



REGIONAL  
PARAMEDIC  
PROGRAM  
FOR EASTERN  
ONTARIO



The Ottawa  
Hospital | L'Hôpital  
d'Ottawa

# RPPEO ANNUAL DISSEMINATION ACTIVITIES REPORT: RESEARCH, LEADERSHIP, QUALITY AND EDUCATION

April 1, 2023 to March 31, 2024

**Inspired** by research.  
**Driven** by compassion.

**Inspiré** par la recherche.  
**Guidé** par la compassion.

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## Regional Paramedic Program for Eastern Ontario

**Department: Clinical Operations**

**Executive Vice-President: Suzanne Madore**

**Director: Penny Price**



### Purpose

The purpose of the Regional Paramedic Program for Eastern Ontario (RPPEO) Annual Dissemination Activities Report: Research, Leadership, Quality and Education is to inform the senior management team, the paramedic community and paramedic stakeholders, of research, leadership, quality and education projects and dissemination activities in paramedicine that have been conducted over the last fiscal year.

### Inclusion Criteria

All RPPEO personnel or regional paramedics working in collaboration with RPPEO personnel, who are either a primary investigator or a co-investigator on a paramedicine study or project, including current EMS residents and RPPEO volunteers.

### PRIMARY & CO-INVESTIGATORS

**Michael Austin**, MD, FRCPC, *Interim Medical Director (2023-2024)*

**Ben de Mendonca**, P.Eng., MHA, *Manager*

**Zachary Cantor**, PCP, *EMS Coordinator*

**Richard Dionne**, MD, CCFP-EM, *Medical Director (2016-2023)*

**Mark Froats**, MD, FRCPC, *Associate Medical Director*

**Joe Ferguson**, *EMS Coordinator*

**Simeon Mitchell**, MDCM, FRCPC

**Penny Price**, MMngt, *Program Director*

**Jason Rouleau**, B.Soc.Sc, *Paramedic Researcher*

**Julie Sinclair**, MScN, A-EMCA, RN, *Research Coordinator, Paramedic Researcher*

**Christian Vaillancourt**, MD, MSc, FRCPC, CSPQ, *Associate Medical Director*

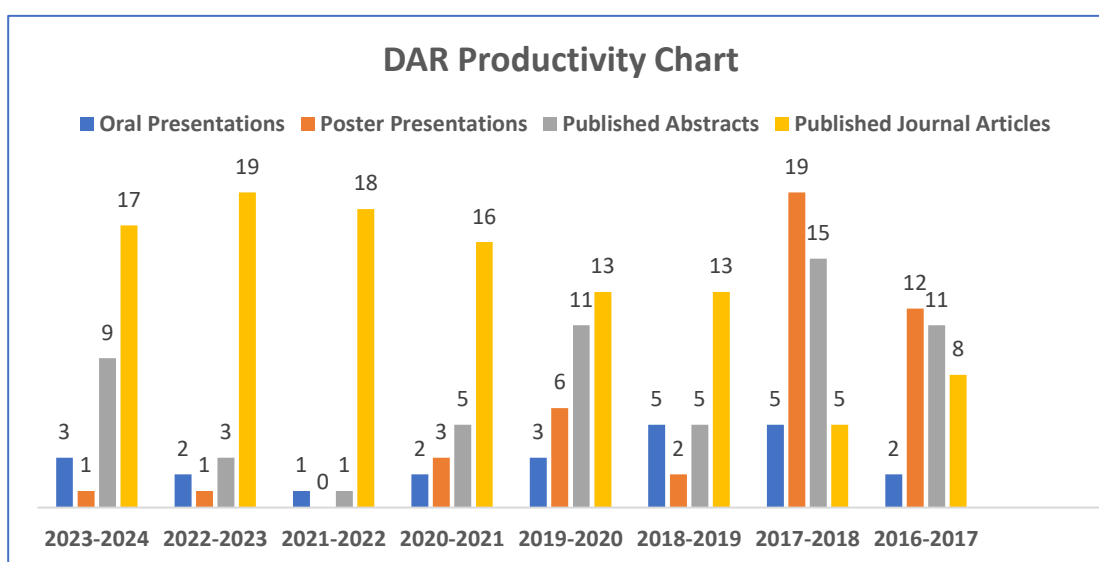
**Charlene Vacon**, PhD, PCP, *Coordinator*

