

## CURRICULUM VITAE

**Elizabeth Colantuoni (maiden Johnson), PhD ScM**

### PROFESSIONAL DATA

Department of Biostatistics  
Bloomberg School of Public Health  
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Pronouns: She/Her

### EDUCATION AND TRAINING

8/02-10/07	PhD, Biostatistics Department of Biostatistics Johns Hopkins Bloomberg School of Public Health Thesis Title: Estimating Causal Targets in Public Health Research Advisor: Scott Zeger
8/97-5/99	Master of Science, Statistics North Carolina State University Raleigh, North Carolina
8/93-5/97	Bachelor of Science, Statistics with double major in Mathematics Virginia Tech Blacksburg, Virginia

### PROFESSIONAL EXPERIENCE

#### *Johns Hopkins University*

Senior Scientist, Department of Biostatistics, Bloomberg School of Public Health,  
Johns Hopkins University, 3/19-present

Department representative, Committee on Academic Standards, 9/19 - present

Co-Director of Graduate Degree Programs, Department of Biostatistics,  
Bloomberg School of Public Health, Johns Hopkins University, 8/15 – present

Senator, Faculty Senate, Bloomberg School of Public Health, 9/15 – 8/18

Associate Scientist, Department of Biostatistics, Bloomberg School of Public  
Health, Johns Hopkins University, 6/14 – 3/19

Assistant Scientist, Department of Biostatistics, Bloomberg School of Public Health, Johns Hopkins University, 2/10 – 6/14

Assistant Professor, Department of Anesthesiology & Critical Care Medicine, Quality & Safety Research Group, Johns Hopkins University School of Medicine, 9/08 – 2/10

Assistant Scientist, Department of Biostatistics, Johns Hopkins University, Bloomberg School of Public Health, 3/08 – 8/08

Research Associate, Department of Biostatistics, Bloomberg School of Public Health, Johns Hopkins University, 8/99 – 3/08

### ***Other Non-JHU Professional Experience***

Teaching Assistant, North Carolina State University, Raleigh, NC, 8/97 – 5/99

## **PROFESSIONAL ACTIVITIES**

### *Professional society membership:*

American Statistical Association  
Eastern North American Region International Biometric Society  
American Delirium Society  
Society for Clinical Trials

### *Participation on Advisory Panels and Boards:*

- 2021 Data Safety Monitoring Board (MENDING study, FDA IND #152384)
- 2019 SCEPTER 3: Sedation Consortium on Endpoints and Procedures for Treatment, Education, and Research
- 2018 NHLBI workshop on identifying clinical research priorities for adult pulmonary critical care

## **EDITORIAL AND OTHER PEER REVIEW ACTIVITIES**

### *Journal Peer Review Activities:*

Statistics in Medicine, PLOS One, Critical Care Medicine, Alzheimer's and Dementia, BMC Medical Research Methodology, BMC Infectious Diseases, Critical Care Nurse, BMJ Open, American Journal of Infection Control, Thorax, American Journal of Geriatric Psychiatry

## **HONORS AND AWARDS**

### *Honors*

2021	Johns Hopkins Institute for Clinical and Translational Research Team Science Award – Outcomes After Critical Illness and Surgery Mental Health Group
	Excellence in Teaching: Methods for Biostatistics III/IV
2020	Excellence in Teaching: Methods for Biostatistics III/IV
2015-19	Excellence in Teaching: Multilevel Models for Public Health
2014	International Biometrics Society, Eastern North American Region Annual Meeting 2014 Poster Award
2005	Teaching assistant recognition award; awarded by Student Assembly, JHSPH.
2004	June B Culley award for outstanding achievement on the department's 2nd year oral exam; awarded by Department of Biostatistics, JHSPH

## PUBLICATIONS

*\* indicates a mentored student or post-doctoral fellow*

*Journal Articles (more than 200 peer reviewed articles)*

*Prior to 2009, I published under my maiden name: Johnson*

1. \*Pytell JD, Thakrar AP, Chander G, **Colantuoni E**. Changes in Alcohol Consumption by Beverage Type Attributable to the COVID-19 Pandemic for 10 States, March 2020 to November 2020: An Ecological Simulation-based Analysis. *Journal of Addiction Medicine*. In Press.
2. Ambalam V, Sick-Samuels AC, Johnson J, **Colantuoni E**, Gadala A, Rock C, Milstone AM for the CDC Prevention Epicenter Program. Impact of Postnatal Age on Neonatal Intensive Care Unit Bloodstream Infection Reporting. *Amer J Infect Control*, **2021**; In Press.
3. Lemberg KM, Koontz DW, Young DJ, DiDomizio PG, King A, Chen AR, Gamper CJ, **Colantuoni E**, Milstone AM, Cooper SL. Trainee-led Engagement of the Care Team Improves Application of an Institutional Blood Culture Clinical Decision Algorithm to Pediatric Oncology Inpatients: A Single-institution Quality Improvement Project. *Pediatr Qual Saf*. **2022** Mar 30;7(2):e545. doi: 10.1097/pq9.0000000000000545. PMID: 35369412; PMCID: PMC8970086.

4. Johnson J, Latif A, Randive B, Kadam A, Rajput U, Kinikar A, Malshe N, Lalwani S, Parikh TB, Vaidya U, Malwade S, Agarkhedkar S, Curless MS, Coffin S, Smith RM, Westercamp M, **Colantuoni E**, Robinson ML, Mave V, Gupta A, Manabe YC, Milstone AM. Implementation of the Comprehensive Unit-based Safety Program to Improve Infection Prevention and Control Practices in Four Neonatal Intensive Care Units in Pune, India. *Frontiers in Pediatrics*. **2022** Jan 6;9:794637. doi: 10.3389/fped.2021.794637. PMID: 35071137; PMCID: PMC8772032.
5. Brown CH, Edwards C, Lin C, Jones EL, Yanek LR, Esmaili M, Gorashi Y, Skelton R, Kaganov D, Curto R, Lessing NL, Cha S, **Colantuoni E**, Neufeld K, Sieber F, Dean CL, Hogue CW. Spinal Anesthesia with Targeted Sedation based on Bispectral Index Values Compared with General Anesthesia with Masked Bispectral Index Values to Reduce Delirium: The SHARP Randomized Controlled Trial. *Anesthesiology*. **2021** Dec 1;135(6):992-1003.
6. Debes AK, Xiao S, **Colantuoni E**, Egbert ER, Caturegli P, Gadala A, Milstone AM. Association of Vaccine Type and Prior SARS-CoV-2 Infection With Symptoms and Antibody Measurements Following Vaccination Among Health Care Workers. *JAMA Intern Med*. **2021** Dec 1;181(12):1660-1662. PMCID: PMC8369424.
7. Zhong D, Xiao S, Debes AK, Egbert ER, Caturegli P, **Colantuoni E**, Milstone AM. Durability of Antibody Levels After Vaccination With mRNA SARS-CoV-2 Vaccine in Individuals With or Without Prior Infection. *JAMA*. Published online November 01, **2021**. doi:10.1001/jama.2021.19996
8. Zhao N, Khamash DF, Koh H, Voskertchian A, Egbert E, Mongodin EF, White JR, Hittle L, **Colantuoni E**, Milstone AM. Low Diversity in Nasal Microbiome Associated With *Staphylococcus aureus* Colonization and Bloodstream Infections in Hospitalized Neonates. *Open Forum Infect Dis*. **2021** Sep 18;8(10):ofab475. PMCID: PMC8507450.
9. Egbert ER, Xiao S, **Colantuoni E**, Caturegli P, Gadala A, Milstone AM, Debes AK. Durability of Spike Immunoglobulin G Antibodies to SARS-CoV-2 Among Health Care Workers With Prior Infection. *JAMA Netw Open*. **2021** Aug 2;4(8):e2123256. doi: 10.1001/jamanetworkopen.2021.23256. PMID: 34459910.
10. **Colantuoni E**, Li X, Hashem MD, Girard TD, Scharfstein DO, Needham DM. A structured methodology review showed analyses of functional outcomes are frequently limited to “survivors only” in trials enrolling patients at high risk of death. *J Clin Epidemiol*. **2021**;137:126-132.
11. Tonna JE, Dalton A, Presson AP, Zhang C, **Colantuoni E**, Lander K, Howard S, Beynon J, Kamdar BB. The Effect of a Quality Improvement Intervention on

- Sleep and Delirium in Critically Ill Patients in a Surgical ICU. *Chest*. **2021** Sep;160(3):899-908. PMID: PMC8448998.
12. \*Cichowitz C, Loevinsohn G, Klein EY, **Colantuoni E**, Galiatsatos P, Rennert J, Irvin NA. Racial and ethnic disparities in hospital observation in Maryland. *Am J Emerg Med*. **2021** Aug;46:532-538. doi: 10.1016/j.ajem.2020.11.010. Epub 2020 Nov 11. PMID: 33243537.
  13. **Colantuoni E**, Koneru M, Akhlaghi N, Li X, Hashem MD, Dinglas VD, Neufeld KJ, Harhay MO, Needham DM. Heterogeneity in design and analysis of ICU delirium randomized trials: a systematic review. *Trials*. **2021** May 20;22(1):354. doi: 10.1186/s13063-021-05299-1. PMID: 34016134; PMCID: PMC8136095.
  14. Berney S, Hopkins RO, Rose JW, Koopman R, Puthuchearu Z, Pastva A, Gordon I, **Colantuoni E**, Parry SM, Needham DM, Denehy L. Functional electrical stimulation in-bed cycle ergometry in mechanically ventilated patients: a multicentre randomised controlled trial. *Thorax*. **2021** Jul;76(7):656-663. doi: 10.1136/thoraxjnl-2020-215093. Epub 2020 Dec 15. PMID: 33323480.
  15. Hashem MD, Hopkins RO, **Colantuoni E**, Dinglas VD, Sinha P, Friedman LA, Morris PE, Jackson JC, Hough CL, Calfee CS, Needham DM. Six- and 12-month patient outcomes based on inflammatory subphenotypes in sepsis-associated ARDS: secondary analysis of SAILS-ALTOS trial. *Thorax*. **2021** Jun 10;thoraxjnl-2020-216613. doi: 10.1136/thoraxjnl-2020-216613. Epub ahead of print. PMID: 34112703.
  16. Ward D, Absalom A, Aitken LM, Balas MC, Brown DL, Burry L, **Colantuoni E**, Coursin D, Devlin JW, Dexter F, Dworkin RH, Egan TD, Elliott D, Egerod I, Flood P, Fraser GL, Girard TD, Gozal D, Hopkins RO, Kress J, Maze M, Needham DM, Pandharipande P, Riker R, Sessler DI, Shafer SL, Shehabi Y, Spies C, Sun LS, Tung A, Urman RD. Design of clinical trials evaluating sedation in critically ill adults undergoing mechanical ventilation: Recommendations from SCEPTER III. *Critical Care Medicine*. : April 28, **2021** - Volume Latest Articles - Issue - doi: 10.1097/CCM.0000000000005049
  17. Zanettini C, Omar M, Dinalankara W, Imada EL, **Colantuoni E**, Parmigiani G, Marchionni L. Influenza Vaccination and COVID-19 Mortality in the USA: An Ecological Study. *Vaccines*. **2021**; 9(5):427. <https://doi.org/10.3390/vaccines9050427>
  18. Zanettini C, Omar M, Dinalankara W, Imada EL, **Colantuoni E**, Parmigiani G, Marchionni L. covid19census: U.S. and Italy COVID-19 metrics and other epidemiological data. Database (Oxford). **2021** May 15;2021:baab027. doi: 10.1093/database/baab027. PMID: 33991092; PMCID: PMC8122363.
  19. Sick-Samuels AC, Linz M, Bergmann J, Fackler JC, Berenholtz SM, Ralston SL,

