

Curriculum Vitae
Katharine Boyle, MD
Assistant Professor, Department of Pediatrics
University of Maryland School of Medicine

Date August 10, 2026

Contact Information

Business Address: Department of Pediatric Critical Care
 110 South Paca Street
 Suite 820
 Baltimore, MD 21201
Business Phone Number: (410) 328-6957
Fax (410) 328-0680
Email: katharine.boyle@som.umaryland.edu

Education

1997 - 2001 B.A., Politics, Pomona College
2008 - 2012 M.D., Weil Cornell Medical College

Post Graduate Education and Training

2006 - 2007 Post-Baccalaureate Premedical Program, Goucher College
2012 - 2015 Residency, Pediatrics, University of Washington
2015 - 2018 Fellowship, Pediatric Critical Care, Johns Hopkins University School of Medicine (JHUSOM)
2017 - 2018 Leadership Academy, Armstrong Institute for Patient Safety and Quality, Johns Hopkins Hospital
2018 - 2019 Quality Academy, Monroe Carell Jr. Children's Hospital at Vanderbilt (MCJCHV)
2021 - 2022 Advanced Improvement Methods, Cincinnati Children's Hospital Medical Center

Certifications

2015 Diplomate, American Board of Pediatrics
2018 Diplomate, American Board of Pediatric Critical Care

Medical Licensures

2012 Washington (inactive)
2015 Maryland (active)
2018 Tennessee (inactive)

Employment History

Academic Appointments

- 2018-2025 Assistant Professor, Department of Pediatrics, Vanderbilt University School of Medicine (VUSM)
2025-present Assistant Professor, Department of Pediatrics, University of Maryland School of Medicine (UMSOM)

Other Employment

- 2001-2003 Program Assistant, International Republican Institute, Washington, DC
2004-2005 Research Assistant, Mellon Post-Baccalaureate Research Fellowship, Pomona College, Claremont, California
2005-2006 Graduate Student, Sage Fellowship, Government Department, Cornell University, Ithaca, New York
2007-2008 Research Assistant, Walter Reed Army Institute for Research, Silver Spring, Maryland

Honors and Awards

- 2011 Junior Investigator Award, Conference on Retroviruses and Opportunistic Infections, awarded for distinguished abstract
2017 Robert H. Bartlett Award for Best Abstract, 28th Annual Extracorporeal Life Support Organization Conference
2023 Fleming Scholar, Academy for Excellence in Education, VUSM, participated in 2-year mentorship program
2024 Inducted to Academy for Excellence in Clinical Medicine, VUSM
2026 Professional Development Award, Medical Education Leadership Academy, UMSOM; supported tuition and travel for the Harvard Macy Institute Course: Leading Innovation in Health Care and Education

Clinical Activities

Clinical Expertise

Board certified pediatrician
Additional board certification in the sub-specialty of critical care
Patient safety and quality improvement leader
Diagnosis and treatment of pediatric sepsis
Prevention of severe clinical deterioration for pediatric inpatients

Scope of Clinical Practice

- 2018-2025 Pediatric Critical Care, Pediatric Intensive Care Unit (PICU), MCJCHV
 ~3000 Admissions to PICU per year

2025-present Director of Quality and Safety
 Pediatric Critical Care, PICU, UMSOM
 ~1500 Admissions to PICU per year

Professional Society Memberships

2015-present Professional Member, Society for Critical Care Medicine
 2021-present Fellow, American Association of Pediatrics

