ATS Highlights 2023:
Critical Care Assembly Early Career Professionals

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Tell us about yourself.
I'm a pulmonary and critical care physician-scientist focused on improving patient-centered outcomes among older adults recovering from critical illness and mitigating inequities in these health outcomes.

Tell us about your research.
I use a combination of epidemiologic and health services research methods to elucidate differences in delivery of effective healthcare processes that could contribute to disparities in patient-centered outcomes after a hospitalization with critical illness.

Where do you see yourself in 5 years?
I see myself leading a research program that integrates patient-centered outcome assessment into clinical practice and develops quality measurement tools to enable assessment and accountability of delivery of effective care processes at a health-systems level.

How has the Critical Care Assembly contributed to your career?
The Critical Care Assembly has served as a great networking platform. I have particularly benefitted from its mentorship program that has helped me connect with phenomenal physician-scientists and mentors across the country, expanding the scope of my research.
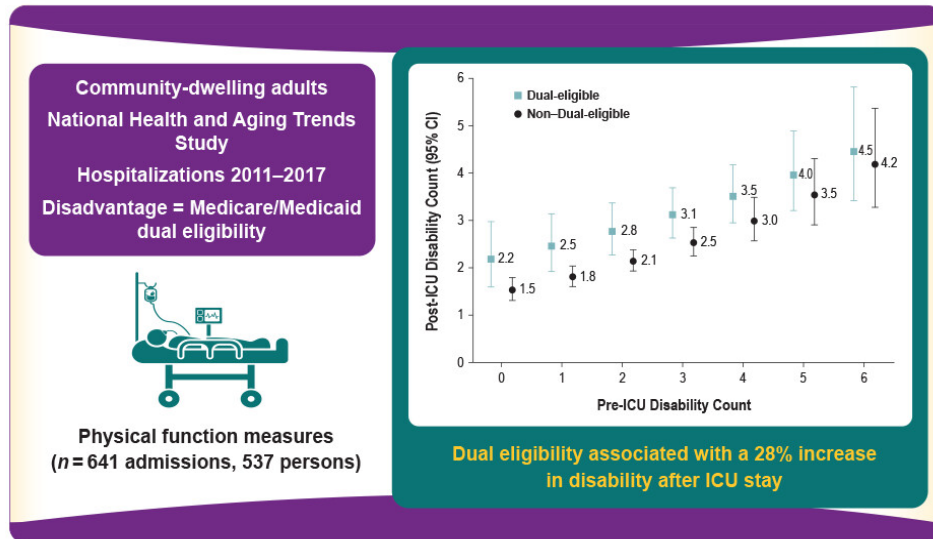
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Is socioeconomic disadvantage associated with decline in function for older persons after an ICU hospitalization?

Community-dwelling adults
National Health and Aging Trends Study
Hospitalizations 2011–2017
Disadvantage = Medicare/Medicaid dual eligibility

Physical function measures
(*n* = 641 admissions, 537 persons)

Dual-eligible
Non–Dual-eligible

Post-ICU Disability Count (95% CI)

Pre-ICU Disability Count

2.2 / 1.5
2.5 / 1.8
2.8 / 2.1
3.1 / 2.5
3.5 / 3.0
4.0 / 3.5
4.5 / 4.2

Dual eligibility associated with a 28% increase in disability after ICU stay

Jain S, Murphy TE, O'Leary JR, et al. Association between socioeconomic disadvantage and decline in function, cognition, and mental health after critical illness among older adults. A cohort study. Ann Intern Med. 8 March 2022. [Epub ahead of print]. doi:10.7326/M21-3086
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Association between Socioeconomic Disadvantage and Decline in Function, Cognition, and Mental Health after Critical Illness among Older Adults: A Cohort Study

Background: Older adults admitted to an intensive care unit (ICU) are at risk of developing impairments in function, cognition, and mental health. It is not known whether socioeconomically disadvantaged older persons are at greater risk for these impairments than their less vulnerable counterparts.

Objective: To *evaluate the association between socioeconomic disadvantage and decline in function, cognition, and mental health among older survivors of an ICU hospitalization*.

Design: Retrospective analysis of a longitudinal cohort study.

Setting: Community-dwelling older adults in the National Health and Aging Trends Study (NHATS).

Participants: NHATS participants with ICU hospitalizations between 2011-2017.

Measurements: Socioeconomic disadvantage was assessed as *dual-eligible Medicare-Medicaid status*. The outcome of function was defined as the count of disabilities in 7 activities of daily living and mobility tasks, the cognitive outcome as the transition from no or possible to probable dementia, and the mental health outcome as the Patient Health Questionnaire-4 (PHQ-4) score in the NHATS interview following ICU hospitalization. The analytic sample included 641 ICU hospitalizations for function, 458 for cognition, and 519 for mental health.

Results: After accounting for sociodemographic and clinical characteristics, *dual-eligibility was associated with a 28% increase in disability after ICU hospitalization* (incidence rate ratio:1.28;95% CI:1.00,1.64); and nearly *10-fold greater odds of transitioning to probable dementia* (odds ratio:9.79; 95% CI:3.46,27.65). Dual-eligibility was not associated with symptoms of depression and anxiety following ICU hospitalization (incidence rate ratio:1.33; 95% CI: 0.99,1.79).

Limitations: Administrative data, variability in timing of baseline and outcome assessments, proxy selection.

Conclusions: *Dual-eligible older persons are at greater risk of decline in function and cognition after an ICU hospitalization than their more advantaged counterparts*. This finding highlights the need to prioritize low-income seniors in rehabilitation and recovery efforts after critical illness and warrants investigation into factors leading to this disparity.

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