

HANNAH WUNSCH, MD MSc
Curriculum Vitae

OFFICE ADDRESS:

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PERSONAL INFORMATION

Hannah Wunsch
Birthplace: Boston, MA, USA
Citizenship: USA
Status in Canada: Permanent Resident

SPECIALTY BOARD QUALIFICATIONS & MEDICAL LICENSES

2014	Medical License, College of Physicians & Surgeons of Ontario
2008	Critical Care Medicine
2008	Anesthesiology
2004	New York State Medical License #233969

EDUCATION

2007-08	Fellowship, Critical Care Medicine, Columbia University Medical Center
2004-07	Residency, Anesthesiology, Columbia University Medical Center
2003-04	Internship, Internal Medicine, Columbia University Medical Center

2003	M.D.	Medicine	Washington University School of Medicine, St Louis, MO
2002	M.Sc.	Epidemiology	London School of Hygiene & Tropical Medicine, London
1997	B.A. (Magna)	Biology	Harvard University, Cambridge, MA
1993-94			Williams College, Williamstown, MA

EMPLOYMENT HISTORY

2019-	Professor [status], Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada
2018-	Professor, Department of Anesthesia, University of Toronto, Toronto, Ontario, Canada
2018-	Medical Director, Cardiovascular ICU, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

- 2016- **Scientist [adjunct], Institute for Clinical Evaluative Sciences**, Toronto, Ontario, Canada
- 2016-19 **Associate Professor [status], Institute of Health Policy, Management and Evaluation**, University of Toronto, Toronto, Ontario, Canada
- 2014- **Staff Physician**, Department of Critical Care Medicine, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada
- 2014- **Senior Scientist**, Evaluative Clinical Sciences, Trauma, Emergency & Critical Care Research Program, Sunnybrook Research Institute, Toronto, Ontario, Canada
- 2014- **Visiting Assistant Professor of Anesthesiology**, Department of Anesthesiology, Columbia University, New York, NY
- 2014-18 **Associate Professor, Department of Anesthesia**, University of Toronto, Toronto, Ontario, Canada
- 2011-14 **Herbert Irving Assistant Professor of Epidemiology & Anesthesiology [Tenure Track]**, Columbia University, New York, NY
- 2010-14 **Assistant Professor of Epidemiology [Tenure Track]**, Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY
- 2009-11 **Assistant Professor of Anesthesiology [Tenure Track]**, Division of Critical Care Medicine Department of Anesthesiology, Columbia University, New York, NY
- 2008-09 **Instructor of Anesthesiology**, Division of Critical Care Medicine Department of Anesthesiology, Columbia University, New York, NY
- 2002 **Research Fellow**, Intensive Care National Audit & Research Center
- 1999 **Nature Summer Science Writing Intern**, London, UK
- 1997-2000 **Freelance Medical Writer** (weekly contributor to *The Lancet*)
- 1997 **Teaching Fellow**, Molecular Biology, Supervisor: Professor Richard Losick, Department of Biology, Harvard University
- 1995-1997 **Laboratory Research Assistant**, Supervisor: Dr. Simon Powell, Department of Radiation Oncology, Massachusetts General Hospital, Harvard Medical School

RECOGNITIONS & AWARDS

- 2020-2024 **Canada Research Chair (CRC) Tier 2**, Critical Care Organization and Outcomes
- 2018 **Mid-Career Investigator Award**, Critical Care Section, American Thoracic Society
- 2018-20 **Anesthesia Excellence in Research Award [Merit Award]** Department of Anesthesia, University of Toronto [\$120,000]
- 2017 **Anesthesia Merit Award [interim competition]**, Department of Anesthesia, University of Toronto [\$20,000]
Peer reviewed competition for research support from the University Department
- 2016 **Presidential Scholars Award**
American Society of Anesthesiology, for dedication to research in anesthesiology
- 2014 **Presidential Citation**
Society of Critical Care Medicine, for contribution to the society
- 2012 **Presidential Citation**
Society of Critical Care Medicine, for contribution to the society
- 2010 **Best Clinical Science Paper**
Department of Anesthesiology, Columbia University, New York, NY
- 2009 **Annual Scientific Award [abstract]**
Society of Critical Care Medicine, Nashville, TN
- 2008 **Best Scientific Poster [clinical research]**
Critical Care Canada Forum, Toronto, ON
- 2007 **First Prize [clinical research], Academic Evening**
Department of Anesthesiology, Columbia University

- 2006 **Third Prize, Resident Research Competition**
New York State Society of Anesthesiology, Post-Graduate Assembly
- 2006 **Third Prize, Resident Research Competition**
American Society of Anesthesiologists
- 2006 **Young Investigator Award**
American Society of Critical Care Anesthesiology
- 2005 **First Prize, Academic Evening**
Department of Anesthesiology, Columbia University
- 2003-08 **Virginia Apgar Scholar**
Columbia University, salary support during residency for commitment to a research career
- 2002 **Alpha Omega Alpha**
Washington University School of Medicine
- 2000 **American College of Physicians-American Society of Internal Medicine Clerkship Award**
Washington University School of Medicine
- 1999 **Antoinette Frances Dames Award in Cell Biology**
Washington University School of Medicine
- 1998 **Distinguished Alumni Scholarship**
Washington University School of Medicine, merit scholarship for four years of medical school
- 1997 **Highest Honors in Biology**
Harvard University
- 1997 **Summa Cum Laude undergraduate thesis in Biology**
Harvard University

RESEARCH FUNDING

Grants (current)

- 2020-2024 **NIH/NHLBI R01 HL151606**. Role: Advisor [PIs: Allan J. Walkey and Vincent Liu]. US\$2.6million. "Evaluating Routine Opioid Use During Acute Respiratory Failure."
- 2020-2021 **CIHR**. COVID-19 May 2020 Rapid Research Funding Opportunity: Canadian COVID-19 Prospective Cohort Study (CANCOV). Role: Co-Investigator [PIs: Angela Cheung, Margaret Herridge]. \$2,112,500. "Canadian COVID-19 Prospective Cohort Study (CANCOV)."
- 2020-2021 **University of Toronto**. Toronto COVID-19 Action Initiative. Role: Co-Investigator [PIs: Angela Cheung, Margaret Herridge]. \$500,000. "Canadian COVID-19 Prospective Cohort Study (CANCOV)."
- 2020-2024 **CIHR**. Team Grant: Sepsis Research Network. Role: Co-Investigator [PI: Alison Fox-Robichaud]. \$5million. "Canadian Sepsis Research Network: Improving Care Before, During and After Sepsis."
- 2020-2022 **Sunnybrook Alternative Funding Plan (AFP) Innovation Fund**. Role: PI. \$100,000. "Maximal Vasopressor Dosing in Shock."
- 2019-2023 **CIHR**. Project Grant. Role: Co-Investigator. [PI: Margaret Herridge]. \$932,280. "RECOVER Program: A care continuum after critical illness."
- 2018-2020 **European Society of Anesthesia**. Role: Co-Investigator. [PI: Ib Jammer]. Euros 30,000. "Vasopressor therapy following surgery: an international observational study (Squeeze)."

