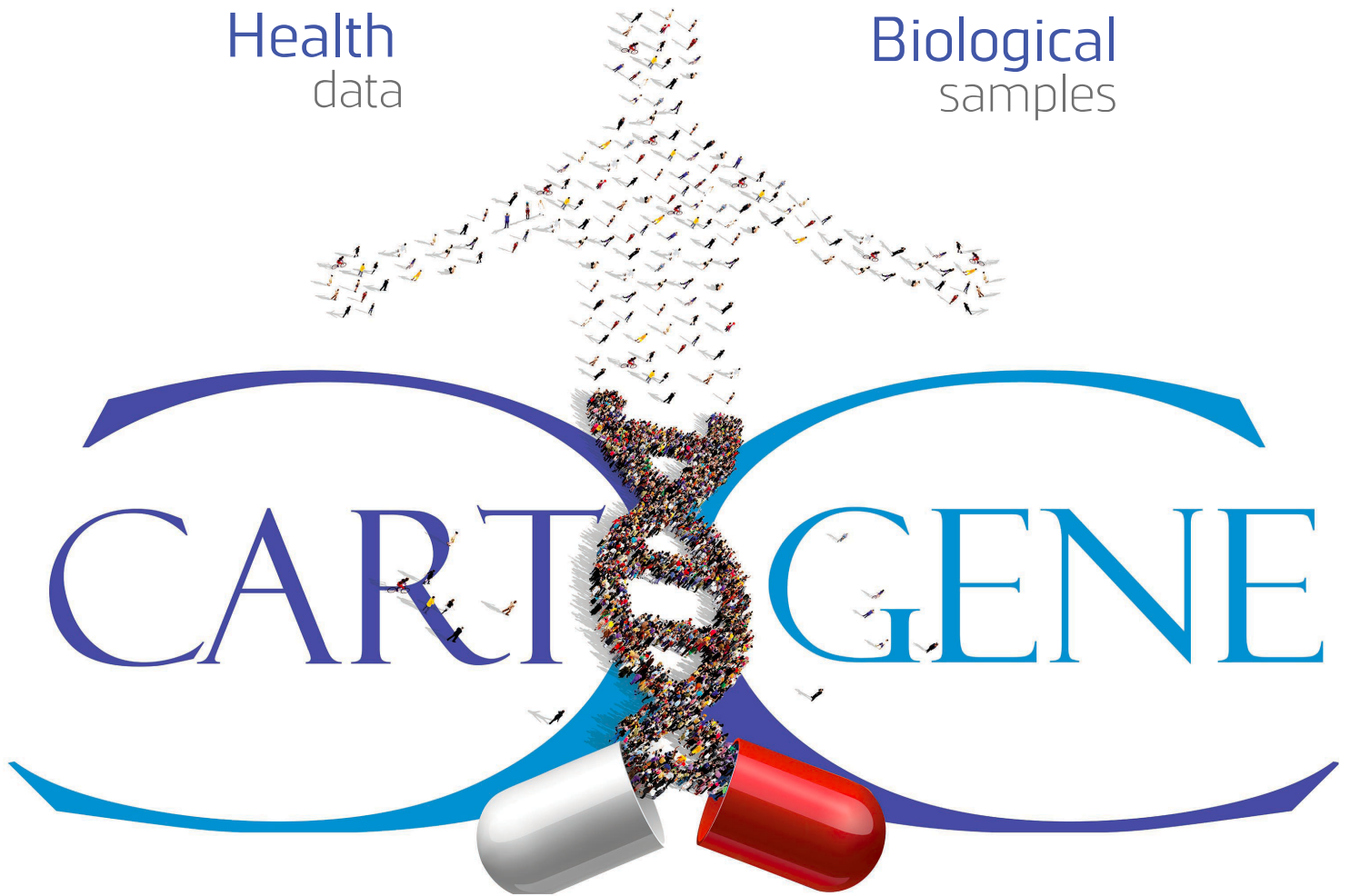


THE POPULATION COHORT OF QUÉBEC

Health
data

Biological
samples



USE IT, IT'S YOURS

About CARTaGENE

CARTaGENE is a public research platform, hosted by the Centre hospitalier universitaire Sainte-Justine (CHU Sainte-Justine).

CARTaGENE's (CaG) mission is to accelerate health research and lower associated costs. CaG also supports evidence-based decision making in clinical practice and public health.

Unique features

Prospective cohort representative of the target population

Deeply phenotyped cohort

Linkage with administrative health databases

Genetically unique population resulting from a founder effect

Integration of data with other large cohorts of the Canadian Partnership for Tomorrow's Health (300,000 participants)

Potential for harmonization with major population studies in Canada and elsewhere in the world

Possibility of gene expression analysis (mRNA)

Services

Access to health data and biological samples

Recruitment and collection of additional data for researchers

Support for access to administrative health databases

Bioinformatics and data analysis services

CARTaGENE



A NEW ERA OF RESEARCH

Constitution and follow-up of the cohort



43,000
participants



aged 40-69



6 Regions

The cohort includes more than 43,000 participants. The recruitment was carried out in two phases (Phase A and Phase B) and prospective follow-ups are conducted annually.

The target population consists of men and women aged 40 to 69 from six metropolitan areas where nearly 70% of Quebecers live (see below).

The sampling is stratified by age, sex and postal code groups and is proportional to the density of the population.