Administrative Service

Institutional Service

Vanderbilt University, MCJCHV

2018-2025 Site Lead, Virtual PICU Systems (VPS)
 2019-2025 Director, Quality and Patient Safety, PICU
 2019-2025 Leader, PICU Safety Meeting
 2019-2025 Advisor, Clinical Documentation and Coding Excellence Committee
 2020-2025 Member, Pharmacy and Therapeutics Committee
 2020-2025 Member, Pediatric eStar (EPIC) Forum, Health IT Workgroup
 2020-2025 PICU representative, Unplanned Extubation Committee
 2021-2024 Chair, Hospital Sepsis Program
 2021-2024 Co-Chair, Sepsis Subcommittee, Clinical Deterioration Steering Committee
 2021-2025 Co-chair, Hospital Central Line Associated Blood Stream Infection (CLABSI) Prevention Committee
 2021-2025 PICU representative, Catheter Associated Urinary Tract Infection Committee
 2021-2025 PICU representative, Pressure Injury Workgroup
 2021-2025 Clinical Consultant, Safety Incident Reviews, Process, Management, and Improvement Office
 2021-2025 Member, Clinical Competency Committee, Pediatric Critical Care Fellowship Program, VUSM
 2022-2025 Co-Chair, Morbidity and Mortality Conference
 2024-2025 Co-Chair, PICU Airway and Breathing Committee: A Respiratory Safety and Quality Initiative
 2024-2025 Member, Foundations of Clinical Care Promotions Committee, VUSM

University of Maryland School of Medicine (UMSOM) and University of Maryland Golisano Children's Hospital (UMGCH)

2025-present Member, Wellness Committee
 2025-present Member, Medical Education Leadership Academy
 2025-present Member, Clinical Years Committee Workgroup: Artificial Intelligence in the Curriculum
 2025-present Member, Clinical Years Committee Workgroup: Faculty Development
 2026-present Leader, Committee to develop the Center for Humanism in Healthcare
 2026-present Co-Chair, Education Committee, UMGCH Governance Council

National Service

2019-present	Member, Pediatric Quality Improvement Subgroup, Society for Critical Care Medicine
2021-2024	Site Lead, Improving Pediatric Sepsis Outcomes, MCJCHV (IPSO)
2021-present	Member, Council on Quality Improvement and Patient Safety (COQUIPS), American Academy of Pediatrics
2022-present	Ad Hoc Reviewer, <i>Hospital Pediatrics</i> (1x/yr)
2024-2026	Steering Committee Member, Pediatric Sepsis Community of Practice, National Committee, Children's Hospital Association
2025-present	Ad Hoc Reviewer, <i>Pediatric Quality and Safety</i> (1x/yr)

International Service

2003 - 2004	Volunteer/Educator, Education as a Vaccine Against AIDS, a Nongovernmental Organization, Abuja, Nigeria
-------------	---

Teaching Service

Medical Student Teaching

2020-2025	Small Group Facilitator, Foundations of Medical Knowledge, VUSM 8-9 1 st -year medical students – 48-72 contact hours/year
2021-2024	Mentor, Quality Improvement Initiatives, Medical Students, VUSM 1 regular, no less than monthly, meeting with student
2022-2025	Faculty, Objective Structured Clinical Examinations, VUSM 1 3 rd -year medical student—5 contact hour/year
2022-2025	Lecturer, Pediatric Respiratory Failure, Critical Care Integrated Science Course, VUSM 20 3 rd and 4 th -year medical students—1 contact hour/year
2023-2025	Faculty Affiliate Advisor, Batson College, VUSM Participate in College events, 5 contact hours/year
2023-2024	Lecturer, Introduction to Clinical Labs, Foundations of Clinical Care Course, VUSM 100 2 nd -year medical students – 1 contact hour
2024-2025	Small Group Leader, Wellness Retreats, VUSM 10 medical students —2 hour sessions, 3 retreats/year
2024-2025	Master Clinical Teacher, VUSM 1 3 rd or 4 th -year medical student —1 hour sessions, 50 sessions/year
2024-2025	Small Group Facilitator, Foundations of Healthcare Delivery, VUSM 9 1 st -year medical students—20 contact hours/year
2024-2025	Substitute College Mentor, Learning Communities Course, VUSM 10-20 medical students —12 contact hours
2025-present	Faculty Advisor and Mentor, Core Faculty for Pediatric Clerkship, UMSOM 6-8 3 rd year medical students—3 hour sessions, 36 sessions/year, 100 contact hours/year
2025-present	Panelist, Humanism Symposium, UMSOM 30 2 nd year medical students—5 contact hours/year

