

**Erin Fitzgerald Carlton**  
**Clinical Assistant Professor, Pediatric Critical Care Medicine**  
**Faculty Investigator, Susan B. Meister Child Health Evaluation and Research Center**  
Ann Arbor, Michigan  
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## **Education and Training**

### **Education**

08/2003-05/2006      BS, Biology, Kent State University, Kent, OH  
08/2008-05/2012      MD, Medicine Md Degree, The University of Toledo College of Medicine, Toledo, OH  
08/2015-12/2016      MS, Health and Health Care Research, University of Michigan, Ann Arbor, MI

### **PostDoctoral Training**

07/2012-06/2015      Residency, Pediatrics, University of Colorado, Denver, CO  
07/2015-06/2018      Fellowship, Pediatric Critical Care, University of Michigan, Ann Arbor, MI

## **Certification And Licensure**

### **Certification**

10/2015-12/2025      American Board of Pediatrics - General  
12/2018-12/2028      American Board of Pediatrics - Critical Care

### **Licensure**

03/2025                  DEA Registration  
03/2025                  State of Michigan, Controlled Substance  
03/2025                  State of Michigan, Medical License

## **Academic, Administrative, Clinical, Research and Military Appointments**

### **Academic Appointments**

07/2018-present      Clinical Assistant Professor in Pediatrics - Intensive Care, University of Michigan - Ann Arbor, Ann Arbor, Michigan

### **Administrative Appointments**

09/2015-present      Member, Institute for Health Policy and Innovation, Ann Arbor, MI  
07/2016-present      Faculty Investigator, Susan B. Meister Child Health Evaluation and Research Center, Ann Arbor, MI  
01/2021-present      Associate Program Director for Education-Pediatric Critical Care Medicine Fellowship, University of Michigan, ANN ARBOR, MI  
07/2021-present      Associate Program Director for Research-Pediatric Critical Care Medicine Fellowship, University of Michigan, ANN ARBOR, MI

### **Clinical Appointments**

07/2015-present      Attending Staff Physician, University of Michigan Health System, Ann Arbor, MI

## **Clinical Interests**

- Sepsis and Septic Shock; Long-term outcomes after pediatric critical illness; Rapid Response Team

## **Research Interests**

- My research focuses on improving long-term outcomes after pediatric critical illness, specifically severe sepsis. Specifically, I strive understand the factors influencing pediatric severe sepsis survivorship, with a

long-term goal of developing and testing clinical interventions to mitigate post-sepsis morbidity. Additionally, I aim to understand and improve the family spillover effects of critical illness, including the educational and economic impacts.

## Grants

### Current Grants

*The impact of critical illness on family financial health* Charles Woodson Collaborative Research Award  
Erin Carlton, PI  
12/2021-12/2022. \$25,000 (\$25,000)

*The impact of critical illness on family financial health* Susan B. Meister Child Health Evaluation and Research Center  
Erin Carlton, PI  
12/2021-12/2022. \$25,000 (\$25,000)

*KL2TR002241: Measuring the long-term consequence of pediatric severe sepsis* Michigan Institute for Clinical & Health Research  
Erin Carlton, PI  
03/2021-03/2022. \$140,387

*National Institutes of Health Loan Repayment Program* NIH  
Erin Carlton, PI  
11/2020-11/2022. \$100,000

*PICS-p – Post-Intensive Care Syndrome Pediatrics, Longitudinal Cohort study* SubK-NIH-DHHS-US through a consortium with University of Pennsylvania- 21-PAF06015  
Erin Carlton, PI  
07/2020-06/2022. \$6,250 (\$6,250)

### Past Grants

*Socioeconomic Status as a Predictor of Pediatric Sepsis Morbidity and Mortality* Department of Pediatrics, DEI Committee  
Co-I without Effort (Principal Investigator: Kayla Phelps (primary mentee))  
09/2020-09/2021. \$5,000