- Hoops K, Dwyer J, **Colantuoni E**, Milstone AM. Diagnostic Stewardship of Endotracheal Aspirate Cultures in a PICU. *Pediatrics* **2021** May; 147(5): e20201634.
20. Nakano M, Nomura Y, Whitman G, Sussman M, Schena S, Kilic A, Choi CW, Akiyoshi K, Neufeld KJ, Lawton J, **Colantuoni E**, Yamaguchi A, Wen M, Smielewski P, Brady K, Bush B, Hogue CW, Brown CH 4th. Cerebral autoregulation in the operating room and intensive care unit after cardiac surgery. *Br J Anaesth.* **2021** May;126(5):967-974. doi: 10.1016/j.bja.2020.12.043. Epub 2021 Mar 23. PMID: 33741137; PMCID: PMC8132879.
  21. **Colantuoni, E** Clarifying the Impact of Predicted Versus Observed Control Arm Mortality Rates on Randomized Trials in Critical Illness, *Critical Care Medicine*: April **2021**; 49(4), e483-e484 doi: 10.1097/CCM.0000000000004866
  22. Parry SM, Nalamalapu SR, Nunna K, Rabiee A, Friedman LA, **Colantuoni E**, Needham DM, Dinglas VD. Six-minute walk distance after critical illness: a systematic review and meta-analysis. *J Intensive Care Med.* **2021**;36:343-351. PMCID: PMC7442114.
  23. \*Peitzmeier SM, Wirtz AL, Beyrer C, Peryshkina A, Sherman SG, Colantuoni E, Decker MR. Polyvictimization Among Russian Sex Workers: Intimate Partner, Police, and Pimp Violence Cluster With Client Violence. *J Interpers Violence.* **2021** Aug;36(15-16):NP8056-NP8081. doi: 10.1177/0886260519839431. Epub 2019 Apr 9. PMID: 30966847.
  24. \*Kelly JTD, **Colantuoni E**, Robinson C, Decker MR. Quantifying the Ripple Effects of Civil War: How Armed Conflict Is Associated with More Severe Violence in the Home. *Health Hum Rights.* **2021** Jun;23(1):75-89. PMID: 34194203; PMCID: PMC8233021.
  25. Baldwin MR, Pollack LR, Friedman RA, Norris SP, Javaid A, O'Donnell MR, Cummings MJ, Needham DM, **Colantuoni E**, Maurer MS, Lederer DJ. Frailty subtypes and recovery in older survivors of acute respiratory failure: a pilot study. *Thorax.* **2021** Apr;76(4):350-359. doi: 10.1136/thoraxjnl-2020-214998. Epub 2020 Dec 9. PMID: 33298583; PMCID: PMC8187474.
  26. Hoops KEM, Fackler JC, King A, **Colantuoni E**, Milstone AM, Woods-Hill C. How good is our diagnostic intuition? Clinician prediction of bacteremia in critically ill children. *BMC Med Inform Decis Mak.* **2020**;20(1):144.
  27. Hiser S, Chung, C, Toonstra A, Friedman LA, **Colantuoni E**, Hoyer E, Needham D. Inter-rater Reliability of the Johns Hopkins Highest Level of Mobility Scale (JH-HLM) in the Intensive Care Unit. *Brazilian Journal of Physical Therapy.* **2020.** Aug 8:S1413-3555(19)30620-3.

28. Gupta P, Martin JL, Needham DM, Vangala S, **Colantuoni E**, Kamdar BB. Use of Actigraphy to Characterize Inactivity and Activity in Patients in a Medical ICU. *Heart Lung*. **2020** Jul-Aug;49(4):398-406.
29. \*Peitzmeier, S., Wirtz, A., Peryshkina, A., Sherman, S., **Colantuoni E**, Beyrer, C., Decker, M. Associations between violence and HIV risk behaviors differ by perpetrator among Russian sex workers. *AIDS Behav*. **2020** Mar;24(3):812-822.
30. Roydhouse J, Cappelleri JC, **Colantuoni E**, Alemayehu D. Methods to evaluate and correct for bias in patient-reported outcomes in clinical trials: A discussion. In *JSM Proceedings, Biopharmaceutical Section*. Alexandria, Virginia: American Statistical Association, **2020**. pp. 7-14.
31. \*Dougherty, G.B., Golden, S.H., Gross, A., **Colantuoni E**, Dean, L.T. Measuring structural racism and its association with body mass index. *American Journal of Preventive Medicine*. 2020 Oct;59(4):530-537.
32. Rawal H, Young DL, Nikooie R, Al-Ani HA, Friedman LA, Vasishta S, Haut ER, **Colantuoni E**, Needham DM, Dinglas VD. Participant retention in trauma intensive care unit (ICU) follow-up studies: a post-hoc analysis of a previous scoping review. *Trauma Surg Acute Care Open*. **2020**; 5:e000584.
33. Friedman LA+, Young DL+, Nelliot A, **Colantuoni E**, Mendez-Tellez PA, Needham DM, Dinglas VD. Factors associated with home visits in a 5-year longitudinal study of acute respiratory distress syndrome survivors. *Am J Crit Care*. **2020**. 29(6):429-438. +Contributed equally as co-first authors.
34. Hiser S, Toonstra A, Friedman LA, **Colantuoni E**, Needham DM. Inter-rater reliability of activity measure for post-acute care '6-Clicks' inpatient mobility short form in the intensive care unit. *Physiother Res Int*. **2020**; 25: e1849.
35. Wang C, **Colantuoni E**, Leroux A, Scharfstein D. idem: An R package for inferences in clinical trials with death and missingness. *Journal of Statistical Software*. **2020**; 93 (12). doi 10.18637/jss.v093.i12
36. Gupta P, Martin JL, Needham DM, Vangala S, **Colantuoni E**, Kamdar BB. Use of actigraphy to characterize inactivity and activity in patients in a medical ICU. *Heart Lung*. 2020 Jul-Aug;49(4):398-406. doi: 10.1016/j.hrtlng.2020.02.002. Epub **2020** Feb 24.
37. Nunna K, Al-Ani A, Nikooie R, Friedman LA, Raman V, Wadood Z, Vasishta S, **Colantuoni E**, Needham DM, Dinglas VD. Participant retention in follow-up studies of acute respiratory failure survivors. *Respiratory Care*. **2020**;65(9):1382-1391.

38. Semler MW, Bernard GR, Aaron SD, Angus DC, Biros MH, Brower RG, Calfee CS, **Colantuoni EA**, Ferguson ND, Gong MN, Hopkins RO, Hough CL, Iwashyna TJ, Levy BD, Martin TR, Matthay MA, Mizgerd JP, Moss M, Needham DM, Self WH, Seymour CW, Stapleton RD, Thompson BT, Wunderink RG, Aggarwal NR, Reineck LA. Identifying clinical research priorities in adult pulmonary and critical care: NHLBI working group report. *Am J Respir Crit Care Med*. **2020** Mar 9. doi: 10.1164/rccm.201908-1595WS. Online ahead of print. PMID: 32150460
39. Woods-Hill CZ, Koontz DW, King AF, Voskertchian A, **Colantuoni E**, Miller MR, Fackler JC, Bonafide CP, Milstone AM, Xie A; Bright Star Authorship group. Practices, Perceptions, and Attitudes in the Evaluation of Critically Ill Children for Bacteremia: A National Survey. *Pediatr Crit Care Med*. **2020** Jan;21(1):e23-e29. doi: 10.1097/PCC.0000000000002176.
40. Milstone AM, Voskertchian A, Koontz DW, Khamash DF, Ross T, Aucott SW, Gilmore MM, Cosgrove SE, Carroll KC, **Colantuoni E**. Effect of Treating Parents Colonized With *Staphylococcus aureus* on Transmission to Neonates in the Intensive Care Unit: A Randomized Clinical Trial. *JAMA*. **2020**;323(4):319–328. doi: 10.1001/jama.2019.20785.
41. Kamdar BB, Suri R, Suchyta MR, Digrande K, Sherwood K, **Colantuoni E**, Dinglas VD, Needham DM, Hopkins RO. Return to Work After Critical Illness: A Systematic Review and Meta-Analysis. *Thorax*. **2020** Jan;75(1):17-27. doi: 10.1136/thoraxjnl-2019-213803 PMID: PMC7418481
42. Young DL, **Colantuoni E**, Friedman LA, Seltzer J, Daley K, Ye B, Brotman DJ, Hoyer EH. Prediction of Disposition within 48-hours of Hospital Admission Using Patient Mobility Scores. *J Hosp Med*. **2020** Sep;15(9):540-543.
43. \*Peitzmeier, S., Wirtz, A.L., Beyrer, C., Peryshkina, A., Sherman, S.G., **Colantuoni, E.**, Decker, M.R. Polyvictimization in a sample of Russian sex workers: Intimate partner, police, and pimp violence cluster with client violence. *J Interpersonal Violence*. **2019** Apr 9:886260519839431.
44. Khamash DF, Mongodin EF, White JR, Voskertchian A, Hittle L, **Colantuoni E**, Milstone AM. The Association between the Developing Nasal Microbiota of Hospitalized Neonates and *Staphylococcus aureus* Colonization. *Open Forum Infect Dis*. **2019** Mar 21;6(4):ofz062.
45. \*Gibbs SE, Kusunoki Y, **Colantuoni E**, Moreau C. Sexual activity and weekly contraceptive use among young adult women in Michigan. *Popul Stud (Camb)*. **2019** Jul;73(2):233-245.
46. Rosenberg BJ, Hirano M, Quinzii CM, **Colantuoni E**, Needham DM, Lederer DJ,



- Baldwin MR. Growth differentiation factor-15 as a biomarker of strength and recovery in survivors of acute respiratory failure. *Thorax*. **2019**. Epub 2019/09/20. doi: 10.1136/thoraxjnl-2019-213621. PubMed PMID: 31534031
47. Parry SM, Nalamalapu SR, Nunna K, Rabiee A, Friedman LA, **Colantuoni E**, Needham DM, Dinglas VD. Six-minute walk distance after critical illness: a systematic review and meta-analysis. *J Intensive Care Med*. 2019. **2019** Nov 5:885066619885838. doi: 10.1177/0885066619885838.
48. Brown CH 4th, Jones EL, Lin C, Esmaili M, Gorashi Y, Skelton RA, Kaganov D, **Colantuoni EA**, Yanek LR, Neufeld KJ, Kamath V, Sieber FE, Dean CL, Edwards CC 2nd, Hogue CW. Shaping anesthetic techniques to reduce post-operative delirium (SHARP) study: a protocol for a prospective pragmatic randomized controlled trial to evaluate spinal anesthesia with targeted sedation compared with general anesthesia in older adults undergoing lumbar spine fusion surgery. *BMC Anesthesiol*. **2019** Oct 27;19(1):192. doi: 10.1186/s12871-019-0867-7.
49. \*Kelly J, **Colantuoni E**, Robinson C, Decker MR. From political to personal violence: Links between conflict and non-partner physical violence in post-conflict Liberia, *Global Public Health*. **2019**; 14:12, 1639-1652, DOI: [10.1080/17441692.2019.1650949](https://doi.org/10.1080/17441692.2019.1650949)
50. \*Wilhelm JA, Qiu M, Paina L, **Colantuoni E**, Mukuru M, Ssengooba F, et al. The impact of PEPFAR transition on HIV service delivery at health facilities in Uganda. *PLoS ONE*. **2019**; 14(10): e0223426. <https://doi.org/10.1371/journal.pone.0223426>
51. Turnbull AE, Hayes MM, Brower RG, **Colantuoni E**, Sharma Basyal P, White DB, Curtis JR, Needham DM. The effect of documenting prognosis on the information provided to ICU proxies: A randomized trial. *Critical Care Medicine*. **2019**; 47(6):757-764.
52. Sick-Samuels AC, Woods-Hill CZ, Fackler JC, Tamma PD, Klaus SA, **Colantuoni E**, Milstone AM. Association of a Blood Culture Utilization Intervention on Antibiotic Use in a Pediatric Intensive Care Unit. *Infect Control Hosp Epidemiol*. **2019**;40(4):482-484.
53. Sick-Samuels AC, Goodman KE, Rapsinski G, **Colantouni E**, Milstone AM, Nowalk AJ, Tamma PD. A Decision Tree Using Patient Characteristics to Predict Resistance to Commonly Used Broad-spectrum Antibiotics in Children with Gram-negative Bloodstream Infections. *J Pediatric Inf Dis Soc*. **2019** Jan 25. doi:10.1093/jpids/piy137. [Epub ahead of print] PubMed PMID: 30690525
54. Johnson J, Suwantararat N, **Colantuoni E**, Ross TL, Aucott SW, Carroll KC, Milstone AM. The impact of chlorhexidine gluconate bathing on skin bacterial

