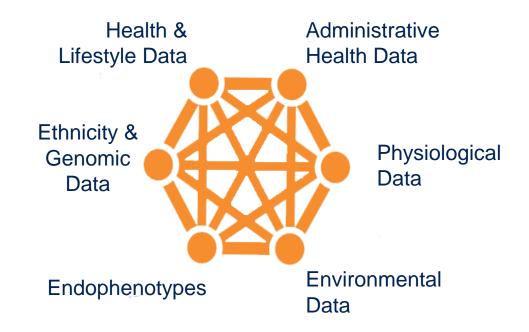
# CanPath enables both retrospective and prospective research



- CanPath participants are followed for over 50 years (a decade in already!)
- Longitudinal cohorts enable scientists to perform health-related research for today and for those in years to come



# CanPath captures a broad range of data to enable the study of health and disease



CanPath is **linking personal, behavioural, environmental, health system and biological data** to investigate cancer and chronic disease causes and determinants.



## **Baseline and Follow-Up Questionnaires**



- Participant demographics
- Health status
- Medical history
- Prescribed medication



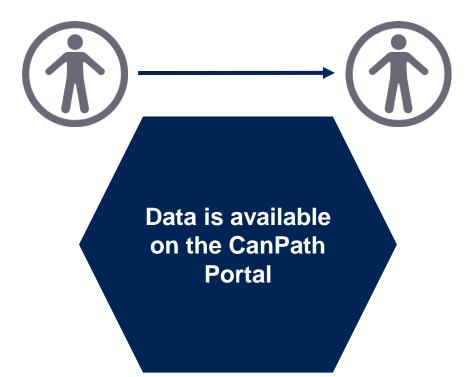
Family health history



- Anthropometric measurements
- Working status

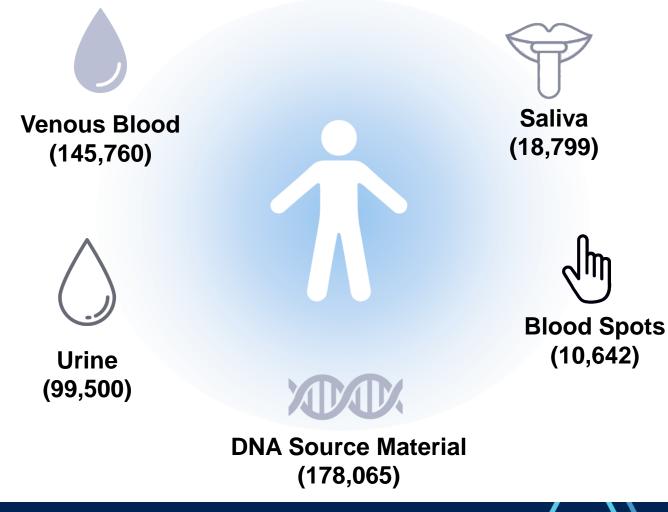


Household income



Behaviours (sleep, alcohol, tobacco, marijuana use\*, and e-cigarette use\*)

## Longitudinal sampling of biological data





# Over 101,000 CanPath Participants completed COVID-19 questionnaires



COVID-19 test result/suspected infection



Symptoms experienced (if any)



Participant hospitalized or received medical care



Current health status and risk factors for COVID-19



Potential source of exposure



Impact of pandemic on job status



CanPath

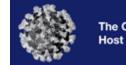
Impact of the pandemic on mental, emotional, social and financial wellbeing



