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Tell us about yourself.
I am a Pulmonary and Critical Care Medicine physician at the University of Pennsylvania (Penn) in Philadelphia, with an academic focus on health services research. I received my undergraduate degree from Penn where I studied chemistry and linguistics. After spending a year in New Paltz, New York rock climbing, I returned to Penn for medical school. I then completed internal medicine residency at Massachusetts General Hospital before returning to Penn for fellowship, where I have been on the faculty since 2020.

Tell us about your research.
My research intersects health services, healthcare operations, and health equity. I focus on innovative healthcare delivery using quantitative methods with a goal to improve patient outcomes and high-value care. My NHLBI K23 is studying the impact of ward capacity strain, or the mismatch between supply and demand of clinical resources, on survivors of acute respiratory failure. I am Co-PI on one of three projects in an AHA Strategically Focused Research Network grant to develop and test behavioral economic interventions that surmount barriers to clinical trial participation faced by racial and ethnic minority patients, women, and rural populations. I am additionally leading a research team evaluating racial disparities in admissions and pulmonary consultation, with subsequent quality improvement work to mitigate inequities.

How has the Critical Care Assembly contributed to your career?
The Critical Care Assembly has been an amazing way for me to get involved in ATS, and has provided me with opportunities for networking, collaboration, leadership, and research dissemination. I have found my involvement with the Assembly to be incredibly valuable, and I currently serve as Co-Chair of the Critical Care Assembly Early Career Professionals Working Group to help promote ATS and Assembly opportunities for colleagues at a similar career stage.

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Outcomes	Adjusted	
	Estimate (95% CI)	p-value
Discharge to skilled nursing facility (RR)		
Black race	1.68 (1.05-2.71)	0.03
Black race*Pulmonology interaction	1.17 (0.56-2.42)	0.7
30-day hospital readmission (OR)		
Black race	8.32 (2.24-30.90)	0.002
Black race*Pulmonology interaction	0.058 (0.011-0.29)	<0.001
90-day hospital readmission (OR)		
Black race	1.85 (0.92-3.71)	0.08
Black race*Pulmonology interaction	0.36 (0.15-0.84)	0.02
In-hospital mortality (OR)		
Black race	0.94 (0.29-3.04)	0.9
Black race*Pulmonology interaction	0.18 (0.029-1.20)	0.08

The association of race with pulmonary service admission and clinical outcomes:
A retrospective cohort study

Rationale: Race-based differences in admission to cardiology services, with associated outcome disparities, have been described in heart failure. We aimed to interrogate similar disparities in pulmonology by evaluating associations between race, admission to a dedicated pulmonary service, and clinical outcomes.

Methods: We performed a retrospective cohort study of patients admitted with pulmonary diagnosis-related groups (DRGs) at the Hospital of University of Pennsylvania between April 2017 and February 2020. We employed regression models with (1) race (Black vs white), and (2) race and the interaction between race and pulmonary service admission as exposures. Outcomes included admission service (pulmonary vs general medicine) and clinical outcomes. Models were adjusted for age, gender, primary language, year, quarter, DRG category, weekend admission, and requirement for intensive care unit care during hospitalization.

Results: 2,406 patients were admitted with pulmonary DRGs, with 42% admitted to the pulmonary service. The pulmonary service had a lower proportion of Black patients (34% vs 58%), higher rate of private insurance (31% vs 22%), higher median income ($67,506 vs $46,540), and higher rate of a pre-established relationship with a health system pulmonologist (84% vs 0.8%) compared to the general medicine service, despite an absence of a policy to this effect.

In adjusted analyses, Black patients were less likely to be admitted to the pulmonary service compared to the general medicine service (RR 0.35, 95% CI 0.29-0.42, p<0.001). Although Black patients across services were more likely to have 30-day hospital readmissions (OR 8.32, 95% CI 2.24-30.90, p=0.002), Black patients admitted to the pulmonary service were less likely to be readmitted within both 30 days (OR 0.058, 95% CI 0.011-0.29, p<0.001) and 90 days (OR 0.36, 95% CI 0.15-0.84, p=0.02). Although not statistically significant, Black patients admitted to the pulmonary service had lower odds of in-hospital mortality (OR 0.18, 95% CI 0.029-1.20, p=0.08).

Conclusions: Black patients were less likely to be admitted to the pulmonary service compared to white patients, and more likely to be readmitted within 30 days, moderated by pulmonary service admission. Admitting practices that propagated disparities in outpatient access were identified as structural drivers, providing direction for disparity moderation.

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