IMAGINE NETWORK

Dr. Paul Moayyedi

Network Lead Principal Investigator

IMAGINE Network | Who We Are

- Research network of 17 hospitals/universities and 75 researchers across Canada.

- Investigating the interactions between inflammation, microbiome, diet and mental health in patients with **inflammatory bowel disease** (IBD) and **irritable bowel syndrome** (IBS).

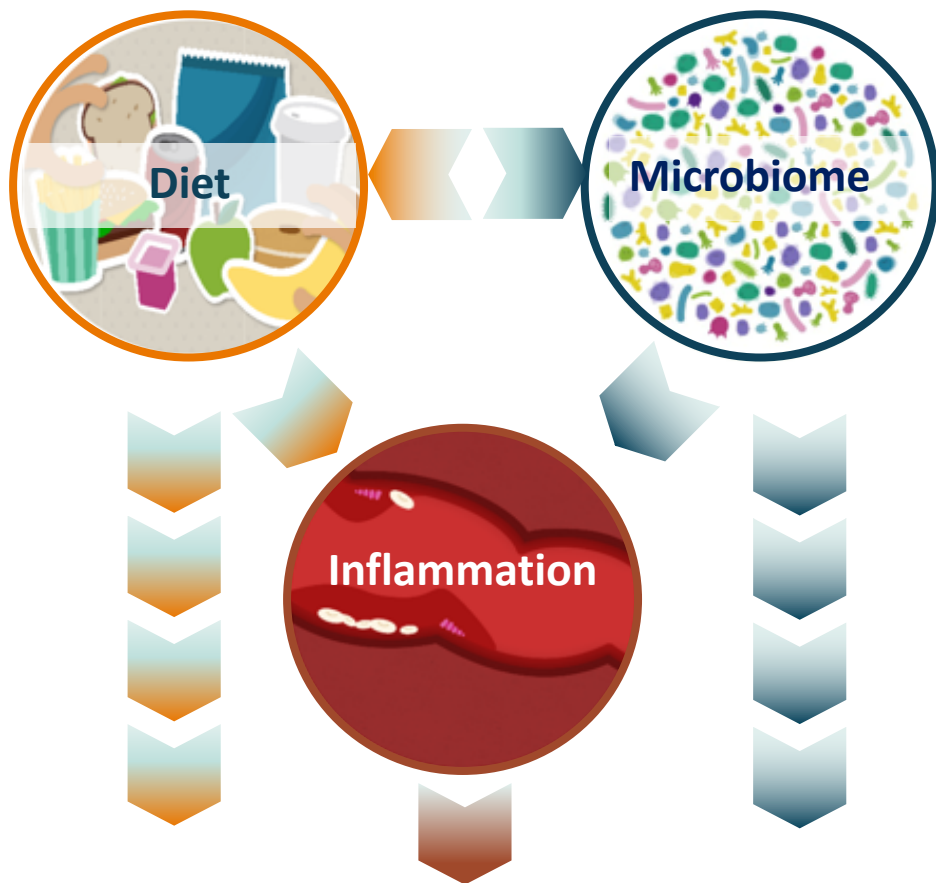- One of five chronic disease networks in CIHR's SPOR initiative.

Strategy for Patient-Oriented Research

SPOR

Putting Patients First

IMAGINE

Inflammation, Microbiome & Alimentation · Gastro-Intestinal & Neuropsychiatric Effects

Hypothesis Summary

Diet ⟷ Microbiome

Inflammation

IBS, IBD and Associated Psychiatric Diseases
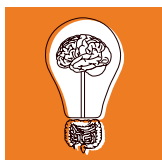
IMAGINE brings together gastroenterologists, neuroscientists and psychiatrists, currently working in isolated silos, into a network focused on:

- Brain-gut connection
- Microbiome changes in GI & associated psychiatric disorders

OUR MISSION

Transform the management of IBD and IBS and associated mental health issues with these diseases.

