CIRN

CANADIAN IMMUNIZATION RESEARCH NETWORK

ANNUAL REPORT

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About the Canadian Immunizatic Research Network (CIRN)

CIRN is largely the continuation of the successful PHA Influenza Research Network (PCIRN), which was form through a pandemic influenza research funding oppor

CIRN provides a national, integrated, collaborative, multidisciplinary research platform to undertake ongoi evaluative research that will inform public health polic provide the infrastructure, capacity, and capability for research response to new and emerging infections inc not limited to) pandemics. CIRN plays a pivotal role in early-career researchers, providing opportunities for tr delivering meaningful engagement of stakeholders at stages.

The network is funded by a three-year grant of $6.6 m the Public Health Agency of Canada and CIHR, from Ju until May 2017.

Divided into eight sub-networks (or infrastructures), C is managed through a collaborative process by the Pri Investigators of each network. Together with the Nomi Principal Investigator and five "at large" members, thes Leads make up the CIRN Management Committee.

Letter from the Management Committee

We are pleased to provide this, our sixth CIRN Annual Report, with an array of information on CIRN research programs.

CIRN operates as a “network of networks” with five core infrastructure networks, and three support networks.

2015 was PCIRN’s final year of funding, however many existing PCIRN infrastructures continued on and were expanded to support the new and broader mandate of CIRN. To date, the network has funded a total of 28 projects, and will add to that number for the coming 2016-17 year. We look forward to generating important new data to help form health policy as we continue to build this important network.

CIRN Network Leads

Dr. Scott Halperin, Nominated Principal Investigator, CIRN
Director of the Canadian Center for Vaccinology, Dr. Halperin is a Professor of Pediatrics and Microbiology and Immunology at Dalhousie University, Head of Pediatric Infectious Diseases at the IWK Health Centre in Halifax, and Co-Network Lead of the IMPACT network. His research focuses on the diagnosis, treatment, and prevention of pertussis and other vaccine-preventable diseases.

Dr. Julie Bettinger, Network Lead, Canadian National Vaccine Safety Network
Dr. Julie Bettinger is an Associate Professor at the Vaccine Evaluation Center in the Department of Pediatrics at the University of British Columbia and a Michael Smith Foundation for Health Research Scholar. Her research interests include vaccine safety and vaccine preventable diseases as well as attitudes and beliefs around immunization uptake and use.

Dr. Joanne Langley, Network Lead, Clinical Trials Network
Dr. Joanne Langley is a Professor of Pediatrics and Community Health and Epidemiology at Dalhousie University, the CIHR-GSK Chair in Pediatric Vaccinology, and Associate Director of the Canadian Center for Vaccinology. Her main research interests are in the epidemiology and prevention of respiratory infections and immunization decision making.

Dr. Natasha Crowcroft, Co-Network Lead, Provincial Collaborative Network
Dr. Natasha Crowcroft is Chief of Applied Immunization Research at Public Health Ontario (PHO) and an Associate Profess Department of Laboratory Medicine and Pathobiology a Dalla Lana School of Public Health at the University of T Crowcroft is widely published, and provides expertise to Health Organization and Pan-American Health Organiza

Dr. Jeff Kwong, Co-Network Lead, Provincial Collab Network
Dr. Jeff Kwong is a scientist at the Institute for Clinical Ev Sciences (ICES) and at Public Health Ontario, a family pl the Toronto Western Family Health Team, and an Associ in the Department of Family and Community Medicine a Dalla Lana School of Public Health at the University of T research interests include infectious diseases epidemiol health services research using linkable data, vaccination evaluation, and assessing the burden of infectious disea

Dr. Shelly McNeil, Co-Network Lead, Serious Outco Surveillance Network
Shelly McNeil is a Clinical Research Scholar, Dalhousie U and Chief, Division Infectious Diseases at the Nova Scoti Authority. She is also Deputy Director of the Canadian C Vaccinology. Her research focuses on immunization poli of the epidemiology of vaccine-preventable diseases in focus on the elderly and pregnant women, as well as the of the effectiveness of vaccines in the prevention of seri in adults and clinical trials of new vaccines targeted at a adult populations.

Dr. Melissa Andrew, Co-Network Lead, Serious Outcomes Surveillance (SOS) Network
Dr. Melissa Andrew is an Assistant Professor of Medicine and a consultant in Geriatric Medicine at the QEII Health Sciences Centre in Halifax. Her research focuses on frailty and social vulnerability in relation to older people's health. In her work with the Canadian Center for Vaccinology, she studies how frailty impacts both vaccine effectiveness and clinical outcomes of infections in older people.

Dr. Karina Top, Network Lead, Special Immunization Clinics Network
Dr. Top is an Assistant Professor of Pediatrics and Community Health and Epidemiology at Dalhousie University and Investigator at the Canadian Center for Vaccinology. Her primary research focus is vaccine safety, clinical management of patients who have experienced adverse events following immunization, and the risk of adverse events in immunocompromised patients.

Dr. Gaston De Serres, Co-Network Lead, Special Immunization Clinics Network
Dr. Gaston De Serres is a medical epidemiologist at the Québec National Institute of Public Health and a Professor of Epidemiology at the Faculty of Medicine at Laval University. Dr. De Serres works in the area of control and prevention of infectious disease with a focus on vaccine-preventable diseases and respiratory infections, vaccine effectiveness and vaccine safety.