- burden of neonates admitted to the Neonatal Intensive Care Unit. *Journal of Perinatology*. **2019**; 39(1): 63-71.
55. Wozniak AW, Pfoh ER, Dinglas VD, Pronovost PJ, Needham DM, **Colantuoni E**. Hospital Readmission and Subsequent Decline in Long-Term Survivors of Acute Respiratory Distress Syndrome. *American Journal of Critical Care*. **2019**;28(1):76-80.
  56. Hiser S, Toonstra A, Friedman LA, **Colantuoni E**, Connolly B, Needham D. Inter-rater reliability of the Functional Status Score for the Intensive Care Unit. *J Acute Care Phys Ther*. **2018**; 9(4): 186-192.
  57. \*Kelly JTD, **Colantuoni E**, Robinson C, Decker MR. From the battlefield to the bedroom: a multilevel analysis of the links between political conflict and intimate partner violence in Liberia. *BMJ Glob Health*. **2018**; 3(2):e000668.
  58. Turnbull AE, Sahetya SK, **Colantuoni E**, Kweku J, Nikooie R, Curtis JR. Inter-Rater Agreement of Intensivists Evaluating the Goal Concordance of Preference-Sensitive ICU Interventions. *Journal of Pain and Symptom Management*. **2018**;56(3):406-413.e3.
  59. Heins SE, Wozniak AW, **Colantuoni E**, Sepulveda KA, Mendez-Tellez PA, Dennison-Himmelfarb C, Needham DM, Dinglas VD. Factors associated with missed assessments in a 2-year longitudinal study of acute respiratory distress syndrome survivors. *BMC Medical Research Methodology*. **2018**;18(1):55.
  60. Diaz I, **Colantuoni E**, Hanley DF, Rosenblum M. Improved Precision in the Analysis of Randomized Trials with Survival Outcomes, without Assuming Proportional Hazards. *Lifetime Data Analysis*. **2018**.  
<https://doi.org/10.1007/s10985-018-9428-5>
  61. Voskertchian, A., Akinboyo, I., **Colantuoni, E.**, Johnson, J., & Milstone, A. Association of an Active Surveillance and Decolonization Program on Incidence of Clinical Cultures Growing *Staphylococcus aureus* in the Neonatal Intensive Care Unit. *Infection Control & Hospital Epidemiology*. **2018**; 39(7):882-884.
  62. \*Ettinger AK, Riley AW, **Colantuoni E**, Mendelson T. Trajectories of Early Parenting Practices among Low-Income Ethnically Diverse Women. *Journal of Child and Family Studies*. **2018**; 27 (2): 615-628.
  63. Bienvenu OJ, Aronson Friedman L, **Colantuoni E**, Dinglas VD, Sepulveda KA, Mendez-Tellez P, Shanholz C, Pronovost PJ, Needham DM. Psychiatric symptoms after acute respiratory distress syndrome: a 5-year longitudinal study. *Intensive Care Med*. **2018**;44(1):38-47.
  64. Kamdar BB, Sepulveda KA, Chong A, Lord RK, Dinglas VD, Mendez-Tellez

- PA, Shanholz C, **Colantuoni E**, von Wachter TM, Pronovost PJ, Needham DM. Return to Work and Lost Earnings after Acute Respiratory Distress Syndrome: A 5-Year Prospective, Longitudinal Study of Long-Term Survivors. *Thorax*. **2018**;73:125-133.
65. **Colantuoni E**, Scharfstein DO, Wang C, Hashem MD, Leroux A, Needham DM, Girard TD. Statistical methods to compare functional outcomes in RCTs with high mortality. *British Medical Journal*, **2018**;360:j5748.
  66. Dinglas VD, Chessare CM, Davis WE, Parker A, Friedman LA, **Colantuoni E**, Bingham CO, Turnbull AE, Needham DM. Perspectives of survivors, families, and researchers on key outcomes for research in acute respiratory failure. *Thorax*. **2018**;73:7–12.
  67. \*Wong MS, Chan KS, Jones-Smith JC, **Colantuoni E**, Thorpe RJ Jr, Bleich SN. The neighborhood environment and obesity: understanding variation by race/ethnicity. *Prev Med*. **2018**;111:371-377.
  68. \*Mroz TM, Meadow A, **Colantuoni E**, Leff B, Wolff JL. Home health agency characteristics and quality outcomes for Medicare beneficiaries with rehabilitation-sensitive conditions. *Archives of Physical Medicine*. **2018**;99(6):1090-1098.e4.
  69. Truong AD, Kho ME, Brower RG, Feldman DR, **Colantuoni E**, Needham DM. Effects of neuromuscular electrical stimulation on cytokines in peripheral blood for healthy participants: a prospective, single-blinded study. *Clinical physiology and functional imaging*. **2017**; 37(3):255-262.
  70. Qian, T, **Colantuoni, E**, Fisher, A, Rosenblum, M. Sensitivity of Trial Performance to Delay Outcomes, Accrual Rates, and Prognostic Variables Based on a Simulated Randomized Trial with Adaptive Enrichment. *Contemporary Clinical Trials Communications*. **2017**; 8: 39-48.
  71. \*Wong MS, Jones-Smith J, **Colantuoni E**, Bleich SN, Thorpe RJ & Chan KS. (2017) The longitudinal association between early childhood obesity and fathers' involvement in childcare and decision-making. *Obesity*. **2017**;25(10):1754-1761.
  72. Schreiber MP, **Colantuoni E**, Neufeld KJ, Needham DM. Comparing analyses of corticosteroids and transition to delirium in critically ill patients. *Intensive Care Med*. **2017**;43(12):1933-1935.
  73. Ruhl AP\*, Huang M\*, **Colantuoni E**, Karmarkar T, Dinglas VD, Hopkins RO, Needham DM. Healthcare Utilization and Costs in ARDS Survivors: A 1-Year Longitudinal National U.S. Multicenter Study. *Intensive Care Med*. **2017**;43(7):980-991. \*Contributed equally to the manuscript as co-first authors

74. Palta P, Carlson MC, Crum RM, **Colantuoni E**, Sharrett AR, Yasar S, Nahin R, DeKosky ST, Snitz B, Lopez O, Williamson JD, Furberg CD, Rapp SR, Golden SH. Diabetes and Cognitive Decline in Older Adults: The Ginkgo Evaluation of Memory Study. *Journal of Gerontology: Medical Sciences*. **2017**;73(1):123-130.
75. Kamdar BB, Huang M, Dinglas VD, **Colantuoni E**, von Wachter TM, Hopkins RO, Needham DM, with the National Heart, Lung, and Blood Institute Acute Respiratory Distress Syndrome Network. Joblessness and Lost Earnings After ARDS in a 1-Year National Multicenter Study. *American Journal of Respiratory and Critical Care Medicine*. **2017**;196(8):1012-1020.
76. Dinglas VD, Friedman LA, **Colantuoni E**, Mendez-Tellez PA, Shanholtz CB, Ciesla ND, Pronovost PJ, Needham DM. Muscle weakness and 5-year survival in acute respiratory distress syndrome survivors. *Critical Care Medicine*. **2017**; 45(3):446-453.
77. Brodsky MB, Huang M, Shanholtz C, Mendez-Tellez PA, Palmer JB, **Colantuoni E**, Needham DM. Recovery from dysphagia symptoms after oral endotracheal intubation in acute respiratory distress syndrome survivors. A 5-year longitudinal study. *Ann Am Thorac Soc*. **2017**;14(3):376-383.
78. Ruhl AP, Huang M, **Colantuoni E**, Lord RK, Dinglas VD, Chong A, Sepulveda KA, Mendez-Tellez PA, Shanholtz CB, Steinwachs DM, Pronovost PJ, Needham DM. Healthcare Resource Use and Costs in Long-Term Survivors of Acute Respiratory Distress Syndrome: A 5-Year Longitudinal Cohort Study. *Crit Care Med*. **2017**;45(2):196-204.
79. Wang C, Scharfstein DO, **Colantuoni E**, Girard TD, and Yan Y. Inference in Randomized Trials with Death and Missingness. *Biometrics*. **2017**; 73(2): 431-440.
80. Woods-Hill CZ, Fackler J, McMillan KN, Ascenzi J, Martinez DA, Toerper MF, Voskertchian A, **Colantuoni E**, Klaus SA, Levin S, Milstone AM. Reducing unnecessary blood culture use in critically ill children: towards microbiologic stewardship in a pediatric intensive care unit. *JAMA Pediatr*. **2017**;171(2):157-164.
81. \*Lashoher A, Schneider EB, Juillard C, Stevens K, **Colantuoni E**, Berry WR, Bloem C, Chadbunchachai W, Dharap S, Dy SM, Dziekan G, Gruen RL, Henry JA, Huwer C, Joshipura M, Kelley E, Krug E, Kumar V, Kyamanywa P, Mefire AC, Musafir M, Nathens AB, Ngendahayo E, Nguyen TS, Roy N, Pronovost PJ, Khan IQ, Razzak JA, Rubiano AM, Turner JA, Varghese M, Zakirova R, Mock, C. Implementation of the World Health Organization Trauma Care Checklist Program in 11 Centers Across Multiple Economic Strata: Effect on Care Process Measures. *World J Surg*. **2017**;41(4):954-962.

82. Truong AD, Kho ME, Brower RG, Feldman DR, **Colantuoni E**, Needham DM. Effects of neuromuscular electrical stimulation on cytokines in peripheral blood for healthy participants: a prospective, single-blinded Study. *Clin Physiol Funct Imaging*. **2017**;37(3):255-262.
83. Patil, P., **Colantuoni, E.**, Leek, J. T., Rosenblum, M. Genomic and clinical predictors for improving estimator precision in randomized trials of breast cancer treatments. *Contemporary Clinical Trials Communications*. **2016**; 3: 48-54.
84. Dinglas VD, **Colantuoni E**, Ely EW, Hough CL, Morris PE, Mendez-Tellez PA, Wozniak AW, Hopkins RO, Needham DM. Authors' Response to Commentaries on Rosuvastatin for Delirium and Cognitive Impairment in Sepsis-Associated Acute Respiratory Distress Syndrome. *Journal of Thoracic Disease*. **2016**;8:E1534-E1536.
85. Pfoh ER\*, Wozniak AW\*, **Colantuoni E**, Dinglas VD, Mendez-Tellez PA, Shanholtz C, Ciesla ND, Pronovost PJ, Needham DM. Physical declines occurring after hospital discharge in ARDS survivors: a 5-year longitudinal study. *Intensive Care Medicine*. **2016**;42:1557-1566. \*Contributed equally to the manuscript as co-first authors
86. Kamdar BB, Combs MP, **Colantuoni E**, King LM, Niessen T, Neufeld KJ, Collop NA, Needham DM. The association of sleep quality, delirium, and sedation with participation in physical therapy in the ICU. *Critical Care*. **2016**; 20:261.
87. **Colantuoni E**, Dinglas VD, Ely EW, Hopkins RO, Needham DM. Statistical approaches for evaluating interventions to reduce delirium in the ICU. *The Lancet Respiratory Medicine* **2016**; 4(7):534-6.
88. Needham DM, Dinglas VD, Hough CL, **Colantuoni E**, Hopkins RO. Improved risk stratification for clinical trials of delirium – authors' reply. *The Lancet Respiratory Medicine*. **2016**; 20(16); 4:e18.
89. Huang M, Parker AM, Bienvenu OJ, Dinglas VD, **Colantuoni E**, Hopkins RO, Needham DM, ARDSNet NIH/NHLBI. Psychiatric symptoms in acute respiratory distress syndrome survivors: a 1-year national multi-center study. *Crit Care Med*. **2016**;44(5):954-65.
90. Kovacich, A., Tamma P. D., MD, Advani S., Popoola V. O., **Colantuoni E.**, Gosey L., Milstone A. M. Peripherally Inserted Central Venous Catheter Complications in Children Receiving Outpatient Parenteral Antibiotic Therapy (OPAT). *Infection Control and Hospital Epidemiology*. *Infect Control Hosp Epidemiol*. **2016**;37(4):420-4.
91. \*Colligan EM, Pines JM, **Colantuoni E**, Wolff JL. Factors associated with