IMAGINE | Network Activities
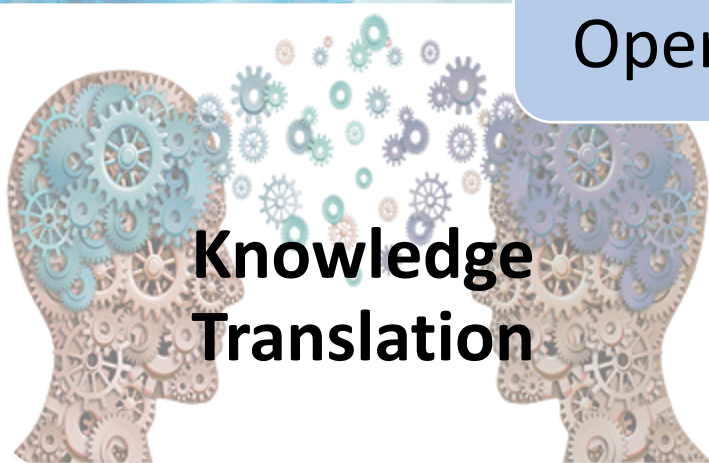
MAIN COHORT: MIND AND GUT INTERACTIONS COHORT (MAGIC) STUDY

Microbiome
- Fecal Transplantation & Antibiotics in UC
- Fecal Transplantation in CD
- Fecal Transplantation in IBS w/ Major Depression
- Fecal Transplantation in Pouchitis

Diet & Environment
- Gluten in IBS Pilot
- FODMAP Diet in IBS Pilot
- Diet Intervention in IBS
- Biomarkers in IBS Diet
- Diet Predicts Therapy in peds IBD

Psychiatry/ Mental Health
- iCBT in IBD
- Brain Imaging in IBD (PET, NIRS, TMS)
- Stress Reduction in IBD
- Suicide Risk in IBD
- Mental Health Assessment in Routine IBD Care

Patient Engagement
- Patient Treatment Preferences
- Recruitment & Retention
- Psychosocial Relationship with Food
- Patient Support Tools
- Citizen-targeted website

Health Services/PACE
- Telemedicine in IBD
- Quality Indicators in IBD care / Global Rating Scale in IBD
- e-Clinical Care Pathways
- Patient Symptom Monitoring App
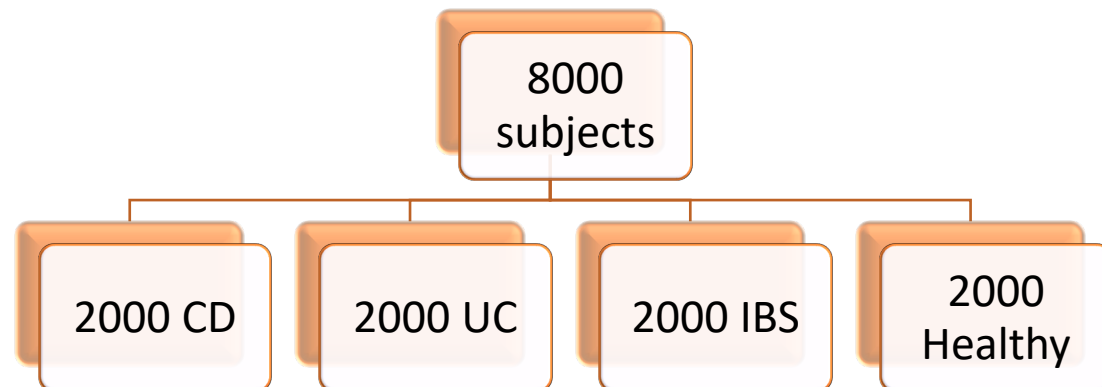
Sex & Gender
- Epidemiology Study on Gender, Referral Patterns and Outcomes
- Assessing Physician/Patient Gender on Outcomes and Health Care Utilization
- Patient/Physician Attitudes, Experiences & Expectations of Male vs Female Patients

IMAGINE | Mind And Gut Interactions Cohort

- Understand how genes, diet and mental health impact the gut microbiome in people with IBD & IBS
- Subjects assessed annually for 4 years and submit blood, urine and stool samples & complete online questionnaires
- Start Date: Oct 2017
- Sites: 15 active sites; 2 pending sites [Montreal + SickKids (CIDsCaNN subsites)]

```
                    8000
                  subjects

  2000 CD    2000 UC    2000 IBS    2000
                                    Healthy
```