- 2018-2020 **CIHR**. Project Grant. Role: Principal Investigator [Co-PI: Lisa Burry]. \$130,051. "Sedatives newly prescribed following intensive care unit admission among sedative-naïve elderly patients: Understanding the risk of falls and determining targets for deprescribing (SNOW-FALL)"
- 2017-2021 **NIH/NIDA R01** DA042299. Role: Principal Investigator [Co-PI: Mark Neuman] US\$2.1 million. "Acute Pain Management and Long-term Opioid Use after Surgery."
- 2017-2022 **NIH/NHLBI R01** HL137816. Role: Co-Investigator [PI: Colin Cooke]. US\$3.5 million. "Strategies to Enhance Pneumonia Care via Intermediate Intensive Care (STEP IN)."
- 2017-2021 **NIH/NHLBI R01** HL 136719. Role: Advisory Board [PI: Scott Halpern]. US\$3.2 million "Benefits of ICU admission for patients with acute respiratory failure or sepsis: A mixed-methods study across 26 hospitals."
- 2015-2020 **NIH/NIA**. K08 [Beeson Award]. Role: Co-Investigator. [PI: May Hua] \$862,510. "Determinants of Critical Care Intensity for Hospitalized Older Adults: the Effect of Hospital-based Palliative Care Services"

Grants (completed)

- 2016-2018 **CIHR**. Project Grant. Role: Principal Investigator. \$183,480 "Opioid use after critical illness."
- 2016-2017 **CIHR**. Project Grant. Role: Co-Investigator (PI: Barbara Haas). \$92,500. "The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients"
- 2015-17 **Heart & Stroke**. Operating Grant. Role: Co-Investigator (PI: Allan Garland). \$245,000. - "Changes in Work and Earnings After Heart Attack, Stroke and Cardiac Arrest"
- 2014-17 **CIHR**. Operating Grant. Role: Principal Investigator. \$189,225. "Identifying Risk Factors for and Outcomes following Rehospitalizations for Elderly Critically Ill Patients"
- 2014-15 **PhRMA Foundation**. Role: Co-Investigator (PI: Hayley Gershengorn). \$100,000. "Identification of the Optimal Antibiotic Regimen for Legionella Pneumonia".
- 2010-15 **NIH/NIA 1 K08** AG038477-04. Role: Principal Investigator. \$628,425. "Use of intensive care for elderly patients undergoing high-risk surgical procedures".
- 2013-15 **University of Toronto Integrating Challenge Grant**. Role: Co-Investigator (PI: Robert Fowler) \$187,900. "Shining a Light on End-of-Life Care in Canada: Investigating Barriers, Testing Interventions, and Disseminating Integrated Solutions for Patients, Families and Healthcare Professionals".
- 2011-14 **Irving Scholars Program, Columbia University**. Role: Principal Investigator. \$180,000. "Association between treatment intensity at the end of life and outcomes for intensive care patients".
- 2012-13 **CIHR**. Role: Co-Investigator (PI: Robert Fowler). \$99,208. "A National Comparison of Intensity of End-of-Life Care in Canada: Defining Changing Patterns, Risk Factors and Targets for Intervention."
- 2011-13 **NIH/NIDA 1 R21** DA029670. Role: Co-Investigator (PI: Guohua Li). \$418,356. "Effectiveness of mandatory prescription drug monitoring".
- 2010-11 **KL2** (Columbia University). Role: Principal Investigator. \$125,000. Evaluation of the use of head CTs in critically ill patients [terminated 30 Sept 2010 with start of K08]
- 2008-09 **Foundation for Anesthesia Education and Research (FAER) Research Fellowship Grant**. Role: Principal Investigator. \$50,000. Cohort study examining long-term (3 year) mortality for intensive care patients in the United States.

ACTIVITIES - EXTERNAL

2019-20 **CIHR Project Grant Review Panel** (Health Services Research Section)
2018-20 **Committee Member**, Nominating Committee, American Thoracic Society
2018-20 **Committee Member**, Research Committee, Society of Critical Care Anesthesiologists
2018-19 **Co-Chair**, AUA Clinical Trials Initiative, Association of University Anesthesiologists
2018-19 **Committee Member**, Research Section, American Society of Anesthesiology
2018-19 **Committee Member**, Grant Review Panel, Foundation for Anesthesia Education and Research (FAER)
2017 **CIHR Project Grants Review Panel**, Phase 1 and 2
2017-19 **Committee Member**, Discovery Committee, Society of Critical Care Medicine
2017-19 **Chair**, Critical Care Planning Committee, American Thoracic Society
2015-16 **Committee Member**, THRIVE taskforce (Chair of sub-section on Research); Society of Critical Care Medicine
2015-16 **Program Planning Committee**, Behavioral Sciences Section, American Thoracic Society
2014-16 **Committee Member**, Planning Committee, Critical Care, American Thoracic Society
2015-16 **Chair**, Scientific Review Committee, Society of Critical Care Medicine
2014-15 **Committee Member**, Family Centered Care Guidelines Committee, Society of Critical Care Medicine
2014 **Committee Member**, CIHR Foundation Grant Reviews, Phase 1
2013, 2014, 2019 **FAER Grant Review Panel** (Health Services Research study section), Foundation for Anesthesia Education and Research
2013 **Committee Member** (SCCM Representative), Critical Care Medicine “Choosing Wisely” Taskforce, ABIM
2013 (June) **Member**, Urinary Catheter Appropriateness Panel, Veterans Affairs National Center for Patient Safety, Patient Safety Center of Inquiry, Ann Arbor, Michigan
2013-2017 **Taskforce Member**, ATS Clinical Practice Guidelines on Mechanical Ventilation in ARDS, American Thoracic Society
2012, 2016 **Official representative for Society of Critical Care Medicine**, FDA public panel on research on sedation
2011-13 **Scientific Review Committee Member**, Society of Critical Care Medicine
2010-14 **Committee Member**, Canadian Institute of Health Research, Grant Review Panel (Health Services Research section)
2010- **Research member**, InFACT global H1N1 collaboration
2010, 2011 **Committee Member**, Abstract Selection Committee, Critical Care Track, American Society of Anesthesiology
2010-14 **Program Planning Committee**, Critical Care Section, American Thoracic Society
2010-12 **Steering Committee Member**, Long-term outcomes Taskforce, Society of Critical Care Medicine
2009-14 **Steering Committee Member**, Critical Care Leadership Network, Greater New York Hospital Association

EDITORIAL RESPONSIBILITIES

2015-20 **Associate Editor** (Critical Care), *American Journal of Respiratory and Critical Care Medicine*
2015- **Associate Editorial Board**, *Anesthesiology*
2015- **Associate Editorial Board**, *Intensive Care Medicine*
2014 **Guest Editor**, *Current Opinion in Critical Care*, Section on ICU Ethics and Organization
2013- **Board of Reviewers**, *Intensive Care Medicine*