*University of Michigan Multidisciplinary Research Training Program, Lung Immunopathology, T32 Training Grant* NIH  
Other (Principal Investigator: Nick Lukacs)  
07/2016-06/2018

*Percy J. Murphy, MD and Mary C. Murphy, RN Endowed Children's Research Fund* University of Michigan  
Department of Pediatrics  
Erin Carlton, PI  
07/2016-06/2018

## Honors and Awards

### International

2021 Society of Critical Care Medicine-STAR Research Award. Awarded to Dr. Kayla Phelps, primary mentee

### National

2017 Society for Pediatric Research Clinical Fellow Research Award, Annual Meeting of the Pediatric Academic Society, San Francisco, CA

2021 Collaborative Pediatric Critical Care Research Network Junior Investigator Showcase

### Institutional

2006 Mary Manchester Award, Kent State University

2009	Lucas County Medical Alliance Community Service Award, The University of Toledo College of Medicine
2011	Dr. and Mrs. El-Shaffie Award, The University of Toledo College of Medicine
2011	Gold Humanism Honor Society, Medical Student Inductee, The University of Toledo College of Medicine
2012	Marian M. Rejent Award in Pediatrics, The University of Toledo College of Medicine
2013	Gold Humanism Honor Society, Resident Inductee, University of Colorado School of Medicine
2015	Bruce M. Garber Memorial Award, Children's Hospital Colorado, Residency Award Ceremony
2017	Fellow Award for Clinical/Health Services Research, Annual Pediatric Research Symposium, University of Michigan
2017	University of Michigan Medical School Learning Environment Task Force Recognition
2018	Janet Ferrantino Young Investigator Award
2019	Top Teachers in the Department of Pediatrics
2020	Top Teachers in the Department of Pediatrics
2021	Top Resident Research Abstracts from the 2021 Pediatric Research Symposium-Health Services Research Awarded to Stephani Zakutansky--primary mentee

## **Memberships in Professional Societies**

2015-present	Member, Society for Critical Care Medicine
2015-present	Member, Society for Pediatric Research
2018-present	Member, American Thoracic Society
2021-present	Member, American Academy of Pediatrics

## **Editorial Positions, Boards, and Peer-Review Service**

### **Journal Reviewer**

2019-present	Critical Care (Ad Hoc)
2019-present	Journal of Hospital Medicine (Ad Hoc)
2019	PLOS-ONE (Ad Hoc)
2020-present	BMC Pediatrics (Ad Hoc)
2020-present	Frontiers Pediatrics (Ad Hoc)
2020	BMJ (Ad Hoc)
2021-present	Annals of the American Thoracic Society (Ad Hoc)
2021-present	Pediatrics (Ad Hoc)
2021-present	Scientific Reports (Ad Hoc)
2021	Intensive Care Medicine (Ad Hoc)
2021	Pediatric Critical Care Medicine (Ad Hoc)

## **Teaching**

### **Clinical Fellow**

08/2019-present	Kayla Phelps, MD, University of Michigan
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### **Resident/House Officer**

01/2020-present	Stephani Zakutansky, MD, University of Michigan
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### **Undergraduate Student**

09/2017-present	Alyssa Dews, BS, University of Michigan
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## Teaching Activity

### Institutional

01/2016-02/2017	Lecture: Fluid, Electrolytes and Acid-Base Balance & Sepsis/Shock Acute Care Pediatric Management, Nurse Practitioner Program University of Michigan
01/2017-07/2021	Lectures: Sepsis and Shock in Children; Post Intensive Care Syndrome in Children; Liver Disease Pediatric Intensive Care Unit Nursing Learning Lecture-Continuing Medical Education
03/2017-03/2020	Mock Code and Pediatric Emergencies Simulations, M4 Pediatric Bootcamp, C.S. Mott Children's Hospital, University of Michigan, Ann Arbor
07/2018-present	Shock-Pediatric Residency Program Core Topic
07/2019-present	Pediatric Rapid Response Team
02/2020	Peer Review. Physician Scientist Clinical and Translational Research (MEDADM-8447), University of Michigan School of Medicine
09/2020	Transitions to Clerkship-Hyponatremia

## Clinical Track Scholarly Contribution

### Clinician-Research Scholar (translational science, clinical research, health services research)

My scholarly contributions have focused on improving the care of children following critical illness, specifically after sepsis. Sepsis is the body's response to infection that can lead to organ failure. My research has focused on health care utilization and needs after sepsis hospitalization, the medical consequences and complications of sepsis, and the economic impact of critical illness.