IMAGINE | Main Cohort Study – Study Design

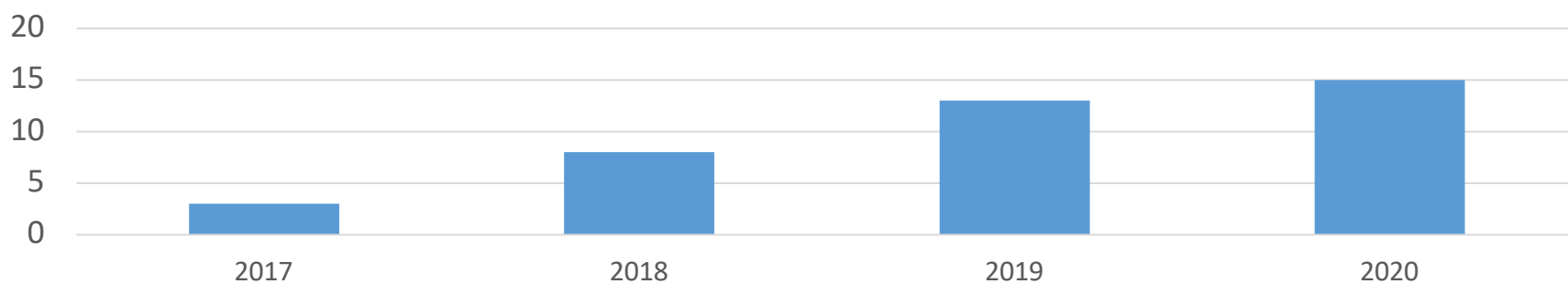|	ANALYSIS	RESEARCH CORE LEAD
PATIENT QUESTIONNAIRES	Demographic & Health Status	PHRI (All)
BLOOD	Inflammatory markers	Queen's (Dr. Vanner) & McMaster (Dr. Bercik)
	Genetics	University of Montreal (Dr. Rioux)
STOOL	Microbiome	McMaster (Dr. Surette)
URINE	Metabolomics	U of Alberta (Dr. Madsen)