- 2025-present Small Group Facilitator, Foundations Course, UMSOM
75 1st year medical students—2 contact hours/year
- 2025-present Small Group Facilitator, Professionalism Workshop, Practice of Medicine 3, UMSOM
12 3rd year medical students—2 contact hours/year
- 2025-present Mentor, Disease Ontology Project
2 2nd year medical students, 1 resident—10 contact hours/year
- 2026-present Course Director, Pediatric Intensive Care Unit Sub-Internship, UMSOM
6 4th year medical students—15 contact hours/year
- 2026-present Course Co-Director, Clerkship Debriefing Curriculum, UMSOM
160 3rd year medical students—4 contact hours/year

Resident and Fellow Teaching

- 2015-present PICU didactic lecture series: Shock, Sepsis, Traumatic brain injury
3-4 residents –2 contact hours/month
- 2016-2018 Ultrasound Skills Day
2-3 fellows and advance practice nurses –4 contact hours/year
- 2017-2018 Chief Education Fellow, JHUSOM
- 2018-present Attending Physician, PICU service, VUSM
1 fellow, 2 residents – 10-14 hours/shift, 130 shifts/year
- 2018-2025 Instructor, Skills Day, VUSM and MCHCHV
4-8 critical care fellows and/or advanced practice nurses –4 contact hours/year
- 2020-2025 Instructor/Mentor, Quality Improvement Course, VUSM
12 fellows –lectures/didactics: 4 contact hours/year; project mentorship: 2 contact hours/month
- 2020-2024 Lecture, Neurologic Emergencies, VUSM
30 pediatric residents –1 contact hour/year
- 2024-2025 Instructor, Board Review, VUSM
12 critical care fellows –10 contact hours/year
- 2025-present Instructor, Resident and Fellow Didactic Sessions: Acute Respiratory Failure, Shock, Sedation in the PICU, UMSOM
1 fellow, 3 advanced practice nurses, 3 residents—12 contact hours/year
- 2025-present Instructor, Board Review, UMSOM
1 critical care fellow, 2 advanced practice nurses—10 contact hours/year

Resident/Fellow Mentorship

- 2019-2021 Sofia Mendieta, MD. Scholarship Oversight Committee, VUSM
- 2022-2024 Nicole Parada Parra, MD. Mentored Quality Improvement Project: Improving and Documenting Interpreter Use in a Children’s Hospital, VUSM
- 2024-2026 Juan Arocho Gonzalez, MD. Scholarship Oversight Committee, VUSM

Research Activities

Research Interests: Multisite quality improvement collaboratives, professional identity development, communication skills, leadership skills, humanism, and wellness.

Grant Support

Active Grants

05/15/2022 - 02/28/2027 AHRQ Grant#: R01HS028634
“Respiratory Culture Stewardship to Reduce Antibiotic Use in Critically Ill Children”
Formerly Served as Vanderbilt Site Lead, 0% effort
PI: Dr. Aaron Milstone
Total Project Cost: \$2,424,204
Conducted local quality improvement initiative with support from collaborative, shared data to determine best practices; in 2025, I continue to work with the collaborative to report results from prior work and to discuss future directions/potentially incorporating University of Maryland PICU into collaborative.

Completed Grants

2023-2025 AHRQ Grant#: R01HS029331
“Reducing Overuse of Antibiotics with Decision Support: The ROADS Study”
Subject Matter Expert, 0% effort
PI: Dr. Derek Williams
Total Project Cost: \$2,500,000
Assisted with building clinical decision support tool and testing tool within the PICU environment

2022-2023 Donaghue Foundation Greater Value Portfolio
“Reducing overuse of respiratory cultures and antibiotic use in mechanically ventilated children across a national pediatric critical care collaborative”
Vanderbilt Site Lead, 0% effort
PI: Dr. Anna Sick-Samuels
Total Project Cost: \$439,689
Conducted quality improvement initiative to reduce respiratory cultures at MCJCHV and participated in collaborative

Publications

Peer-reviewed journal articles

1. **Boyle K**, Felling R, Yiu A, Battarjee W, Schwartz JM, Salorio C, and Bembea MM. Neurologic Outcomes After Extracorporeal Membrane Oxygenation—A Systematic Review.

