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The Impact of Health Disparities on Physicians' Occupational Wellbeing During COVID-19: A Qualitative Analysis from Four US Cities

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Abstract

Objective: To describe frontline physicians' perceptions of the impact of ethnic/racial and socioeconomic disparities in COVID-19 infection and mortality on their occupational wellbeing.

Methods: 145 qualitative, semi-structured interviews conducted between February 2021 and June 2022 with hospital medicine, emergency medicine, pulmonary critical care, and palliative care physicians caring for hospitalized COVID-19 patients in four U.S. cities.

Results: Physicians reported drivers of COVID-related health disparities at the societal, organizational, and individual levels. Health disparities, in turn, contributed to stress among frontline physicians, whose concerns revealed how structural conditions both shaped COVID disparities and constrained their ability to protect marginalized populations from poor outcomes. Physicians reported feeling complicit in the perpetuation of disparities or helpless to address observed disparities, and experienced feelings of grief and guilt, moral distress, and burnout.

Conclusions: Health inequities are an under-acknowledged source of physicians' occupational stress that require solutions beyond the clinical context.

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Keywords

Qualitative studies; Health sciences research; Health care quality; COVID-19; Occupational wellbeing; Health disparities

Introduction

Since the onset of the COVID-19 pandemic, concerns around physician mental health have come into sharper national focus, with extensive media coverage of PTSD, depression, and burnout.[1,2] In September 2021, 76% of US healthcare workers reported burnout, as compared to 54% in 2019.[3] Drivers of increased stress and burnout among physicians during the pandemic include individual-level factors like fear of exposure and transmission[4,5] and social isolation,[5,6] and organizational factors like inadequate personal protective equipment (PPE)[7,8] and poor leadership.[7,9]

Health disparities are an additional yet underrecognized source of physicians' occupational stress. Wide-ranging racial-ethnic and socioeconomic health disparities prior to the onset of the COVID-19 pandemic are well established in the United States.[10-16] Consistent with these patterns, racial disparities in COVID-19 mortality have persisted,[17-20] contributing to larger overall declines in life expectancy since 2019 among Black, Latinx, and Indigenous populations relative to White Americans.[21-23] Occupational and residential risk of exposure rendered these communities particularly at risk of infection,[18,19] while preexisting disease burdens left them disproportionately vulnerable to severe illness and death.[19,24] Moreover, residential segregation impedes access to high-quality, well-resourced hospitals within marginalized communities.[19] Implicit racial bias[24-26] among healthcare providers disproportionately impacts Black Americans and other marginalized patients,[19] which may further contribute to COVID-19 disparities. Because these disparities are largely driven by the social determinants of health, which fall beyond the scope of physicians' practice,[27] physicians have had limited ability to intervene. Yet little is known about how these stressors affect physicians' occupational wellbeing.

We examined participants' perceptions of health disparities during the COVID-19 pandemic and their relationship to occupational wellbeing to bring together two as yet disconnected literatures on the impacts of the COVID-19 pandemic. Our data allow us to address the question: how do frontline physicians recognize COVID-19 disparities in their clinical practice, and how does that impact their occupational wellbeing? In so doing, we enhance understandings of physicians' occupational wellbeing, which have not often considered the impact of societal stressors on physicians' practice.

Methods

Study design and sample

This article is part of a larger study of stressors affecting US hospital-based physicians during the COVID-19 pandemic. Research design and methods have been described in more detail elsewhere. From February 2021 through June 2022, we conducted semi-structured interviews with physicians who cared for hospitalized COVID-19 patients in New York City

(NYC), New Orleans (NOLA), Miami, and Los Angeles (LA). We sampled physicians from academic, community, and public hospitals in each city to assess differences in state and local responses, and organizational policies and practices shaping physicians' experiences. For comparative purposes, we chose cities that experienced initial surge conditions at similar times (i.e., NYC and NOLA; LA and Miami).