2013 **Guest Editor**, *Current Opinion in Critical Care*, Section on ICU Outcomes
2013-14 **Associate Editor**, *BMC Anesthesiology*, Section on Critical Care

ACTIVITIES - INTERNAL

2018- **Clinical Utilization Committee Member**, Sunnybrook Hospital
2018- **Co-Director, Acute and Intensive Care Outcomes Research Network (AICORN)**, Department of Critical Care Medicine, Sunnybrook Hospital
2016- **Coordinator, Visiting Professor Program**, Interdepartmental Division of Critical Care Medicine, University of Toronto
2016- **Associate Director of Research**, Interdepartmental Division of Critical Care Medicine, University of Toronto
2015-17 **Coordinator, Faculty Research in Progress Meeting**, Department of Critical Care Medicine, Sunnybrook Hospital
2013-14 **Faculty Representative**, Faculty Council of the Faculty of Medicine, Columbia University
2010-14 **Admissions Committee Member**, Master's Program, Department of Epidemiology, Columbia University
2010-14 **Admissions Committee Member**, Master's Program, Department of Epidemiology, Columbia University
2008-14 **Committee Member**, Residency Admissions Committee Department of Anesthesiology, Columbia University
2006-07 **Resident Representative**, Resident Education Committee Department of Anesthesiology, Columbia University

TEACHING AND EDUCATION

2017, 2018 **Preceptor**, Health Services Research Course, Institute of Health Policy, Management and Evaluation, University of Toronto
2010-14 **Co-Director**, Sub-Internship in Critical Care Medicine, 4th year medical student elective, College of Physicians and Surgeons, Columbia University
2012, 2013 **Faculty**, Methods in Epidemiologic, Clinical and Operations Research (MECOR) [Turkey], American Thoracic Society
2010-14 **Director**, Fellows Journal Club, Critical Care Medicine, Department of Anesthesiology, Columbia University
2009-13 **Co-Instructor** of Clinical Epidemiology course [HSC 304], Mailman School of Public Health, Columbia University
2012-13 **Director**, Fellows Research Seminar Series, Critical Care Medicine, Department of Anesthesiology, Columbia University

MENTORSHIP

Bijan Teja. 2019-, PhD thesis primary supervisor, IHPME, University of Toronto

Lisa Burry. 2019-, PhD thesis co-primary supervisor, Institute of Medical Science, University of Toronto

Federico Angriman, 2019-, PhD thesis committee member, IHPME, University of Toronto

Qi Guan. 2018-, PhD thesis committee member, IHPME, University of Toronto

Bruno Feyrerro. 2018-, PhD thesis committee member, IHPME, University of Toronto

Michael Tylee. 2017-, PhD thesis committee member, IHPME, University of Toronto

Naheed Jivraj. 2017-19, Master's thesis primary supervisor, IHPME, University of Toronto

Lavarnan Sivanathan. 2016-19, Master's thesis committee member, IHPME, University of Toronto

Daniel Lane. 2016-18, PhD thesis committee member, IMS, University of Toronto

Anjela Jerath, MD. 2015-18, Master's thesis committee member, IHPME, University of Toronto
Current Position: Assistant Professor of Anesthesia, University of Toronto.

Han Ting Wang. 2016-17. Research Fellow, Sunnybrook Research Institute, Toronto

Laveena Munshi, MD, 2014-2016 Master's Degree Committee Member.
Current Position: Mount Sinai & University Health Network (Clinical Associate) Clinician
Scientist Training Program

Elizabeth Freiheit. PhD, 2014-15 Committee Member. Supervisee Institution: The University of Calgary. "Frailty, Cognition, and Depression in Older Subjects with Coronary Artery Disease."

Andrea Miltiades, MD, 2014-15 Apgar Scholar (Anesthesia Resident). "Benchmarking reintubations in the ICU" [abstract presented as oral presentation at the American Society of Anesthesiology meeting in October, 2014]

Meghan Prin, MD. 2013-2015. Anesthesia Resident, Department of Anesthesiology, Columbia University, New York. "Epidemiology of high dependency units in the United Kingdom" (published in *Intensive Care Medicine*).

Emily Vail, MD, 2013-17 Apgar Scholar (Anesthesia Resident). "Vasopressor use in Septic Shock in the US" [*JAMA* publication]

Jocelyn Lau, 2013-2014. Supervision of Master's thesis for Master's in Public Health, Department of Epidemiology, Mailman School of Public Health, Columbia University.

Shaila Khan, MD, MPH, Summer 2012. MPH candidate, Mailman School of Public Health, practicum. "Utility of Head CTs in a general medical-surgical ICU population" [submitted to *J Crit Care*]. Winner of best clinical abstract, Intensive Care Society, London, UK, December 2012

Rocco Adante, March 2011. Fourth year medical student, Columbia University, one month research elective.

Nicole Robinson, February 2011. Fourth year medical student, Columbia University, one month research elective.

Rebecca Bauer, MD, 2011. Apgar Scholar (Research Fellowship). "Utility of Head CTs in a general medical-surgical ICU population" [publication, *J Crit Care*]

May Hua, MD, 2011-present. Apgar Scholar (Research Fellowship). FAER Health Services Grant Recipient [Co-mentor] "Estimates of palliative care needs in the ICU" [published in *AJRCCM*]. NIH Beeson Scholar [Co-mentor]

Adam Evans, MD, 2010-2011. Anesthesia Critical Care Medicine Fellow. "Changes in physician billing for critical care services over a 10 year period" [published in *AJRCCM*]

Julia Sobol, MD, MPH, 2009-15. Apgar Scholar (Research Fellowship). "Use of the Surgical Apgar Score for triage of high risk surgical patients" [published in *Anesth & Analg*]

Hayley Gershengorn, MD. 2009-10. Pulmonary & Critical Care Fellow. "Outcomes associated with in-ICU CPR" [published in *J Crit Care*]

PUBLICATIONS

Original Peer-Reviewed Papers (mentees as authors are underlined)