## Committee and Administrative Services

### Committee Services

#### International

2020-present	Pediatric Outcomes Studies after PICU (POST-PICU) Investigators Core Outcome Measures Working Group, Expert Panel Member
2021-present	Global Sepsis Alliance, Pediatrics Platform Board Committee Member

#### National

2020-present	American Thoracic Society Programming Committee, Programming Committee Member
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#### Institutional

2016-2018	University of Michigan Cardiopulmonary Resuscitation Committee, House Officer Representative
2019-present	Fellowship Oversight Committee, Pediatric Critical Care Medicine, Department of Pediatrics, Member
2019-present	Improving Pediatric Sepsis Outcomes, Coordinating Committee
2020-present	PICeW Committee, Member
2020-present	Rapid Response Team Quality Improvement Team: A Multidisciplinary Approach, Lead

## Visiting Professorships and Extramural Invited Presentations

### Extramural Invited Presentations

1. Creating a Visual Abstract, American Thoracic Society, May 2020, Philadelphia, PA (cancelled due to COVID19)
2. Identifying Phenotypes using Pre-Admission Patient Characteristics and Trajectories, CHEST Annual Meeting, October 2020, Virtual Congress (due to COVID19)
3. Big Data in Little Kids, Pediatric Critical Care Regional Meeting: Technology in the Pediatric ICU, April 2021, Virtual due to Covid-19
4. Pediatric Sepsis Research Update, University of Tennessee; LaBoehner Children's Hospital, November 2021, Virtual

5. The long-term impact of critical illness and sepsis in children, Michigan State University, February 2022, Virtual
6. Pediatric Sepsis Definitions-Do They Matter?, Society of Critical Care Medicine, February 2022, San Juan, Puerto Rico

### Other

1. Doctor Radio-Pediatrics On Call, SiriusXM, February 2022, Online/ Satellite Radio

### Seminars

1. What happens after the hospital: The long-term impact of severe sepsis, Susan B. Meister Child Health Evaluation and Research Center, February 2019, Ann Arbor, MI

