



# 2019 Annual Report

*Emergency Medicine  
Research Group*





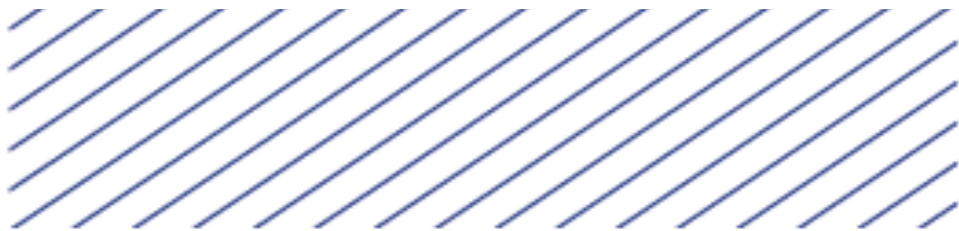
# Emergency Medicine Research Group (EMeRG)

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## Message from EMeRG Director

*Dr. Brian H. Rowe*

This year has brought many changes to the EMeRG group. During a busy year, we said goodbye to our long-time and valued Research Associate, Dr. Cristina Villa-Roel. Cristina is pursuing new opportunities in Regina, Saskatchewan. Her dedication to the group and to the EMeRG staff continue to influence our work and we look forward to future collaborations with her as an Adjunct Assistant Professor in the Department of Emergency Medicine at the University of Alberta.

Following Dr. Villa-Roel's departure, the EMeRG also welcomed two new research associates: Drs. Daniela Junqueira (Methodology) and Babak Bohlouli (Biostatistics). "Dani" is a PhD epidemiologist from Brazil who started as a post-doctoral fellow until she obtained her Canadian permanent residency. She is a Co-Convenor of the Adverse Events Methods Group in the Cochrane Collaboration and will be assisting with our capacity development and systematic review activities. Babak is a clinician with Emergency Medicine experience in Iran who obtained his PhD from the University of Alberta's Department of Medicine. He has previously worked for Alberta Health Services (AHS) and will lead our administrative database work in collaboration with AHS.





The experience they both bring to the team will help to expand our research capacity, continue our excellence in methods, and provide opportunities to diversify our research interests in the coming years.

This year, our team welcomed several undergraduate and medical students to the 2018 summer program. The students worked hard and were very productive. In early 2018, Miriam Garrido Clua joined our research team as a research coordinator. She is originally from Barcelona, Spain and brings experience with multi-centered international surgical trials to the team. Nazia Shaikh also joined our clinical research team as a research nurse helping with patient enrollments and follow-up. Finally, in the fall, Dr. John Gouda joined the team, following his graduation from the National University of Ireland Medical School.

As we look to our projects for the next year, our commitment to high quality emergency medicine research to improve care and care experiences in the emergency department remains at the forefront of our vision. We're excited for a productive year ahead.

Sincerely,



**Brian H. Rowe** MD, MSc, CCFP(EM), FCCF, FCAHS



# EMeRG Research Staff



**Babak Bohlouli**  
*Biostatistician*  
*MD, PhD*



**Brian H. Rowe**  
*Director*  
*MD, MSc,*  
*CCFP(EM), FCCF,*  
*FCAHS*



**Daniela Junqueira**  
*Research Associate*  
*Pharm.D, MSc,*  
*PhD*



**John Gouda**  
*Research*  
*Assistant*  
*MB BCH BAO*



**Lindsay Gaudet**  
*Research*  
*Coordinator*  
*MSc*



**Lynette Krebs**  
*Research*  
*Coordinator*  
*BSW, MPP, MSc*



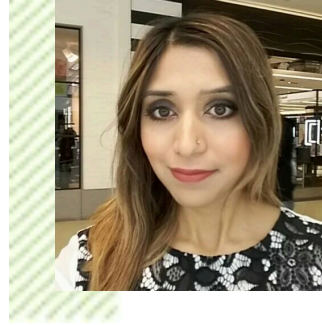
**Maureen Kruhlak**  
*Research  
Assistant  
BSc*