- frequent emergency department use in the Medicare population. *Med Care Res Rev.* **2016**; 74(3):311-327.
92. \*Colligan EM, Pines JM, **Colantuoni E**, Howell B, Wolff JL. Risk factors for persistent frequent emergency department use in Medicare beneficiaries. *Ann Emerg Med.* **2016**;67(6):721-9.
  93. Dinglas VD, Hopkins RO, Wozniak AW, Hough CL, Morris PE, Jackson JC, Mendez-Tellez PA, Bienvenu OJ, Ely EW, **Colantuoni E**, Needham DM. One-year outcomes of rosuvastatin vs. placebo in sepsis-associated acute respiratory distress syndrome: prospective follow-up of SAILS randomized trial. *Thorax.* **2016**;71: 401-410.
  94. Needham DM, **Colantuoni E**, Dinglas VD, Hough CL, Wozniak AW, Jackson JC, Morris PE, Mendez-Tellez PA, Ely EW, Hopkins RO. Rosuvastatin for Delirium and Cognitive Impairment in Sepsis-Associated Acute Respiratory Distress Syndrome: An Ancillary Study to a Randomized Controlled Trial. *The Lancet Respiratory Medicine.* **2016**; 4(3) 203-212.
  95. Hoyer EH, Friedman M, Lavezza A, Wagner-Kosmakos K, Lewis-Cherry R, Skolnik JL, Byers SP, Atanelov, L, **Colantuoni E**, Brotman DJ, Needham DM. Promoting mobility and reducing length of stay in hospitalized general medicine patients: A quality improvement project. *Journal of Hospital Medicine.* **2016**; 11(5):341-7.
  96. Rinke ML, Driscoll A, Mikat-Stevens N, Healy J, **Colantuoni E**, Elias AF, Pletcher BA, Gubernick RS, Larson I, Chung WK, Tarini BA,. A quality improvement collaborative to improve pediatric primary care genetic services. *Pediatrics.* **2016**;137(2):e20143874.
  97. Popoola, V.O., **Colantuoni, E.**, Suwantararat, N., Pierce, R., Carroll, K.C., Aucott, S.W., Milstone, A.M. "Active Surveillance Cultures and Decolonization to Reduce *Staphylococcus aureus* Infections in the NICU" *Infect Control Hosp Epidemiol.* **2016**;37(4):381-7.
  98. Díaz, I., **Colantuoni, E.** and Rosenblum, M. Enhanced precision in the analysis of randomized trials with ordinal outcomes. *Biometrics.* **2016**;72(2):422-31.
  99. Heyland DK, Stapleton RD, Mourtzakis M, Hough CL, Morris P, Deutz NE, **Colantuoni E**, Day A, Prado CM, Needham DM. Combining nutrition and exercise to optimize survival and recovery from critical illness: Conceptual and methodological issues. *Clin Nutr.* **2016**;35(5):1196-206.
  100. Milstone AM, Koontz DW, Voskertchian A, Popoola V, Harrelson K, Ross T, Aucott SW, Gilmore MM, Carroll KC, **Colantuoni E.** Treating Parents to Reduce NICU Transmission of *Staphylococcus aureus* (TREAT PARENTS) trial:

- protocol of a multisite randomised, double-blind, placebo-controlled trial. *BMJ Open* **2015**;5(9):e009274.
101. **Colantuoni E**, Rosenblum M. Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. *Statistics in Medicine*. **2015**;34(18): 2602-2617.
  102. Rinke ML, Chen AR, Milstone AM, Hebert L, Bundy DG, **Colantuoni E**, Fratino L, Herpst C, Kokoszka M, Miller MR. Bringing central line-associated bloodstream infection prevention home: Catheter maintenance practices and beliefs of pediatric oncology patients and families. *The Joint Commission Journal on Quality and Patient Safety*. **2015**;41:177-185.
  103. \*Gellar JE, **Colantuoni E**, Needham DM, and Crainiceanu CM. Cox Regression Models with Functional Covariates for Survival Data. *Statistical Modeling*. **2015**;15(3):256-278.
  104. Ruhl AP, Lord RK, Panek JA, **Colantuoni E**, Sepulveda KA, Chong A, Dinglas VD, Shanoltz CB, Pronovost PJ, Steinwachs DM, Needham DM. Healthcare Resource Utilization and Costs of 2-Year Survivors of Acute Lung Injury: An Observational Cohort Study. *Ann Am Thorac Soc*. **2015**;12(3):392-401.
  105. Bienvenu OJ, **Colantuoni E**, Mendez-Tellez PA, Shanholtz C, Dennison-Himmelfarb CR, Pronovost PJ, Needham DM. Co-occurrence of and remission from general anxiety, depression, and posttraumatic stress disorder symptoms. *Crit Care Med*. **2015**;43(3):642-53.
  106. Needham DM, Yang T, Dinglas VD, Mendez-Tellez PA, Shanholtz C, Sevransky JE, Brower RG, Pronovost PJ, **Colantuoni E**. Timing of Low Tidal Volume Ventilation and ICU Mortality in ARDS: A Prospective Cohort Study. *American Journal of Respiratory and Critical Care Medicine*. **2015**;191(2):177-85.
  107. Dinglas VD, Huang M, Sepulveda KA, Pinedo M, Hopkins RO, **Colantuoni E**, Needham DM. Personalized contact strategies and predictors of time to survey completion: analysis of two sequential randomized trials. *BMC Med Res Methodol*. **2015**;15:5.
  108. Kamdar BB, Niessen T, **Colantuoni E**, King LM, Neufeld KJ, Bienvenu OJ, Rowden AM, Collop NA, Needham DM. Delirium transitions in the medical ICU: exploring the role of sleep quality and other factors. *Critical Care Medicine*. **2015**;43(1):135-41.
  109. Rinke ML, Bundy DG, Abdullah F, **Colantuoni E**, Zhang Y, Miller MR. State-Mandated Hospital Infection Reporting Is Not Associated With Decreased Pediatric Healthcare-Associated Infections. *The Journal of Patient Safety*. **2015**;11(3):123-34.

110. Needham DM, Wozniak AW, Hough CL, Morris PE, Dinglas VD, Jackson JC, Mendez-Tellez PA, Shanholtz C, Ely EW, **Colantuoni E**, Hopkins RO, and with the NIH NHLBI ARDS Network. Risk Factors for Physical Impairment after Acute Lung Injury in a National, Multi-Center Study. *American Journal of Respiratory and Critical Care Medicine*. **2015**;191(2):177-85.
111. \*Lee-Kwan SH, Bleich SN, Kim H, **Colantuoni E**, Gittelsohn J. Environmental Intervention in Carryout Restaurants Increases Sales of Healthy Menu Items in a Low-Income Urban Setting. *Am J Health Promot*. **2015**;29(6):357-64.
112. Bundy DG, Gaur AH, Billett AL, He B, **Colantuoni E**, Miller MR. Preventing CLABSIs among pediatric hematology/oncology inpatients: National collaborative results. *Pediatrics*. **2014**;134(6):e1678-85.
113. Wozniak AW, **Colantuoni E**, Schreiber M, Neufeld KJ, Needham DM. Corticosteroids and Transition to Delirium in Acute Lung Injury: Multinomial Logistic Regression Analysis Accounting for Multiple States. *Critical Care Medicine*. **2014**;43(1):e23-e24.
114. \*Gellar JE, **Colantuoni E**, Needham DM, Crainiceanu CM. Variable- Domain Functional Regression for Modeling ICU Data. *Journal of the American Statistical Association*. **2014**;109(508):1425-1439.
115. Dinglas VD\*, Parker AM\*, Reddy DR, **Colantuoni E**, Zanni JM, Turnbull AE, Nelliott A, Ciesla N, Needham DM. A quality improvement project sustainably decreased time to onset of active physical therapy intervention in patients with acute lung injury. *Annals of the American Thoracic Society* **2014**;11(8): 1230-8.
116. Brodsky MB, Gellar JE, Dinglas VD, **Colantuoni E**, Mendez-Tellez PA, Shanholtz C, Palmer JB, Needham DM. Duration of oral endotracheal intubation is associated with dysphagia symptoms in acute lung injury patients. *J Crit Care*. **2014**;29(4):574-579.
117. \*Hatef E, Hanout M, Moradi A, **Colantuoni E**, Bittencourt M, Liu H, Sepah YJ, Ibrahim M, Do DV, Guyton DL, Nguyen QD. Longitudinal comparison of visual acuity as measured by the ETDRS chart and by the potential acuity meter in eyes with macular edema, and its relationship with retinal thickness and sensitivity. *Eye (Lond)*. **2014**;28(10):1239-45.
118. Kozlowski LJ, Kost-Byerly S, **Colantuoni E**, Thompson CB, Vasquenza KJ, Rothman SK, Billett C, White ED, Yaster M, Monitto CL. Pain prevalence, intensity, assessment and management in a hospitalized pediatric population. *Pain Manag Nurs*. **2014**;15(1):22-35.
119. Schreiber MP, **Colantuoni E**, Bienvenu OJ, Neufeld KJ, Chen KF, Shanholtz C, Mendez-Tellez PA, Needham DM. Corticosteroids and Transition to Delirium in



- Patients with Acute Lung Injury. *Crit Care Med.* **2014**;42(6):1480-6.
120. Brown CH 4th, Savage WJ, Masear CG, Walston JD, Tian J, **Colantuoni E**, Hogue CW, Frank SM. Odds of transfusion for older adults compared to younger adults undergoing surgery. *Anesth Analg.* **2014**;118(6):1168-78.
  121. Fan E, Dowdy DW, **Colantuoni E**, Mendez-Tellez PA, Sevransky JE, Shanholtz C, Himmelfarb CRD, Desai SV, Ciesla N, Herridge MS, Pronovost PJ, Needham DM. Physical complications in acute lung injury survivors: a 2-year longitudinal prospective study. *Crit Care Med.* **2014**;42(4):849-59.
  122. Mendez-Tellez PA, Dinglas VD, **Colantuoni E**, Ciesla N, Sevransky JE, Shanholtz C, Pronovost PJ, Needham DM. Factors Associated with Timing of Initiation of Physical Therapy in Acute lung Injury Patients. *J Crit Care.* **2013**;28(6):980-4.
  123. Netzer G, Dowdy DW, Harrington T, Chandolu S, Dinglas VD, Shah NG, **Colantuoni E**, Mendez-Tellez PA, Shanholtz C, Hasday JD, Needham DM. Fever is associated with delayed ventilation liberation in acute lung injury. *Ann Am Thorac Soc.* **2013**;10(6):608-15.
  124. Akshintala V.S., Hutfless S.M., **Colantuoni E**, Kim K.J., Khashab M.A., Li T., Elmunzer B.J., Puhan M.A., Sinha A., Kamal A., Lennon, A.M., Okolo P.I., Palakurthy M.K., Kalloo A.N., Singh V.K. Systematic review with network meta-analysis: pharmacological prophylaxis against post-ERCP pancreatitis. *Alimentary Pharmacology and Therapeutics.* **2013**;38(11-12):1325-37.
  125. Bienvenu OJ, Gellar J, Althouse BM, **Colantuoni E**, Sricharoenchai T, Mendez-Tellez PA, Shanholtz C, Dennison CR, Pronovost PJ, Needham DM. Post-traumatic stress disorder symptoms after acute lung injury: a 2-year prospective longitudinal study. *Psychological Medicine.* **2013**; 43(12): 2657-2671.
  126. \*Park S, Choi BY, Wang Y, **Colantuoni E**, Gittelsohn J. School and neighborhood nutrition environment and their association with students' nutrition behaviors and weight status in seoul, South Korea. *J Adolesc Health.* **2013**;53(5):655-662.e12.
  127. Rinke ML, Bundy DG, Chen AR, Milstone AM, **Colantuoni E**, Pehar M, Herpst C, Fratino L, Miller MR. Central Line Maintenance Bundles and CLABSI in Ambulatory Oncology Patients. *Pediatrics.* **2013**;132(5):e1403-12.
  128. Murphy DJ, Needham DM, Netzer G, Zeger SL, **Colantuoni E**, Ness P, Pronovost PJ, Berenholtz SM. Red blood cell transfusion practices among critically ill patients: Has evidence changed practice? *Critical Care Medicine* **2013**; 41(10): 2344-2353.