Participants were recruited using direct email solicitations and purposive snowball sampling. Hospital-based fellows or attending physicians with at least four weeks of experience caring for COVID-19 patients who practiced in emergency medicine, hospital medicine, critical care pulmonary, and palliative care were eligible were eligible to participate.

Audio-recorded interviews were conducted over Zoom and lasted approximately 60-90 minutes. After recordings were professionally transcribed, transcripts were coded using Dedoose qualitative software[28] and an iterative analytic approach that combined a priori and inductively derived themes. For this sub-study, we examined the coding reports for the "disparities" code, which captured discussions regarding socioeconomic, racial, and ethnic inequalities in COVID outcomes as a source of stress.

Results

The final sample of 145 physicians included 80 women (55.2%) and 65 men (44.8%). Most participants were aged 30-49 (n=117, 80.7%), white (n=103, 70.3%), and non-Hispanic (n=130, 89.7%). (See Table 1.) Participants worked at a total of 44 hospitals with diverse funding structures, size, and patient populations. Forty-nine (33.8%) participants worked at safety net hospitals (See Table 2.)

Figure 1 outlines our conceptual model, which shows how perceived drivers of societal health disparities and their consequences related to physicians' occupational stress and wellbeing. Participants perceived societal, organizational, and individual conditions as shaping COVID disparities *and* constraining their ability to protect marginalized populations from poor outcomes. At the societal level, physicians reported that unequal access to sick leave, safe transportation, and adequate housing disproportionately rendered low-income communities of color vulnerable to infection. At the organizational level, limited bed capacity forced physicians to send sick patients to homes where isolating was not an option, furthering the spread of COVID-19. Additionally, disparities in resources between hospitals meant that patients in less-resourced hospitals were at greater risk of dying. At the individual level, physicians worried that biased clinical decisions exacerbated disparities in COVID-19 mortality. Physicians encountering these disparities reported negative feelings, including stress, guilt, helplessness, despair, and moral distress. In what follows, we discuss reported disparities at each level of our model and their impact on physician occupational wellbeing.

Societal

Physicians across cities described how their patients' life circumstances contributed to their risk of contracting COVID-19 and developing serious illness. One NYC-based critical care pulmonologist explained, "[COVID-19] exposed things that were already there: structural racism, institutional racism, the lack of a healthcare system, the fact that patients don't

have access to regular human rights, including the right to health" (0112). An NYC-based emergency medicine physician explained why she thought her hospital saw a high volume of essential workers early in the pandemic: "[NYC] did not stop construction until summer. And so, we had a ton of construction workers who got COVID on the job, and then food delivery people, food prep people that kept the city running and couldn't not go to work. *So that was really heartbreaking to see*" (0140, emphasis added). Likewise, a NOLA-based palliative care physician told us, "I don't think that COVID-19 affected Black people because they're Black. I think it affected Black people more frequently in our town because of the health disparities that are out there, the poor access to care, the lack of transportation, the really close together housing in some of our neighborhoods" (0221). These comments underscore physicians' awareness of the social underpinnings of racial disparities in health, including COVID-19.

Overcrowded housing and the inability to isolate was one of the most salient factors that physicians perceived as driving observed disparities. In LA, a critical care pulmonologist asked one patient, whose father had died of COVID-19: "'Did you guys try to isolate from each other, to not spread it amongst the family?' And she said, 'Well, we tried as much as possible, but we have a one-bedroom apartment with five adults. So, what we did was we would sleep with masks and open the window in the winter while we slept'" (0330). This participant shared that she felt "terrible" and told us: "I felt like …what I could do as a doctor during this time was very limited." Several respondents offered examples of how they could not intervene on upstream determinants of health impacting their patients. Reflecting on overcrowded housing, a NOLA-based emergency medicine physician explained: "I didn't have a solution for it … I can't fix that from the ER" (0220). He then commented on the troubling juxtaposition between patients' housing constraints and the privilege of physicians quarantining from loved ones.

