

Health Equity: A Priority for Critical Illness Survivorship Research

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To the Editor:

Although many patients who enter the ICU will survive to discharge, they face multidimensional impacts as they recover and seek to reintegrate into their communities. Evidence has emerged suggesting that those who experience socioeconomic disadvantage may have worse outcomes in all dimensions following ICU and hospital discharge, signifying health disparities, and health inequities. In the wake of global calls to action on health equity, we propose advancing health equity research in critical illness survivors by integrating socioeconomic disadvantage as a dimension of postintensive care syndrome, consistently incorporating socioeconomic positions as variables of interest, and exploring structural vulnerability and its relationships to critical illness survivorship. Through concerted efforts and a commitment to health equity, there is potential to drastically change the landscape of critical illness survivorship to be more inclusive, adaptable, and empowering.

CRITICAL ILLNESS SURVIVORSHIP, HEALTH DISPARITIES, AND HEALTH INEQUITY

Approximately 80% of those who enter the ICU will now survive (1). However, survivors subsequently face the lingering impacts of their critical illness and ICU interventions. Postintensive care syndrome (PICS) is common, wherein survivors experience physical, cognitive, and mental health challenges (1). Overall, survivors have higher rates of mortality and poorer quality of life when compared with the general population for years post discharge (2), demonstrating the cumulative and longitudinal impacts of the challenges in survivorship.

Evidence of health disparities and health inequities among survivors of critical illness has begun to emerge. Health disparities refer to a higher burden of illness, injury, disability, or mortality experienced by one group relative to another. In contrast, health inequities are the structural or institutional patterns that produce health disparities. In recent studies, critical illness survivors who came from lower socioeconomic backgrounds presented with more severe conditions upon ICU admission (3); had higher in-hospital, 30-day postdischarge, and long-term crude mortality (4); encountered more barriers to a successful ICU discharge (5); and had poorer cognitive and financial outcomes post ICU discharge (6, 7). The common theme among these studies is that there are associations between socioeconomic position and critical illness survivor outcomes, often demonstrating less favorable outcomes in less affluent populations.

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Furthermore, social and economic sequela can be substantial, not only for survivors but also for their family members who frequently take up the demanding role of caregiver (8). Coupled with the fragmented nature of critical illness survivorship care (9), the debilitating impacts of critical illness permeate a person's entire world and may negatively affect their socioeconomic position and exacerbate existing health inequities. Other disease morbidities, such as chronic lung, heart, and gastrointestinal diseases, have been shown to deepen existing health inequities and widen the life expectancy gap between the most affluent and most deprived in a population (10). Thus, when considering the context of critical illness survivorship, it is highly plausible that critical illnesses could also exacerbate or even create socioeconomic disadvantage, health disparities, and health inequities. That is, socioeconomic disadvantage could be exacerbated or acquired, much like muscle weakness or neuropathy can be acquired during ICU. This could happen through direct mechanisms such as loss of employment, loss of individual and/or household income, loss of savings and financial instability, inability to carry out meaningful employment, loss or changes in housing, and loss of social support. Socioeconomic disadvantage could also be acquired indirectly through physical, cognitive, and mental health disability/functional impairment that creates challenges with work, income, transportation, nutrition, interpersonal relationships, and social support. With health inequity at play, people who experience racism, discrimination, stigma, and other systematic forms of oppression, such as Indigenous Peoples, people of color, and immigrants, are systematically excluded from accessing the social determinants of health and health services that would enable them to recover from a critical illness.

HEALTH EQUITY REQUIRES ATTENTION TO THE SOCIAL DETERMINANTS OF HEALTH AND STRUCTURAL VULNERABILITY

Globally, healthcare organizations, professional bodies, and clinical and academic societies have issued resounding calls to reduce persistent and widening health inequities. Health equity, meaning that everyone has a fair and just opportunity to be as healthy as possible, requires removing obstacles to health such as poverty, discrimination, and their consequences