129. Needham, DM, Dinglas VD, Morris PE, Jackson JC, Hough CL, Mendez-Tellez PA, Wozniak AW, **Colantuoni E**, Ely EW, Rice, et al TW. Physical and Cognitive Performance of Patients with Acute Lung Injury 1 Year after Initial Trophic versus Full Enteral Feeding. EDEN Trial Follow-up. *Am J Respir Crit Care Med* **2013**; 188: 567-576.
130. Stevenson JE, **Colantuoni E**, Bienvenu OJ, Sricharoenchai T, Wozniak A, Shanholtz C, Mendez-Tellez PA, Needham DM. General anxiety symptoms after acute lung injury: Predictors and correlates. *Journal of Psychosomatic Research*. **2013**;75(3):287-93.
131. Damluji A, Zanni JM, Manthey E, **Colantuoni E**, Kho ME, Needham DM. Safety and Feasibility of Femoral Catheters during Physical Rehabilitation in the ICU. *J Crit Care*. **2013**;28(4):535.e9-15.
132. Rinke ML, Milstone AM, Chen AR, Mirski K, Bundy DG, **Colantuoni E**, Pehar M, Herpst C, Miller MR. Ambulatory Pediatric Oncology CLABSIs: Epidemiology and Risk Factors. *Pediatric Blood and Cancer*. **2013**;60(11):1882-9.
133. \*Tin A, **Colantuoni E**, Boerwinkle E, Kottgen A, Franceschini N, Astor BC, Coresh J, Kao WH. Using multiple measures for quantitative trait association analyses: application to estimated glomerular filtration rate. *J Hum Genet*. **2013**;58(7):461-6.
134. Rinke ML, Bundy DG, Milstone AM, Deuber K, Chen AR, **Colantuoni E**, Miller MR. Bringing CLABSI prevention home: CLABSI definitions and prevention policies in home health care agencies. *The Joint Commission Journal on Quality and Patient Safety*. **2013**;39(8):361-370.
135. Needham DM, Dinglas VD, Bienvenu OJ, **Colantuoni E**, Wozniak AW, Rice TW, Hopkins RO. One year outcomes in patients with acute lung injury randomised to initial trophic or full enteral feeding: prospective follow-up of EDEN randomised trial. *BMJ*. **2013**;346:f1532.
136. Dinglas VD, **Colantuoni E**, Ciesla N, Mendez-Tellez PA, Shanholtz C, Needham DM. Occupational Therapy for Acute Lung Injury Patients: Factors Associated with Time to First Intervention in the Intensive Care Unit. *American Journal of Occupational Therapy*. **2013**;41(1):9-14.
137. \*Bembea MM, Schwartz JM, Shah N, **Colantuoni E**, Lehmann CU, Kickler T, Pronovost P, Strouse JJ. Anticoagulation monitoring during pediatric extracorporeal membrane oxygenation. *American Society for Artificial Internal Organs*. **2013**;59(1):63-8.
138. Dinglas VD, Gifford JM, Husain N, **Colantuoni E**, Needham DM. Quality of

- Life Before Intensive Care Using EQ-5D: Patient versus Proxy Responses. *Critical Care Medicine* **2013** ;41(1):9-14.
139. Kowalski S, **Colantuoni E**, Lau B, Keruly J, McCaul ME, Hutton HE, Moore RD, Chander G. Alcohol consumption and CD4 T-cell count response among persons initiating antiretroviral therapy. *JAIDS*. **2012**;61(4):455-61.
  140. Winters B, Custer J, Galvagno SM Jr, **Colantuoni E**, Kapoor SG, Lee H, Goode V, Robinson K, Nakhasi A, Pronovost P, Newman-Toker D. Diagnostic errors in the intensive care unit: a systematic review of autopsy studies. *BMJ Qual Saf*. **2012**;21(11):894-902.
  141. Rinke ML, Chen AR, Bundy DG, **Colantuoni E**, Fratino L, Drucis KM, Panton SY, Kokoszka M, Budd AP, Milstone AM, Miller MR. Implementation of a Central Line Maintenance Care Bundle in Hospitalized Pediatric Oncology Patients. *Pediatrics*. **2012**;130(4):e996-e1004.
  142. Fan E, Gifford JM, Chandolu S, **Colantuoni E**, Pronovost PJ, Needham DM. The Functional Comorbidity Index had High Inter-Rater Reliability in Patients with Acute Lung Injury. *BMC Anesthesiology*. **2012**;12(1):21.
  143. Kamdar BB, King LM, Collop NA, Sakamuri S, **Colantuoni E**, Neufeld KJ, Bienvenu OJ, Rowden AM, Touradji P, Brower RG, Needham DM. The effect of a quality improvement intervention on perceived sleep quality and cognition in a medical ICU. *Critical Care Medicine*. **2012**;21(4):261-9.
  144. Kamdar BB, Shah PA, King LM, Kho ME, Zhou X, **Colantuoni E**, Collop NA, Needham DM. Patient-Nurse interrater reliability and agreement of the Richards-Campbell Sleep Questionnaire in a Medical Intensive Care Unit. *American Journal of Critical Care*. **2012**;21:261-269.
  145. Needham DM, **Colantuoni E**, Mendez-Tellez PA, Dinglas VD, Sevransky JE, Dennison Himmelfarb CR, Desai SV, Shanholtz C, Brower RG, Pronovost PJ. Lung protective mechanical ventilation and 2-year survival for acute lung injury: a prospective cohort study. *British Medical Journal*. **2012**;344:e2124.
  146. Duval-Arnould J, Matthews S, Weeks K, **Colantuoni E**, Mukherjee A, Shantanu N, Watson S, Holzmüller C, Lubomski LH, Goeschel CA, Pronovost PJ, Pham JC, Berenholtz SM. A Practical Tool to Improve Engagement in Quality and Safety Interventions. *Jt Comm J Qual Patient Saf*. **2012**;38(1):41-7, 1.
  147. Bienvenu OJ, **Colantuoni E**, Mendez-Tellez PA, Dinglas VD, Shanholtz C, Husain N, Dennison CR, Herridge MS, Pronovost PJ, Needham DM. Depressive symptoms and impaired physical function after acute lung injury: a 2-year longitudinal study. *American Journal of Respiratory and Critical Care Medicine*. **2012**;185(5): 517–524.

148. \*Sepah YJ, Hatef E, **Colantuoni E**, Wang J, Shulman M, Adhi FI, Akhtar A, Ibrahim M, Khwaja A, Channa R, Sophie R, Bittencourt M, Heo J, Do DV, Nguyen QD. Macular sensitivity and fixation patterns in normal eyes and eyes with uveitis with and without macular edema. *J Ophthalmic Inflamm Infect*. **2012**;2(2):65-73.
149. Dinglas VD, Gellar J, **Colantuoni E**, Stan VA, Mendez-Tellez PA, Pronovost PJ, Needham DM. Does ICU Severity of Illness Influence Recall of Baseline Physical Function? *Journal of Critical Care*. **2011**;26(6):634.e1-7.
150. Colantuoni C, Lipska BK, Ye T, Hyde TM, Tao R, Leek JT, **Colantuoni E**, Elkahoul AG, Herman MM, Weinberger DR, Kleinman JE. Temporal dynamics and genetic control of transcription in the human prefrontal cortex. *Nature*. **2011**;478(7370):519-23.
151. Nieder MF, Huskins WC, **Colantuoni E**, Muschelli J, Harris JM, Rice TB, Brill RJ, Miller MR. Epidemiology of Central Line Associated Bloodstream Infections in the Pediatric Intensive Care Unit. *Infection Control and Hospital Epidemiology*. **2011**;32(12):1200-8.
152. Hatef E, **Colantuoni E**, Wang J, Ibrahim M, Shulman M, Adhi F, Sepah YJ, Channa R, Khwaja A, Nguyen QD, Do DV. The Relationship between Macular Sensitivity and Retinal Thickness in Eyes with Diabetic Macular Edema. *Am J Ophthalmol*. **2011**;152(3):400-405.e2.
153. Miller MR, Nieder MF, Huskins WC, **Colantuoni E**, Yenokyan G, Moss M, Rice TB, Ridling D, Campbell D, Brill RJ. Reducing PICU Central Line–Associated Bloodstream Infections: 3-Year Results. *Pediatrics*. **2011**;128(5):e1077-83.
154. Chen K, **Colantuoni E**, Siddiqi F, Dinglas VD, Sepulveda KA, Fan E, Pronovost P, Needham DM. Repeated attempts using different strategies are important for timely contact with study participants. *Journal of Clinical Epidemiology*. **2011**;64:1144-1151.
155. Waters HR, Korn R, **Colantuoni E**, Berenholtz SM, Goeschel CA, Needham DM, Pham JC, Lipitz-Snyderman A, Watson SR, Posa P, Pronovost PJ. The Business Case for Quality: Economic Analysis of the Michigan Keystone Patient Safety Program in ICUs. *American Journal of Medical Quality*. **2011**;26: 333-9.
156. \*Lipitz-Snyderman AN, Needham DM, **Colantuoni E**, Goeschel CA, Marsteller JA, Thompson DA, Berenholtz SM, Lubomski LH, Watson S, Pronovost PJ. How Long Can Intensive Care Units Maintain Zero Central Line-Associated Bloodstream Infections? *Archives of Internal Medicine*. **2011**;171(9):856-858.

157. Aslakson RA, Romig M, Galvagno SM, **Colantuoni E**, Cosgrove SE, Perl TM, Pronovost PJ. Effect of accounting for multiple concurrent catheters on central line-associated bloodstream infection rates: practical data supporting a theoretical concern. *Infect Control Hosp Epidemiol*. **2011**;32(2):121-4.
158. Damluji A, **Colantuoni E**, Mendez-Tellez PA, Sevransky JE, Fan E, Shanholtz C, Wojnar M, Pronovost PJ, Needham DM. Short-Term Mortality Prediction for Acute Lung Injury Patients: External Validation of the ARDSNet Prediction Model. *Crit Care Med*. **2011**;39(5): 1023-28.
159. Berenholtz SM, Pham JC, Thompson DA, Needham D, Lubomski L, Hyzy R, Welsh R, Cosgrove SE, Sexton B, **Colantuoni E**, Watson SR, Goeschel CA, Pronovost PJ. Collaborative Cohort Study of an Intervention to Reduce Ventilator-Associated Pneumonia in the ICU. *Infect Control Hosp Epidemiol*. **2011**;32(4): 305-14.
160. \*Lipitz AN, Steinwachs D, Needham DM, **Colantuoni E**, Morlock LL, Pronovost PJ. Impact of a Statewide ICU Quality Improvement Initiative on Hospital Mortality and Length of Stay. *BMJ*. **2011**;342:d219.
161. Martinez EA, Shore A, **Colantuoni E**, Herzer K, Thompson DA, Gurses AP, Marsteller JA, Bauer L, Goeschel CA, Cleary K, Pronovost PJ, Pham JC. Cardiac surgery errors: results from the UK National Reporting and Learning System. *International Journal for Quality in Health Care*. **2011**;23(2):151-8.
162. **Colantuoni E**, Surplus G, Hackman A, Arrighi HM, Brookmeyer R. Web-based application to project the burden of Alzheimer's disease. *Alzheimer's and Dementia*. **2010**;6(5):425-8.
163. dosReis S, McCulloch JR, **Colantuoni E**, Barnett SR, Pruitt D, Zachik A, Riddle MA. Early Identification of Seclusion and Restraint Patterns During Adolescents' Course of Residential Treatment. *Residential Treatment of Children and Youth*. **2010**;27:160–174, 2010.
164. Mendez-Tellez P, Damluji A, Ammerman D, **Colantuoni E**, Fan E, Sevransky JE, Shanholtz C, Gallant JE, Pronovost PJ, Needham DM. Human immunodeficiency virus infection and hospital mortality in acute lung injury patients *Critical Care Medicine*. **2010**;38:1530-1535.
165. Pham JC, **Colantuoni E**, Dominici F, Shore A, Macrae C, Fletcher M, McCleary K, Goeschel C, Pronovost PJ. The Harm Susceptibility Model: A Method to Prioritize Risks Identified in Patient Safety Reporting Systems. *Quality and Safety in Healthcare*. **2010**;19(5):440-5.
166. Needham DM, Korupolu R, Zanni JM, Pradhan P, **Colantuoni E**, Palmer JB, Brower RG, Fan E. Early physical medicine and rehabilitation for patients with