Dr. Marc Brisson, Network Lead, Modeling and
Research Network
Dr. Brisson is an Associate Professor at Université La
a Canada Research Chair in Mathematical Modeling
Economics of Infectious Diseases. His research aims
mathematical models that predict the effectiveness
effectiveness of interventions against infectious dise
decision-making.

Dr. Brian Ward, Network Lead, Reference Labor
Dr. Ward is a Professor of Medicine and Microbiolog
University, Co-Director of the McGill Vaccine Study G
Director of the Research Institute of the McGill Univ
Centre, Associate Director of the JD MacLean Center
Diseases and Medical Director of the National Refer
Parasitology. His research interests are vaccine deve
diagnostics and global health.

Dr. Eve Dubé, Network Lead, Social Sciences an
Network
Dr. Dubé is a member of the Scientific Group on Imm
the Québec National Institute of Public Health, a res
Research Center of the CHU-Québec, and an invited
Anthropology Department of Université Laval. Her re
on the socio-cultural field surrounding immunizatio
hesitancy.

Serious Outcomes Surveillance Network

Over the past year, the **Serious Outcomes Surveillance (SOS) Network** has demonstrated its continuing value as a real-time reporter of vaccine effectiveness, reporting on national influenza activity weekly to the Public Health Agency of Canada (PHAC).

Established in 2009, SOS prospectively monitors the burden of influenza illness to the health care system resulting in hospitalization of adults with confirmed influenza illness.

The network also continued to conduct surveillance and report on Community Acquired Pneumonia (CAP) and Invasive Pneumococcal Disease (IPD) throughout 2015. SOS continues to provide real-time influenza and CAP surveillance data for 2016, providing invaluable data to PHAC and provincial agencies. The network comprises 13 sites located in BC, Ontario, Québec, New Brunswick, and Nova Scotia.


WELCOME TO GLOBALMEET

Clinical Trials Network

The **Clinical Trials Network (CTN)** is a core infrastructure with the ability to conduct phase 1-4 clinical trials in large and/or specialized groups with a focus on safety, immunogenicity, and mechanisms of immunity. CTN includes sites in Vancouver, Calgary, Hamilton, Toronto, Ottawa, Sudbury, Montréal, Québec City, and Halifax.

This past fall, CTN undertook a multi-site study to determine if an accelerated 4CMenB vaccine schedule during university outbreaks is immunogenic, safe, and tolerable. Three sites across Canada participated in the study (Halifax, Montréal, and Vancouver), enrolling a combined total of 120 participants. hSBA titers are currently being conducted on the serum obtained in the study, and results are pending. It is hoped that the study's outcome will help increase capacity for rapid outbreak control.

Clinical trials on CMV and Ebola vaccine are expected to begin in 2016-17.

Canadian National Vaccine Safety Network

The **Canadian Vaccine Safety Network (CANVAS)** assesses vaccine safety immediately after implementat vaccine campaigns. The network has sites in Vancouver, Calgary, Toronto, Ottawa, Québec City, Sherbrooke, Halifax.

In February 2015, CANVAS moved quickly to study meningococcal B vaccine safety during a mass immuniza campaign following an outbreak of meningococcal B disease at a university in Nova Scotia. A survey was se faculty, students, and staff to capture information on vaccine uptake, safety, and vaccination attitudes. Vacci was 84.7% for dose one and 70% for dose two. The survey response rates were 33.0% and 18.7% in dose dose two recipients respectively, and 12% in unvaccinated individuals. The most common reactions in vacci injection site reactions and non-specific systemic complaints. No hospitalizations were reported.

This past fall, CANVAS initiated its fifth annual influenza vaccine safety surveillance campaign, with more th participants providing safety data in this year's cohort. CANVAS submitted weekly safety reports to the Publ Agency of Canada in October, November and December of 2015. Safety information on the following seven vaccines was captured: Flumist, Fluviral, Vaxigrip, Agriflu, Fluzone, Influvac and Fluad. No unexpected side e were observed in adults or children following the 2015 seasonal vaccines.


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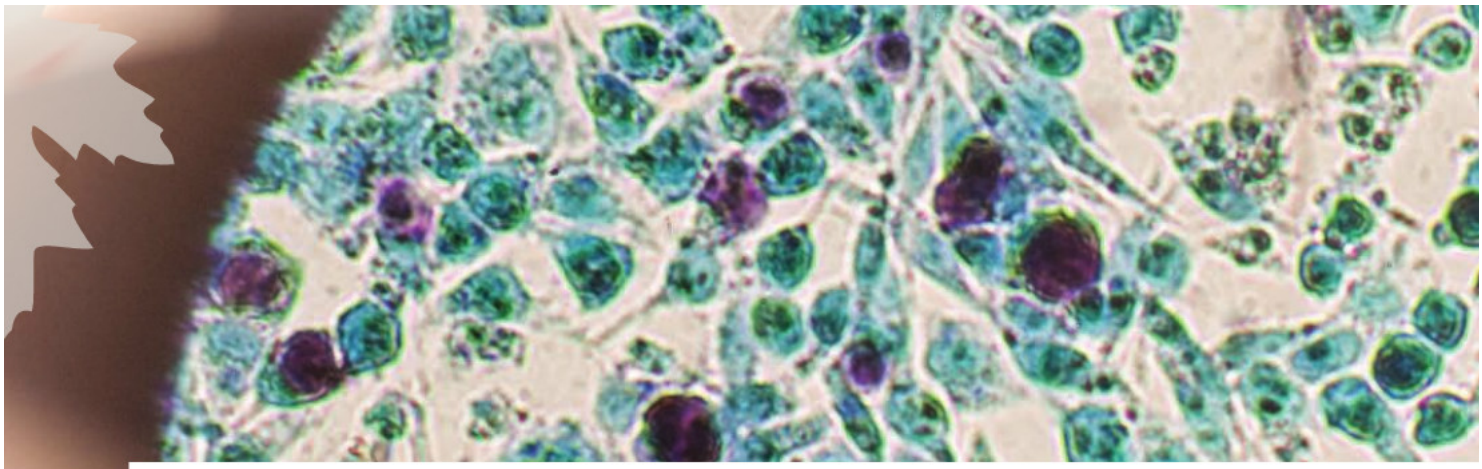
Provincial Collaborative Network