- Pediatric Critical Care Medicine*. 2018 Aug; 19(8):760-766. doi: 10.1097/PCC.0000000000001612.
2. Bembea MM, Felling RJ, Caprarola SD, Ng D, Tekes A, **Boyle K**, et al. Neurologic Outcomes in a Two-Center Cohort of Neonatal and Pediatric Patients Supported on Extracorporeal Membrane Oxygenation. *ASAIO Journal*. 2020 Jan; 66(1):79-88. doi: 10.1097/MAT.0000000000000933.
 3. Harper K, Anderson J, Pingel JS, **Boyle K**, Want L, Lindsell CJ, et al. Outcomes Associated with a Pediatric Intensive Care Unit Sedation Weaning Protocol. *J Pediatr Intensive Care*. Published online May 26, 2023. doi: 10.1055/s-0043-1769119.
 4. **Boyle K** and Wellons JC. Full Court Press. *JAMA Neurol*. 2023 Oct 1; 80(10):1017-1018. doi: 10.1001/jamaneurol.2023.2584.
 5. Sick-Samuels AC, Koontz DW, Xie A, Kelly D, Woods-Hill CZ, Aneja A, et al, and the **BrighT STAR Authorship Group**. A Survey of PICU Clinician Practices and Perceptions Regarding Respiratory Cultures in the Evaluation of Ventilator-Associated Infections in the BrighT STAR Collaborative. *Pediatric Critical Care Medicine*. 2024 Jan 1; 25(1):e20-e30. doi: 10.1097/PCC.0000000000003379.
 6. Pourquoi A, Miller MR, Koch SR, **Boyle K**, Surratt V, Nguyen H, et al. Differential Signaling Effects of Escherichia Coli and Staphylococcus Aureus in Human Whole Blood Indicate Distinct Regulation of the NRF2 Pathway. *Shock*. 2024 Apr 1; 61(4):557-563. doi: 10.1097/SHK.0000000000002305.
 7. MarronA, Totapally A, Weatherly A, De S, Barber M, Lifsey A, **Boyle K**. Pediatric Health Assessment Tracker: A Quality Improvement Initiative to Obtain Weights Consistently and Appropriately in a Tertiary Pediatric Intensive Care Unit. *Pediatric Quality and Safety*. 2025 Jan 16; 10(1):e791. doi: 10.1097/pq9.0000000000000791.
 8. Sick-Samuels AC, Kelly D, Woods-Hill CZ, Arthur A, Kumar U, Koontz DW, et al, and the **BrighT STAR Respiratory Consensus Authorship group**. Diagnostic Stewardship of Endotracheal Aspirate Cultures in Hospitalized Children With Artificial Airways: Expert Consensus Statements From the BrighT STAR (Testing STewardship for Antibiotic Reduction) Respiratory Collaborative. *Pediatric Critical Care Medicine*. 2025 Apr 1; 26(4):e569-e582. doi: 10.1097/PCC.0000000000003695.
 9. Rutman L, Richardson T, Auletta J, et al and the **Improving Pediatric Sepsis Outcomes Collaborative Investigators**. Association between Child Opportunity Index and paediatric sepsis recognition and treatment in a large quality improvement collaborative: a retrospective cohort study. *BMJ Quality & Safety*. 2026 Jan 19; 35(2):106-117. doi:10.1136/bmjqs-2024-017844.
 10. Sick-Samuels AC, Woods-Hill CZ, Kelly DP, Koontz DW, Elhaisouni N, Kumar U, Xie A, Richardson T, Dutta S, Marsteller JA, Colantuoni E, Milstone AM; BrighT STAR Respiratory Authorship Group; Aldewereld Z, Auth MJ, Banerjee R, Blumenthal JA, **Boyle K**, et al. Diagnostic Stewardship of Respiratory Cultures Using Clinical Decision Support in the PICU. *JAMA Netw Open*. 2026 Jul 1;9(7):e2626547. doi: 10.1001/jamanetworkopen.2026.26547
 11. Mack E, **Boyle K**, et al. Sepsis recognition improves outcomes in a large pediatric intensive care unit quality improvement collaborative. 2026; submitted manuscript.

