

# ATS Highlights 2022: Critical Care Assembly Early Career Professionals



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### ***Tell us about yourself.***

I'm a pediatric intensivist at the University of Michigan dedicated to improving pediatric critical illness survivorship. I completed my critical care fellowship at U of M and pediatrics residency at Children's Hospital Colorado. Outside of work, you can usually find me on a run with my husband, twins, and our dog.

### ***Tell us about your academic work.***

My research focuses on improving long-term outcomes after pediatric critical illness, specifically severe sepsis. My goal is to understand the factors influencing pediatric severe sepsis survivorship, with a long-term goal of developing and testing clinical interventions to mitigate post-sepsis morbidity.

### ***Where do you see yourself in 5 years?***

Leading research and health policy to improve the outcomes of children facing critical illness and their families.



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## School and Work Absences After Critical Care Hospitalization for Pediatric Acute Respiratory Failure

### A Secondary Analysis of a Cluster Randomized Trial

Carlton EF, Donnelly JP, Prescott HC, Asaro LA, Barbaro RP, Watson RS, Curley MAQ for the RESTORE Study Investigators

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**Importance** Patients who survive pediatric critical illness and their caregivers commonly experience physical, emotional, and cognitive sequelae. However, the rate and duration of school absence among patients and work absence among their caregivers are unknown.

**Objective** To determine the rates and duration of school absence among children who survived hospitalization with acute respiratory failure and work absence among their caregivers.

**Design, Setting, and Participants** The Randomized Evaluation of Sedation Titration for Respiratory Failure (RESTORE) cluster randomized trial included 2449 children from 31 sites to protocolized sedation (intervention) vs usual care (control) from June 6, 2009, to December 2, 2013. In total, 1360 children survived hospitalization and were selected for follow-up at 6 months after pediatric intensive care unit (PICU) discharge, which was completed from January 12, 2010, to April 13, 2015. This secondary analysis was conducted from July 1, 2020, to September 30, 2021.

**Exposures** PICU hospitalization for acute respiratory failure, including invasive mechanical ventilation.

**Main Outcomes and Measures** Postdischarge assessments with caregivers of eligible participants at 6 months after PICU discharge, including questions about school and work absence. Risk factors associated with longer absence from school and work were identified.

**Results** Postdischarge assessments were completed for 960 children who survived treatment for acute respiratory failure, of whom 443 (46.1%) were girls and 517 (53.9%) were boys; 509 of 957 (53.2%) were non-Hispanic White. Median age was 1.8 years (IQR, 0.4-7.9 years). In total, 399 children (41.6%) were enrolled in school, of whom 279 (69.9%) missed school after discharge. Median duration of postdischarge absence was 9.1 days (IQR, 0-27.9 days) among all children enrolled in school and 16.9 days (IQR, 7.9-43.9 days) among the 279 children with postdischarge absence. Among 960 primary caregivers, 506 (52.7%) were employed outside the home, of whom 277 (54.7%) missed work. Median duration of postdischarge work absence was 2 days (IQR, 0-10 days) among all employed primary caregivers, and 8 days (IQR, 4-20 days) among the 277 caregivers who missed work after discharge. The odds of postdischarge school absence and greater duration of absence increased for children 5 years or older (compared with 0-4 years, odds ratios [ORs] for 5-8 years, 3.20 [95% CI, 1.69-6.05] and 2.09 [95% CI, 1.30-3.37], respectively; ORs for 9-12 years, 2.49 [95% CI, 1.17-5.27] and 2.32 [95% CI, 1.30-4.14], respectively; and ORs for 13-18 years, 2.37 [95% CI, 1.20-4.66] and 1.89 [95% CI, 1.11-3.24], respectively) and those with a preexisting comorbidity (ORs, 1.90 [95% CI, 1.10-3.29] and 1.76 [95% CI, 1.14-2.69], respectively).

**Conclusions and Relevance** In this secondary analysis of a cluster randomized trial, 2 in 3 children hospitalized for acute respiratory failure missed school after discharge, for a median duration of nearly 2 weeks. In addition, more than half of primary caregivers missed work after discharge. The magnitude of school absenteeism suggests that children may be at increased risk for lower educational achievement, economic hardship, and poor health outcomes in adulthood.

Table 1. Rate and Duration of School and Work Absences

Participant	Rate and duration <sup>a</sup>
<b>Child</b>	
Postdischarge school days	
Any missed days, No./total No. (%)	279/399 (69.9)
No. of missed days, median (IQR)	9.1 (0-27.9)
<b>Primary caregiver</b>	
Postdischarge work days	
Any missed days, No./total No. (%)	277/506 (54.7)
No. of missed days, median (IQR)	2 (0-10)
During hospitalization work days	
Any missed days, No./total No. (%)	426/506 (84.2)
No. of missed days, median (IQR)	10 (4-20)
<b>Secondary caregiver</b>	
Postdischarge work days	
Any missed days, No./total No. (%)	193/614 (31.4)
No. of missed days, median (IQR)	0 (0-2)
During hospitalization work days	
Any missed days, No./total No. (%)	484/614 (78.8)
No. of missed days, median (IQR)	5.5 (2-10)

<sup>a</sup> Rate and duration of school or work missed were determined through the following survey questions: (1) Has your child missed any days of day care, preschool, or school since being admitted to the hospital roughly 6 months ago? (2) How many days of day care, preschool, or school has your child missed? (3) Since your child was discharged from the hospital, how many days have you had to stay home from work to be with him or her when you have been planning to work? and (4) Since your child was discharged from the hospital, how many days has another person who had been planning to work had to stay home from work to be with him or her?



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