**Megan Wall**, ACP, *EMS Coordinator*



## SUMMARY OF DISSEMINATION ACTIVITIES (8 years)

| YEAR      | TOTAL PRESENTATIONS | ORAL PRESENTATIONS | POSTER PRESENTATIONS | PARAMEDIC/<br>ALLIED<br>HEALTH<br>CARE<br>PROVIDER<br>PRESENTER | PUBLISHED<br>ABSTRACTS | PUBLISHED<br>JOURNAL<br>ARTICLES | PARAMEDIC/ALLIED<br>HEALTH CARE<br>PROVIDER<br>PRIMARY AUTHOR |
|-----------|---------------------|--------------------|----------------------|-----------------------------------------------------------------|------------------------|----------------------------------|---------------------------------------------------------------|
| 2023-2024 | 4                   | 3                  | 1                    | 0                                                               | 9                      | 17                               | 1                                                             |
| 2022-2023 | 3                   | 2                  | 1                    | 2                                                               | 3                      | 19                               | 3                                                             |
| 2021-2022 | 1                   | 1                  | 0                    | 1                                                               | 1                      | 17                               | 1                                                             |
| 2020-2021 | 5                   | 2                  | 3                    | 2                                                               | 5                      | 16                               | 3                                                             |
| 2019-2020 | 9                   | 3                  | 6                    | 6                                                               | 11                     | 13                               | 5                                                             |
| 2018-2019 | 7                   | 5                  | 2                    | 3                                                               | 5                      | 13                               | 4                                                             |
| 2017-2018 | 24                  | 5                  | 19                   | 18                                                              | 15                     | 5                                | 3                                                             |
| 2016-2017 | 14                  | 2                  | 12                   | 3                                                               | 11                     | 8                                | 2                                                             |



### EXTERNAL GRANTS

Austin MA et al. **Management of traumatic pain by paramedics in the prehospital setting.** MAYDAY FUND (\$249,803.19 US)

### INTERNAL GRANTS

Zia, Ayesha et al.(Sinclair J) **Paramedics STEMI bypass activation in Eastern Ontario: A Sex Lens Evaluation.** CAEP Junior Investigator Grant Award (\$5,000)

## PRESENTATIONS



### ORAL PRESENTATIONS (INTERNAL)

Guo K, Austin M, De Mendonca B, Cantor Z, Wall M, Cox C, Ferguson J, Vaillancourt C. (May 2023) **Evaluating the impact of a specialized and centralized online medical consultation system for paramedics**. Department of Emergency Medicine Day. Ottawa, Canada. (Quality)

### ORAL PRESENTATIONS (EXTERNAL)

Austin M. **Paramedics key to solving Canada's healthcare labor crisis**. (January 2024) National Association of EMS Physicians (NAEMSP) conference. Austin, Texas.

Austin M. **911 revolution patient-centric transformation**. (November 2023) Emergency Department Administration (EDAC) conference. Toronto, Canada.

### POSTER PRESENTATIONS (INTERNAL)

N/A

### POSTER PRESENTATIONS (EXTERNAL)

Guo K, Austin M, de Mendonca B, Cantor Z, Wall M, Cox C, Ferguson J, Vaillancourt C. (May 2023) **Evaluating the impact of a specialized and centralized online medical consultation system for paramedics**. Canadian Association of Emergency Physicians (CAEP) Annual Conference. Toronto, Canada. (Quality)

## INVITED PRESENTATIONS

**Christian Vaillancourt**. (March 2024) Empowering Paramedics to Assess Low-Risk Trauma Patients with the Canadian C-Spine Rule and Selectively Transport them Without Immobilization. MSc/MPH Seminar, School of Epidemiology and Public Health, uOttawa, Ottawa ON.