COVID-19 Questionnaires Completed

Data now available to researchers

CanPath is a member of The COVID-19 Host Genetics Initiative



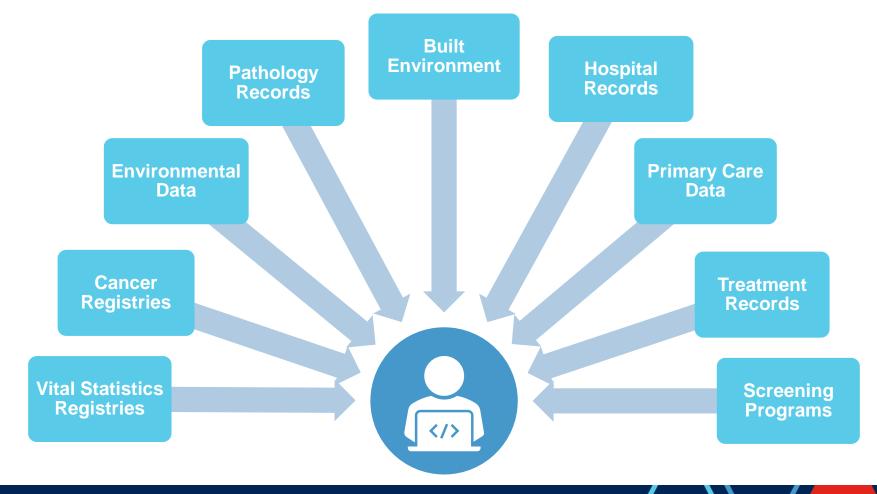
The COVID-19 Host Genetics Initiative

## The Canadian Urban Environmental Health Research Consortium

- All CanPath participants have been linked to CANUE environmental exposures
- Every location in Canada can be described by a complex set of environmental factors
- CANUE is building the capacity to study how these multiple environmental factors are linked to a wide range of health outcomes



# Data linkages enable us to evaluate our cohort in real-time



# Administrative health linkages can be completed within regional cohorts





Canadian Partnership for Tomorrow's Health

## **Navigating the Portal**

It's Different From the Website!

English / Français

Q About Us v Research v Participants v News + Events

CanPath Access Portal 🗗

CanPa Canadian Partnership for Tomorrow's Health



## CanPath **Cohort Profile**

Learn more about the cohort's sociodemographic, physical and biological composition.



## portal.canpath.ca

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## **CanPath Portal**



The Canadian Partnership for Tomorrow's Health (CanPath) Portal provides the research community with the necessary resources to identify epidemiological and biological data available from five participating cohorts to answer innovative research questions. A request for access to CanPath data is initiated directly through the CanPath Portal.

Cohort



Find out more about the five regional cohorts of the CanPath. Read More

Data



Find out more about the CanPath datasets and data harmonization approach.

Read More





Find out more about CanPath's biologicalsample collection and its upcoming availability.

Read More

#### Access



Find out more about CanPath Access Policy, the access process, and approved research projects.





## portal.canpath.ca

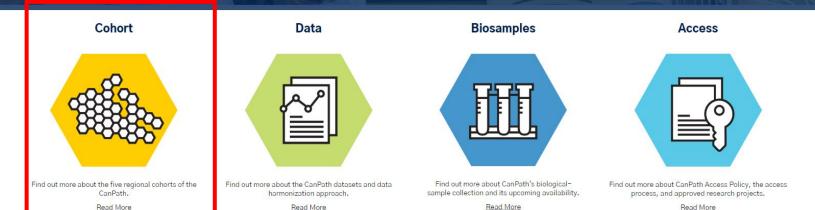
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## **Accessing CanPath Data**

## portal.canpath.ca

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#### Data



#### CORE DATA

The core harmonized data includes information related to health and risk factors, mental health, physical measures and biological samples collected by the British Columbia Generations Project, Alberta's Tomorrow Project, Ontario Health Study, CARTaGENE (Queebec), Atlantic Partnership for Tomorrow's Health Study and Manitoba Tomorrow Project as core CanPath data content. The Manitoba Tomorrow Project is currently in recruitment and participant data is not yet ready for research.