**Miriam Garrido**  
*Research  
Coordinator  
MSc*



**Natalie Runham**  
*Lead Clinical  
Research  
Coordinator  
BScN, RN, CRE*



**Nazia Shaikh**  
*Clinical Research  
Assistant  
BScN, RN*



**Nicole Hill**  
*Research  
Assistant  
MA, PhD(c)*



**Scott Kirkland**  
*Research  
Coordinator  
MSc*



**Sonia La Giorgia**  
*Research  
Administrative  
Assistant  
BSc*



**Stephanie  
Couperthwaite**  
*Data  
Management  
Coordinator  
BSc*

# 7

## EMeRG summer students



**Ammar Ghalab**  
*BSc, MD(c)*



**Derrick Ushko**  
*BEng(c)*



**Gurpreet Sandhar**  
*BSc(c)*



**Hannah Ruske**  
*BScN(c)*



**Jillian Meyer**  
*BSc(c)*



**Nicole Loewen**  
*BSc(c)*

2018 student not photographed: Lloyd Visser, BSc, MD(c)





# 2018 by the numbers

**7**

Grants held  
by EMeRG

**23**

Manuscripts  
published

**9**

Invited  
presentations

**16**

Abstracts  
published

**4**

E-published  
ahead of print  
manuscripts













# Manuscripts



## **PUBLISHED IN 2018 (23):**

1. Clark S, Boggs KM, Balekian DS, Hasegawa K, Vo P, Rowe BH, Camargo CA for the MARC-38 Investigators. Changes in emergency department concordance with guidelines for the management of stinging insect-induced anaphylaxis: 1999-2001 vs 2013-2015. *Ann Allergy Asthma Immunol.* 2018 Jan;120:419-423. doi: 10.1016/j.anai.2018.01.029.
2. Desai S, Liu C, Kirkland SW, Krebs LD, Keto-Lambert D, Rowe BH. Effectiveness of implementing evidence-based interventions to reduce C-spine image ordering in the emergency department: A systematic review. *Acad Emerg Med.* 2018 Jun;25(6):672-683. doi: 10.1111/acem.13364.
3. Liu C, Desai S, Krebs LD, Kirkland SW, Keto-Lambert D, Rowe BH. Effectiveness of interventions to decrease image ordering for low back pain presentations in the emergency department: A systematic review. *Acad Emerg Med.* 2018 Jun;25(6):614-626. doi: 10.1111/acem.13376
4. Gonçalves-Bradley D, Khangura JK, Flodgren G, Perera R, Rowe BH, Shepperd S. Primary care professionals providing non-urgent care in hospital emergency departments. *Cochrane Database Syst Rev.* 2018;2:CD002097. doi: 10.1002/14651858.
5. Knightly R , Milan SJ, Hughes R, Knopp-Sihota JA, Rowe BH, Normansell R, Powell C. Inhaled magnesium sulfate in the treatment of acute asthma. *Cochrane Database of Systematic Reviews.* 2018 Feb 15. pii: S1526-0542(18)30003-4.
6. Arrotta N, Hill J, Villa-Roel C, Dennett E, Harries M, Rowe BH. Factors associated with hospital admission in adult patients with asthma exacerbations: A systematic review. *J Asthma.* 2018. doi:10.1080/02770903.2018.1424189
7. Ospina MB, Michas M, Duecher L, et al. Development of a patient centered, evidence-based and consensus-based discharge care bundle for patients with acute exacerbation of chronic obstructive pulmonary disease. *BMJ Open Resp Res.* 2018;5(1):e000265. doi:10.1136/bmjresp-2017-000265.
8. Normansell R, Knightly R, Milan SJ, Knopp-Sihota JA, Rowe BH, Powell C. Inhaled magnesium sulfate in the treatment of acute asthma in children. *Paediatr Respir Rev.* 2018;26:31-33. doi: 10.1016/j.prrv.2018.01.001.