Physicians also reported that societal disparities affected their patients' access to vaccines. An LA-based critical care pulmonologist worked at multiple hospitals and reported a difference in the unvaccinated populations between sites: "Some of them are unvaccinated because they are very poor, and they work two or three jobs, and it just wasn't a priority for them." He noted, "Those patients are almost, I think, *more morally and emotionally difficult* to take care of because it's like, 'Damn … you have a preventable disease and now you're in the ICU because you're poor'" (0301, emphasis added).

Organizational

Patients' housing constraints intersected with organizational-level constraints when limited bed capacity and high patient volumes in hospitals forced physicians to send sick patients to homes where isolating was not an option, furthering the spread of COVID-19. Physicians felt that their hands were tied: there was not space for patients in the hospital, yet discharging them made physicians feel complicit in the continued spread of COVID-19. One NYC hospitalist shared: "You know, you say to people, 'go home and stay in your own bedroom and use your own bathroom.' And they're like, 'There are eight of us in a two-bedroom with one bathroom. What are you talking about?' … We would send these people, knowing they had COVID, back home to their small, crowded NYC apartments,

and there's nothing we can do about it" (0109). Another NYC-based emergency medicine physician described this situation in vivid detail, likening the spread of COVID-19 to "a slow bomb" and a "tsunami":

> We were like, "(NYC borough) is gonna get decimated. There's no way, 'cause there's nowhere for them to go." … Looking at every apartment building on the drive home going, "There's a slow bomb going off in there, and there's a slow bomb going off in there" … you're watching the tsunami hit an island that you're not on … But again, also knowing that there's nothing we can do. The hospital is full.
>
> (0120)

The violent language used by this respondent is striking because of his sense of complicity in the violence.

Disparities *between* hospitals created what one NYC-based pulmonologist called a "tale of two cities" that stressed physicians in less-resourced hospitals. He described a "dichotomy" between public and private institutions that meant, "if you're poor, you live in [a] certain neighborhood, you're going to receive poor care" (0106). This sentiment was echoed by physicians across cities. An LA-based hospitalist compared the conditions at her public hospital to a "warzone," explaining: "It just feels like the surge is worse [at the public hospital]" (0327). She further reflected on the quality of care her patients received once they arrived at her hospital:

> Most days, I just think, wow, if this person had just been born into a different family, had a different job, had a different life, they wouldn't get this care. And I think about the spectrum of their life, like if they had just been born into different circumstances, their care would have been better.

Comparing her experience working at different hospitals, this respondent made two key observations: first, that disparities outside of the healthcare system meant that hospitals serving marginalized populations experienced more extreme surges. Second, that the care available to marginalized populations was not equal to the care available to wealthier patients attending better resourced hospitals. Likewise, an emergency medicine physician in an NYC public hospital told us:

> …compared to other hospitals in New York City, my hospitals were higher mortality. And I attribute that to space, resources, eyes on, so that includes nurses watching, techs watching, monitoring. And I think our patients have always had less resources than the wealthier hospitals in the city. So, I feel very strongly that certainly *our patients were impacted more because of their socioeconomic status*. And they were also people who were essential workers.
>
> (0140, emphasis added.)

Physicians perceived a connection between disparities between hospitals and COVID-19 outcomes and expressed emotional distress as a result. One NYC-based emergency medicine physician began to cry as she explained: "So absolutely, there's no world in which the patients at my hospital did not suffer because they didn't have health insurance and they

were a minority population and they were coming to a city hospital" (0119). An NYC-based hospitalist became angry as he recalled clear mortality disparities between two NYC hospitals. He said: "I don't know how the fuck you [administrators] haven't gotten traction on the issue that more people are fucking dying at this one institution than this other one" (0111). And when we asked an LA-based emergency medicine physician how he felt encountering resource disparities between hospital systems, he said: "I'm sure it's partly anger, partly frustration, partly sadness, partly just this is what it is … there are only certain things you have control over and to get angry or upset about things that you can't or don't, then it's just a waste of what finite limited energy and emotions that you have" (0315).