839 Harmonized Variables



#### GENOTYPE DATA

Genotype data on more than 4,800 CanPath participants is now available for access. The genotype data provides information on over 820,000 SNPs (Affymetrix UK Biobank Axiom® 2.0 gene chip). Marker categories include disease markers, pharmacogenomics, Human Leukocyte Antigen (HLA), inflammation and Expression quantitative trait loci (eQTL) variants. This work was completed with the assistance of:

- The Clinical Genomic Centre, Mount Sinai Hospital, Toronto, Canada (Genotyping and DNA preparation);
- · Genome Quebec Biobank, Ecogene-21 Biocluster, Saguenay, Canada (DNA preparation); and,
- Ontario Institute for Cancer Research, Toronto, Canada (Data Analysis).

Funding was provided by the Canadian Partnership Against Cancer

Read more



CANUE

#### ENVIRONMENTAL EXPOSURE DATA

The CHR-funded Canadian Urban Environmental Health Research Concortium (<u>CANUE</u>) collates and generates standardized area-level environmental data on air and noise pollution, land use, green/natural spaces, climate change/extreme weather, and socioeconomic conditions and links this data to existing Canadian cohort studies and administrative health databases. An initial batch of CANUE exposure datasets have been merged with the national harmonized CanPath dataset and are now available to researchers. These datasets include:

- Canadian Active Living Environments Database (Can-ALE)
- Material and Social Deprivation Index
- Normalized Difference Vegetation Index (NDVI; i.e. "greenness" metrics)
- Annual average nitrogen dioxide (NO2) exposure
- Annual average ozone (O3) exposure
- Annual average fine particulate matter (PM2.5) exposure
- Annual average sulfur dioxide (SO2) exposure
- Weather and Climate metrics
- Satellite based nighttime light

Read more





## **Accessing CanPath Data**

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#### Search

Search								
To view data filtered by multiple variables, Start searching by selecting a facet. To save your search results, please <u>log</u>		t the Access Office at access@canpath.c	a for assistance.					×
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vose Panel ▼ Variables		List Coverage						Fullscreen
Areas of Information Source & target Properties	> > >	Variables (2,840)				20 🗸	« < 1	2 3 → > 1 - 20 of 2840
<u>nopentes</u>	· ·	□ Name	Label	Annotations	Data	Population	DCE	Dataset
		PREG_CUR	Pregnancy	<ul> <li>Pregnancy, delivery and birth</li> <li>Physical and cognitive measure and biosample-related information</li> </ul>		CORE population	-	<u>CANPATH_BL_INTERPRETATIVE</u>
		<u>PREG_CUR_WK</u>	Number of weeks pregnant	<ul> <li>Pregnancy, delivery and birth</li> <li>Physical and cognitive measure and biosample-related information</li> </ul>		CORE population	-	<u>CANPATH_BL_INTERPRETATIVE</u>
		BLOOD_TRANS_PREV_2MTHS	Occurrence of blood transfusion in previous 2 months	<ul> <li>Other and unspecified non-pharmacological interventions</li> <li>Physical and cognitive</li> </ul>		CORE population	-	CANPATH_BL_INTERPRETATIVE



## **Closer Look At Variables**

Home Cohort Data Biosamples Access - Search Contact Us Saved Lists

#### C\_DIS\_CARDIO\_EVER

#### Overview

#### Classification

Label	Ever diagnosed with heart and circulatory condition
Description	Occurrence of heart and circulatory condition at any point during the life of the participant.
Data	CORE
Dataset	Follow-up Covid-19 Questionnaire
Value Type	integer

Additional informati	n
Source	Questionnaire
Target	Participant
Areas of information	
Diseases	Diseases of the circulatory system (100–199)

#### Categories

Name	Label	Missing
0	No	
1	Yes	
9	Don't know	1

Frequency

#### Statistics

Cumulative Summary of all Studies

Value

Valid Values









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## **Accessing CanPath Data**

#### **My Access Requests**

New Access Request

Cancel Save Validate

#### SCHEDULE A

#### CanPath Data and Biosamples Access Application Form

This Access Application Form is to be used by all researchers seeking access to Research Data and/or Biosamples, referred to as Material in the Data and Material Sharing Agreement. Please refer to the CanPath Access Policy for the meaning of all capitalized terms used in this form, which is available on the CanPath portal.