Book Chapters

1. **Boyle K**, Electrolyte Management. In: Lin T, Bernier M, editors. Custer's Handbook of Pediatric Critical Care Medicine, 8th Edition. Baltimore: John's Hopkins Children's Center; 2018. p78-82.
2. **Boyle K**, Acid Base Disorders. In: Lin T, Bernier M, editors. Custer's Handbook of Pediatric Critical Care Medicine, 8th Edition. Baltimore: John's Hopkins Children's Center; 2018. p 89-91.

Abstracts and/or Proceedings

1. **Boyle K**, Whittington J, Deriso E, Alefantis T, Bergmann-Leitner E, Grewal P, et al. Immunity induced by Plasmodium berghei CSP expression from various cellular localizations and delivery by inactivated Escherichia coli. American Society for Tropical Medicine and Hygiene Annual Meeting, New Orleans, LA. 2008.
2. **Boyle K**, Riviere C, Byrt E, Arash J, Tabrizi R, Fitzgerald DW, et al. Prevalence of High-risk Human Papilloma Virus and Cervical Lesions among HIV-infected Women at a Clinic in Port-au-Prince, Haiti. Poster presentation. Conference on Retroviruses and Opportunistic Infections, Boston, MA. 2011. Junior Investigator Award
3. **Boyle K**, Felling R, Yiu A, Battarjee W, Schwartz JM, Salorio C, and Bembea M. Neurologic Outcomes After Extracorporeal Membrane Oxygenation – A Practice Survey and Systematic Review. Extracorporeal Life Support Organization Conference. Baltimore, MD. 2017. Robert H. Bartlett Award for Best Abstract
4. Hoops K, Fackler J, King A, **Boyle K**, Herrup E, Manzo A, et al. Clinician prediction of bacteremia in critically ill children: How good is our diagnostic instinct? Society for Critical Care Medicine Annual Meeting, San Antonio, TX. 2018.
5. Mendieta KS, Morrison M, Betters K, Diaz I, **Boyle K**. Improvement of CPR Quality following Implementation of CPR Coach. Society for Critical Care Medicine Annual Meeting (Virtual). 2022.
6. Lo C, Humphries R, **Boyle K**, Banerjee R. Optimizing Blood Culture Volume Collection in Inpatient Pediatrics: A Quality Improvement Study. 12th Annual Pediatric Antibiotic Stewardship Conference. St. Louis, MO. 2022.
7. **Boyle K**, Miller M, Maynard P, Jones A, Kelly S, Thomas A, et al. Effectiveness of a Targeted Temperature Management Protocol for Maintaining Normothermia in Pediatric Neurocritical Care Patients. Neurocritical Care Society 20th Annual Meeting. San Antonio, TX. 2022.
8. Liu A, Sutyla R, Wong A, Santarelli M, Betters K, **Boyle K**. Communication During Rapid Responses Using SBAR Presentation. Society for Critical Care Medicine Annual Meeting. San Francisco, CA. 2023.
9. **Boyle K**, Throop P, Hertha E, Betters K. Optimizing a sepsis prediction tool for use in a new environment. Pediatric Academic Societies Annual Meeting. Washington, DC. 2023.
10. Totapally A, De S, Marron A, Weatherly A, Lifsey A, Barber M, **Boyle K**. Pediatric Health Assessment Tracker (PHAT): A Quality Improvement Initiative to Obtain Weights in the PICU. Society for Critical Care Medicine Annual Meeting. Phoenix, AZ. 2024.