The **Provincial Collaborative Network (PCN)** capitalizes on the extensive research capabilities in the multiple public health agencies, research institutions, and other provincial departments of health to provide a collaborative platform in which to undertake evaluative, programmatic, applied public health research.

Through the project *Evaluation and Gap Analysis of Federal and P/T Systems and Methodologies Used to Assess Immunization Coverage* an environmental scan was completed of the immunization information systems (IISs) used across Canada to record childhood and adolescent vaccinations; the study found that considerable variability exists among IISs and non-IIS processes and the methods used to assess immunization coverage in Canada. Although some provinces and territories have already pursued legislative or policy initiatives to address the data completeness and timeliness, additional opportunities exist in the information technology realm.



The objective of the *Pertussis vaccine effectiveness study using administrative data* is to estimate pertussis VE according to priming vaccine type (whole cell v. acellular) and to determine the impact of waning immunity. Analyses are underway using laboratory and health administrative data from Alberta, Manitoba, and Ontario, and results will be combined using a meta-analytical approach.

Household case-control contact study to examine immunological protection of contacts from household transmission of pertussis is a study protocol developed to support outbreak responsive research. In June 2015, a group of public health and vaccine experts met in Montréal to discuss the study design and the feasibility; the outcome was the development of a study protocol to investigate the level of cell-mediated immunity that protects household contacts from infection after exposure to a case of pertussis in the household.

Special Immunization Clinics Network

The **Special Immunization Clinics (SIC) Network** continued in 2015 with its primary focus in six provinces on the revaccination of individuals who have previously experienced adverse events following immunization (AEFI). As of February 2016, 412 patients were referred to SIC, with 217 patients assessed and enrolled. At this time, SIC clinics have followed 80 patients after revaccination; 14 patients experienced a recurrent adverse event; none were serious (resulted in hospitalization greater than 24 hours, permanent disability or death).

Additionally, SIC launched two new studies in 2015. The first is a study of childhood immunization practices among children with primary immune deficiencies, and the second will measure the immunogenicity and safety of immunization in children who have completed chemotherapy for acute lymphoblastic leukemia. To date, 12 patients have been enrolled in the latter study. Enrollment will continue until March 2017. Recruitment of children with primary immune deficiencies will begin in 2016; eight sites are expected to participate.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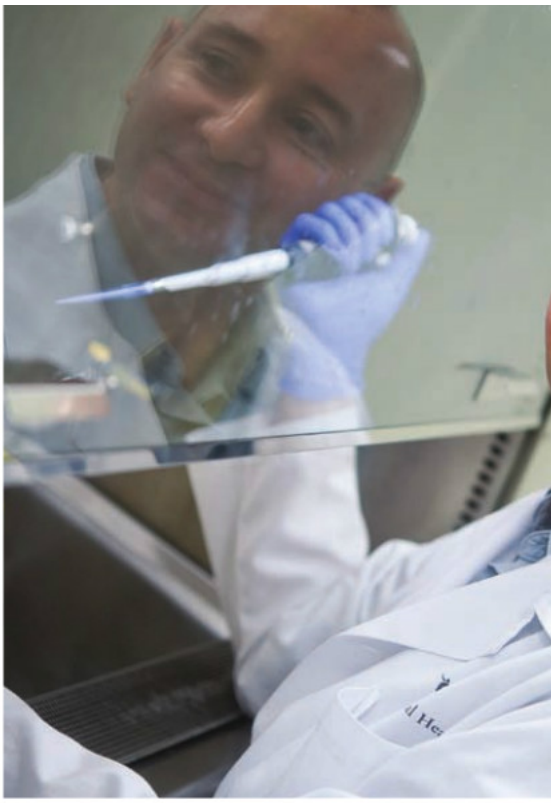
Supporting Infrastructures

Reference Laboratory Network

CIRN's **Reference Laboratory Network (RLN)** has continued to actively support multiple CIRN studies and to manage its sample archive of sera and other biological samples collected through the CIRN infrastructures, accessible to investigators for future studies.