	Phase A ~ 20,000 participants (2009-2010)	Phase B ~ 23,000 participants (2013-2014)	Follow-up* ~ 17,000 participants (2015-2017)
Metropolitan areas	Montréal, Québec Sherbrooke, Saguenay	Montréal, Québec Sherbrooke, Saguenay, Gatineau, Trois-Rivières	
Sampling frame	FIPA**	FIPA + phone lists	
Collected data			
Physical measures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health questionnaire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Genealogy questionnaire***	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food frequency questionnaire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential and occupational questionnaire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological samples			
Blood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Urine	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Follow-ups are done annually using a web-based portal

** Fichier d'inscription des personnes assurées (list of individuals covered by the Québec Health Insurance Plan)

*** In collaboration with BALSAC (UQAC)

Collected data

Health questionnaire

43,000 participants

Physical measures

>20,000 participants



Biological samples

>30,000 participants

Biochemical & hematological

>30,000 participants

Health questionnaire

- Demographic and socio-economic factors
- Lifestyle
- Mental health
- Psychosocial environment
- Individual and familial history of disease
- Use of health care services
- Prescribed medications and other products
- Women’s and men’s health

Physical measures

- Anthropometric measures
- Blood pressure
- Bioimpedance
- Grip strength
- Bone density
- Arterial stiffness
- Lung function
- Partial resting electrocardiogram (4 lead ECG)
- Cognitive function

Biological samples

- Whole blood
- Plasma
- Serum
- Red blood cells
- Whole blood DNA
- Tempus tubes for RNA extraction
- Urine

Genomics

- Whole-Genome Genotyping Data (Infinium® illumina Global Screening Array, illumina Omni 2.5M, Affymetrix UK biobank Axiom® Array) (30,000 participants)
- Whole Genome Sequencing Data (2000 participants)
- RNA-Seq Data (1000 participants)
- Whole Exome Sequencing (WES) (200 participants)

Biochemical and haematological measures

- Complete blood count
- Lipid profile, electrolytes, glucose, glycated hemoglobin, ALT, AST, GGT, creatinine, uric acid, albumin, Free T4, TSH

Linkage with administrative health data (Med-Echo (diagnoses, hospitalizations, etc.), INSPQ (Breast cancer), ISQ (deaths), MSSS (Cancer registry), RAMQ (prescription drugs)), environmental and genealogical databases.

Collected data (continued)



Nutrition

165 questions about intake in the past year
(Canadian Diet History Questionnaire II)

Provides nutrient and food group intake estimates

Environment

Full residential and occupational histories

Residential and occupational exposures

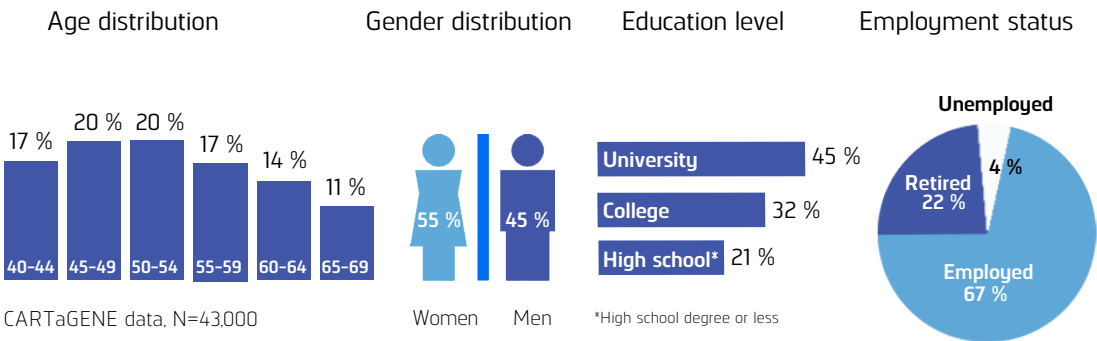
Other data

MRI: Heart and brain

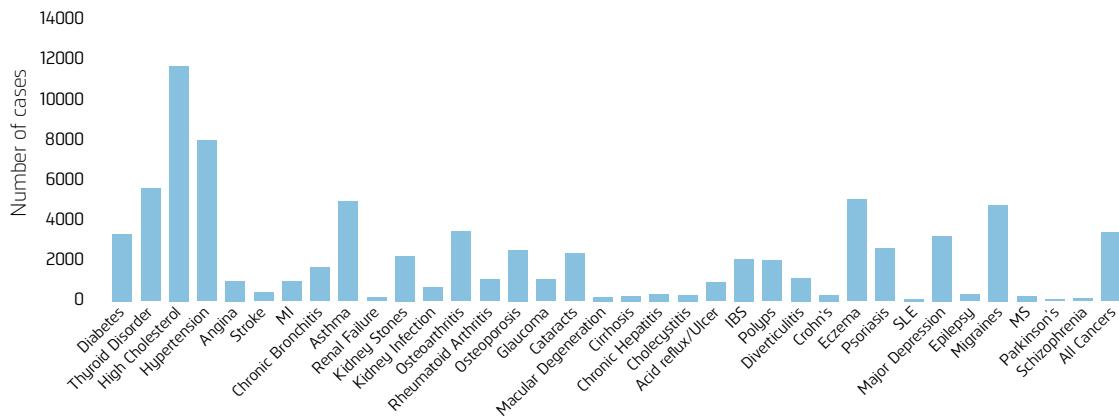
COVID-19: Health follow-up and serology

Characteristics of the cohort

Socio-demographic



Chronic diseases



Access Procedure



Required documents

Application form

Full project proposal

Ethics approval

CV of the principal investigator

Access Office

Tel: 1-514-345-2156

email: access@cartagene.qc.ca

<https://sdas.cartagene.qc.ca>

Financial Partners



For any questions or information
please contact us at:
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www.cartagene.qc.ca



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