Some respondents in well-resourced hospitals reported lingering guilt. An LA-based pulmonologist shared, "I feel like we were able to take really good care of patients. And I think the thing I struggle with again is, should we have helped other places more?" (0302). The NYC-based hospitalist who recognized disparities in outcomes between his hospital and a smaller hospital in the same borough, said:

> Other researchers in our group were crunching numbers and they're like, "Yeah. Mortality rate is worse here. You know, just different things like that that can't really be explained by the patients' comorbidity or any of the usual things … the disparities became more and more apparent over time, not less so. And so, one of [my colleagues] wrote a memo with some of the preliminary data a bunch of us saw. It resonated that this was not okay.
>
> (0111)

The physicians involved called for a response from administrators to address these troubling disparities, but were instead threatened with repercussions, causing "a lot of worry and fear." Ultimately, nothing came of it, much to the respondent's disappointment.

Two NYC-based hospitalists identified how organizational practices might have contributed to disparities in COVID-19 outcomes. One expressed disbelief around her institution's claims that there were no race-based differences in patient outcomes, noting "I just can't imagine that that's a really true thing" (0117). She was skeptical because her hospital was using a race correction in calculating renal function, which was increasingly scrutinized by the medical community.[29] As a result, some Black patients were likely not accessing needed dialysis care. A second physician from the same hospital shared: "you know, we were still using a GFR calculator that took race into account. And a lot of the kind of clinical calculators that we use have some racial bias in them" (0124). Race-based practices contributed to both physicians' concerns around disparate COVID-19 outcomes for Black patients in particular.

Individual

Some physicians reported concerns that their colleagues' or their own biases impacted care decisions and exacerbated COVID-19 disparities. An NYC-based pulmonologist expressed anger toward her hospital's extracorporeal membrane oxygenation (ECMO) team for their informal rationing decisions throughout the pandemic. Her hospital served a primarily Black and Latinx community, but also received transfer requests from white suburban

communities. The team would accept white transfer patients for ECMO but would rarely put local patients on ECMO. This respondent worked with the ECMO team to generate triage guidelines to address this perceived bias. She explained: “I channeled that anger in another direction.”

Some respondents worried about their own biases, such as one who said: “I constantly felt like I didn’t know enough and I constantly was doubting my clinical decision-making and wondering if I had advocated enough and was wondering…was I being biased in some way that I wasn’t recognizing?’” (0124). She reported that she felt uncomfortable “the entire time.” She also reported observing preferential treatment offered to “VIPs,” family members of physicians or physicians at the hospital, which caused her discomfort. Preferential treatment came up as a concern in other interviews, with physicians expressing discomfort about the impact it had on their patients who did not have personal connections.

Respondents who are themselves members of marginalized racial and ethnic groups experienced an additional dimension of stress when encountering disparities. One LA-based hospitalist told us:

> There’s certain times where disproportionately more of the population that’s … in the ICU with COVID on a ventilator, they’re Latino or they’re minority, they’re Hispanic, or whatever. When I see that physically as a Latin doctor, obviously it’s kind of hard to not think of, “Oh, this is my grandma, my uncle, my aunt,” whatever, right?
>
> (0329)

Similarly, a pulmonologist in NYC (0106) told us that one of the main stressors he experienced as a Black physician during COVID-19 was recognizing the disparities impacting his own demographic group. Finally, one Black Miami-based hospitalist explained the stress she experienced due to the dual pandemics of COVID-19 and racism in the United States: “So that was also a stressor because I’m painstakingly aware of, and privy to, and subject to racism” (0429).