RLN's sero-epidemiology group is working on two national studies to estimate population immunity to both measles and varicella using samples from Statistics Canada's Canadian Health Measures Study, as well as sera from Ontario. These are the first national sero-surveys to be undertaken in Canada, with the goal of generating essential data to inform evidence-based public health and policy decision-making about varicella control and measles elimination.

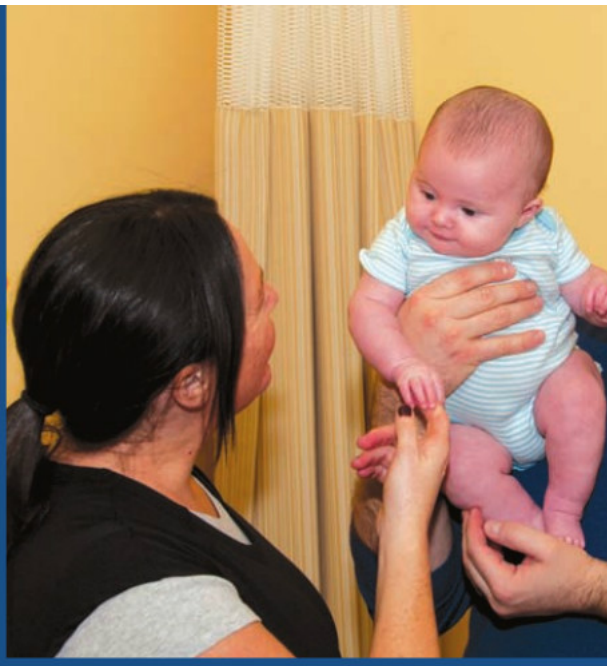


In 2015, RLN launched an ambitious new p
build a comprehensive suite of vaccine-pre
disease (VPD) assays, for use by public hea
practitioners, and scientists, to assess VPD
Canada.

Social Sciences and Humanities Network

The **Social Sciences and Humanities Network (SSHN)** enhances CIRN's ability to address societal issues in all proposed projects and serves as a hub for social science and humanities-focused research generated by CIRN. SSHN strongly focuses on vaccine hesitancy, a topic of great debate in both academic and non-academic circles. The network links Canadian social scientists and humanities researchers who have expertise and interest in the ethical, legal, and social implications of vaccine programs.

SSHN initiated two new studies in 2015. *Vaccinating pregnant women: Why are maternity care providers*



hesitant? investigates and assesses the determi
Canadian family physicians', obstetricians-gyna
and midwives' willingness to recommend and
vaccines to their pregnant patients using interv
and a survey. *Vaccine Hesitancy: A "Wicked" Ri*
Communication Problem examines media cove
vaccine preventable disease and vaccination in
to measure how well news coverage informs p
understanding of the issue.

Modeling and Economics Research Network

The focus of CIRN's **Modeling and Economics Research Network (ModERN)** is to conduct epidemiological analyses, mathematical modeling, and economic analyses to study the cost-effectiveness and population-level effectiveness of public health interventions.

ModERN launched its project to measure social and sexual contact patterns in Canada to improve control of infectious diseases in 2014; it is currently developing and will conduct a broad national survey in 2016.

Two new projects were also launched by the network in 2015; the first, *Effectiveness and Cost-Effectiveness of Decennial Pertussis Boosters for Adults,* has Investigators using a microsimulation model to estimate the health and economic burden of pertussis in Ontario in terms of quality-adjusted life years (QALYs) and costs. Estimates will inform an agent based model in order to evaluate the cost-effectiveness of the decennial pertussis booster in adults.

Seasonal influenza forecasting in real time IDEA model evaluated the performance of single-equation mathematical model (the ' Decay with Exponential Adjustment' (IDEA which has proven useful in characterizing a (re)emerging infectious diseases including coronavirus, and Ebola virus infection. The being used to prospectively forecast influe partnership with Ottawa Public Health and Alberta, and Nova Scotia provincial virology

CIRN Trainees

Each year CIRN welcomes students from across the immunization research spectrum to participate in research projects and to receive funding support though CIRN.

CIRN offers training awards for master's students, doctoral (PhD) students, and postdoctoral fellows who propose or support an immunization research project related to one of the eight networks.

CIRN Trainees

Aleksandra Wierzbowski ▶ Aleksandra is a Post-Doctoral Fellow at the Vaccine and Drug Evaluation Centre (VDEC) in the Department of Community Health Sciences, Faculty of Health Sciences at the University of Manitoba. Her PhD focused on molecular mechanisms of antibiotic resistance and multi-drug resistance, the spread and virulence factors as well as vaccine effectiveness among *Streptococcus pneumoniae* obtained from across Canada.

Hasantha Sinnock ▶ Hasantha is a M.Sc. student with the Department of Community Health Sciences at the University of Manitoba. As a CIRN trainee, Hasantha is working on *A Systematic Review of Data Sources and Methodology for Vaccine Coverage Assessment in Canada* project under the direction of Dr. Salah Mahmud.

Maryline Vivion ▶ Maryline has been a member of the Group Scientific on Immunization (GSI) at the Québec National Institute of Public Health (INSPQ) since 2010. Maryline is pursuing a PhD in anthropology to better understand the different factors influencing parents' vaccination decisions, with a special focus on the role of internet and social media. Maryline also works on *Mapping Vaccine Hesitancy in Canada* as part of her PhD thesis work.