MAGIC | Recruitment Sites

📍 Currently Recruiting

📍 Ethics/legal contracts pending (Sick Kids/CIDsCaNN sites, Montreal)
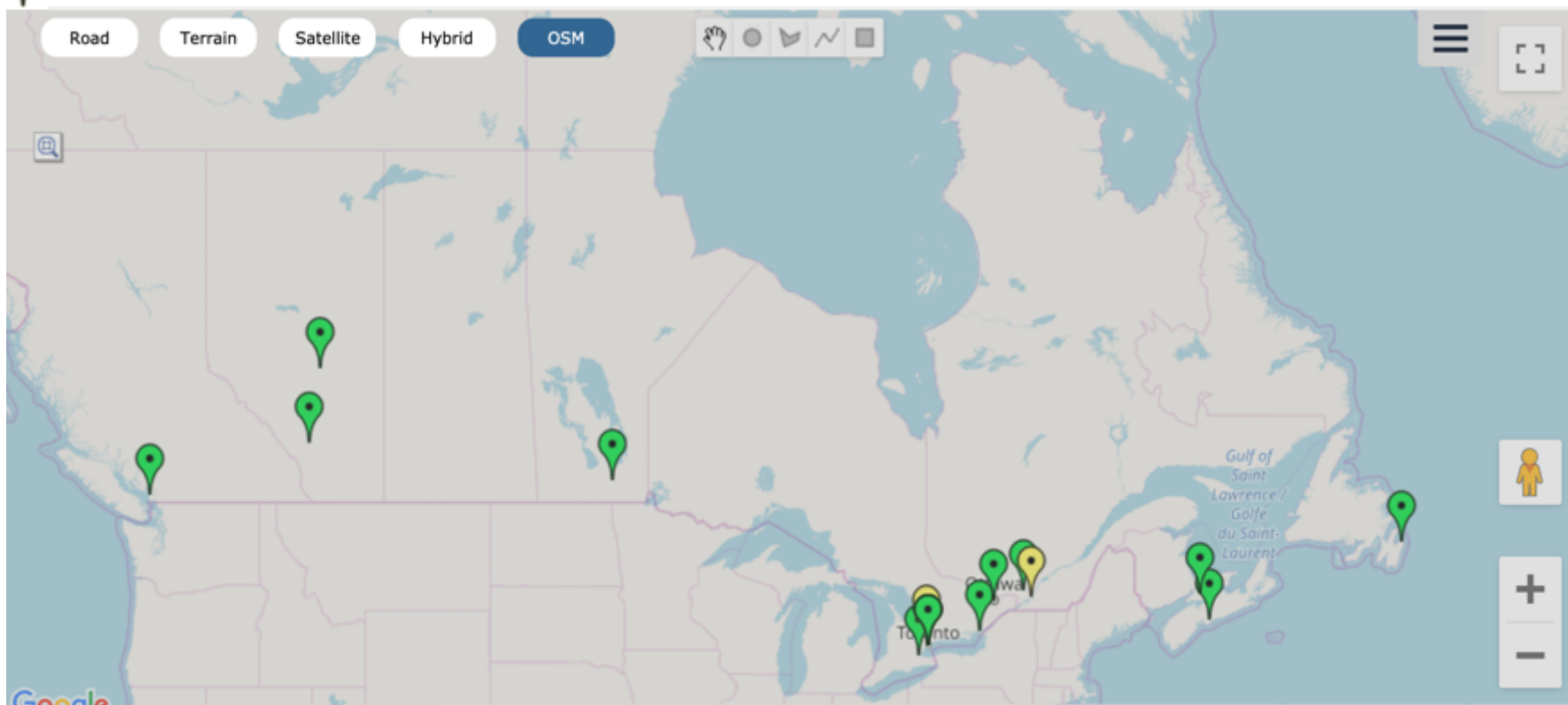
Number of IMAGINE recruitment sites

55%
complete

- Subjects recruited
- Subjects outstanding

	Recruited	Target	% Complete
CD	1751	2000	88%
UC	1118	2000	56%
IBS	754	2000	38%
Healthy	752	2000	38%
Total	4426	8000	55%

MAGIC | Recruitment Totals (as of October 2020)

Site	Greenlight Date	Start Date	Average Monthly Recruitment[1]	Total
21 McMaster University Medical Centre - Hamilton	2017-10-11	2017-10-11	22.8	**844**
21A St. Joseph's Healthcare, West 5th - Hamilton	2019-07-12	2020-03-10	0.4	**3**
21B St. Joseph's Healthcare, Downtown - Hamilton	2020-10-05			**0**
22 IBD Clinical & Research Centre - Winnipeg	2017-11-06	2017-11-15	20.5	**733**
23 Hotel Dieu Hospital - Kingston	2017-10-25	2017-12-06	14.1	**497**
24 University of Calgary - Calgary	2018-03-19	2018-03-20	25.1	**795**
25 University of Alberta - Edmonton	2018-03-07	2018-03-23	23.1	**730**
26 IWK Health Centre - Halifax	2018-03-07	2018-06-25	3.7	**105**
27 NSHA, Centre for Clinical Research - Halifax	2018-06-21	2018-07-19	12.1	**335**
28 UHN Toronto Western Hospital - Toronto	2018-06-04	2018-06-19	2.1	**59**
29 Memorial University - St. John's	2019-06-06	2019-07-19	2.8	**43**
30 The Ottawa Hospital - Ottawa	2019-04-29	2019-05-02	6.5	**118**
31 GI Research Institute - Vancouver	2019-04-01	2019-05-10	4.1	**73**
32 Mount Sinai Hospital - Toronto	2019-09-25	2019-10-18	2.1	**26**
33 MUHC IBD Research Centre - Montreal	2019-08-23	2019-08-29	4.6	**65**
34 Centre Hospitalier de l'Université de Montréal - Montreal	2020-03-10			**0**
36 University of Alberta - Edmonton PEDS	2020-02-13			**0**
Total				**4426**

