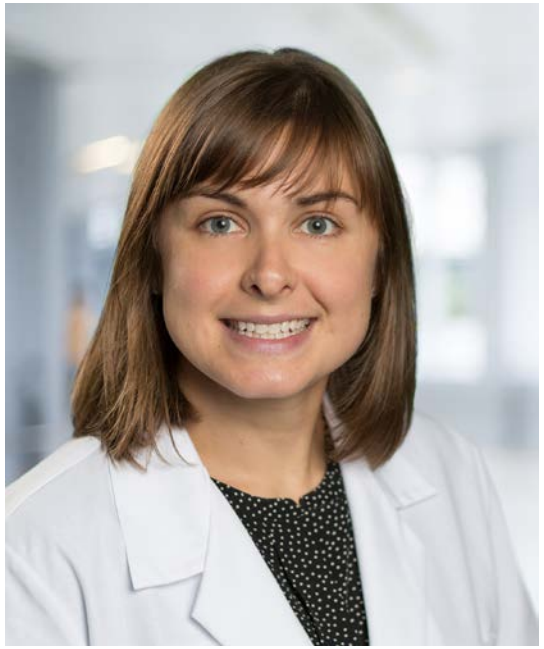
ATS Highlights 2021:
Critical Care Assembly Early Career Professionals



Emily Anne Vail, MD MSc.

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Tell us about yourself.

I'm an academic anesthesiologist and intensivist with clinical interests in transplantation and cardiovascular critical care. After clinical and research training at Columbia University, I practiced in New York and Texas. I joined my new department in November 2020.

Tell us about your research.

I conduct clinical health services and outcomes research examining how clinicians care for critically ill patients. My work to date has focused on the administration of vasopressors and changes in clinical practice associated with drug shortages and published research.

Where do you see yourself in 5 years?

I'll be applying for promotion to Associate Professor and developing a portfolio of extramural funding support. I also hope to mentor trainees pursuing careers in clinical research and academic anesthesiology.

How has the Critical Care Assembly contributed to your career?

I've found opportunities for writing, research dissemination, networking, and leadership. I currently serve as Co-Chair of the CCA Early Career Professionals Working Group.

Selected publications in ATS journals

- The role of professional organizations in fostering the early career development of academic intensivists. PMID: 31800295
- Use of hydrocortisone, ascorbic acid, and thiamine in adults with septic shock. PMID: 32706593
- Use of vasoactive medications after cardiac surgery in the United States. PMID: 32926642

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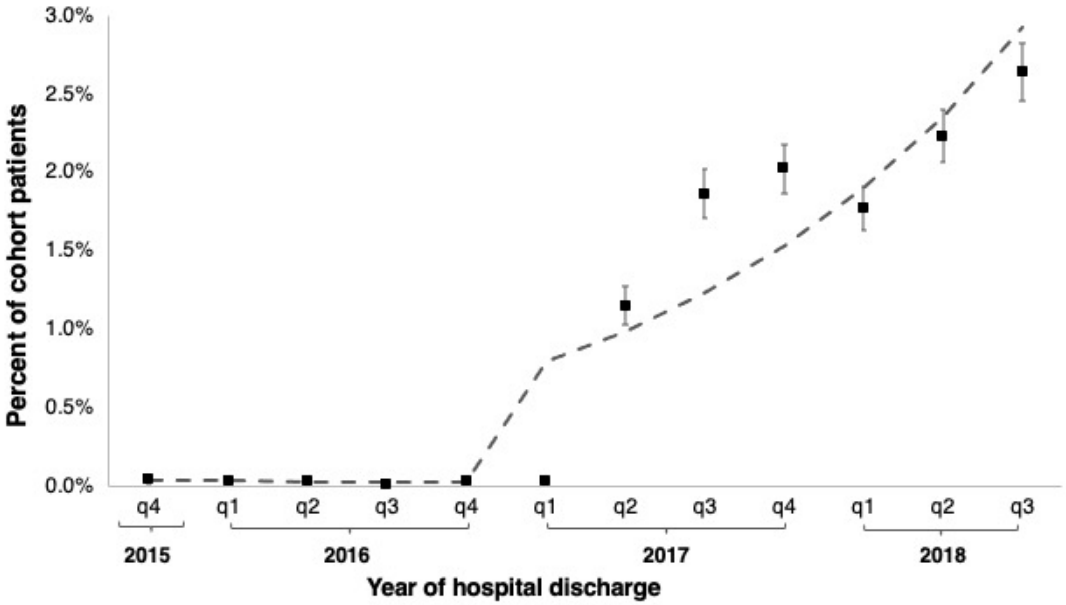
Figure 1. Receipt of HAT therapy among cohort patients over time



Boxes represent point estimates with 95% confidence intervals. Dashed line represents values predicted by unadjusted segmented regression model.

Vail E, Wunsch H, Pinto R, Bosch N, Walkey AJ, Lindenauer PK, and Gershengorn HB.
Use of hydrocortisone, ascorbic acid, and thiamine in adults with septic shock.
Am J Respir Crit Care Med 2020; 202(11): 1531-9. PMID: 32706593

Rationale: In December 2016, a single-center study describing significant improvements in mortality among a small group of patients with severe sepsis and septic shock treated with hydrocortisone, high-dose ascorbic acid, and thiamine (HAT therapy) was published online.
Objectives: This study aims to describe the administration of HAT therapy among U.S. adults with septic shock before and after study publication and to compare outcomes between patients who received and did not receive HAT therapy.
Methods: We performed a retrospective cohort study of 379 acute care hospitals in the Premier Healthcare Database including patients discharged from October 1, 2015, to September 30, 2018. Exposure was quarter year of hospital discharge; post-publication was defined as January 2017 onward (July 2017 for effectiveness analyses). The primary outcome was receipt of HAT at least once during hospitalization. We conducted unadjusted segmented regression analyses to examine temporal trends in HAT administration. In patients with early septic shock, we compared the association of early HAT therapy (within 2 days of hospitalization) with hospital mortality using multivariable modeling and propensity score matching.
Measurements and Main Results: Among 338,597 patients, 3,574 (1.1%) received HAT therapy, 98.7% in the post-publication period. HAT administration increased from 0.03% of patients (95% confidence interval [CI], 0.02–0.04) before publication to 2.65% (95% CI, 2.46–2.83) in the last quarter, with a significant step up in use after December 2016 (P<0.001). Receipt of early HAT was associated with higher hospital mortality (28.2% vs. 19.7%; P<0.001; adjusted odds ratio, 1.17 [95% CI, 1.02–1.33]; primary propensity matched model adjusted odds ratio, 1.19 [95% CI, 1.02–1.40]).
Conclusions: Publication of a single-center retrospective study was associated with significantly increased administration of HAT. Among patients with early septic shock, receipt of HAT was not associated with mortality benefit.

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