Michelle Pinto ▶ Michelle completed her subspeci
Pediatric Infectious Diseases in Vancouver at BC Chi
in 2014. Michelle is completing her Master's progran
Epidemiology at the University of British Columbia.
project examined the duration of immune memory i
were infant vaccinees of Hepatitis B vaccine, and wh
to the current vaccine schedule are required to prov
protection under the supervision of Dr. David Scheif

Sarah Buchan ▶ Sarah is completing her PhD in Ep
University of Toronto under the supervision of Dr. Je
16, she completed a PCIRN-funded project entitled,
of Pharmacist Administration of Influenza Vaccines
Canada, which has recently been accepted for publi
Currently, Sarah is focused on her CIRN-funded proj
estimating the effectiveness of influenza vaccines ag
confirmed hospitalizations in young children in Onta

Monica Brown ▶ Monica is currently a PhD candid
Department of English at the University of British Co
specializes in rhetoric of health and medicine. Her re
how different institutions negotiate issues of risk an
response to communicable disease outbreaks. Moni
courses in English and Communications at Langara

Hayley Gillis ▶ Hayley is a Master of Science Pathology candidate at Dalhousie University being supervised by Drs. Jason Leblanc and Shelly McNeil. Her work supports the CIRN SOS Network by developing new tools for the molecular serotyping of *Streptococcus pneumoniae*.

Devon Greyson ▶ Devon is a post doctoral research fellow studying vaccine hesitancy with Julie Bettinger at the Vaccine Evaluation Center at the University of British Columbia in Vancouver. Devon's areas of specialization are health information use by youth and parents, and population health information interventions.

Karla Willows ▶ Karla is an Obstetrician Gynecologist who is currently enrolled as an MSc student in the Department of Community Health Sciences and the Clinician Investigator Program at the University of Manitoba. Karla's research interests include the prevention and management of gynecological cancers and in particular, her research to date focuses on cervical cancer prevention and HPV vaccine. For her MSc thesis project, Karla is using population-wide individual-level data to assess the effectiveness of the quadrivalent HPV vaccination program in Manitoba, Canada, in preventing anogenital warts.

Maria Eugenia Espinoza Moya ▶ Maria is an MD and M Epidemiology, currently completing a PhD in Health Serv Research at the University of Toronto. Under the supervis Natasha Crowcroft and Philippe De Wals, her thesis focus assessment of Immunization Program decision-making, a development of an analytical framework for the post-imp evaluation of these programs in Canada. Her research int include immunization policy analysis, program evaluation knowledge translation.

Alexandra Teslya ▶ Alexandra is a Post-Doctoral Fellow University under the supervision of Dr. Jane M. Heffernan obtained her PhD in Mathematics from McMaster Univers She is currently investigating effects of immigration on th immunity of the population in Ontario with respect to m main research interests are mathematical modeling of po dynamics, mathematical epidemiology and biology, syste dynamics and bifurcation theory.

Tahmina Nasserie ▶ Tahmina is a recent graduate of the Master of Public Health (Epidemiology) program at the Dalla Lana School of Public Health, University of Toronto. Prior to graduate studies, she completed her B.Sc. in Human Biology at the University of Toronto. Her research interests include epidemic forecasting of vaccine-preventable diseases and knowledge translation in public health. As a CIRN trainee, Tahmina will be working on Real-Time Forecasting of Influenza using the IDEA model under the supervision of Dr. David Fisman.

Ashleigh McGirr (MPH) ▶ Ashleigh is an Epidemiology PhD Candidate at the University of Toronto. Her dissertation focuses on pertussis and the impact of immunization on the spread of disease in the community. She is particularly interested in developing, calibrating, and validating infectious disease transmission models. Ashleigh's current CIRN project, *Effectiveness and Cost-Effectiveness of Decennial Pertussis Boosters for Adults* uses an agent-based model to simulate the health and economic consequences of different immunization programs.

Joseline Zafack ▶ Joseline is a general practitioner her medical training in 2008 and worked for two ye neonatal unit of a reference hospital in Yaoundé. Sh Masters in Public Health at the University of Aix Mar She is currently doing her PhD in Epidemiology at La Her PhD focuses on the risk of recurrence of adverse immunization. Her field of interests include infectiou vaccinology.