IMAGINE | MAGIC – Study Progress
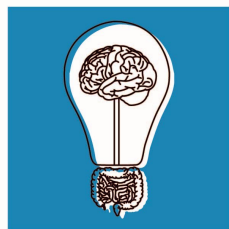
MAGIC
Mind And Gut Interactions Cohort Study — IMAGINE Network

Study Design	Ethics & Legal	Recruitment	Analysis	Dissemination

15+2
ACTIVE & PENDING RECRUITMENT SITES

4,426
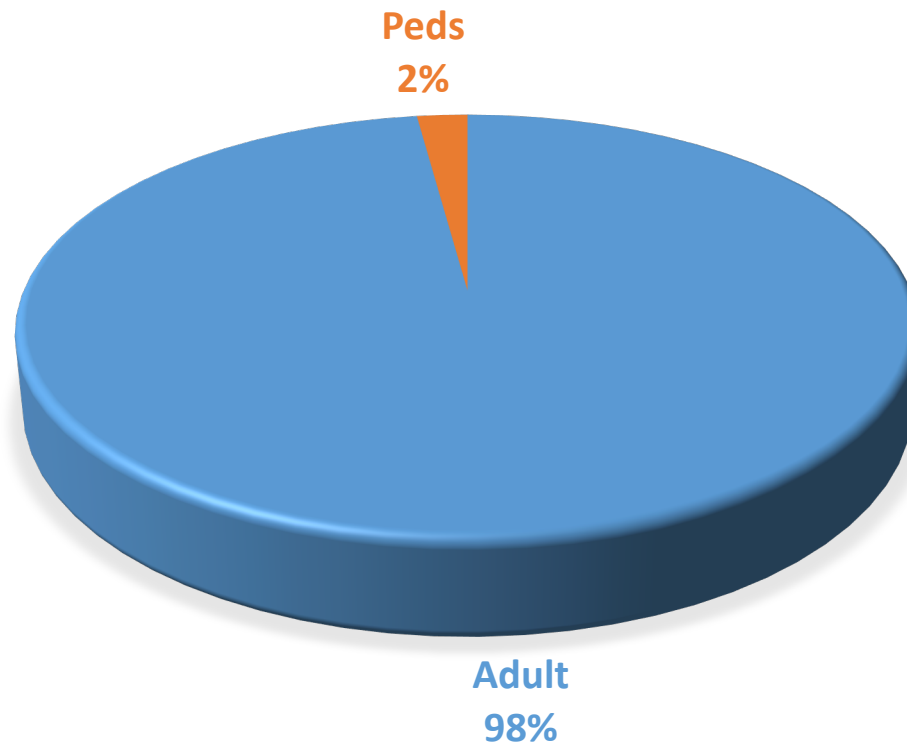SUBJECTS RECRUITED

18,783