## Bibliography

### Peer-Reviewed Journals and Publications

1. Teng Q, Garrity-Moses M, Federici T, Tanase D, Liu JK, Mazarakis ND, Azzouz M, Walmsley LE, **Carlton E**, Boulis NM: Trophic activity of Rabies G protein-pseudotyped equine infectious anemia viral vector mediated IGF-I motor neuron gene transfer in vitro. *Neurobiol Dis* 20(3): 694-700, 2005. PM16005636
2. Yang J, Teng Q, Garrity-Moses ME, McClelland S 3rd, Federici T, **Carlton E**, Riley J, Boulis NM: Reversible unilateral nigrostriatal pathway inhibition induced through expression of adenovirus-mediated clostridial light chain gene in the substantia nigra. *Neuromolecular Med* 9(3): 276-84, 2007. PM17914186
3. Falcone T, **Carlton E**, Janigro D, Simon B, Franco K: Self-harm during first-episode psychosis. *Br J Psychiatry* 193(2): 167; author reply 167, 2008. PM18670009/PMC2774818
4. Mehta A, **Carlton E**, Franco K: Catatonia in adolescence: a case report. *Psychiatry (Edgmont)* 5(4): 37-41, 2008. PM19727308/PMC2719551
5. **Carlton E**, Teng Q, Federici T, Yang J, Riley J, Boulis NM: Fusion of the tetanus toxin C fragment binding domain and Bcl-xL for protection of peripheral nerve neurons. *Neurosurgery* 63(6): 1175-82; discussion 1182-4, 2008. PM19057331
6. Marchi N, Fan Q, Ghosh C, Fazio V, Bertolini F, Betto G, Batra A, **Carlton E**, Najm I, Granata T, Janigro D: Antagonism of peripheral inflammation reduces the severity of status epilepticus. *Neurobiol Dis* 33(2): 171-81, 2009. PM19010416/PMC3045783
7. Granata T, Marchi N, **Carlton E**, Ghosh C, Gonzalez-Martinez J, Alexopoulos AV, Janigro D: Management of the patient with medically refractory epilepsy. *Expert Rev Neurother* 9(12): 1791-802, 2009. PM19951138/PMC3761964
8. Franz CK, Federici T, Yang J, Backus C, Oh SS, Teng Q, **Carlton E**, Bishop KM, Gasmi M, Bartus RT, Feldman EL, Boulis NM: Intraspinal cord delivery of IGF-I mediated by adeno-associated virus 2 is neuroprotective in a rat model of familial ALS. *Neurobiol Dis* 33(3): 473-81, 2009. PM19135533
9. Falcone T, Mishra L, **Carlton E**, Lee C, Butler RS, Janigro D, Simon B, Franco K: Suicidal behavior in adolescents with first-episode psychosis. *Clin Schizophr Relat Psychoses* 4(1): 34-40, 2010. PM20643627 /PMC4001852
10. Falcone T, **Carlton E**, Lee C, Janigro M, Fazio V, Forcen FE, Franco K, Janigro D: Does Systemic Inflammation Play a Role in Pediatric Psychosis? *Clin Schizophr Relat Psychoses* 9(2): 65-78B, 2015. PM23491967/PMC4899842
11. **Carlton EF**, Mahowald MK, Malas N: Management of Multifactorial Infant Delirium with Intravenous Haloperidol in the Setting of Over Sedation and Poor Enteral Absorption. *J Child Adolesc Psychopharmacol* 27(3): 289-290, 2017. PM27893294
12. **Carlton EF**, Sontag MK, Younoszai A, DiMaria MV, Miller JI, Poindexter BB, Abman SH, Mourani PM: Reliability of Echocardiographic Indicators of Pulmonary Vascular Disease in Preterm Infants at Risk for Bronchopulmonary Dysplasia. *J Pediatr* 186: 29-33, 2017. PM28411949/PMC5493442
13. Hensley MK, Donnelly JP, **Carlton EF**, Prescott HC: Epidemiology and Outcomes of Cancer-Related Versus Non-Cancer-Related Sepsis Hospitalizations. *Crit Care Med* 47(10): 1310-1316, 2019. PM31356477/PMC6815199
14. Yagiela LM, **Carlton EF**, Meert KL, Odetola FO, Cousino MK: Parent Medical Traumatic Stress and Associated Family Outcomes After Pediatric Critical Illness: A Systematic Review. *Pediatr Crit Care Med* 20(8): 759-768, 2019. PM31107380