Financial Report Funding April 2009 - March 2018

Grant funding (various) to 2018: **PCIRN $18,428,728 / CIRN $11,130,266**

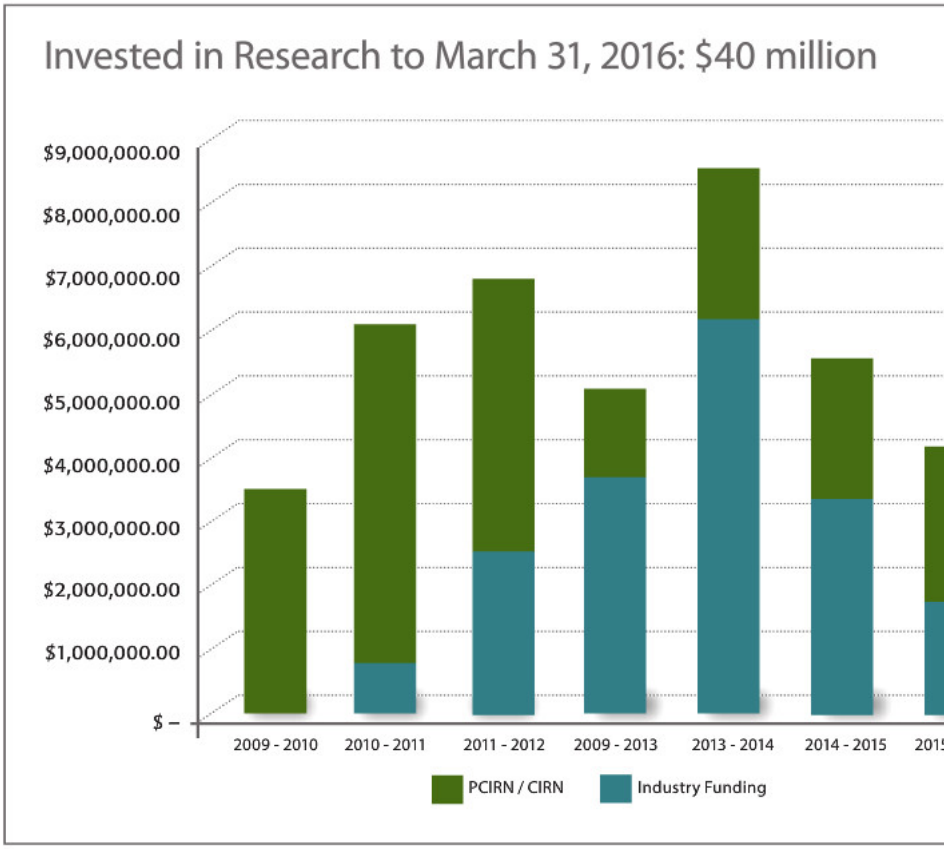
Total grant funding to 2018: **$29,558,994**

Industry funding assigned to research studies 2009 -2016: **$18,541,000**

Total number of network research studies funded 2014 - 2016: **68**

Total number of participating investigators & contributors to date: **135**

Total number of participating institutions and organizations to date: **38**



List of CIRN Co-Investigators 2015-2016

CLINICAL TRIALS NETWORK

Joanne Langley, Dalhousie University and the IWK Health Centre
Curtis Cooper, Ottawa Hospital Research Institute
Marc Dionne, Laval University
Soren Gantt, University of British Columbia
Scott Halperin, Dalhousie University
Mark Loeb, McMaster University
Allison McGeer, Mt. Sinai Hospital
Shelly McNeil, Dalhousie University
Jeffrey Pernica, McMaster University
Guillaume Poliquin, Public Health Agency of Canada
Caroline Quach, McGill University
David Scheifele, University of British Columbia
Otto Vanderkooi, University of Calgary
Brian Ward, McGill University

CANADIAN NATIONAL VACCINE SAFETY NETWORK

Julie Bettinger, British Columbia Centre for Disease Control and the University of British Columbia
Bill Bowie, University of British Columbia
Brenda Coleman, Mount Sinai Hospital
Gaston De Serres, Laval University
Jennifer Isenor, Dalhousie University
Jim Kellner, University of Calgary
Donna MacDougall, St. Francis Xavier University
Allison McGeer, Mt. Sinai Hospital
Shelly McNeil, Dalhousie University
Karina Top, Dalhousie University
Louis Valiquette, Sherbrooke University
Otto Vanderkooi, University of Calgary
Kumanan Wilson, Ottawa Hospital Research Institute

PROVINCIAL COLLABORATIVE NETWORK

Natasha Crowcroft, Public Health Ontario
Jeff Kwong, ICES/University of Toronto
Eric Benchimol, CHEO
Shelly Bolotin, Public Health Ontario
Shelley Deeks, Public Health Ontario
Shalini Desai, Public Health Agency of Canada
Steve Drews, University of Calgary
Scott Halperin, Dalhousie University
Todd Hatchette, Dalhousie University
Steven Hawken, Ottawa Hospital Research Institute
Fran Jamieson, Public Health Ontario
Tobias Kollmann, University of British Columbia
Joanne Langley, Dalhousie University
Paul Van Buynder, Fraser Health
Salah Mahmud, University of Manitoba
Allison McGeer, Mt. Sinai Hospital
Monika Naus, University of British Columbia
Laura Rosella, OAHPP
Margaret Russell, University of Calgary
Carolyn Sanford, University of Pr
Kumanan Wilson, Ottawa Hospit
Sarah Wilson, Public Health Onta
Kimberley Simmonds, University
Larry Svenson, Alberta Health
Jun Wang, Dalhousie University

SERIOUS OUTCOMES SURVEII

Shelly McNeil, Dalhousie Univers
Melissa Andrew, Dalhousie Unive
Bill Bowie, University of British C
Mark Loeb, McMaster University
Anne McCarthy, Ottawa Hospital
Allison McGeer, Mt. Sinai Hospita
Janet McElhaney, Advanced Mec
Institute of Canada (AMRIC)
Andre Poirier, Centre Hospitalier
Régional
Makeda Semret, McGill Universit
Daniel Smyth, Moncton Regiona
Louis Valiquette, Sherbrooke Uni
Duncan Webster, St. John Regior