BIOSPECIMENS COLLECTED & BANKED

IMAGINE — Inflammation, Microbiome & Alimentation: Gastro-Intestinal & Neuropsychiatric Effects
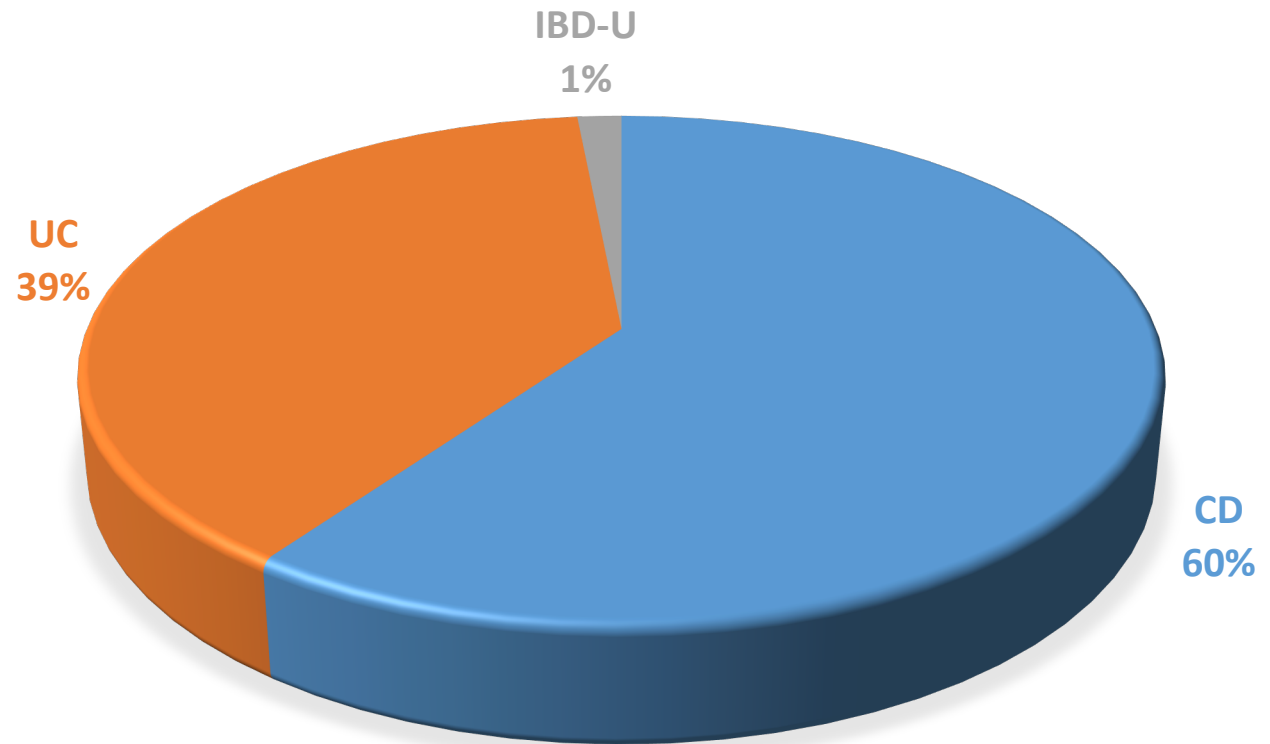
MAGIC | Cohort – Age Distribution

Peds
2%

Adult
98%

Disease Type	Age (Mean)	Age (Range)
CD	42.9	6 - 87
UC	43.9	5 - 84
IBD-unclassified	39.1	9 - 69
Healthy	52.9	8 - 85