**Mike Austin**. (November 2023) Real Time Paramedic Support – Strategy to ease pressure on EMS and Eds. “911 Revolution Patient-Centric Transformation”. Dr. Austin introduced an innovation in Ontario: Online Medical Consultation. Emergency Department Administration Conference, Toronto, ON.

**Christian Vaillancourt**. (October 2023) Prehospital Research: Examples and Challenges. EMS month, Department of Emergency Medicine, Ottawa, ON.

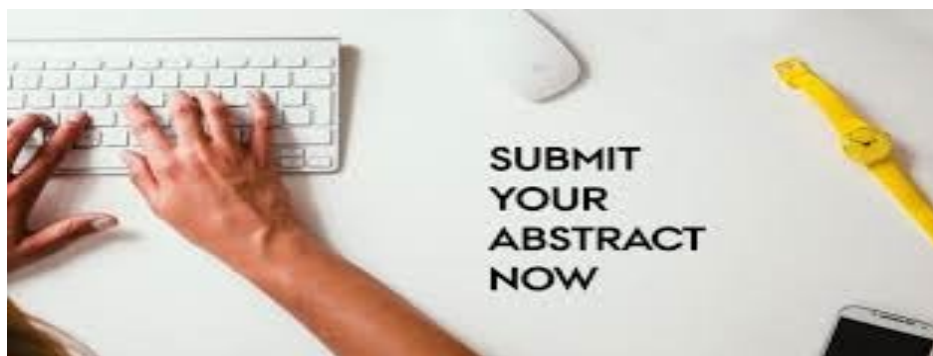
**Christian Vaillancourt**. (September 2023) Prehospital Use of the Canadian C-Spine Rule by Paramedics. Ottawa SPOR Support Unit, Implementation Science Panel, Ottawa, ON.

**Charlene Vacon**. (May 2023) “Paramedic of the Future as Skilled Clinical Communicator: Social Construction of Risk Communication in Emergency Paramedicine”. The County of Renfrew Paramedic Service Research Symposium, Renfrew, ON.

**Christian Vaillancourt**. (April 2023) Improving Survival for Prehospital and In-Hospital Cardiac Arrest. Ottawa Student Emergency Medicine Conference, Ottawa, ON.

**Christian Vaillancourt**. (April 2023) Implementation of the Modified Canadian C-Spine Rule by Paramedics. Florida EMS Webinar, Florida USA.

## PUBLISHED ABSTRACTS



## RPPEO ABSTRACTS

N/A

## OTHER ABSTRACTS

Cournoyer C, de Champlain F, Drennan I, Grunau B, Cheskes S, Vaillancourt C, Blanchard I, Armour R, Ghamarian E, Segal E, de Montigny L, Mohindra R, Lin S, Brooks S, Leduc S, Davis M, Choisi T, Paquet J, Garceau-Tremblay Z, Piscopo S.-P, Daoust R. **Impact of the COVID-19 pandemic on cardiopulmonary resuscitation quality for Out-of-Hospital Cardiac Arrest.** *Academic Emergency Medicine (AME)*. May 2023.

Visanji M, Allan K.S, Lin S, Vaillancourt C, Charette M, Cameron-Dermann L, Donoghue M, Grunau B, Nowroozpoor A, Haines M, Hutton J, Roy C, Olszynski P, Brissaw J, Quinn R, Dorian P. **Sport related sudden cardiac arrest in Canada: incidence and survival.** *Heart Rhythm*. May 2023: 20(5);S115.

Vaillancourt C, Charette M, Sabri E, Verbeek R, Hall E, McLeod B, Leduc S, Dionne R, Plint A, Macarthur C, Prpic J, Cheskes S, Saskin R, Fergusson D, Stiell I.G, Taljaard M. **Impact of a spinal motion restriction protocol that empowers paramedics to assess low-risk trauma patients and transport them without backboard immobilization on patient-determined outcomes.** *CJEM*. May 2023:25(Supp);S25.