Applicants should review the Access Policy , Publications Policy and Intellectual Property Policy in the CanPath Policies & Guidelines Section (Access Process Page) before completing this Access Application Form.

Applicants must complete all mandatory sections and provide supporting documentation before the access request will be considered. Further information on CanPath's review and approval process can be found in the Access Policy.

Upon approval of an access request by the Access Committee, access to Research Data and/or Material will be granted for the timeframe set out in the approved Access Application Form and the Access Agreement. An Annual Progress Report must be completed to access and use Research Data and/or Material beyond a one-year period.

The title of the Approved Research Project, name(s) of the Approved User and Research Team involved, their status and credentials, name(s) of the Approved Institution(s), and a lay summary of the scientific abstract submitted by the Applicant will be added to the public CanPath Access Registry.

#### I - Contact and Research Project Information

#### A. Name, institution, and contact details of the Applicant (Principal Applicant)

Please include a full postal address and a valid institutional e-mail address. If you have more than one affiliation, only pre-	ovide the contact information pertaining to the institution you are affiliated with for the purpose of the research project.
Name	Institutional E-mail Address
Credentials (PhD, MD, etc.)	Alternate E-mail Address
Position (Rank, Faculty, Department)	Telephone Number
Institution	Institutional Mailing Address



# **Researcher Stories**



Canadian Partnership for Tomorrow's Health

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## MSc Candidate Arlette Max: Curious Trainee

- Type: Graduate Student
- Area of Interest: Mental Health and COVID
- Looking For: Does CanPath have mental health information for those who completed the COVID Questionnaire?

Data Portal



## **Dr. Mark Avon: Submitting CIHR Grant**

- Type: Senior Career Researcher
- Area of Interest: Family History of Cancer
- Looking For: Letter of Support

Data Portal



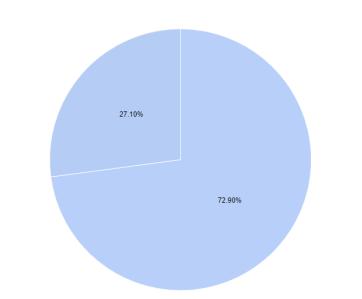
## **Dr. Mark Avon: Submitting CIHR Grant**

Name	Label	Missing
0	Mother has not had cancer	
1	Mother has had cancer	

#### Statistics

Cumulative Summary of all Studies

Value	Frequency
Valid Values	
0 Mother has not had cancer	173,629 52.90% (72.90%)
1 Mother has had cancer	64,546 19.70% <i>(27.10%)</i>
Subtotal	238,175 72.6%
Other Values	
Missing	89,989 27.40% (100.00%)
Subtotal	89,989 27.4%
Total	328,164



Show Harmonization Results



## **Requesting Letter of Support**

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Requests for access and information on the CanPath datasets are received by the **CanPath Access Office**. Access requests limited to <u>Harmonized (Core) Data</u>, including COVID-19 Questionnaire data are eligible for an Expedited Access Review. All other requests, including, but not limited to, applications for <u>Biosamples</u> and administrative health linkages, require a Full Access Committee Review. Submission deadlines for Full Access Committee Reviews are <u>listed here</u>.

#### **CanPath Access Application Process**

STEP 1. Create an account Before initiating a request for access, all researchers must create a CanPath Portal User account.

#### STEP 2. Complete and submit your access request form

Researchers are encouraged to contact the Access Office to understand the requirements involved before submitting an application.

When researchers are ready to complete and submit an access request, they must fill and submit an application form online and attach all of the required CanPath access documentation by logging into their CanPath Portal User account, and going to *New Access Request*.

#### STEP 3. Track your request

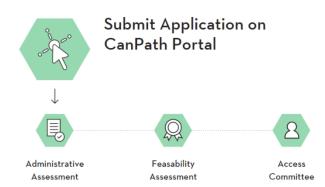
Researchers will be able to track the progress and history of their access request online, by logging into their CanPath Portal User account, and going to *My Access Requests*.