9. Cook OG, Mukarram MA, Kim S-M, Arcot K, Nemnom M-J, Taljaard M, Sivilotti MLA, Rowe BH, Thiruganasambandamoorthy V. Application of outpatient cardiac testing among emergency department patients with syncope. *Emerg Med J*. 2018;35:486–491.
10. Moe J, Camargo CA Jr, Jelinski S, Erdelyi S, Brubacher J, Rowe BH. Epidemiologic trends in substance and opioid misuse-related emergency department visits in Alberta: A cross-sectional time-series analysis. *Can J Public Health*. 2018;109:164-173. doi 10.17269/s41997-018-0053-6.
11. Szyszkowicz M, Thomson EM, Colman I, Rowe BH. Ambient air pollution exposure and emergency department visits for substance abuse. *PLoS ONE*. 2018;13(6):e0199826. doi:10.1371/journal.pone.0199826.
12. Rosychuk RJ, Ospina M, Zhang J, Leigh R, Cave A, Rowe BH. Sex differences in outcomes after discharge from Alberta emergency departments for asthma: A large population-based study. *J Asthma*. 2018;55(8):817-825. doi: 10.1080/02770903.2017.1373805.
13. Villa-Roel C, Borgundvaag B, Majumdar SR, et al. Reasons and outcomes for patients receiving ICS/LABA agents prior to, and one month after, emergency department presentations for acute asthma. *J Asthma*. 2018. doi: 10.1080/02770903.2018.1508472.
14. Cummings GG, McLane P, Tate K, et al. Fractured Care: A window into emergency transitions in care for LTC residents with complex health needs. *J Aging and Health*. 2018:1-30. doi: 10.1177/0898264318808908.
15. Rowe BH, Eliyahu L, Lowes J, Gaudet LA, Beach J, Mrazik M, Cummings G, Voaklander D. Concussion diagnoses among adults presenting to three Canadian emergency departments: Missed opportunities. *Amer J Emerg Med*. 2018;36:2144-2151.
16. Majumdar SR, McAlister FA, Johnson JA, Rowe BH, Bellerose D, Hassan I, Lier DA, Li S, Maksymowych WP, Menon M, Russell AS, Wirzba B, Beaupre LA. Comparing strategies targeting osteoporosis to prevent fractures after an upper extremity fracture (C-STOP Trial): A randomized controlled trial. *J Bone Min Res*. 2018;33(12):2114-2121. doi: 10.1002/jbmr.3557.
17. Stiell IG, Perry JJ, Clement CM, et al. Clinical validation of a risk scale for serious outcomes among patients with chronic obstructive pulmonary disease managed in the emergency department. *CMAJ*. 2018;190(48):E1406-13. **(With Editorial:** Flegel K, Stanbrook MB. *CMAJ*. 2018; 190(48):E1402-3).



18. Kirkland SW, Cross E, Campbell S, Villa-Roel C, Rowe BH. Intramuscular versus oral corticosteroids to reduce relapses following discharge from the emergency department for acute asthma. *Cochrane Database Syst Rev.* 2018 Jun;6:CD012629. doi: 10.1002/14651858.CD012629.pub2. Review.
19. Rowe BH, Eliyahu L, Lowes J, Gaudet L, Beach J, Mrazik M, Cummings G, Voaklander D. A prospective evaluation of the influence of electronic clinical practice guidelines on concussion patients' future activities and outcomes. *J Emerg Med* 2018;54(6):774-787.
20. Toarta C, Mukarram M, Arcot K, Kim S-M, Gaudet S, Sivilotti, MLA, Rowe BH, Thiruganasambandamoorthy V. Syncope prognosis based on emergency department diagnosis: A prospective cohort study. *Acad Emerg Med.* 2018;25:388-396.
21. Brandao GMS, Cândido RCF, Rollo HA, Sobreira ML, Junqueira DR (2018). Direct oral anticoagulants for the treatment of deep venous thrombosis: review of systematic reviews [Anticoagulantes orais diretos para o tratamento da trombose venosa profunda: revisão de revisões sistemáticas]. *Jornal Vascular Brasileiro*, 17(4), 310–317.
22. Villa-Roel C, Ospina M, Majumdar SR, Couperthwaite S, Rawe E, Nickel T, Rowe BH. Engaging patients and primary care providers in the design of novel opinion leader based interventions for acute asthma in the emergency department: A mixed methods study. *BMC Health Serv Res.* 2018;18:789.
23. Tamblyn R, Meyers D, Kratzmann M, et al. Shared vision for primary care delivery and research in Canada and the United States: Highlights from the cross-border symposium. *Can Fam Phys.* 2018;64:930-934.