Discussion

Physicians reported drivers of COVID-19 infection and mortality disparities at multiple levels. At the societal level, physicians reported that reduced access to sick leave, healthcare, and adequate housing to isolate left marginalized patients disproportionately vulnerable to COVID-19 infection and severe illness. Organizational constraints meant that physicians had to send sick patients home, making physicians feel complicit in the spread of COVID-19 in marginalized communities. Resource disparities between hospitals contributed to feelings that marginalized patients experienced a lower quality of care when they were able to reach a hospital. Two respondents called out their hospital’s reliance on the eGFR race correction, an unfounded race-based diagnostic algorithm that systematically denies Black patients the same level of care as White patients.[19,24] Finally, at the individual level, physicians were concerned that biases in healthcare decision-making and resource allocation exacerbated disparities.

Although some physicians reported concerns around biases, the majority of their concerns transcended individual clinical encounters and fell beyond their control. Being unable to soften the impact of inequities heightened physicians' occupational stress and made them feel complicit in societal health disparities that perpetuated poor outcomes among marginalized groups. To date, little research on physician burnout has considered how the broader societal context affects healthcare providers' occupational wellbeing.[30] Our findings suggest the importance of broadening the lens to consider these factors. Additionally, future research could take a closer look at the impact of health disparities on the occupational wellbeing of physicians from marginalized groups.

Our findings also suggest that targeting resource disparities across health systems and hospitals during a public health emergency could help redress inequalities *and* ease physician stress. While Congress took steps to support hospitals, such as enacting the Provider Relief Fund to buffer against financial losses incurred during the pandemic,[31] these steps were reactionary rather than proactive, and insufficient, as evidenced by our respondents' experiences.

Conclusions

The growing literature on physician wellbeing has not fully recognized how structural factors such as societal health disparities create occupational strain on clinicians. For physicians working in the U.S. segregated healthcare system, the fallout of inequities within the system trickle down to impact physicians, as well as patients. A "Health in All Policies" approach[32]—which targets "non-health" social policy such as housing policy in order to lessen community-level disparities—could have a positive impact on the occupational wellbeing of physicians who care for members of marginalized populations.

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References:

1. Hoffman J. 'I Can't Turn My Brain Off': PTSD and Burnout Threaten Medical Workers. The New York Times. May 16, 2020:11.
2. Knoll C, Watkins A, Rothfeld M. I Couldn't Do Anything': The Virus and an E.R. Doctor's Suicide. The New York Times. July 11, 2020:11.
3. NIHCM Foundation. Physician Burnout & Moral Injury: The Hidden Health Care Crisis.; 2021. Accessed March 23, 2021. https://nihcm.org/publications/physician-burnout-suicide-the-hidden-health-care-crisis?utm_source=NIHCM+Foundation&utm_campaign=feebfc4834-03222021_Physician_Burnout_Infographic&utm_medium=email&utm_term=0_6f88de9846-feebfc4834-167854680
4. Ferreira LC, Amorim RS, Melo Campos FM, Cipolotti R. Mental health and illness of medical students and newly graduated doctors during the pandemic of SARS-Cov-2/COVID-19. PLoS One. 2021;16(5):e0251525. doi:10.1371/journal.pone.0251525 [PubMed: 34003858]