1. Hill AD, Fowler RA, **Wunsch H**, Pinto R, Scales DC. Frailty and long-term outcomes following critical illness: A population-level cohort study. *Journal of Critical Care*. 2021 Apr 1;62:94-100.
2. Raslan IR, Ross HJ, Fowler RA, Scales DC, Stelfox HT, Mak S, Tu JV, Farkouh ME, Stukel TA, Wang X, van Diepen S, **Wunsch H**, Austin PC, Lee DS. The associations between direct and delayed critical care unit admission with mortality and readmissions among patients with heart failure. *American Heart Journal*. 2021 Mar 1;233:20-38.
3. Zhu Y, Huybrechts KF, Desai RJ, Franklin JM, Hernandez-Diaz S, Krumme A, Straub L, Neuman M, **Wunsch H**, Levin R, Mogun H, Bateman BT. (2021). Prescription Opioid Use After Vaginal Delivery and Subsequent Persistent Opioid Use and Misuse. *Am J Obstet Gynecol MFM*. In Press(In Press): In Press.
4. Vail EA, Shieh MS, Pekow PS, Gershengorn HB, Walkey AJ, Lindenauer PK, **Wunsch H**. (2021). Use of Vasoactive Medications after Cardiac Surgery in the United States. *Ann Am Thorac Soc*. 18(1): 103-111.
5. Haas B, Jeon SH, Rotermann M, Stepner M, Fransoo R, Sanmartin C, **Wunsch H**, Scales DC, Iwashyna TJ, Garland A. (2021). Association of Severe Trauma With Work and Earnings in a National Cohort in Canada. *JAMA Surgery*. 156(1): 51-59.
6. Gershon AS, Lindenauer PK, Wilson KC, Rose L, Walkey AJ, Sadatsafavi M, Anstrom KJ, Au DH, Bender BG, Brookhart MA, Dweik RA, Han MK, Joo MJ, Lavergne V, Mehta AB, Miravitlles M, Mularski RA, Roche N, Oren E, Riekert KA, Schoenberg NC, Stukel TA, Weiss CH, **Wunsch H**, Africk JJ, Krishnan JA. (2021). Informing Healthcare Decisions with Observational Research Assessing Causal Effect. An Official American Thoracic Society Research Statement. *Am J Respir Crit Care Med*.203(1): 14-23.
7. Alhazzani W, Evans L, Alshamsi F, Møller MH, Ostermann M, Prescott HC, Arabi YM, Loeb M, Ng Gong M, Fan E, Oczkowski S, Levy MM, Derde L, Dzierba A, Du B, Machado F, **Wunsch H**, Crowther M, Cecconi M, Koh Y, Burry L, Chertow DS, Szczeklik W, Belle-Cote E, Greco M, Bala M, Zarychanski R, Kesecioglu J, McGeer A, Mermel L, Mammen MJ, Nainan Myatra S, Arrington A, Kleinpell R, Citerio G, Lewis K, Bridges E, Memish ZA,

- Hammond N, Hayden FG, Alshahrani M, Al Duhailib Z, Martin GS, Kaplan LJ, Coopersmith CM, Antonelli M, Rhodes A. (2021). Surviving Sepsis Campaign Guidelines on the Management of Adults With Coronavirus Disease 2019 (COVID-19) in the ICU: First Update. *Crit Care Med.* 49(3): e219-e234.
8. Vail EA, Wunsch H, Pinto R, Bosch NA, Walkey AJ, Lindenauer PK, Gershengorn HB. Use of Hydrocortisone, Ascorbic Acid, and Thiamine in Adults with Septic Shock. *American Journal of Respiratory and Critical Care Medicine.* 2020 Jul 24(ja).
 9. Bethell J, Neuman MD, Bateman BT, Ladha KS, Hill A, Li G, Wijeyesundera DN, Wunsch H. Association between mothers' postoperative opioid prescriptions and opioid-related events in their children: A population-based cohort study. *Health reports.* 2020 Jul 1;31(6):12-9.
 10. Ferreyro BL, Angriman F, Munshi L, Del Sorbo L, Ferguson ND, Rochweg B, Ryu MJ, Saskin R, Wunsch H, da Costa BR, Scales DC. Association of Noninvasive Oxygenation Strategies With All-Cause Mortality in Adults With Acute Hypoxemic Respiratory Failure: A Systematic Review and Meta-analysis. *JAMA.* 2020 Jun 4.
 11. Jivraj NK, Raghavji F, Bethell J, Wijeyesundera DN, Ladha KS, Bateman BT, Neuman MD, Wunsch H. Persistent Postoperative Opioid Use A Systematic Literature Search of Definitions and Population-based Cohort Study. *Anesthesiology.* 2020 Jun 1;132(6):1528-39.
 12. Gershengorn HB, Stelfox HT, Niven DJ, Wunsch H. Association of Pre-Morbid Blood Pressure with Vasopressor Infusion Duration in Patients with Shock. *American Journal of Respiratory and Critical Care Medicine.* 2020 Apr 9(ja).
 13. Wunsch H, Hill AD, Fu L, Fowler RA, Wang HT, Gomes T, Fan E, Juurlink DN, Pinto R, Wijeyesundera DN, Scales DC. New Opioid Use After Invasive Mechanical Ventilation and Hospital Discharge. *American Journal of Respiratory and Critical Care Medicine.* 2020 Apr 29(ja).
 14. Jivraj NK, Scales DC, Gomes T, Bethell J, Hill A, Pinto R, Wijeyesundera DN, Wunsch H. Evaluation of opioid discontinuation after non-orthopaedic surgery among chronic opioid users: a population-based cohort study. *British Journal of Anaesthesia.* 2020 Mar 1;124(3):281-91.
 15. Alhazzani W, Møller MH, Arabi YM, Loeb M, Gong MN, Fan E, Oczkowski S, Levy MM, Derde L, Dzierba A, Du B. Surviving Sepsis Campaign: guidelines on the management of critically ill adults with Coronavirus Disease 2019 (COVID-19). *Intensive Care Medicine.* 2020 Mar 28:1-34.
 16. Teja B, Bosch NA, Walkey AJ, Pinto R, Wunsch H. Vasopressor Dosing in Septic Shock Clinical Trials: A Systematic Review and Ecologic Study. *Annals of the American Thoracic Society.* 2020 Feb 28(ja).
 17. Bethell J, Neuman MD, Bateman BT, Hill AD, Ladha KS, Wijeyesundera DN, Wunsch H. Age and postoperative opioid prescriptions: a population-based cohort study of opioid-naïve adults. *Pharmacoepidemiology and Drug Safety.* 2020 Feb 13.