- acute respiratory failure: a quality improvement project. *Archives of Physical Medicine and Rehabilitation*. **2010**;91:536-542.
167. Pronovost PJ, Goeschel CA, **Colantuoni E**, Watson S, Lubomski LH, Berenholtz SM, Thompson DA, Sinopoli D, Cosgrove A, Sexton JB, Marsteller JA, Hyzy R, Welsh R, Posa P, Schumacher K, Needham D. Sustaining Reductions in Catheter-Related Bloodstream Infections in Michigan Intensive Care Units. *British Medical Journal*. **2010**;340:c309.
168. Rinke ML, Bundy DG, Shore AD, **Colantuoni E**, Morlock LL, Miller MR. Pediatric Antidepressant Medication Errors in a National Error Reporting Database. *Journal of Developmental & Behavioral Pediatrics*. **2010**;31(2):129-136.
169. Hodgkinson SC, **Colantuoni E**, Roberts D, Berg-Cross L, Belcher HM. Depressive Symptoms and Birth Outcomes among Pregnant Teenagers. *J Pediatr Adolesc Gynecol*. **2010**;23(1):16-22.
170. Gifford JM, Husain N, Dinglas VD, **Colantuoni E**, Needham DM. Baseline Quality of Life before Intensive Care: A Comparison of Patient versus Proxy Responses. *Critical Care Medicine*. **2010**;38:855-860.
171. Rinke ML, Bundy DG, Shore AD, **Colantuoni E**, Morlock LL, Miller MR. Pediatric Antidepressant Medication Errors in a National Error Reporting Database. *J Dev Behav Pediatr*. **2010**;31(2):129-36.
172. Easley RB, Mulreany DG, Lancaster CT, Custer JW, Fernandez-Bustamante A, **Colantuoni E**, Simon BA. Redistribution of pulmonary blood flow impacts thermodilution-based extravascular lung water measurements in a model of acute lung injury. *Anesthesiology*. **2009**;111(5):1065-74.
173. Berkow LC, Greenberg RS, Kan KH, **Colantuoni E**, Mark LJ, Flint PW, Corridore M, Bhatti N, Heitmiller ES. Need for Emergency Surgical Airway Reduced by a Comprehensive Difficult Airway Program. *Anesthesia & Analgesia* **2009**;109(6):1860-9.
174. Jamora MS, Brylske PD, Martens P, Braxton D, **Colantuoni E**, Belcher HME. Children in Foster Care: Adverse Childhood Experiences and Psychiatric Diagnoses. *Journal of Child & Adolescent Trauma*. **2009**;2(3): 198 – 208.
175. Boin F, Franchini S, **Colantuoni E**, Rosen A, Wigley FM, Casciola-Rosen L. Independent association of anti-beta(2)-glycoprotein I antibodies with macrovascular disease and mortality in scleroderma patients. *Arthritis Rheum*. **2009**;60(8):2480-9.

176. Joffe A, McNeely C, **Colantuoni E**, An MW, Wang W, Scharfstein D. Evaluation of school-based multi- versus single-session group smoking cessation interventions for self-described adolescent smokers. *Pediatrics*. **2009**;124:e187-e194.
177. Pronovost PJ, **Colantuoni E**. Measuring Preventable Harm: Helping Science Keep Pace with Policy. *JAMA*. **2009**;301(12):1273-5.
178. Morrison BM, Lachey JL, Warsing LC, Ting BL, Pullen AE, Underwood KW, Kumar R, Sako D, Grinberg A, Wong V, **Colantuoni E**, Seehra JS. A soluble activin type IIB receptor improves function in a mouse model of amyotrophic lateral sclerosis. *Experimental Neurology*. **2009**;217(2):258-68.
179. Newhouse R, Morlock L, Pronovost P, **Colantuoni E**, Johantgen M. Rural Hospital Nursing: Better Environments = Shared Vision and Quality/Safety Engagement. *J Nurs Adm*. **2009**;39(4):189-95.
180. Haut ER, Chang DC, Pierce CA, **Colantuoni E**, Efron DT, Haider AH, Cornwell EE 3rd, Pronovost PJ. Predictors of Posttraumatic Deep Vein Thrombosis (DVT): Hospital Practice Versus Patient Factors-An Analysis of the National Trauma Data Bank (NTDB). *J Trauma*. **2009**;66(4):994-1001.
181. Hogue CW Jr, Stearns JD, **Colantuoni E**, Robinson KA, Stierer T, Mitter N, Pronovost PJ, Needham DM. The impact of obesity on outcomes after critical illness: a meta-analysis. *Intensive Care Med*. **2009**; 35:1152–1170.
182. Riley AW, Coiro MJ, Broitman M, Bandeen-Roche K, Hurley K, **Colantuoni E**, Miranda J. Mental health and functioning of children of low-income depressed mothers: Influences of parenting, family environment, and raters. *Psychiatric Services*. **2009**;60(3):329-36.
183. Offermann BJ, **Johnson E**, Johnson-Brooks ST, Belcher H ME: Get SMART: Effective treatment for sexually abused children with problematic sexual behavior. *Journal of Child & Adolescent Trauma*. **2008**;1: 179-191.
184. Tobias M, Yeh L, and **Johnson E**. The burden of Alzheimer's disease: population-based estimates and projections for New Zealand, 2006 – 2031. *Australian and New Zealand Journal of Psychiatry*. **2008**;42(9):828-36.
185. Ziegler-Graham K, Brookmeyer R, **Johnson E**, Arrighi HM. Worldwide variation in the doubling time of Alzheimer's disease incidence rates. *Alzheimer's and Dementia*. **2008**;4(5): 316-323.
186. Lutwama F, Serwadda R, Mayanja-Kizza H, Shihab HM, Ronald A, Kanya MR, Thomas D, **Johnson E**, Quinn TC, Moore, RD, Spacek LA. Evaluation of two manual bead assays, Dynabeads and Cytospheres, compared with flow cytometry

- to enumerate CD4 lymphocytes in HIV-infected Ugandans treated with antiretroviral therapy. *JAIDS*. **2008**;48(3): 297-303.
187. Carvalho R, **Johnson E**, Kozlosky M, Scheimann AO. Clinical Profile of the Overweight Child in the New Millennium. *Clinical Pediatrics*. **2008**;47: 476 – 482.
  188. Chong RY, Uhart M, McCaul ME, **Johnson E**, Wand GS. Whites have a more robust hypothalamic–pituitary–adrenal axis response to a psychological stressor than blacks. *Psychoneuroendocrinology*. **2008**;33(2): 246-254.
  189. Colantuoni C, Hyde TM, Mitkus S, Sartorius L, Aguirre C, Creswell J, **Johnson E**, Lipska BK, Weinberger DR, Kleinman JE. Age-Related Changes in the Expression of Putative Schizophrenia Susceptibility Genes in the Human Cerebral Cortex. *Brain Struct Funct*. **2008**;213(1-2):255-71.
  190. dosReis S, **Johnson E**, Steinwachs D, Rohde C, Skinner E, Fahey M, Lehman AF: Antipsychotic treatment patterns and hospitalizations among adults with schizophrenia. *Schizophrenia Research*. **2008**;101: 304-11.
  191. **Johnson E**, Brookmeyer R, Ziegler-Graham K: Modeling the Effect of Alzheimer's Disease on Mortality. *The International Journal of Biostatistics*. **2007**;3(1): Article 13.
  192. Belcher H ME, Watkins K, **Johnson E**, Ialongo N: Early head start: factors associated with caregiver knowledge of child development, parenting behavior, and parenting stress. *NHSA Dialog*. **2007**;10(1): 6-19.
  193. Dickler HB, Fang D, Heinig, SJ, **Johnson E**, Korn D: New physician-investigators receiving National Institutes of Health research project grants: a historical perspective on the “endangered species”. *JAMA*. **2007**;297(22): 2496-2515.
  194. Brookmeyer R, **Johnson E**, Ziegler-Graham K, Arrighi HM: Forecasting the global burden of Alzheimer’s disease. *Alzheimer’s and Dementia*. **2007**;3(3): 186-191.
  195. Wand GS, Oswald LM, McCaul ME, Wong DF, **Johnson E**, Zhou Y, Kuwabara H and Kumar A: Association of amphetamine-induced striatal dopamine release and cortisol responses to psychological stress. *Neuropsychopharmacology*. **2007**; 32(11): 2310-20.
  196. Magill SS, Swoboda SM, **Johnson EA**, Merz WG, Pelz RK, Lipsett PA, Hendrix CW: The association between anatomic site of *Candida* colonization, invasive candidiasis, and mortality in critically ill surgical patients. *Diagnostic Microbiology and Infectious Disease*. **2006**;55(4):293-301.



197. Silva AM, Smith RN, Lehmann CU, **Johnson** EA, Holcroft CJ, Graham EM: Neonatal nucleated red blood cells and the prediction of cerebral white matter injury in preterm infants. *Obstetrics and Gynecology*. **2006**;107(3):550-556.
198. Gurewitsch ED, **Johnson** E, Hamzehzadeh S, Allen RH: Risk factors for brachial plexus injury with and without shoulder dystocia. *American Journal of Obstetrics and Gynecology*. **2006**;194(2):486-92.
199. Price LB, **Johnson** E, Vailes R, Silbergeld E: Fluoroquinolone-resistant campylobacter isolates from conventional and antibiotic-free chicken products. *Environmental Health Perspectives*. **2005**;113(5):557-60.
200. Brookmeyer, R., **Johnson, E.**, Barry, S. Modelling the incubation period of anthrax. *Stat Med*. **2005**;24(4):531-42.
201. Gurewitsch ED., **Johnson E.**, Allen RH. The importance of proper study design. *Am J Obstet Gynecol*. **2005**;193(4):1583-1584.
202. Jampel, H.D, Parekh, P., **Johnson, E.**, Miller, R. Chart documentation by general physicians of the glaucoma medications taken by their patients. *Am J Ophthalmol*. **2005**; 140(2): 344-5.
203. Jampel, H.D., Parekh, P., **Johnson, E.**, Robin, A.L., Miller, R.B. Preferences for Eye Drop Characteristics Among Glaucoma Specialists: A Willingness-to-Pay Analysis. *Journal of Glaucoma*. **2005**;14(2): 151-156.
204. Miller, RG., Ashar, BH., Cohen, J., Camp, M., Coombs, C., **Johnson, E.**, Schneyer, CR. Disparities in osteoporosis screening between at-risk African-American and white women. *J Gen Intern Med*. **2005**;20(9): 847-51.
205. Newhouse RP, Johantgen M, Pronovost PJ, **Johnson E.** Perioperative nurses and patient outcomes—mortality, complications, and length of stay. *AORN J*. **2005**; 81(3): 508-9, 513-22, 525-8.
206. Brookmeyer, R., **Johnson, E.**, Bollinger, R. Public health vaccination policies for containing an anthrax outbreak. *Nature*. **2004**;432: 901 – 904.
207. Bodkin, N., Alexander, T., Ortmeier, H., **Johnson, E.**, and Hansen, B. Mortality and Morbidity in Laboratory-Held Rhesus Monkeys and Effects of Long-Term Dietary Restriction. *Journal of Gerontology: Biological Sciences* **2003**;58: 212-9.
208. Brookmeyer, R., **Johnson, E.**, Bollinger, R. Modeling the optimum duration of antibiotic prophylaxis in an anthrax outbreak. *Proc Natl Acad Sci*. **2003**; 100(17): 10129-32.