MAGIC | Cohort - IBD Classification

IBD CLASSIFICATION

IBD-U
1%

UC
39%

CD
60%

MAGIC | Cohort - Gender Classification

OVERALL COHORT - GENDER BREAKDOWN

Male 38%
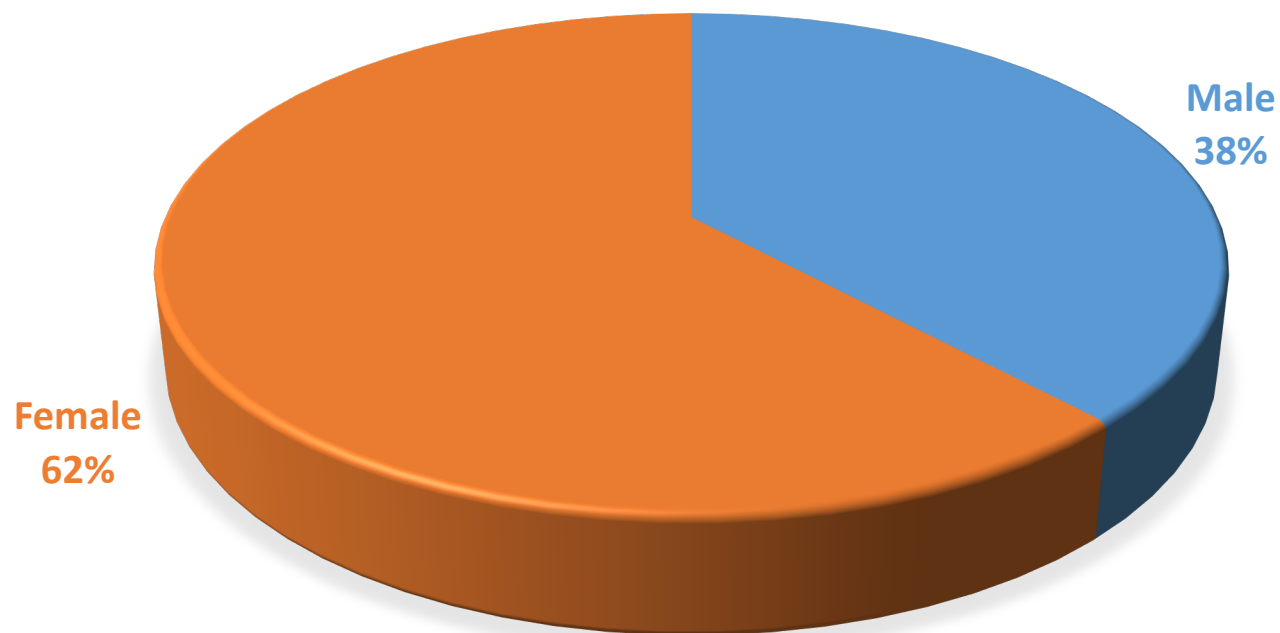
Female 62%

Disease Type	Male	Female	%Male	%Female
CD	700	1052	40%	60%
UC	533	586	48%	52%
IBD-unclassified	16	29	36%	64%
Healthy	296	456	39%	61%

Thank you Funding Partners | & Other Supporters

Allergan

CIHR IRSC
Canadian Institutes Instituts de recherche
of Health Research en santé du Canada

Crohn's and Colitis Canada
Crohn et Colite Canada

DALHOUSIE UNIVERSITY

Dalhousie MEDICAL RESEARCH Foundation

IWK Health Centre

McMaster University

MONTREAL HEART INSTITUTE

Queen's UNIVERSITY

Research Manitoba

Takeda

UNIVERSITY OF ALBERTA

UNIVERSITY OF CALGARY

UNIVERSITY OF MANITOBA

Université de Montréal

SPOR
Strategy for Patient-Oriented Research
Putting Patients First

Canadian Association of Gastroenterologists

Canadian Digestive Health Foundation

Canadian Network of Mood and Anxiety Treatments (CANMAT)

Canadian Biomarker Integration Network in Depression

Canadian Gastro-Intestinal Epidemiology Consortium (CanGIEC)
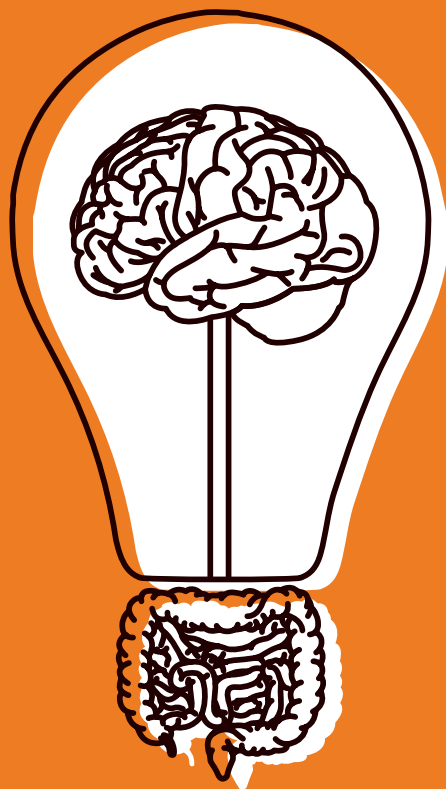
IBD Genomic Medicine Consortium (iGenoMed)

Genetics, Environmental and Microbial (GEM) project

PaCER

Maternofetal outcomes research –Canadian Registry in IBD (MORe CaRe IBD)

Canadian Children Inflammatory Bowel Disease Network (CIDsCaNN)

Canadian Child Health Clinician Scientist Program (CCHCSP)

IMAGINE

Inflammation, Microbiome & Alimentation
Gastro-Intestinal & Neuropsychiatric Effects

Strategy for Patient-Oriented Research

SPOR

Putting Patients First

www.imaginespor.com

f @IMAGINESPOR

🐦 @IMAGINE_SPOR