18. Lane DJ, Wunsch H, Saskin R, Cheskes S, Lin S, Morrison LJ, Scales DC. Screening strategies to identify sepsis in the prehospital setting: a validation study. *CMAJ*. 2020 Mar 9;192(10):E230-9.
19. Jeon SH, Stepner M, Rotermann M, Fransoo R, Sanmartin C, Scales DC, Wunsch H, Iwashyna TJ, Garland A. Effects of Cardiovascular Health Shocks on Spouses' Work and Earnings: A National Study. *Medical Care*. 2020 Feb 24;58(2):128-36.
20. Garland A, Marrie RA, Wunsch H, Yogendran M, Chateau D. Accuracy of Administrative Hospital Data to Identify Use of Life Support Modalities. A Canadian Study. *Annals of the American Thoracic Society*. 2020 Feb;17(2):229-35.
21. Bosch NA, Teja B, Wunsch H, Walkey AJ. Characterization and validation of a novel measure of septic shock severity. *Intensive Care Medicine*. 2019 Nov 4: 1-3.
22. Hill AD, Stukel TA, Fu L, Scales DC, Laupacis A, Rubenfeld GD, Wunsch H, Downar J, Rockwood K, Heyland DK, Sinha SK. Trends in site of death and health care utilization at the end of life: a population-based cohort study. *CMAJ Open*. 2019 Apr;7(2):E306.
23. Hua M, Lu Y, Ma X, Morrison RS, Li G, Wunsch H. Association Between the Implementation of Hospital-Based Palliative Care and Use of Intensive Care During Terminal Hospitalizations. *JAMA Network Open*. 2020 Jan 3;3(1):e1918675-.
24. Neuman MD, Bateman BT, Wunsch H. Inappropriate opioid prescription after surgery. *The Lancet*. 2019 Apr 13;393(10180):1547-57.
25. Sivanathan L, Wunsch H, Vigod S, Hill A, Pinto R, Scales DC. Mental illness after admission to an intensive care unit. *Intensive Care Medicine*. 2019 Nov 1;45(11):1550-8.
26. Gershengorn HB, Pilcher DV, Litton E, Anstey M, Garland A, Wunsch H. Association Between Consecutive Days Worked by Intensivists and Outcomes for Critically Ill Patients. *Critical Care Medicine*. 2019 Dec 24.
27. de Oliveira OH, Pinto R, DasGupta T, Sirtartchouck L, Rashleigh L, Cross N, Srikandarajah A, Sukumaran J, Wunsch H, Cuthbertson BH. Assessment of need for lower level acuity critical care services at a tertiary acute care hospital in Canada: A prospective cohort study. *Journal of Critical Care*. 2019 Oct 1;53:91-7.
28. Ladha KS, Neuman MD, Broms G, Bethell J, Bateman BT, Wijesundera DN, Bell M, Hallqvist L, Svensson T, Newcomb CW, Brensing CM, Wunsch H. Opioid prescribing after surgery in the United States, Canada, and Sweden. *JAMA Network Open*. 2019 Sep 4;2(9):e1910734-.
29. Wunsch H, Scales D, Gershengorn HB, Hua M, Hill AD, Fu L, Stukel TA, Rubenfeld G, Fowler RA. End-of-Life Care Received by Physicians Compared With Nonphysicians. *JAMA Network Open*. 2019 Jul 3;2(7):e197650-.
30. Lane DJ, Blanchard IE, Cheskes S, Lazarenko G, Lin S, Morrison LJ, Saskin R, Seymour CW, Wunsch H, Scales DC. Strategy to Identify Paramedic Transported Sepsis Cases in an Emergency Department Administrative Database. *Prehospital Emergency Care*. 2019 May 30:1-9.

31. Gaulton TG, **Wunsch H**, Gaskins LJ, Leonard CE, Hennessy S, Ashburn M, Brensinger C, Newcomb C, Wijeyesundera D, Bateman BT, Bethell J, Neuman M. Preoperative Sedative-hypnotic Medication Use and Adverse Postoperative Outcomes. *Annals of Surgery*. 2019 Dec 5.
32. Wang HT, Hill AD, Gomes T, Pinto R, Wijeyesundera DN, Scales DC, Fowler RA, **Wunsch H**. Trends in opioid use before critical illness among elderly patients in Ontario. *Journal of Critical Care*. 2020 Feb 1;55:128-33.
33. Martin CM, Lam M, Allen B, Richard L, Lau V, Ball IM, **Wunsch H**, Fowler RA, Scales DC. Determinants of Direct Discharge Home From Critical Care Units: A Population-Based Cohort Analysis. *Critical Care Medicine*. 2019 Dec 24.
34. Lane DJ, **Wunsch H**, Saskin R, Cheskes S, Lin S, Morrison LJ, Scales DC. Assessing severity of illness in patients transported to hospital by paramedics: external validation of 3 prognostic scores. *Prehospital Emergency Care*. 2019 Jun 15(just-accepted):1-20.
35. **Wunsch H**, Hill AD, Scales DC, Fowler RA, Hua M. Comparison of Care Patterns and Rehospitalizations for Mechanically Ventilated Patients in New York and Ontario. *Annals of the American Thoracic Society*. 2019 Jan 8(ja).
36. Mendis N, Hamilton GM, Mclsaac DI, Fergusson DA, **Wunsch H**, Dubois D, Montroy J, Chassé M, Turgeon AF, McIntyre L, McDonald H. A Systematic Review of the Impact of Surgical Special Care Units on Patient Outcomes and Health Care Resource Utilization. *Anesthesia & Analgesia*. 2019 Mar 1;128(3):533-42.
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Book Chapters

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Other

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INVITED LECTURES

(bold denotes speaker at national or international meeting)

- 2/20 *Does Postoperative Critical Care Improve Outcomes for Patients following Major Surgery? (Pro/Con debate)*
Society of Critical Care Medicine Annual Meeting, Orlando, FL
- 12/19 *When and how to Squeeze in vasoplegic shock (roundtable)*
UK Intensive Care Society Meeting, Birmingham, UK
- 12/19 *Long-term outcomes after critical illness*
UK Intensive Care Society Meeting, Birmingham, UK
- 11/19 *Should Intensivists worry about prescribing opioids in the ICU?*
Critical Care Canada Forum, Toronto, Canada
- 11/19 *Why MAP>65 shouldn't be a target for all*
Fellows Day, Critical Care Canada Forum, Toronto, Canada
- 9/19 *Vasopressors in Shock*
John Hedley-Whyte Lecture, Department of Anesthesia, Beth Israel Deaconess Medical Center, Boston, MA
- 5/19 *Observational Research: Leveraging Natural Experiments*
Annual Shields Day Lecture, Department of Anesthesia, University of Toronto, Toronto, Canada
- 5/19 *Triaging surgical patients for the ICU*
Grand Rounds, Department of Anesthesiology, University of Michigan, Ann Arbor, MI, USA
- 4/19 *How bed availability drives care; Extubation in ICU; How we might optimize vasopressor use in septic shock*
16th Annual Critical Care Symposium, Manchester, UK
- 4/19 *Optimizing vasopressors in septic shock*
Critical Care Research Seminar, Department of Anesthesia, Washington University School of Medicine, St Louis, MO, USA
- 4/19 *How ICU bed numbers impact care*
Grand Rounds, Department of Anesthesia, Washington University School of Medicine, St Louis, MO, USA
- 3/19 *Caring for Frailly Patients after High Risk surgery; How Many Doctors? How Many Nurses?; How the ICU will be organized; Is Critical Care Contributing to the Opioid Epidemic?*
International Society of Intensive Care and Emergency Medicine, Brussels, Belgium
- 2/19 *Is my ICU the right size?*
Society of Critical Care Medicine Annual Meeting, San Diego, CA