Published Media/Media Appearances

1. “After a stroke, one local girl is having a ‘marvelous’ recovery”. Cole Johnson, News Channel 5 (WTVF), Murfreesboro, Tennessee. August 17, 2023.
2. “What started as flu symptoms leads to Tennessee teen having hands, legs amputated”. Christopher Cann, USA Today. September 14, 2023.
3. “How Tennessee Teen lost his hands and feet after rare post-flu infection”. Frank Gluck, The Tennessean. September 28, 2023.
4. “When There’s No Room for Doubt”. Discoveries in Medicine, Vanderbilt University Medical Center. October 4, 2023.

Major Invited Speeches

Local

1. **Boyle K**, Determination of brain death: The apnea test and ancillary exams. Pediatric Neurology Grand Rounds. JHUSOM. Baltimore, Maryland, 2016.
2. **Boyle K**, Optimizing a sepsis prediction tool for use in a new environment. PAS Preview: Department of Pediatrics Quality Improvement Presentations. VUSM. Nashville, Tennessee, 2023.
3. **Boyle K**, Ethical considerations in the care of patients who make clinicians feel unsafe. Ethics Grand Rounds, VUSM. Nashville, Tennessee, 2023.
4. **Boyle K**, Moderator, Round Table on early-career scholarly work. Tennessee Pediatric Neurocritical Care Collaborative Annual Conference. Nashville, Tennessee, 2023.

National

5. **Boyle K**, Neurologic outcomes after extracorporeal membrane oxygenation – A practice survey and systematic review. Extracorporeal Life Support Organization Conference. Baltimore, Maryland, 2017.
6. **Boyle K**, Detection and treatment of sepsis in the inpatient setting. Children’s Hospital Alliance of Tennessee Quality & Safety Collaborative, Annual Meeting (Virtual), 2021.
7. **Boyle K**, Monitoring of hospital onset severe sepsis. Children’s Hospital Association: Improving Pediatric Sepsis Outcomes, Monthly Data Webinar. Virtual, 2022.
8. **Boyle K**, Optimizing a sepsis prediction tool for use in a new environment. Children’s Hospital Association: Improving Pediatric Sepsis Outcomes, Workshop. Dallas, Texas, 2023.
9. **Boyle K**, Optimizing Antibiotic Administration for Sepsis: A multidisciplinary effort. Children’s Hospital Association: Sepsis Community of Practice. Virtual, 2025.
10. **Boyle K**, Visiting Professorship, Pediatric Critical Care Medicine, JHUSOM. Invited Talk: Quality Improvement for the Pediatric Intensive Care Unit. Baltimore, Maryland, 2025.
11. **Boyle K**, Moderator, Lessons from Sepsis Case Reviews, Breakout Session. Children’s Hospital Association: 2025 Sepsis Symposium. Virtual, 2025.

International

12. **Boyle K**, Antimicrobial resistance and the treatment of infectious diarrhea in resource limited settings. Baylor Pediatric AIDS Initiative, Children's Clinical Center of Excellence. Lilongwe, Malawi. Pediatric Grand Rounds, 2014.

Proffered Communications

1. **Boyle K**. Reducing neonatal mortality in resource-limited settings: the use of continuous positive airway pressure. Seattle Children's Hospital. Seattle, Washington, Resident Case Presentation, 2015.
2. **Boyle K** and Bembea M. Survey of neuromonitoring methods for pediatric patients undergoing extracorporeal membrane oxygenation (ECMO). Department of Anesthesia and Critical Care Medicine Research Day, JHUSOM, Baltimore, Maryland. Poster presentation, 2016.
3. **Boyle K**. Inflammation, coagulation, and endothelial activation during extracorporeal membrane oxygenation. JHUSOM, Baltimore, Maryland. Pediatric Critical Care Research Conference, 2016.
4. **Boyle, K**. Monitoring for neurologic injury in pediatric patients after extracorporeal membrane oxygenation. JHUSOM, Baltimore, Maryland. Pediatric Critical Care Research Conference. 2017.