SPECIAL IMMUNIZATION CLIN

Karina Top, Dalhousie University
Gaston De Serres, Laval Universit

Julie Bettinger, University of British Columbia
Francois Boucher, Laval University
Simon Dobson, University of British Columbia
Scott Halperin, Dalhousie University
Taj Jadavji, University of Calgary
Marc Lebel, Montréal University
Athena McConnell, University of Saskatchewan
Jeffrey Pernica, McMaster University
Anne Pham-Huy, University of Ottawa
Caroline Quach, McGill University
Bruce Tapiéro, CHU Sainte-Justine
Dat Tran, University of Toronto
Wendy Vaudry, University of Alberta

REFERENCE LABORATORY NETWORK

Brian Ward, McGill University
Guy Boivin, Laval University
Shelly Bolotin, Public Health Ontario
Natasha Crowcroft, Public Health Ontario
Scott Halperin, Dalhousie University
Todd Hatchette, Dalhousie University
Toby Kollmann, University of British Columbia
Tony Mazzulli, Mount Sinai Hospital
Alberto Severini, University of Manitoba
Patrick Tang, BCCDC
Tania Watts, University of Toronto

SOCIAL SCIENCES AND HUMANITIES NETWORK

Eve Dubé, Laval University
Heather MacDougall, University of Waterloo
Julie Bettinger, University of British Columbia
François Boucher, Centre de recherche du CHU de Québec
David Buckeridge, McGill University
Cora Constantinescu, University of Calgary
William Fisher, University of Western Ontario
Arnaud Gagneur, Sherbrooke University
Janice Graham, Dalhousie University
Joshua Greenberg, University of Carleton
Maryse Guay, Sherbrooke University
Juliet Guichon, University of Calgary
Jane Heffernan, York University
Heidi Larson, London School of Hygiene & Tropical Medicine, England
Shannon MacDonald, University of Alberta
Samantha Meyer, University of Waterloo
Laurence Monnais, Montréal University
David Smith, London School of Hygiene & Tropical Medicine, England
Dat Tran, University of Toronto
Kumanan Wilson, Ottawa Hospital Research Institute
Holly Witteman, Laval University

MODELING AND ECONOMICS RESE (MODERN) NETWORK

Marc Brisson, Laval University
David Fisman, University of Toronto
Michel Alary, Laval University
Philippe Beutels, University of Anterwe
Marie Claude Boily, Imperial College Lo
Shelly Bolotin, Public Health Ontario
Natasha Crowcroft, Public health Ontar
Shelley Deeks, Public Health Ontario
Gaston De Serres, Laval University
Eve Dubé, Laval University
Jane Heffernan, York University
Niel Hens, University of Hasselt
Erin Kirwin, Alberta Health
Philippe Lemieux-Mellouki, Laval Univ
Salah Mahmud, University of Manitoba
Gina Ogilvie, British Columbia Centre f Control
Nathaniel Osgood, University of Saskat
Beate Sander, OAHPP
Chantal Sauvageau, Laval University
Larry Svenson, Alberta Health
Jordan Tustin, Ryerson University
Jianhong Wu, York University

List of Publications, Abstracts and Presentations

CTN	**CLINICAL TRIALS NETWORK**
	M Pinto, D Scheifele. Discussion the need for an adolescent hepatitis B vaccine booster in infant vacinees. Paediatrics & Chil 19(8): 404.
	SA Halperin et al. A Phase 1 Randomized, Single-Center, Double-Blind, Placebo Controlled, Dose-Ranging Study to Evaluate Immunogenicity of the BPSC-1001 (VSV G-ZEBOV) Ebola Virus Vaccine Candidate in Healthy Adult Subjects. CIHR Science C 21, 2015. Ottawa, Ontario.
	M Pinto. Sustaining Protection against Hepatitis B from Infancy to Adulthood: Assessing the Case for a Booster Dose in Adol Canadian Immunization Research Network 1st Annual Meeting. May 6-7th, 2015. Montreal, Quebec.
	SA Halperin, J Langley, SA McNeil, J Scott, C Brown, D MacKinnon-Cameron. A Phase 1 Study to Evaluate the Safety and Imn of the Ebola Virus Vaccine Candidate in Healthy Adults. Canadian Immunization Research Network 1st Annual Meeting. May Montreal, Quebec.
	M Pinto. Sustaining Protection against Hepatitis B from Infancy to Adulthood: Assessing the Case for a Booster Dose in Adol Vaccine Research Symposium, November 4-6, 2015. Vancouver, British Columbia.
	SA Halperin. Canadian Immunization Research Network (CIRN): Addressing Emerging Threats. Canadian Public Health Asso Conference, May 25-28, 2015. Vancouver, British Columbia.
SIC	**SPECIAL IMMUNIZATION CLINICS NETWORK**
	KA Top, J Zafack, G De Serres, SA Halperin for the PCIRN Investigators. Canadian paediatricians' approaches to managing patie events following immunization: The role of the Special Immunization Clinic network. Paediatr Child Health. 2014; 19(6):310
	KA Top, G De Serres, M-C Gariepy, SA Halperin, FD Boucher, S Dobson, J Pernica, A Pham-Huy, C Quach, D Tran, W Vaudry, S Special Immunization Clinics Network to Investigate Patients with Adverse Events Following Immunization and Potential Co Vaccination. AMMI Canada - CACMID Annual Conference, April 16-18, 2015. Charlottetown, PEI.
	KA Top, A Pham-Huy, V Price, L Sung, D Tran, W Vaudry, SA Halperin, G De Serres. Immunization practices in acute lymphocy post hematopoietic stem cell transplant in Canadian pediatric hematology/oncology centers. Human Vaccines & Immunoth Mar 10:1-6. [Epub ahead of print]
	KA Top, MN Billard, MC Gariepy, I Rouleau, JM Pernica, A Pham-Huy, C Quach, D Tran, W Vaudry, S Dobson, FD Boucher, A C Jadavji, A McConnell, SA McNeil, SA Halperin, G De Serres. Vaccinating Patients with Adverse Events Following Immunizatior Contraindications to Vaccination: A report from the Special Immunization Clinics Network. *Pediatric Infectious Diseases Jou 2016.*