- 1/19 *ICU Staffing Patterns*
Research Seminar, Division of Pulmonary and Critical Care Medicine, Boston University, Boston, MA
- 1/19 *How ICU beds impact care*
Grand Rounds, Tufts Department of Anesthesiology, Boston, MA
- 10/18 *External Validation of Severity of Illness Models; Risk Assessment, the Basics; Postoperative standard care vs. postoperative ICU care: Not one size fits all*
European Society of Intensive Care Medicine, Annual Meeting, Paris, France
- 10/18 *Defining the Hypothesis; Which Control Group? Randomization Strategies and Alternatives*
Pre-Congress Research Techniques Course, European Society of Intensive Care Medicine Annual Meeting, Paris, France
- 9/18 *How ICU bed numbers impact care [Martin Holmdahl Lecture]*
Swedish Intensive Care Society, Linköping, Sweden
- 9/18 *How ICU bed numbers impact care*
Department of Anesthesia and Intensive care, Uppsala University, Uppsala, Sweden
- 9/18 *Sepsis and Recovery in the Elderly*
World Sepsis Congress [online]
- 5/18 *How ICU bed numbers impact care*
Research Day, Department of Critical Care Medicine, University of Calgary, Calgary, Alberta
- 4/18 *Postoperative acute care of frail and high risk older patients; Validation of Medicare data as applied to intensive care and mechanical ventilation*
International Anesthesia Research Society, Chicago, IL
- 4/18 *Extubating patients outside of the operating room*
Grand Rounds, Department of Anesthesiology, Columbia University, New York, NY
- 3/18 *Is it different in the US? Vasoactive Agents in Septic Shock; Do we give too much opioid?; When extubation is safe; How to limit the risk of rehospitalization*
International Society of Intensive Care and Emergency Medicine, Brussels, Belgium
- 3/18 *ICU Staffing Models*
Critical Care Medicine Rounds, Beth Israel Deaconess Medical Center, Boston, MA
- 3/18 *How ICU bed availability impacts care*
Medicine Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA
- 1/18 *ICU staffing models*
Critical Care Research Seminar, Cedar Sinai, Los Angeles, CA

- 1/18 *Triaging surgical patients for the ICU*
Grand Rounds, Cedar Sinai Department of Anesthesiology, Los Angeles, CA
- 10/17 *ICU bed availability: Impact on Care*
Medicine Grand Rounds, Mount Sinai Hospital, Toronto, Canada
- 10/17 *Getting it wrong with large datasets*
Critical Care Canada Forum, Toronto, Canada
- 10/17 *Critical Care: Learning from Natural Experiments*
Critical Care Canada Forum Fellows Day, Toronto, Canada
- 9/17 *Understanding who will benefit from intensive care* [plenary lecture]
European Society of Intensive Care Medicine Annual Meeting, Vienna, Austria
- 9/17 *Perioperative ICU admission - risk stratification*
European Society of Intensive Care Medicine, Pre-conference session, Vienna Austria
- 6/17 *ICU Staffing Models*
Grand Rounds, Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of Pennsylvania, Philadelphia, PA
- 5/17 *Association between norepinephrine shortage and mortality among patients with septic shock*
Joint NEJM/JAMA Session, American Thoracic Society Annual Meeting, Washington DC
- 4/17 *Extubation of patients outside of the operating room*
International Anesthesia Research Society (IARS) annual meeting, Washington DC
- 4/17 *Understanding ICU strain* [plenary lecture]
Singapore-ANZICS Intensive Care Forum, Singapore
- 4/17 *Pros and Cons of Intermediate Care Beds; The Impact of Critical Illness on Long-Term Outcomes*
Singapore-ANZICS Intensive Care Forum, Singapore
- 3/17 *A higher mortality rate can be a sign of quality; epidemiology of vasopressor use in the United States; How many doctors do we need? Who will be readmitted?*
International Society of Intensive Care and Emergency Medicine, Brussels, Belgium
- 3/17 *Association between norepinephrine shortage and mortality among patients with septic shock*
Plenary presentation, International Society of Intensive Care and Emergency Medicine, Brussels, Belgium
- 2/17 *What is PICS from the public-health point of view?*
Leopoldina Institute Symposium on Critical Care, Berlin, German
- 1/17 *What happens after the ICU, particularly for the chronically critically ill?*

Society of Critical Care Medicine, Annual Meeting, Honolulu, Hawaii

- 12/16 *ICU Staffing Models*
Critical Care Grand Rounds, Institute of Critical Care Medicine, Mt Sinai Hospital, New York, NY
- 12/16 *Triaging surgical patients for the ICU*
Anesthesiology Grand Rounds, Department of Anesthesiology, Mt Sinai Hospital, New York, NY
- 10/16 *Elderly in the ICU: Demographics, Transitions and Outcomes*
Critical Care Canada Forum, Annual Meeting, Toronto, Canada
- 10/16 *Practice in 2026: staffing and procedures*
Fellows Day, Critical Care Canada Forum, Toronto, Canada
- 10/16 *FAER panel: A how to guide for Anesthesiologists in the brave new world of big data; Presidential scholars address*
American Society of Anesthesiologists, Annual Meeting, Chicago, IL
- 10/16 *Pain, Stress, Delirium: How to avoid the vicious circle*
European Society of Critical Care Medicine, Annual Meeting, Milan, Italy
- 10/16 *Defining the Hypothesis; Randomization strategies and alternatives*
European Society of Critical Care Medicine Post-graduate Course, Milan Italy
- 10/16 *ICU Beds: Do Bed Numbers Drive Care? [plenary lecture]; Detecting Variation in Care*
Chinese Critical Care Society, Annual Meeting, Dalian, China
- 8/16 *ICU Staffing Models*
Kansas University Critical Care Grand Rounds, Kansas City, Kansas
- 7/16 *Impact of Critical Illness on Long-term Outcomes*
Japanese Intensive Care Society, Annual Meeting, Nagoya, Japan
- 6/16 *Triaging Patient for Intensive Care*
University of Manitoba, Department of Critical Care Medicine Research Seminar, Winnipeg, Manitoba, Canada
- 5/16 *Canadian Critical Care Trials Group: Trials you should be aware of*
Society of Critical Care Anesthesiologists, Annual Meeting, San Francisco, CA
- 3/16 *Dementia after Critical Illness; Pros and Cons of Intermediate Care; ICU Care in Over-Resourced Settings*
International Society of Intensive Care & Emergency Medicine, Annual Meeting, Brussels, Belgium
- 3/16 *How different is UK critical care?; Illuminating the black box of high-dependency care*
Northern England Intensive Care Society, Darlington, UK
- 3/16 *How does prior health status determine critical illness outcomes?*