(i.e., powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and quality healthcare) (11). This also means reducing and ultimately eliminating disparities in health and its determinants that disproportionately affect excluded or marginalized groups (11). The social determinants of health are the conditions in which people are born, grow, work, live, and age and the broader set of structural forces and systems (i.e., economic policies and systems, social norms, health and social policies, and political systems) shaping the conditions of daily life (12). According to the World Health Organization conceptual framework, social, economic, and political mechanisms (collectively termed structural forces) give rise to a set of socioeconomic positions, by which individuals are stratified by income, education, occupation, social class, gender, and race/ethnicity (12). These socioeconomic positions shape material circumstances, behaviors and biological factors, and psychosocial factors—collectively termed intermediary determinants of health—which impact health and health inequities. Notably, the health system is also conceptualized as a social determinant of health in that illness can “feedback” on an individual's social position by compromising function, such as by impacting employment opportunities and reducing income.

Going beyond traditional notions of the social determinants of health, achieving health equity will require addressing structural forces. Structural vulnerability is “an individual's or a population group's condition of being at risk for negative health outcomes through their interface with social, economic, political, and cultural/normative hierarchies” (13). Furthermore, structural vulnerability stems from an individual's or group's position in their respective social, economic, political, and cultural hierarchies and their assumed or attributed status (14). Patients experience structural vulnerability when their location in their society's multiple overlapping and mutually reinforcing power hierarchies (e.g., socioeconomic, racial, cultural) and institutional and policy-level statuses (e.g., immigration status, labor force participation) constrain their ability to access healthcare and pursue healthy lifestyles (13). Furthermore, structural vulnerability is greatly exacerbated by health challenges, such as COVID-19 and life-limiting illnesses (15), for example, further compounding the barriers individuals or groups face in

managing their health. As such, the concept of structural vulnerability seeks to integrate all factors outside of the clinical setting to more holistically contextualize the barriers and facilitators that individuals or groups may face in accessing healthcare, adhering to treatment protocols, and achieving optimal health outcomes.

PURSUING HEALTH EQUITY THROUGH CRITICAL ILLNESS SURVIVORSHIP RESEARCH

In reflecting on the emerging evidence of health inequities and the drivers of social and structural forces, we offer strategies to integrate into research in pursuit of health equity following ICU.

Include Socioeconomic Disadvantage as a Dimension of PICS

PICS is generally thought to constitute new impairment or worsening function in one or more of the domains of mental health (anxiety, depression, and symptoms of posttraumatic stress), cognitive impairment (executive function, memory, attention, visuospatial, and mental processing speed), and physical impairment (pulmonary, neuromuscular, and physical function) (1). We propose that socioeconomic disadvantage also be included as a domain of PICS, alongside mental health, cognitive impairment, and physical impairment. Doing so would, first, draw attention to the social and economic challenges that are significant to patients and their families post ICU. This would perhaps signal a priority for research. Second, this conceptualization could shift perspectives of socioeconomic position from immutable and inherent within individuals to instead be the target of interventions to reduce health inequity. This is important considering the idea that socioeconomic disadvantage could be exacerbated or even acquired during critical illness. Third, including socioeconomic disadvantage as a PICS domain would signal to clinicians and researchers that, indeed, these are within their purview.

Embed Socioeconomic Position in Critical Illness Survivorship Research and Investigate the Complex Contribution to Health Inequity

Accounting for socioeconomic position in critical illness survivorship research is a foundational step.

Directly measuring socioeconomic variables in post-ICU research will produce more robust evidence that considers these highly impactful variables and will advance knowledge of the complex interplay of socioeconomic position and health outcomes following critical illness. We concur with Jones et al (4), who recommended routine and consistent reporting of multiple indicators of socioeconomic position in critical illness survivorship research, including occupation, education, and income. Drawing on the work of Braveman et al (16), who demonstrated that different socioeconomic measures are not interchangeable across populations, especially when considering race/ethnicity and the powerful influence of social hierarchies, we advocate for inclusion and analysis of measures of social class, sex, gender, and race/ethnicity. This is key considering that differences (i.e., along racial/ethnic, sex, and gender lines) cannot simply be assumed to be reducible to socioeconomic issues. For example, systemic socioeconomic differences between racial/ethnic groups can reflect racial discrimination at the structural level, personal experience, or both.