15. Viglianti EM, Admon AJ, **Carlton EF**, Hensley MK, Prescott HC, Iwashyna TJ, McSparron JI: Publishing a Clinical Research Manuscript: Guidance for Early-Career Researchers With a Focus on Pulmonary and Critical Care Medicine. *Chest* 156(6): 1054-1061, 2019. PM31265833/PMC6904852
16. **Carlton EF**, Kohne JG, Shankar-Hari M, Prescott HC: Readmission Diagnoses After Pediatric Severe Sepsis Hospitalization. *Crit Care Med* 47(4): 583-590, 2019. PM30676337/PMC6535212
17. **Carlton EF**, Barbaro RP, Iwashyna TJ, Prescott HC: Cost of Pediatric Severe Sepsis Hospitalizations. *JAMA Pediatr* 173(10): 986-987, 2019. PM31403673/PMC6692673
18. **Carlton EF**, Close J, Paice K, Dews A, Gorga SM, Sturza J, Barbaro RP, Cornell TT, Prescott HC: Clinician Accuracy in Identifying and Predicting Organ Dysfunction in Critically Ill Children. *Crit Care Med* 48(11): e1012-e1019, 2020. PM32804793/PMC7959260
19. **Carlton EF**, Kohne JG, Hensley MK, Prescott HC: Comparison of Outpatient Health Care Use Before and After Pediatric Severe Sepsis. *JAMA Netw Open* 3(9): e2015214, 2020. PM32910194/PMC7489846
20. Carlton EF, McHugh WM, McDonough K, Sturza J, Desch K, Cornell TT: Markers of Endothelial Dysfunction and Cytokines in High-Risk Pediatric Patients with Severe Sepsis. *Am J Respir Crit Care Med* 201(3): 380-384, 2020. PM31597044/PMC6999097
21. **Carlton EF**, Donnelly JP, Hensley MK, Cornell TT, Prescott HC: New Medical Device Acquisition During Pediatric Severe Sepsis Hospitalizations. *Crit Care Med* 48(5): 725-731, 2020. PM32108704
22. **Carlton EF**, Ice E, Barbaro RP, Kampuis L, Moss M, Angus DC, Banner-Goodspeed VM, Ginde AA, Gong MN, Grissom CK, Hou PC, Huang DT, Hough CTL, Talmor DS, Thompson BT, Yealy DM, Couper MP, Iwashyna TJ, NHLBI Prevention and Early Treatment of Acute Lung Injury (PETAL) Network.: Recall of clinical trial participation and attrition rates in survivors of acute respiratory distress syndrome. *J Crit Care* 64: 160-164, 2021. PM33906105/PMC8222163
23. **Carlton EF**, Donnelly JP, Prescott HC, Asaro LA, Barbaro RP, Watson RS, Curley MAQ, RESTORE Study Investigators.: School and Work Absences After Critical Care Hospitalization for Pediatric Acute Respiratory Failure: A Secondary Analysis of a Cluster Randomized Trial. *JAMA Netw Open* 4(12): e2140732, 2021. PM34940862
24. Gorga SM, **Carlton EF**, Kohne JG, Barbaro RP, Basu RK: Consensus acute kidney injury criteria integration identifies children at risk for long-term kidney dysfunction after multiple organ dysfunction syndrome. *Pediatr Nephrol* 36(6): 1637-1640, 2021. PM33427986
25. Gorga SM, **Carlton EF**, Kohne JG, Barbaro RP, Basu RK: Renal angina index predicts fluid overload in critically ill children: an observational cohort study. *BMC Nephrol* 22(1): 336, 2021. PM34635072 /PMC8502791
26. **Carlton EF**, Weeks HM, Dahmer MK, Quasney MW, Sapru A, Curley MAQ, Flori HR: Inflammatory Biomarkers Are Associated With a Decline in Functional Status at Discharge in Children With Acute Respiratory Failure: An Exploratory Analysis. *Crit Care Explor* 3(7): e0467, 2021. PM34278308 /PMC8280074
27. **Carlton EF**, Pinto N, Smith M, Fink EL, Watson RS, Hoehn KS, Marupudi N, Dervan LA, Lackey M, Ringwood M, Maddux AB, POST-PICU Investigators of the PALISI Network and the Eunice Kennedy Shriver National Institute of Child Health and Human Development Collaborative Pediatric Critical Care Research Network.: Overall Health Following Pediatric Critical Illness: A Scoping Review of Instruments and Methodology. *Pediatr Crit Care Med* 22(12): 1061-1071, 2021. PM34261948
28. **Carlton EF**, Weiss SL, Prescott HC, Prosser LA: What's the Cost? Measuring the Economic Impact of Pediatric Sepsis. *Front Pediatr* 9: 761994, 2021. PM34869119/PMC8634593
29. Pollack BE, Barbaro RP, Selewski DT, Carlton EF: Lactic acidosis and multisystem organ failure following ibuprofen overdose requiring haemodialysis. *BMJ Case Rep* 15(2): 2022. PM35131772