209. Gurewitsch, E. D., **Johnson, E.**, Allen, R. H., Diamant, P., Fong, J., Weinstein, D., Chervenak, F. The Descent Curve of the Grand Multipara. *Am J Obstet Gynecol.* **2003**;189(4):1036-1041.
210. Jampel, H.D., Schwartz, G.F., Robin, A.L., Abrams, D., **Johnson, E.**, Miller, R.B. A Willingness to Pay Analysis. *Archives of Ophthalmology.* **2003**;121: 540-546.
211. **Johnson, E.**, Dominici, F., Griswold, M., Zeger, S. Disease Cases and Their Medical Costs Attributable to Smoking: An Analysis of the National Medical Expenditure Survey. *Journal of Econometrics.* **2003**;112: 135-151.
212. Miller, M., Humphrey, J., **Johnson, E.**, Marinda, E., Brookmeyer, R., and Katz, J. Why do Children become Vitamin A Deficient? *Journal of Nutrition.* **2002**;132(9 Suppl): 2867S-2880S.
213. Moss WJ, Beers MC, **Johnson E**, Nichols DG, Perl TM, Dick JD, Veltri MA, Willoughby RE Jr. Pilot study of antibiotic cycling in a pediatric intensive care unit. *Critical Care Medicine.* **2002**;30: 1877-1882.

*Articles, Editorials and Other Publications Not Peer Reviewed*

1. **Colantuoni, E.** Clarifying the impact of predicted vs. observed control arm mortality rates on randomized trials in critical illness. **2020.** *Critical Care Medicine.* In press.
2. **Colantuoni, E.** **2018** <https://bmjopen.bmj.com/content/8/8/e020068.responses>

## **PRACTICE ACTIVITIES**

*Software and Other Product Development*

1. Wang C, **Colantuoni E**, Leroux A, Scharfstein D. idem: An R package for inferences in clinical trials with death and missingness
2. Improving Long-Term Outcomes Research for Acute Respiratory Failure, <https://www.improvelto.com/>

## PART II

### TEACHING

#### *Academic Advisees*

- 2021 Yi-Ting Lin, ScM Biostatistics
- 2020 Xinyu Guo, ScM Biostatistics
- 2019 Melody Dehghan, ScM Biostatistics
- 2017 Emily Scott, ScM Biostatistics
- 2015 Matthew Cole, ScM Biostatistics  
Mary Kate Quinn, MPH
- 2012 Mark Turner, iMPH
- 2011 Jonathan Gellar, ScM Biostatistics, transferred to PhD program  
Jeff Schoenborn, MPH

#### *Preliminary Oral Participation*

- 2021** Filip Pirsil (EPI), Jiyang Weng (Biostats), Mridula
- 2020** Quinn Marshall (IH), Crystal Perez (EPI), Forrest Jones (EPI)
- 2019** Niloufer Taber (IH), Sarah Gensheimer (HPM), Alyona Mazhnaia (HBS)
- 2018** Kenneth Feder (MH)
- 2017** Amy Margolies (HBS)
- 2016** Keri Calkins (EPI), Susannah Gibbs (HBS), Htet Ooh (IH), Samantha Boscotti (EPI), Suzanne Bell (EPI), Rosa Vazin (EPI), Amy Margolies (IH), Josh Colton (IH)
- 2015** Xiaoge Julia Zhang (IH), Sahnah Lim (HBS), Michelle Wong (HPM)
- 2014** Poojitha Balakrishnan (Epi)
- 2013** Jonathan Gellar (Biostats), Francis Abreau (Biostats), Matthew Goldshore (HBS), Ian Craig (IH)
- 2012** Kyun Hee Lee (HPM), Daniel Doyle (HPM)

- 2011** Andrea Christman (EPI), Adrienne Tin (EPI), Melania Bembea (GTPCI), Elliott Haut (GTPCI), Muzi Na (IH)
- 2010** Carol Strong (HBS), Gwenyth Lee (IH), Tracy Mroz (HPM), Sarah Godby (alternate, HBS), Angela Lashoher (HPM)
- 2009** Eddy Fan (GTPCI)

***Final Oral Participation***

- 2021** Bonnie Smith (PhD, Biostat), Niloufer Taber (PhD, Biostat), Mridula Shankar (PhD, HBS)
- 2020** Alyona Mazhnaia (PhD, HBS), Emily Holman (PhD, HBS), Amy Margolies (PhD, HBS)
- 2019** Swetha Manohar (PhD, IH), Joyce Qian (PhD, EPI)
- 2018** Suzanne Bell (PhD, PFRH), Geoffrey Dougherty (PhD, EPI), Keri Caulkins (PhD, EPI), Jocelyn Kelly (PhD, IH), Jess Wilhelm (PhD, IH), Htet Oo (PhD, IH), Roza Vazin (PhD, HPM)
- 2017** Susannah Gibbs (PhD, HBS)
- 2016** Francis Abreau (PhD, Biostat), Katherine Moon (PhD, EPI), Sahnah Lim (PhD, PFRH), Julia Zhang (PhD, IH), Jocelyn Kelly (PhD, PFRH), Michelle Wong (PhD, HPM)
- 2015** Jonathan Gellar (PhD, Biostat), Ian Craig (PhD, IH), Yunhee Kang (PhD, IH)
- 2014** Muzi Na (PhD, IH)
- 2013** Eddy Fan (PhD, GTPCI), Tracy Mroz (PhD, HPM), Jessica Seidman (PhD, IH), Anna Ettinger (PhD, HBS), Roger Johns (PhD, HPM), Erin Murphy (PhD, HPM)
- 2012** Sohyun Park (PhD IH), Lori Grover (PhD, HPM), Angela LaShorer (Dr.PH, HPM), Brian Weir (PhD, HBS)
- 2011** Samar Khoury (DrPH EHS)

***ScM/MHS Thesis Advisor***

- 2020** Xiaobin Zhou (ScM Biostats), Yuji Chen (ScM Biostats)
- 2019** Melody Dehghan (ScM Biostats)
- 2017** Su Jin Lim (ScM Biostats)

2016 Julia Zhang (MHS Biostats)  
 2016 So Yung Choi (ScM Biostats)

***ScM/MHS Thesis Reader***

2020 Zebin Wang (Biostats)  
 2019 Emily Scott (Biostats)  
 2018 Shulin Qing (Biostats)  
 2015 Andrew Leroux (Biostats), Dell Simmons (GTPCI)  
 2013 Rowan (Biostats), Detian Dang (Biostats)  
 2011 Xiaowei Zhou (Biostats)

***MPH Capstone Advisor***

2015 Sybil Klaus (*Pediatric Hospitalist Surgical Co-Management: A Patient Safety Intervention Program Evaluation*)  
 2012 Mark Turner

***Classroom Instruction***

<b>Year</b>	<b>Course/Description</b>	<b>Enrollment</b>
2020-present	Current Topics in Biostatistics Research Seminar series coordinator Bloomberg School of Public Health Johns Hopkins University	30
2020-present	Biostatistics Methods for Public Health III Bloomberg School of Public Health Johns Hopkins University	35-50
2020-present	Biostatistics Methods for Public Health IV Bloomberg School of Public Health Johns Hopkins University	35-50
2016, 2018	Longitudinal Data Analysis Health Policy and Management Fall Institute	20
2010-2019	Longitudinal Data Analysis Bloomberg School of Public Health Johns Hopkins University	80-100
2010-2019	Multilevel Models Bloomberg School of Public Health Johns Hopkins University	50-70

2005-2007	Biostatistics for Public Health Public Health Studies Krieger School of Arts and Sciences Johns Hopkins University	100-130
2006-2013	Multilevel Models Summer Institute Department of Biostatistics Bloomberg School of Public Health	30
2002-2004	Methods in Biostatistics PhD level methods sequence Department of Biostatistics Bloomberg School of Public Health Lead Teaching Assistant	30-60
2002-2004	Regression Analysis for Public Health Summer Institute Department of Biostatistics Bloomberg School of Public Health	20-30

**RESEARCH GRANT PARTICIPATION** [include both current and past funding; list current first]

*Current funding*

R01AG061384 (Colantuoni) 02/15/19 – 08/31/22 4.20 calendar  
NIH/NIA

**Improving the statistical design and analysis of randomized controlled trials of delirium prevention and treatment for critically ill older adults**

This proposal will systematically evaluate delirium endpoint definitions and statistical analysis approaches for detecting a treatment effect by conducting a systematic review of the literature, performing empirical analyses and statistical simulation studies, along with the development of novel extensions to existing advanced statistical methods. The long-term goal is reducing delirium and long-term cognitive impairment in critically ill older adults. Role: Principal Investigator

R01AG048349 (Gallagher) 09/15/15 – 01/31/22 1.80 calendar  
NIH/NIA

**Phase II/III trial for Slowing Progression in Mild Cognitive Impairment**

Our application seeks partial support for a multi-center, randomized, placebo-controlled trial in amnesic mild cognitive impairment (aMCI). Both with respect to the treatment modality and stage of disease, the proposed trial will complement other trials using amyloid therapies in asymptomatic patients, thus adding a novel treatment approach in a symptomatic stage of disease. The proposed clinical trial will be the first Phase IIB study to target the condition of hyperactivity, which characterizes the clinical stage of aMCI.

Role: Co-Investigator

R18HS025642 (Milestone) 09/30/17 – 07/31/22 0.60 calendar  
NIH/AHRQ

**Implementing Diagnostic Stewardship to Reduce Antibiotic Use and Resistance in Critically Ill Children**

This proposal will demonstrate that diagnostic stewardship is an essential strategy for reducing unnecessary antibiotic use and resistance in critically ill children. Role: Co-Investigator

R01NR017433 (Brodsky) 09/25/18 – 06/30/23 0.48 calendar  
NIH

**Symptoms Assessment and Screening for Laryngeal Injury Post-extubation in ICU**

This study aims to systematically evaluate patient symptoms in order to develop a screening method for use in the ICU. The new knowledge generated by this project will help shift clinical practice in ICUs by using patient symptoms to help identify those who may need specialized evaluation to reduce serious, long-term complications after having a breathing tube as part of their life support in the ICU. Role: Co-Investigator

R03HS027011 (Hoyer, Young, Colantuoni) 09/30/20-09/29/23 0.64 calendar  
NIH

**Improving Hospital Efficiency: Predicting Post-Acute Care Facility Placement Using Machine Learning and Patient Mobility Scores from the Electronic Medical Record**

This study utilizes a validated and reliable mobility score, the Activity Measure for Post-Acute Care Inpatient Mobility Short Form (AM-PAC IMSF), collected as part of routine clinical care, to develop static and dynamic prediction models, using classification trees (a machine learning method), that will help with early identification of patients needing discharge to a post-acute care facility. Role: Co-Principal Investigator

R01HD103811 (Kudchadkar) 06/08/21-05/31/26 0.90 calendar  
NIH/NICHD

**Clinical Effectiveness of the “PICU Up!” Multifaceted Early Mobility Intervention for Critically Ill Children: A pragmatic, stepped-wedge trial**

The major goals of this project are: 1) to evaluate if the PICU Up! Intervention, delivered in real-world conditions, decreases mechanical ventilation duration (primary outcome) and improves delirium and functional status compared to usual care in critically ill children, and 2) conduct a multi-stakeholder, mixed-methods process evaluation to identify key contextual factors associated with delivery of PICU Up! Role: Co-Investigator

RF1AG072387 (Brown) 05/01/21-04/30/24  
NIH/NIA

0.60 calendar

**Cerebral Autoregulation in the Cardiac Surgery Intensive Care Unit: Associations with Postoperative Delirium, Cognitive Change, and Biomarkers of Brain Injury**

This study will provide important mechanistic understanding of cerebrovascular contributions to postoperative cognitive change that may provide insights into delirium, cognitive decline, and Alzheimer's disease and related dementias (ADRD). Specifically, this proposal will examine the associations of (1) mean arterial pressure outside the limits of cerebral autoregulation and (2) impaired autoregulation in the cardiac surgery intensive care unit with both postoperative delirium and postoperative cognitive change at 1- and 12- months after surgery and will also examine blood biomarkers of brain injury. Role: Co-Investigator