- International Society of Intensive Care & Emergency Medicine Round Table 2016;
Recovery after critical illness: putting the puzzle together, Brussels, Belgium
- 2/16 *Lost in Translation: The Evidence in Support of Follow-up Clinics; How Should a Region Design Critical Care?*
SCCM, Orlando, Florida
- 2/16 *Triaging Surgical Patients for the ICU*
Grand Rounds, Department of Anesthesiology, Johns Hopkins, Baltimore, MD
- 1/16 *Use of intermediate care beds for surgical patients*
Anesthesia Grand Rounds, Dept of Anesthesia, Sunnybrook Hospital
- 10/15 *Use of Quality Metrics to Enhance ICU Care*
Chest, Montreal, Quebec, Canada
- 10/15 *ICU Strain: Using Intermediate Care Beds*
Critical Care Canada Forum, Toronto, ON, Canada
- 10/15 *Use of Intensive Care After Surgery – International Comparisons*
Anesthesia Professor's Rounds for Fellows, Department of Anesthesia, University of Toronto
- 10/15 *Delirium: which medications to avoid; Big Data [panel discussion]*
European Society of Intensive Care Medicine, Berlin, Germany
- 10/15 *Post-Intensive Care Syndrome*
Post-graduate course, European Society of Intensive Care Medicine, Berlin, Germany
- 10/15 *Randomization Strategies and Alternatives*
Post-graduate course, European Society of Intensive Care Medicine, Berlin, Germany
- 9/15 *The role of Stepdown Beds in Hospital Care*
Management Seminar at the **Joint Annual Meeting 2015 of the Swiss Society of Intensive Care Medicine SSICM, Swiss Society for Infectious Diseases SSI, Swiss Society for Emergency Medicine SGNOR/SSMUS and the Swiss Society for Hospital Hygiene SSHH, Interlaken, Switzerland**
- 6/15 *Triaging Patients for the ICU*
Grand Rounds, Department of Anesthesiology, UCSF, San Francisco, California
- 6/15 *Assessing Long-term Outcomes after Critical Illness*
Research Seminar, Department of Anesthesiology, UCSF, San Francisco, California
- 5/15 *Avoiding Post-Intensive Care Syndrome*
American Thoracic Society, Annual Meeting Symposium, Denver, Colorado

- 3/15 *Triaging High-Risk Surgical Patients; Pros and Cons of Separate Stepdown Beds; Who needs palliative care in the ICU?; Detecting variation in care; Psychiatric Disease after Critical Illness; Barriers to De-adoption of what we like.*
International Society of Intensive Care & Emergency Medicine, Annual Meeting, Brussels, Belgium
- 1/15 *ICU Occupancy Rates and Beds per 100,000: Are These Relevant Parameters?*
Society of Critical Care Medicine, Annual Meeting, Phoenix, Arizona
- 10/14 *Misled...by occupancy data; Sepsis: why all the variation in outcomes?; When to think about palliation; Does pre-ICU trajectory matter?*
Critical Care Canada Forum, Toronto, Canada
- 10/14 *Role of Anesthesiologists in peri-operative research*
American Society of Anesthesiologists, Annual Meeting, New Orleans
- 10/14 *Guidelines on Analgesia, Sedation and Delirium Monitoring; Incidence and Pathophysiology of acute and chronic Cognitive Dysfunction*
European Society of Intensive Care Medicine, Barcelona, Spain
- 09/14 *Triaging Patients for the ICU*
Grand Rounds, Department of Anesthesiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA
- 06/14 *Critical Illness in the Continuum of Disease and Disability*
Grand Rounds, Critical Care Medicine, Columbia University, New York, NY
- 05/14 *Psychiatric Diagnoses and Psychoactive Medication Use Among Nonsurgical Critically Ill Patients Receiving Mechanical Ventilation [NEJM and JAMA joint session]*
American Thoracic Society, San Diego, CA
- 03/14 *What is the Right Dose of ICU? [plenary lecture]; Are World Studies the Way Forward?*
ANZICs – New Zealand Regional Meeting, Christchurch, NZ
- 01/14 *Critical Care Top Five Taskforce for Choosing Wisely – Presentation of Selected Recommendations*
Society of Critical Care Medicine, San Francisco, CA
- 11/13 *De-adoption of Medical Practice; Do bed numbers Drive Care?*
Critical Care Canada Forum, Toronto, ON, Canada
- 10/13 *Research and funding in Health Services Research in Anesthesia*
Academy Health – Perioperative Care and Pain Management Interest Group, American Society of Anesthesiology Meeting, San Francisco, CA
- 9/13 *Triaging patients for the ICU*
Anesthesiology Grand Rounds, St Michael's Hospital, University of Toronto, Toronto, Canada
- 4/13 *How many ICU beds do we need?*
Anesthesiology Grand Rounds, Oregon Health Sciences University, Portland, OR

- 3/13 *Do we need intermediate care beds?; What have we learned from international comparisons?*
International Society of Intensive Care & Emergency Medicine, Brussels, Belgium
- 3/13 *How many ICU beds do we need?*
 Anesthesiology Grand Rounds, Duke University, Durham, NC
- 2/13 *ICU lengths of stay and mortality rates reflect quality. Pro/Con debate.*
 Controversies in Critical Care, Greater New York Hospital Association, New York, NY
- 1/13 *How many ICU beds do we need?*
 Chest conference, Division of Pulmonary and Critical Care Medicine, Yale University
- 1/13 *Epidemiology of Critical Care, long-term outcomes after prolonged mechanical ventilation*
Society of Critical Care Medicine Annual Meeting, San Juan, Puerto Rico
- 12/12 *Intensive Care in the US and UK; Light in the ICU; Long-term outcomes after critical illness*
[Plenary Speaker] Intensive Care Society Annual Meeting, London, UK
- 11/12 *Triaging patients for the ICU*
 Anesthesiology Grand Rounds, Albert Einstein, New York, NY
- 10/12 *Early mentored grants (FAER panel); Futility of care*
American Society of Anesthesiologists Annual Meeting, Washington DC
- 10/12 *Providing ICU beds for a population*
 Resident's Day, Critical Care Canada Forum, Toronto, ON, Canada
- 10/12 *Intermediate Care Beds; Long-term Mortality after Critical Illness; Targeting Patients for Dexmedetomidine*
Critical Care Canada Forum, Toronto, ON, Canada
- 9/12 *How many ICU beds do we need?*
 Critical Care Grand Rounds, Columbia University, New York, NY
- 6/12 *Appropriateness of ICU care: a Global Perspective*
 New York Symposium on Neurological and Emergencies and Neurocritical Care, New York, NY
- 5/12 *Critical Care Year in Review; Will every bed be an ICU bed?*
American Thoracic Society Annual Meeting, San Francisco, CA
- 4/12 *Obesity and outcomes in the ICU; The impact of high-dependency beds on outcomes for critically ill patients.*
 Intensive Care National Audit & Research Centre, Annual Meeting, London, UK
- 1/12 *The power of data: using Project IMPACT for critical care research*
 Critical Care Outcomes Forum, Cerner Corporation, Houston, TX