## Non-Peer-Reviewed Journals and Publications

1. **Carlton EF**, Prescott HC: Variation in Sepsis-Related Mortality; Implications for Performance Improvement. *Crit Care Med* 46(11): 1871-1873, 2018. PM30312232
2. **Carlton EF**, Flori HR: Biomarkers in pediatric acute respiratory distress syndrome. *Ann Transl Med* 7(19): 505, 2019. PM31728358/PMC6828797
3. **Carlton EF**, Gaies M, Dewan M: Better Is Not Good Enough. *Pediatr Crit Care Med* 21(12): 1081-1108, 2020. PM33278212
4. **Carlton EF**, Prescott HC: The After Shock-Reduced Health-Related Quality of Life Following Sepsis. *Pediatr Crit Care Med* 21(10): 899-901, 2020. PM33009299

5. **Carlton EF**, Prescott HC: The authors reply. Crit Care Med 48(4): e334-e335, 2020. PM32205627

## Book Chapters

1. **Erin F. Carlton**, Angie Lorts, Thomas Shanley, Timothy Cornell: Sepsis. Pediatric Critical Care Text and Study Guide, Steven E. Lucking, Frank A. Maffei, Robert F. Tamburro, Arno Zaritsky Springer, 2020. 2nd, 34, 1035-1058

## Abstracts

1. Carlton E, Sontag M, Younoszai A, Miller J, Abman S, Mourani P.: Inter-Reader Reliability of Echocardiogram Indicators of Pulmonary Hypertension in Preterm Infants at Risk for Bronchopulmonary Dysplasia., Pediatric Academic Society Annual Meeting, Vancouver, BC, 2014.
2. Carlton E, McHugh W, McDonough K, McGee B, Desch K, Cornell T.: Markers of Endothelial Dysfunction for Predictive Enrichment in Pediatric Severe Sepsis., Pediatric Academic Society Annual Meeting, San Francisco, CA, 2017.
3. Carlton E, Close J, Dews A, Cornell T.: Clinician Prediction of Multiple Organ Dysfunction Syndrome., Pediatric Academic Society Annual Meeting, Toronto, ON, 2018.
4. Carlton E, Donnelly J, Prescott H.: New Medical Technology Acquired During Pediatric Severe Sepsis- A Nationwide Estimate, American Thoracic Society Annual Meeting, Dallas, TX, 2019.
5. Carlton E, Kohne J, Prescott H.: Technologies and Comorbidities After Pediatric Severe Sepsis, Society of Critical Care Medicine Annual Meeting, 2019.
6. Pollack B, Barbaro R, Carlton E.: Lactic Acidosis and Multisystem Organ Failure Following Ibuprofen Overdose Requiring Hemodialysis., Society for Critical Care Medicine Annual Meeting, Orlando, FL, 2020.
7. Carlton E, Kohne J, Iwashyna T, Prescott H: Outpatient Healthcare Utilization Is Increased Following Severe Sepsis Hospitalization in Children, Society of Critical Care Medicine, Orlando, FL, 2020.
8. Zakutansky S, Viglianti E, Carlton E: Comparing Mortality Outcomes in Young Adults With Severe Sepsis Admitted to PICUs Versus MICUs, Society for Critical Medicine, Virtual, 2021.
9. Carlton, E; Prescott, H; Barbaro, R; Asaro, L; Watson, R; Curley, M: School and Work Absenteeism in Children With Acute Respiratory Failure and Their Families, Society of Critical Care Medicine, Virtual, 2021.
10. Phelps K, Barbaro R, Freed G, Carlton E: The Association of Socioeconomic Status and Pediatric Sepsis Outcomes, Society of Critical Care Medicine, Virtual, 2021.