*Past Funding:*

- 04/01/16 – 03/31/19 Improving Long-Term Outcomes Clinical Research for Acute Respiratory Failure. NIH/NHLBI. R24HL111895-01A1 (Needham)
- 05/01/19 – 04/30/21 Association of the evolving nasal microbiome and neonatal acquisition of *Staphylococcus aureus* colonization. NIH/NIAID R21 AI135179 (Milestone)
- 09/30/17 – 07/31/21 Implementing Diagnostic Stewardship to Reduce Antibiotic and Resistance in Critically Ill Children. NIH/AHRQ R18HS025642 (Milestone)
- 4/01/18 – 12/31/20 Novel Arm Restraint For Critically Ill Patients To Reduce Immobility, Sedation, Agitation and Cognitive Impairment. NIH/NIA. R42AG059451 (Needham)
- 09/08/14 – 03/31/16 New Design and Analysis Tools for Randomized Trials, with Clinical Applications in Stroke, Cardiac Resynchronization Therapy. FDA. HHSF223201400113C (Rosenblum)
- 10/04/16 – 12/31/16 On the Design and Analysis of Observational Databases for Comparative Effectiveness Research: The Prospective Perspective (Scharfstein)



- 09/30/08 – 06/30/14 Improving Long Term Physical and Mental Health after Acute Lung Injury, NIH/ NHLBI, 1R01HL088045 (Pronovost)
- 02/01/10 – 08/31/14 Five Year Outcomes from Acute Lung Injury, NIH/NHLBI, 1K24HL088551 (Pronovost)
- 01/01/08 – 04/30/08 Organization of Care & Outcomes in Cardiac Surgery, AHRQ (Martinez)
- 02/01/10 – 04/30/12 ARDSnet II Long-term Outcomes Study, ARDS Network / NHLBI (Needham)
- 09/30/10 – 09/30/12 Eliminating CA-BSIs in Patients with Chronic Conditions, AHRQ (Miller)

**ACADEMIC SERVICE** [list past and present, include your role and dates]

*Division and/or Department*

Co-director Graduate Program, Department of Biostatistics, 2015 - present

Committee for Academic Standards, Departmental representative, 2019 – present

Faculty Senate, Departmental Senator, 2015 – 2018

Wellness Committee, Departmental representative, 2015 – present

Admissions Committee, member, 2014 - present

Committee of Equity Diversity and Civility, Departmental representative, 2011 - 2013

**PRESENTATIONS \*both in-person and virtual** [list under the appropriate subheadings, with the most recent presentation first]

*Scientific Meetings:*

- 2021 Maximizing precision and power in Alzheimer's disease trials: how and when to select the most prognostic baseline variables. Clinical Trials for Alzheimer's Disease (CTAD) annual meeting 2021. Speaker
- Statistical Methods for Delirium Research: Existing and novel statistical methods that can improve your research. American Delirium Society annual meeting 2021. Organizer, chair, speaker.

Talk title: Commonly used statistical methods for evaluating delirium incidence in trials conducted among critically ill patients.

Statistical methods roundtable. American Delirium Society.  
Invited roundtable consultant.

Formulating Causal Estimands in the Presence of Competing Risks. Organizer contributed session ENAR 2021. Speakers included Jessica Young, Dan Scharfstein, Virginie Rondeau and Bonnie Smith (presented work being conducted with me as part of her PhD thesis)

2020

Statistical Methods for Delirium Research: Existing and novel statistical methods that can improve your research. American Delirium Society. Organizer, chair, speaker. Talk title: Commonly used statistical methods for evaluating delirium incidence in trials conducted among critically ill patients. Cancelled due to COVID-19

Statistical methods roundtable. American Delirium Society.  
Invited roundtable consultant. Cancelled due to COVID-19.

Evaluating the effect of interventions on patient long term outcomes within trials of severely ill patients. Invited session. American Statistical Association Joint Statistical Meetings, Virtual August 2020 Conference.

2018

Statistical Methods for Delirium Research: Existing and novel statistical methods that can improve your research. American Delirium Society. Organizer, chair, speaker. Talk title: Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials for Delirium.

Targeted Maximum Likelihood Estimation to Improve Precision and Reduce Bias in Alzheimer's Disease Clinical Trials. Society for Clinical Trials. Contributed Poster Session.

Targeted Maximum Likelihood Estimation to Improve Precision and Reduce Bias in Alzheimer's Disease Clinical Trials. International Biometrics Society, Eastern North American Region annual meeting. Contributed Oral Presentation.

Statistical Tools to Account for Mortality in Long-term Outcome Trials. Society for Critical Care Medicine. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory

Failure; talk.

2017

Accounting for baseline covariates and missing data in regulatory trials with longitudinal designs. Clinical Trials on Alzheimer's Disease. Contributed Poster Session.

Johns Hopkins Statistics Symposium. Joint symposium sponsored by Biostatistics and Anesthesiology and Critical Care Medicine. Planning committee.

Statistical Methods for Delirium Research: Existing and novel statistical methods that can improve your research. American Delirium Society. Organizer, chair, speaker. Talk title: Delirium as the primary endpoint: from primary endpoint definition to statistical analysis plan accounting for competing risks.

Accounting for baseline covariates and missing data in regulatory trials with longitudinal designs. American Statistical Association Joint Statistical Meeting. Contributed speed talk and electronic poster session.

Statistical Tools to Account for Mortality in Long-term Outcome Trials. American Thoracic Society Meeting. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory Failure; talk.

Statistical Tools to Account for Mortality in Long-term Outcome Trials. Collaborative Pediatric Critical Care Research Network Meeting. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory Failure; talk.

Statistical Tools to Account for Mortality in Long-term Outcome Trials. Johns Hopkins Institute for Clinical and Translational Research. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory Failure; talk.

2016

Statistical Tools to Account for Mortality in Long-term Outcome Trials. Johns Hopkins Center for Health Services and Outcomes Research. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory Failure; talk.

Statistical Tools to Account for Mortality in Long-term Outcome Trials. United States Critical Illness and Injury Trials Group. Invited session titled: Improving Long-Term Outcomes Research for Acute Respiratory Failure; talk.

Improving Precision and Power by Adjusting for Prognostic Baseline Variables in Alzheimer's Disease Clinical Trials. Clinical Trials of Alzheimer's Disease (CTAD). Contributed Poster Session

Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. Conference for Statistical Practice. Contributed Poster Session.

2015 A Study of Peer-Review Grading Within Graduate Courses in Biostatistics. American Statistical Association Joint Statistical Meeting; Topic Contributed Paper.

Methods Accounting for Mortality and Missing Data in Randomized Trials with Longitudinal Outcomes. International Biometrics Society, Eastern North American Region annual meeting. Oral Poster Session.

2014 Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. International Biometrics Society, Eastern North American Region annual meeting. Poster session.

Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. Society for Clinical Trials. Contributed Talk.

2010 Treatment Strategies: An Evaluation of the Impact of Potential Preventative and Therapeutic Intervention on Costs of Alzheimer's Disease. International Conference for Alzheimer's and Dementia. Poster.

Treatment Strategies: An Evaluation of the Impact of Potential Preventative and Therapeutic Intervention on Costs of Alzheimer's Disease. American Statistical Association Joint Statistical Meetings. Topic Contributed Paper.

2009 A web-based application to project the burden of Alzheimer's disease. International Conference for Alzheimer's and Dementia. Poster.

2008 Differences in ICU Exposures Comparing Obese and Non-Obese Patients with ARDS. Research Day: Department of Anesthesiology and Critical Care Medicine, Johns Hopkins School of Medicine. Poster.

Estimation of Causal Effects in Longitudinal Data: A Case Study in Obstetrics. Eastern North American Region/International Biometric Society. Poster.

- 2007      Modeling survival in Alzheimer's disease: An alternative to proportional hazards (poster). Eastern North American Region/International Biometric Society
- Worldwide variation in the doubling time of Alzheimer's disease incidence rates. International conference on prevention of dementia, Alzheimer's Association.
- 2006      Bayesian design for a second clinical trial. Eastern North American Region/International Biometric Society
- 2003      Modeling approaches for estimating a treatment effect from count data in the presence of many zeros and over-dispersion. Joint Statistical Meetings, American Statistical Association
- 2001      Disease cases and their medical costs attributable to smoking: an analysis of the National Medical Expenditure Survey. Eastern North American Region/International Biometric Society

### ***Invited Seminars***

- 2021      Evaluation of composite endpoints in delirium trials, with a path towards more informative trials. CRISMA research group. University of Pittsburgh School of Medicine.
- Defining estimands and estimators in delirium prevention trials. Johns Hopkins Delirium Consortium
- 2020      Heterogeneity in design and analysis of delirium trials: a systematic review. Johns Hopkins Delirium Consortium
- Reappraisal of ventilator free days endpoint. Johns Hopkins Delirium Consortium
- 2019      Evaluating the effect of interventions on patient long term outcomes within trials of severely ill patients. SCEPTER 3 Sedation Consortium on Endpoints and Procedures for Treatment, Education, and Research Meeting.

- 2017 Utilizing Prognostic Baseline Covariates to Improve Precision to Estimate Treatment Effects in Randomized Controlled Trials. Department of Preventive Medicine, Northwestern University Feinberg School of Medicine.
- 2016 Improving Long-Term Outcomes Research for Acute Respiratory Failure. Center for Health Services and Outcomes Research. Johns Hopkins University.
- Improving Long-Term Outcomes Research for Acute Respiratory Failure. ICTR Johns Hopkins University.
- Improving Long-Term Outcomes Research for Acute Respiratory Failure. Center for Health Services and Outcomes Research.
- Improving Long-Term Outcomes Research for Acute Respiratory Failure. The United States Critical Illness and Injury Trials Group.
- Improving Long-Term Outcomes Research for Acute Respiratory Failure. National Institute of Child Health and Human Development.
- Rosuvastatin versus placebo for ICU delirium: an ancillary RCT with use of a joint survival model allowing for recurrent events. Johns Hopkins Delirium Consortium.
- Rosuvastatin versus placebo for ICU delirium: an ancillary RCT with use of a joint survival model allowing for recurrent events. Welch Center Grand Rounds, March 23, 2016
- 2015 Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. Johns Hopkins Delirium Consortium
- Leveraging Prognostic Baseline Variables to Gain Precision in Randomized Trials. Society for Clinical Trials Educational Webinar Series.
- 2014 Statistical approaches for incorporating mortality information in randomized trials in critical care medicine. Nutrition and Rehabilitation Investigators Consortium (NUTRIC).
- 2009 Identifying and mitigating errors: analysis of UK error reports. 2009 Biennial Program: Department of Anesthesiology and Critical Care Medicine, Johns Hopkins School of Medicine. Talk.
- 2008 Forecasting the Global Burden of Alzheimer's Disease. Center for

Vaccine Development, University of Maryland Medical Center.

Forecasting the Global Burden of Alzheimer's Disease. Wyeth Pharmaceuticals, Collegeville PA.

Estimation of Causal Effects in Longitudinal Data: A Case Study in Obstetrics. Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University.

## **ADDITIONAL INFORMATION**

*Personal statement:* During the last twenty years in the Department of Biostatistics at the Bloomberg School of Public Health, I have developed into a successful collaborating biostatistician contributing to the areas of critical care medicine and patient safety, as well as translating novel statistical methods to improve conduct of randomized trials. Further, I have strengthened my role as an educator and leader for the Department of Biostatistics Master's degree programs via my role as co-director of our graduate program. As a part of my work relating to critical care medicine, I continue to develop my research in the field of delirium. Among critically ill patients being treated in the intensive care unit (ICU), delirium occurs in roughly 50% of all patients and roughly 80% of patients over 65 years of age. I am entering the 4th year of a NIA-funded R01 with the goal of utilizing data from several completed high-profile delirium randomized trials as well as a large clinical cohort of ICU patients, to develop statistical methods for evaluating both preventative and therapeutic interventions for delirium in randomized trials and provide guidance for researchers conducting such trials.

*Keywords:* applied statistics, competing risks, composite endpoints, randomized controlled trials, critical care medicine, patient safety