- 1/12 *Optimizing Critical Care Delivery: Comparative Effectiveness Research, ICU Severity and Outcome Scoring: State of the Art*
Society of Critical Care Medicine Annual Meeting, Houston, TX
- 12/11 *How many ICU beds are enough?*
Grand Rounds, Division of Critical Care Medicine, Beth Israel Hospital, New York, NY
- 12/11 *Dexmedetomidine: targeting the right patients, Education in the ICU: reflections from across the pond*
Intensive Care Society Annual Meeting, London, UK
- 12/11 *Dexmedetomidine in the ICU*
Research lecture, Intensive Care Medicine, University College London
- 11/11 *Long-term mortality after critical illness, Intensity of treatment at the end of life*
Critical Care Canada Forum, Toronto, Canada
- 10/11 *Delirium and Weaning, Pharmaco-efficiency of analgesia, sedation and delirium*
European Society of Intensive Care Medicine, Berlin, Germany
- 10/11 *Long-term outcomes after chronic critical illness*
Society of Critical Care Anesthesiology, Chicago, IL
- 10/11 *The Role of Research in Improving Patient Outcomes in a Cost-Effectiveness Era: Outcomes research in critical care (FAER Panel), Futile Care: Death Panels Should Restrict It: Con*
American Society of Anesthesiologists, Chicago, IL
- 10/11 *Paralytics should be standard of care in ARDS: Pro*
Critical Care Controversies Symposium, Greater New York Hospital Association, New York, NY
- 9/11 *How many ICU beds is enough?*
Critical Care Research Seminar, Montefiore Medical Center, Albert Einstein College of Medicine, New York NY
- 9/11 *How many ICU beds are enough?*
Grand Rounds, Department of Anesthesia, Critical Care and Pain Medicine, Beth Israel Deaconess Medical Center
- 5/11 *Triaging Patients For The ICU: Consequences Of Over And Under-Use Of Intensive Care, Tools, Methods And Pitfalls In Evaluating Long-Term Outcomes After An ICU Stay*
American Thoracic Society Annual Meeting, Denver, CO
- 5/11 *How many ICU beds are enough?*
Grand Rounds, Department of Anesthesiology, Dartmouth Hitchcock Medical Center, Hanover NH
- 5/11 *What happens to patients after intensive care?*

- Resident Lecture, Department of Anesthesiology, Dartmouth Hitchcock Medical Center, Hanover, NH
- 3/11 *How many ICU beds?, Light in the ICU, Long-term outcomes – end-points of clinical trials, Sedation – what are the current practices? What works best in my ICU*
International Society of Intensive Care & Emergency Medicine, Brussels, Belgium
- 2/11 *Long-term outcomes after critical illness,*
Grand Rounds, Department of Anesthesiology, Columbia University
- 11/10 *Lessons from US Sedation patterns, What are the survival data after ICU?*
Critical Care Canada Forum, Toronto, CA
- 10/10 *No regulation of futility of care (pro/con debate), Perioperative management of liver failure*
American Society of Anesthesiologists, San Diego, CA
- 5/10 *Variation in critical care resources and outcomes in developed countries*
American Thoracic Society Annual Meeting, New Orleans, LA
- 11/09 *Long-term mortality after critical illness, Challenges of bias in mortality*
Critical Care Canada Forum, Toronto, CA
- 5/09 *Sedation after cardiac surgery*
Care of the Cardiac Surgery Patient, Greater New York Hospital Association Symposium, New York, NY
- 5/09 *International Comparisons of Critical Care*
ICES/CEU Conjoint Rounds, Institute for Clinical Evaluative Sciences, Sunnybrook Health Sciences Centre, Toronto, CA
- 5/09 *Epidemiology of Sedation Use in North America*
Critical Care Grand Rounds, Sunnybrook Health Sciences Centre, Toronto, CA
- 4/09 *Outcomes in Critical Care*
Critical Care Fellows Lecture Series, Department of Anesthesiology and Critical Care, Columbia University, New York, NY
- 1/09 *International Comparisons of Critical Care*
Critical Care Grand Rounds, Columbia University, New York, NY
- 7/08 *Central Lines: Everything You Should Know Before You Touch a Patient*
Resident Lecture Series, Department of Anesthesiology and Critical Care, Columbia University, New York, NY (also given periodically 2009, 2010, 2011)
- 05/08 *International Variation in Protocols and Best Practice Pathways: Does it Matter?*
Mini Symposium, American Thoracic Society Annual Meeting, Toronto, Canada
- 01/08, 02/08, 03/08 *Outcomes in Critical Care*

Resident Lecture Series, Department of Anesthesiology and Critical Care, Columbia University, New York, NY

- 11/07 *Thinking Globally: International Comparisons of Intensive Care Services*
Research Seminar, Department of Anesthesiology, University of Pennsylvania, Philadelphia, PA
- 9/07 *Thinking Globally: International Comparisons of Intensive Care Services*
Journal Club, Depart of Anaesthetics and Critical Care, University College London Hospital, UK
- 4/07 *Thinking Globally: International Comparisons of Intensive Care Services,*
Respiratory and Critical Care Conference, Department of Pulmonary and Critical Care, University of Washington, Seattle, WA
- 10/06 *Increased mortality associated with respiratory failure of extra-pulmonary origin*
Annual Meeting, American Society of Critical Care Anesthesiology, Chicago, IL
- 9/06 *A comparison of intensive care in the United States and United Kingdom*
Research seminar, Intensive Care National Audit & Research Centre, London, UK
- 5/06 *Increased mortality associated with respiratory failure of extra-pulmonary origin*
Academic Evening, Columbia University Department of Anesthesiology, New York, NY
- 1/06 *The mechanics of merging: Using Project IMPACT data for international comparisons*
Project IMPACT Users Group Meeting, San Francisco, CA
- 12/05 *Taking a step back: examining intensive care from a few feet away*
Critical Care Fellows Seminar Series, Columbia University Department of Anesthesiology, New York, NY
- 5/05 *Hospital mortality associated with day and time of discharge from intensive care*
Academic Evening, Columbia University Department of Anesthesiology, New York, NY
- 3/03 *Hospital mortality associated with day and time of admission to intensive care units in England, Wales and Northern Ireland*
Research Seminar Series, University of Sheffield, School of Health and Related Research
- 3/03 *Impact of exclusion criteria from severity of disease scoring methods on outcomes in intensive care*
Intensive Care National Audit & Research Centre Annual Meeting London, UK

INTERVIEWS AND MEDIA RELATIONS

- 2020 Australian Broadcasting Corporation (ABC) radio interview, "The 1952 Copenhagen polio epidemic and invention of the ICU, April 20, 2020
- 2020 CBC News "It's not the number of COVID-19 patients posing a challenge for ICUs – it's how long they stay, April 16, 2020

- 2020 CBC News “Some hospitals across Canada could face significant shortages of ICU beds, projections reveal, April 11, 2020
- 2010 *JAMA* Video Interview to accompany article publication
- 2010 Radio Interview, WNYC [New York Public Radio] to accompany *JAMA* article publication