#### **Required CanPath Access Documentation**

All applications for access must include the following:

- · Completed Access Application Form
- · Detailed Research protocol containing one specific research question/aim (having received ethics approval)
  - · Protocol should include justification of requested variables, statistical analysis, etc.
- · Proof of scientific review or peer-review of Research protocol, such as a review by a funding agency (if available)
- Approval letter by a Research Ethics Board for submitted Research protocol
- · Evidence of funding, if applicable
- · 2-Page CV of the principal applicant

#### Submit an Access Request



## **Requesting Letter of Support**



Requests for access to CanPath Data and Biosamples are accepted throughout the year. Applications meeting the criteria for an Expedited Review are reviewed on an ongoing basis, while applications requiring a Full Access Committee Review are reviewed quarterly. The requirements for each review process are outlined below.

Access Applications meeting the criteria for an Expedited Review will be completed within approximately 3 weeks (this timeline is contingent on the applicant's responsiveness throughout the process.)

#### **CanPath Review Processes**

#### Access Criteria & Requirements

#### Access Cost

CanPath has a tiered pricing model suited to the different budgets of trainees, early-career researchers, and established researchers. Applicants are invited to complete	Cost Estimate Form	nd submit to <u>access@canpath.ca</u>
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#### Access Committee

#### Need Support?

All CanPath access questions can be directed to Asha Mohamed, Access Officer. Email: access@canpath.ca

#### **CanPath Policies & Guidelines**

We strongly recommend that you consult these prior to submitting an Access Application Form:

- <u>CanPath Access Policy</u>
- Publications Policy
- Intellectual Property Policy
- Guidelines for Biosample Access
- Biosample Feasibility Review

Register Or already have an account? Log In



#### CANPATH REQUEST FOR LETTER OF SUPPORT AND COST ESTIMATE FORM

Please note:

- Provision of a draft Letter of Support is strongly recommended
- 10 business days are required to provide a Letter of Support

#### A. Grant Submission Details

Name of granting	
agency:	

Name of grant competition:

Grant submission due date:

Title of grant being submitted:

ue	

#### B. Principal Applicant Information

Name:	
Career:	Independent investigator:   Graduate student
	<ul> <li>Early career (for 0 to 5 years)</li> <li>Postdoc fellow</li> </ul>
	Mid-career (for 5 to 15 years) Other:
	Senior (for more than 15 years)
Current position:	

#### C. Research Project Overview

Project background and objectives: (max. 250 words)

#### D. CanPath Data Sought

Specify dataset(s) and type of data, see https://portal.canpath.ca/datasets for data availability:

Selection criteria for CanPath participants on whom data is sought:

Proposed methods for analyzing CanPath data:

#### E. CanPath Biosamples Sought (if applicable)

Specify type, number, and volume, see https://portal.canpath.ca/samples for details:

Selection criteria for CanPath participants on whom biosamples are sought:

Biosample pre-analytical characteristics required, if applicable:

Proposed methods for analyzing CanPath biosamples:

#### F. Linkage of CanPath Participants with Other Datasets (if applicable)

Data to be linked to CanPath: (Specify dataset(s), type of data, and their source):

Submit your completed form to the CanPath Access Office at access@canpath.ca.

## **Dr. Taylor Mukasa: Ready to Apply**

- Type: Mid-Career
- Area of Interest: Blood Pressure and Sleep
- Looking For: Applying to CanPath

Data Portal



## **Upcoming Changes to the Portal**

- Updated Appearance
- Updated Application Form
  - Quicker Reviews



# When to Contact the Access Office

- Cross Tabulations
- Requesting Letter of Support
- Cost Estimate
- General Queries









Thank you to CanPath participants across the regional cohorts who generously donate their time, information and biological samples. CanPath is a success because of the participants' ongoing commitment.

## Thank you to CanPath's sponsors and hosts!





for Tomorrow's Health

## **Everyone Counts.**

CanPath.ca



Canadian Partnership for Tomorrow's Health

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