#### **MANUSCRIPTS E-PUBLISHED AHEAD OF PRINT (4):**

1. Kirkland SW, Soleimani A, Rowe BH, Newton AS. A systematic review examining the impact of redirecting low-acuity patients seeking emergency department care: is the juice worth the squeeze? *Emerg Med J.* 2018 Dec 3. pii: emermed-2017-207045. doi: 10.1136/emered-2017-207045. [Epub ahead of print]
2. Kirkland SW, Vandermeer B, Campbell S, Villa-Roel C, Newton A, Ducharme FM, Rowe BH. Evaluating the effectiveness of systemic corticosteroids to mitigate relapse in children assessed and treated for acute asthma: A network meta-analysis. *J Asthma.* 2018 Jun 22:1-12. doi: 10.1080/02770903.2018.1467444. [Epub ahead of print]

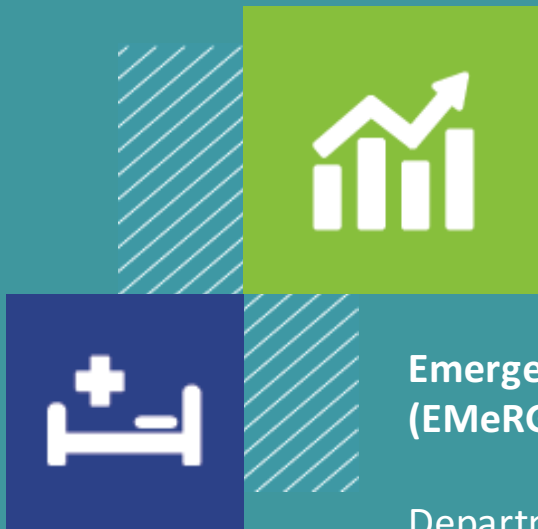


3. Cummings GG, McLane P, Reid RC, Tate K, Cooper S, Rowe BH, Estabrooks CA, Cummings GE, Abel S, Lee J, Robinson C, Wagg A. Fractured Care: A window into emergency transitions in care for long term care residents with complex health needs. *J Aging Health*. 2018 Nov 15:1-30. doi: 10.1177/0898264318808908 [Epub ahead of print]
4. McAlister FA, Ye C, Beupre LA, Rowe BH, Johnson JA, Bellerose D, Hassan I, Majumdar SR. Adherence to osteoporosis therapy after an upper extremity fracture: A pre-specified substudy of the C-STOP randomized controlled trial. *Osteoporos Int*. 2018 Sept 19. doi: 10.1007/s00198-018-4702-7. [Epub ahead of print]

### MANUSCRIPTS IN PRESS (6):

1. Hartling L, Winegart E, Rowe BH, et al. Safety of short-term corticosteroid use in young children with respiratory conditions: A systematic review and meta-analysis. *J Pediatrics*. 2019 (**In press**).
2. Thiruganasambandamoorthy V, Rowe BH, Sivilotti MLA, McRae AD, Arcot K, Nemnom M-J, et al. Duration of electrocardiographic monitoring of emergency department patients with syncope. *Circulation*. 2019 (**In press**).
3. Scheuermeyer FX, Andolfatto G, Christenson J, Villa-Roel C, Rowe BH. A multicenter randomized trial to evaluate a chemical-first or electrical-first cardioversion strategy for patients with uncomplicated acute atrial fibrillation. *Acad Emerg Med*. 2019 (**In press**).
4. Tsuyuki RT, Lockwood EE, Shibata MC, Simpson SH, Olson KL, Gutierre R, Reddy MC, Rowe BH, Villa-Roel C, Fradette M. Effect of video-based education in patients with heart failure: the Congestive Heart Failure Outreach Program of Education (COPE) Study. *CJC Open*. 2019 (**In press**).
5. Pitt TM, Aucoin J, Graff P, Nettel-Aguirre A, McCormack GR, Howard AW, Rowe BH, Hagel BE. Adaptation of a Canadian culpability scoring tool to Alberta police traffic collision report data. *Traffic Inj Prev*. 2019 (**In press**).
6. Wozniak LA, Rowe BH, Ingstrup M, Johnson JA, McAlister FA, Bellerose D, Beupre LA\* and Majumdar SR\* (shared senior authors\*). Patients' experiences of nurse case-managed osteoporosis care: A qualitative study. *Journal of Patient Experience*. 2019 (JPX-18-0137; **in press**).





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