Vaillancourt C, Charette M, Sabri E, McLeod B, Leduc S, Dionne R, Dahrouge S, Macarthur C, Cheskes S, Fergusson D, Taljaard M, Thavorn K. **Economic evaluation of a strategy that empowers paramedics to assess low-risk trauma patients using the Canadian c-spine rule and selectively transport patients without immobilization.** *CJEM*. May 2023:25(Supp);S20.

Guo K, Austin M, de Mendonca B, Cantor Z, Wall M, Cox C, Ferguson J, Vaillancourt C. **Evaluating the impact of a specialized and centralized online medical consultation system for paramedics.** *CJEM* May 2023:25(Supp);S19.

Cournoyer C, de Champlain F, Drennan I, Grunau B, Cheskes S, Vaillancourt C, Blanchard I, Armour R, Ghamarian E, Segal E, de Montigny L, Mohindra R, Lin S, Brooks S, Leduc S, Davis M, Choisi T, Paquet J., Garceau-Tremblay Z, Piscopo S.-P, Daoust R.: **Impact of the COVID-19 pandemic on cardiopulmonary resuscitation quality for out-of-hospital cardiac arrest.** *CJEM*. May 2023:25(Supp);83.

Khorsand S, (Med Student), Vaillancourt C, Charette, Lanos C, Dale-Tam J, Boyle L, Aucoin S, Hartwick M, Maniate, Meggison H, Tran A, Posner G. **Impact of the COVID-19 pandemic on in-hospital cardiac arrest care characteristics, CPR quality, and survival outcomes?** *CJEM*. May 2023:25(Supp);S13.

Bolster J, Batt A.M, Lysko M, Bank J, Cameron C, Poirier P; Cassista D, Austin M, Bowles R, Donelon B, Donnelly E, Dunn N, Johnston C.W, Lanos C, Lapierre R, Lunn T, Mason P, Osinga M, Steary D, Teed S, Vacon C and Tavares W. **Developing a competency framework for paramedics in Canada: The national occupational standard for paramedics.** *Canadian Paramedicine*. 2022;45(4).

Idris A, Aramendi E, Leroux B, Jaureguibeitia X, Yang B, Shaver S, Chang M, Rea T, Kudenchuk P, Christenson J, Vaillancourt C, Callaway C, Salcido D, Carson J, Blackwood J, Wang H. **Bag-valve-mask ventilation, and survival from out-of-hospital cardiac arrest: A multicenter study.** *Circulation*. Dec 2023.148(23):1847-1856.



## JOURNAL ARTICLES



### PUBLISHED RPPEO JOURNAL ARTICLES

Austin M. **Impact of alternative pathways from 911 calls on ED overcrowding.** *CJEM*. 2024;26(2):134-135. Published electronically October 2023.

Sinclair JE\*, Austin MA, Leduc S, Dionne R, Froats M, Marchand J, Vaillancourt C. **Patient and prehospital predictors of hospital admission for patients with and without histories of diabetes treated by paramedics for hypoglycemia: A health record review study.** *PEC*. 2023;27(7):955-966.

### OTHER PUBLISHED JOURNAL ARTICLES

McGahem C, Cantor Z, de Mendonca B, Dawson J, Boisvert L, Dalgleish D, Newhook D, Reddy D, Bresee N, Alnaji F. **Closing the loop: The value of outcome letters for prehospital pediatric care.** *Pediatr Emerg Care*. 2024;40(4):261-264.

Kareemi H, Hendin A, Vaillancourt C. **Just the Facts: Management of return of spontaneous circulation in out-of-hospital cardiac arrest.** *CJEM*. 2023;25:580-583.

Aarmour R, Ghamarian E, Helmer J, Buick JE, Thorpe K, Austin M, Bacon J, Boulet M, Cournoyer A, Dionne R, Goudie M, Welsford M, Grunau B. **Impact of the COVID-19 pandemic on Canadian emergency medical system management of out-of-hospital cardiac arrest: A retrospective cohort study.** *Resuscitation*. 2024;194:110054.