CANVAS CANADIAN NATIONAL VACCINE SAFETY NETWORK

JA Bettinger, I Rouleau, MC Gariepy, WR Bowie, L Valiquette, OG VanderKooi, JD Kellner, BL Coleman, SA McNeil, A McCarthy, G D Serres. Successful methodology for large-scale surveillance of severe events following influenza vaccination in Canada, 2011 and Eurosurveillance 2015, 20(29).

K Wilson, KM Atkinson, J Westeinde. Apps for immunization – Leveraging mobile devices to place the individual at the centre of c Vaccine and Immunotherapeutics 2015, 11(10):2395-9.

J Westeinde, JA Bettinger, KM Atkinson, D Fergusson, K Marty, SL Deeks, N Crowcroft, K Wilson. Proof of Concept: A Mobile Applic that facilitates vaccine adverse event reporting. Canadian Immunization Research Network 1st Annual Meeting, May 6-7th, 2015. Quebec.

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SA McNeil, M Andrew, L Ye, F Haguinet, T Hatchette, M ElSherif, J LeBlanc, A Ambrose, A McGeer, JE McElhaney, M Loeb, D MacKir Cameron, R Sharma, G Dos Santos, V Shinde. Interim estimates of 2014/15 influenza vaccine effectiveness in preventing laborato influenza-related hospitalisation from the Serious Outcomes Surveillance Network of the Canadian Immunization Research Netw *Eurosurveillance.* 2015; 20(5).

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T Hatchette, H Scholz, S Bolotin, N Crowcroft, C Jackson, E McLachlan, A Severini. Correlation of the BioPlex test and Plaque Neutralization Test for determining antibody immunity to measles virus. Canadian Immunization Conference, December 2-4 Ontario.

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E Dubé. From hesitancy to acceptance: Effective strategies to communication with vaccine-hesitant parents. Canadian Immunizati Conference, December 2-4, 2014. Ottawa, Ontario.

H MacDougall, L Monnais. Creating a national immunization schedule: History and policy challenges. Canadian Immunization Co December 2-4, 2014. Ottawa, Ontario.

E Dubé. Research on Vaccine Hesitancy in Canada. Oral presentation. CAIRE Annual Meeting, December 2, 2014. Ottawa, Ontario

G Powell et al. Monitoring media content about vaccines in the United States: Data from the Vaccine Sentimeter. International So Disease Surveillance, December 9-11, 2015. Denver, Colorado.

D Greyson. Vaccine hesitancy and parents in British Columbia. Presented at the Child & Family Research Institute. TGIF Seminar S December 2015, Vancouver, British Columbia.

E Dubé. Defining vaccine hesitancy in Canada: Roots, determinants and scope. Best Brains Exchanges, February 3, 2015. Ottawa,

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E Dubé. Mapping vaccine hesitancy: Delphi study. Canadian Immunization Research Network 1st Annual Meeting, May 6-7th, 201 Quebec.

M Vivion. My doctor is too pro, my chiro is too anti! The importance of balanced information on vaccine hesitant mother decision Canadian Immunization Research Network 1st Annual Meeting, May 6-7th, 2015. Montreal, Quebec.

K Zinszer et al. Surveillance of vaccination opinions and beliefs in online media. Canadian Immunization Research Network 1st A Meeting, May 6-7th, 2015. Montreal, Quebec.

G Powell et al. Monitoring discussion of vaccine adverse events in the media: Automating Vaccine Sentimeter classifications Wide Web and Public Health, February 12, 2016. Phoenix, Arizona.

JA Bettinger. Vaccine Hesitancy: What is it, Why is it, What to do about it? Disease Outbreaks and Vaccine Coverage. How Do Measure Up? International Centre for Infectious Diseases invited speaker. February 25, 2016. Winnipeg, Manitoba.

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J Greenberg, E Dubé, M Driedger, G Capurro. Measles, Moral Regulation and the Social Construction of Risk: Media Rhetoric of Anti-Vaxxers. @Risk: Risk Management, Democratization and Evidence-Based Decision-Making Workshop, May 2-3 2016.

PCN PROVINCIAL COLLABORATIVE NETWORK

K Schwartz, J Kwong, SL Deeks, M Campitelli, F Jamieson, A Marchand-Austin, TA Stukel, L Rosella, N Daneman, S Bolotin, S N Crowcroft. Pertussis vaccine effectiveness and waning immunity. Canadian Immunization Conference, December 2-4, 201 Ontario.

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