Beyond the individual-level, place-level measures, such as those by neighborhood or by city, could prove useful in identifying geographic inequities in critical illness survivorship care and outcomes. One valuable contribution has been the use of regional socioeconomic indexes to quantify an aggregate measure of an area's socioeconomic status (3). These aggregate indices can elucidate general relationships between deprivation and health outcomes, particularly in the absence of individual-level socioeconomic data. However, they often measure social position on a census tract or local government area level, which may limit their application to smaller scales such as those of local communities and subcommunities, and may not be an accurate proxy for individual socioeconomic factors (17). As such, the current research using such aggregate measures may just be scratching the surface of the relationship between socioeconomic factors and critical illness survivorship, given their complexities and intersectionality. Research elucidating further relationships is essential.

To promote health equity in critical illness survivorship, it will be necessary to include short- and long-term analyses of how social and structural forces affect post-ICU health outcomes, as well as the complex relationships between various aspects of socioeconomic

position and survivorship (18). For example, an American study reported that more years of education were associated with greater odds of being PICS-free at 3 and 12 months (19). Yet, there was no association between socioeconomic status and freedom from PICS (19). Hence, research is necessary to further illustrate the relationship between individual-level and place-level socioeconomic factors, specific post-ICU outcomes, and the exacerbation and creation of health inequities. Evidence of the relationships and mechanisms by which socioeconomic factors create and exacerbate health disparities and health inequity post ICU is foundational to the creation of targeted health equity-oriented interventions.

Incorporate Structural Vulnerability

Since structural vulnerability encompasses a broader range of contextual factors and considers the intersectionality of these factors, structural vulnerability provides a valuable perspective for examining health disparities and health inequities and pursuing equity in critical illness survivorship. Taking up the positionality of structural vulnerability could translate into investigations of how various socioeconomic positions, community, and institutional resources (or lack thereof) and policies collectively constrain or enhance survivors' abilities to access healthcare and attend to their health. That is, delineation of the social but also the structural mechanisms and pathways leading to health inequities post ICU is warranted. Fundamental questions remain about how social and structural factors influence the experience of illness recovery and constrain or enhance agency, social support, and availability of resources. Critical illness survivors are likely to face specific risks and vulnerabilities that are shaped by localized social and healthcare system factors. Thus, research that attends to context could be used proactively to inform more equitable critical illness survivorship health service design.

Structural vulnerability addresses not only the political domain but also the clinical encounter and interface with health and social systems. This positionality can prompt the healthcare provider to pursue a wider range of diagnoses, target resources, and establish viable institutional practices that are responsive to underserved populations (13). However, questions remain about how healthcare providers working with critical illness survivors can identify those

experiencing structural vulnerability (i.e., through screening protocols), allocate medical, social, and political resources to those experiencing health inequities and perhaps even tackle institutional and political barriers to health. Existing equity-oriented interventions could potentially be tailored to the post-ICU context through research. For example, the research program Equipping Health & Social Services for Equity (www.equiphealthcare.ca, accessed March 17, 2022) considers the effects of structural inequities, including the inequitable distribution of the social determinants of health; the impact of multiple and intersecting forms of racism, discrimination, and stigma (e.g., related to mental health, substance use, nonconforming gender identities) on experiences of care and access to services; and the mismatches between dominant care approaches and the needs of those most disadvantaged (20). This intervention focuses on developing individual provider and organizational approaches for trauma and violence-informed care, cultural safety, and harm reduction (20).

Furthermore, a focus on health equity through structural vulnerability requires targeted efforts to recruit individuals who experience significant socioeconomic disadvantaged and structural vulnerability (e.g., poverty, housing insecurity, racism, discrimination, or mental health stigma) into research—including large-scale studies and community-based participatory studies. As Chesley and Lane-Fall (21) contends, patient engagement in research is required to identify barriers, center, and elevate the perspectives of those who experience health inequities and provide insight into approaches to care that minimize the development or exacerbation of disability post ICU.

CONCLUSIONS

The only way to reduce and eliminate health inequities is to take targeted and intentional action that is built on robust evidence. Equity-oriented critical illness survivorship research could generate evidence foundational to designing care delivery that is safe and accessible for all patients and families, reduces unfair and unjust disparities in survivor outcomes, and helps tackle systemic systems of oppression.

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