Batt AM, Bolster J, Poirier P, Cassista D, Bank J, Austin M, Bowles R, Cameron C, Donnelly E, Donelon B, Dunn N, Johnston W, Lanos C, Lapierre R, Lunn T, Lysko M, Mason P, Osinga M, Stearly D, Teed S, Vacon C and Tavares, W. **Developing the national competency framework for paramedics in Canada: update 6.** *Canadian Paramedicine*. 2024;47(1):6-8.

Leduc S, Wells G, Thiruganasambandamoorthy V, Cantor Z, Kelly P, Rietschlin M, Vaillancourt C. **The hospital care and outcomes of long-term care patients treated by paramedics during and emergency call: exploring the potential impact of “treat and refer” pathways and community paramedicine.** *CJEM*. 2023;25(11):873-883.

\* denotes RPPEO paramedic/allied health care or affiliate as provider primary author



Testa V, Bennett A, Jutai J, Cantor Z, Burke P, McMahon J, Carleton R.N, Colman I, Fikretoglu D, Heber A, Leduc S, Heisel M.J, Thavorn K, Corsi D.J, & Hatcher S. **Applying the theoretical domains framework to identify police, fire, and paramedic preferences for accessing mental health care in a first responder operational stress injury clinic: A qualitative study.** *HPCDP*. 2023;43(10-11):431-449.

Leduc S, Wells G.A, Thiruganasambandamoorthy V, Cantor Z, Kelly P, Rietschlin M, Vaillancourt C. **The hospital care and outcomes of long-term care patients treated by paramedics during an emergency call: Exploring the potential impact of ‘treat and refer’ pathways and community paramedicine.** *CJEM*. 2023;25(11):873-883.

Idris A.H, Ecenarro E.A, Leroux B, Jaureguibeitia X, Yang B, Shaver S, Chang M. P, Rea T, Kudenchuk P, Christenson J, Vaillancourt C, Callaway C, Salcido D, Carson J, Blackwood J, Wang H. E et al. **Bag-valve-mask ventilation and survival from out-of-hospital cardiac arrest: A multicenter study.** *Published electronically, Circulation*. 2023;148:1–10.

Idris A, Aramendi E, Leroux B, Jaureguibeitia X, Yang B, Shaver S, Chang M, Rea T, Kudenchuk P, Christenson J, Vaillancourt C, Callaway C, Salcido D, Carson J, Blackwood J, Wang H. **Bag-valve-mask ventilation and survival from out-of-hospital cardiac arrest: A multicenter study.** *Circulation*. November 2023;148:1847-1856.

Berg K.M, Bray J.E, Ng K.C, Liley H.G, Greif R, Carlson J.N, Morley P.T, Drennan I.R, Vaillancourt C, et al. **2023 International consensus on cardiopulmonary resuscitation and emergency cardiovascular care science with treatment recommendations: Summary from the basic life support; Advanced life support; pediatric life support; neonatal life support; education, implementation, and teams; and first aid task forces.** *Published Electronically, Circulation*. 2023;148 (24):e178-e280.

Berg K.M, Bray J.E, Ng KC, Liley H.G, Greif R, Carlson J.N, Morley P.T, Drennan I.R, Vaillancourt C, et al. **2023 international consensus on cardiopulmonary resuscitation and emergency cardiovascular care science with treatment recommendations: Summary from the basic life support; Advanced life support; pediatric life support; neonatal life support; education, implementation, and teams; and first aid task forces.** *Published Electronically, Resuscitation*.

Idris. A.H, Ecenarro E.A, Leroux B, J Xabier, Yang B.Y, Shaver S, Chang M.P, Rea T, Kudenchuk P, Christenson J, Vaillancourt C, Callaway C, Salcido D, Carson J, Blackwood J, Wang H.W. **Bag-valve-mask ventilation, and survival from out-of-cardiac arrest: a multicenter study.** *Circulation*. 2023;148(23):1847-1856.

Batt AM, Bolster J, Poirier P, Bank J, Austin M, Cameron C, Donnelly E, Donelon B, Dunn N, Essington T, Johnston W, Lanos C, Lapierre R, Lunn T, Lysko M, Mason P, Osinga M, Steary D, Teed S, and Tavares W. **Developing the national occupational standard for paramedics in Canada: update 5.** *Canadian Paramedicine*. 2023;46(5):6-8.

Batt AM, Bolster J, Poirier P, Cassista, D Bank, J, Austin M, Bowles R, Cameron C, Donnelly E, Donelon B, Dunn N, Johnston W, Lanos C, Lapierre R, Lunn T, Lysko M, Mason P, Osinga M, Steary D, Teed S, Vacon C and Tavares W. **Developing the national competency framework for paramedics in Canada: update 6.** *Canadian Paramedicine*. 2024;47(1):6-8.

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Batt, AM, Bolster J, Poirier P, Bank J, Austin M, Cameron C, Donnelly E, Donelon B, Dunn N, Essington T, Hackett S, Johnston W, Lanos C, Lapierre R, Lunn T, Lysko M, Mason P, Osinga, M; Steary D, Teed S, and Tavares W. **Developing the national occupational standard for paramedics in Canada: update 4.** *Canadian Paramedicine*. 2023;46(2):18-20.

## SUBMITTED RPPEO JOURNAL ARTICLES

Austin M, de Mendonca B, MacCleod J, Satenstein A, Slatter M, Sinclair J. **Occupational exposure to methoxyflurane (Pentrox) administered by Paramedics: an observational study.** *Paramedicine*.

Austin M. "Empowering Paramedics: Respecting patient choices and upholding ethical practice in emergency resuscitation" has been successfully submitted online and is presently being given full consideration for publication in *Paramedicine*.

## AWARDS ACHIEVED

**Choosing Wisely Canada Abstract Award  
Canadian Association of Emergency Physicians (CAEP 2023)  
research competition:**

Dr. Christian Vaillancourt Economic evaluation of a strategy empowering paramedics to assess low-risk trauma patients using the Canadian c-spine rule and selectively transport patients without immobilization.

**Panel of international experts' Public Service & Activism  
Award:**

Dr. Christian Vaillancourt Heart and Stroke's CardiacCrash CPR Training Video.

**Top CAEP Resident Research Abstract Award:**

Dr. Kevin Guo, Dr. Michael Austin, Dr. Christian Vaillancourt, Ben de Mendonca, Zachary Cantor, Megan Wall, Catherine Cox, Joe Ferguson. Evaluating the impact of a specialized and centralized online medical consultation system for paramedics.

**The Paramedic Association of Canada (PAC) Award:**

Zachary Cantor recognized with its 2023 Award of Excellence for Education and Training.

**RPPEO Service Award:**

RPPEO received a Service Award for participation in the Paramedics Providing Palliative Care Project.

**"Best of the best' Highest Quality Research Award: Contributions from The Regional Paramedic Program for Eastern Ontario:**

Batt et al. received through the Australasian College of Paramedicine International conference for Developing a competency framework for contemporary practice in Canada.



## RPPEO CLINICAL OHRI INVESTIGATORS

### **Michael Austin, MD, FRCPC, DRCPSC (PTM)**

Emergency Physician

Director, Prehospital and Transport Medicine & AFC Fellowship Program, The Ottawa Hospital

Clinician Investigator, Ottawa Hospital Research Institute

Associate Professor, University of Ottawa

Interim Medical Director, Regional Paramedic Program for Eastern Ontario

### **Christian Vaillancourt, MD, MSc, FRCPC, CSPQ**

Full Professor, Department of Emergency Medicine Cross-Appointed, School of Epidemiology and Public Health

Senior Scientist, Ottawa Hospital Research Institute

Research Chair, Emergency Cardiac Resuscitation, Emergency Medicine, University of Ottawa

Associate Medical Director, Regional Paramedic Program for Eastern Ontario

### **Mark Froats MD, FRCPC**

Emergency Physician, Quinte Health Care

Assistant Professor (Adjunct), Department of Emergency Medicine, Queen's University, Kingston, ON

Associate Medical Director, Regional Paramedic Program for Eastern Ontario