5. Kisely S, Warren N, McMahon L, Dalais C, Henry I, Siskind D. Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: rapid review and meta-analysis. BMJ. Published online May 5, 2020:m1642. doi:10.1136/bmj.m1642 [PubMed: 32371466]
6. Sanghavi PB, Au Yeung K, Sosa CE, Veesenmeyer AF, Limon JA, Vijayan V. Effect of the Coronavirus Disease 2019 (COVID-19) Pandemic on Pediatric Resident Well-Being. J Med Educ Curric Dev. 2020;7:2382120520947062. doi: 10.1177/2382120520947062 [PubMed: 32844117]
7. Sonis J, Pathman DE, Read S, et al. Effects of Healthcare Organization Actions and Policies Related to COVID-19 on Perceived Organizational Support Among U.S. Internists: A National Study. Journal of Healthcare Management. 2022;67(3): 192–205. [PubMed: 35576445]
8. Vindrola-Padros C, Andrews L, Dowrick A, et al. Perceptions and experiences of healthcare workers during the COVID-19 pandemic in the UK. BMJ Open. 2020;10(11):e040503. doi: 10.1136/bmjopen-2020-040503
9. Al-Ghunaim TA, Johnson J, Biyani CS, O'Connor D. Psychological and occupational impact of the COVID-19 pandemic on UK surgeons: a qualitative investigation. BMJ Open. 2021; 11(4):e045699. doi: 10.1136/bmjopen-2020-045699
10. Williams DR, Sternthal M. Understanding Racial-ethnic Disparities in Health: Sociological Contributions. Journal of Health and Social Behavior. 2010;51:S15–S27. [PubMed: 20943580]
11. Link BG, Phelan J. Social conditions as fundamental causes of disease. J Health Soc Behav. 1995;Spec No:80–94. [PubMed: 7560851]
12. Dwyer-Lindgren L, Kendrick P, Kelly YO, et al. Life expectancy by county, race, and ethnicity in the USA, 2000–19: a systematic analysis of health disparities. The Lancet. 2022;400(10345):25–38. doi:10.1016/S0140-6736(22)00876-5
13. Ely Danielle M., Driscoll Anne K.. Infant Mortality in the United States, 2019: Data From the Period Linked Birth/Infant Death File. CDC; 2021:18.
14. Krishnan L, Ogunwole SM, Cooper LA. Historical Insights on Coronavirus Disease 2019 (COVID-19), the 1918 Influenza Pandemic, and Racial Disparities: Illuminating a Path Forward. Annals of Internal Medicine. 2020;173(6):474–481. doi:10.7326/M20-2223 [PubMed: 32501754]
15. Phelan JC, Link BG. Is Racism a Fundamental Cause of Inequalities in Health? Annual Review of Sociology. 2015;41(1):311–330. doi:10.1146/annurev-soc-073014-112305
16. Williams DR, Collins C. Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health. Public Health Reports (1974-). 2001;116(5):404–416.
17. 2022. COVID-19 Cases and Deaths by Race/Ethnicity: Current Data and Changes Over Time. KFF. Published February 22, 2022. Accessed April 15, 2022. https://www.kff.org/coronavirus-covid-19/issue-brief/covid-19-cases-and-deaths-by-race-ethnicity-current-data-and-changes-over-time/
18. Reitsma MB, Claypool AL, Vargo J, et al. Racial/Ethnic Disparities In COVID-19 Exposure Risk, Testing, And Cases At The Subcounty Level In California. Health Affairs. 2021;40(6):870–878. doi:10.1377/hlthaff.2021.00098 [PubMed: 33979192]
19. Nguemeni Tiako MJ. Racial Health Disparities, COVID-19, and a Way Forward for US Health Systems. Journal of Hospital Medicine. 2021;16(1). doi:10.12788/jhm.3545
20. Garcia MA, Homan PA, García C, Brown TH. The Color of COVID-19: Structural Racism and the Pandemic's Disproportionate Impact on Older Racial and Ethnic Minorities. J Gerontol B Psychol Sci Soc Sci. Published online 2020. doi:10.1093/geronb/gbaa114
21. Andrasfay T, Goldman N. Reductions in 2020 US life expectancy due to COVID-19 and the disproportionate impact on the Black and Latino populations. PNAS. 2021;118(5). doi:10.1073/pnas.2014746118
22. Andrasfay T, Goldman N. Reductions in US life expectancy during the COVID-19 pandemic by race and ethnicity: Is 2021 a repetition of 2020? PLOS ONE. 2022;17(8):e0272973. doi:10.1371/journal.pone.0272973 [PubMed: 36044413]
23. Rabin RC. U.S. Life Expectancy Falls Again in 'Historic' Setback. The New York Times. https://www.nytimes.com/2022/08/31/health/life-expectancy-covid-pandemic.html. Published August 31, 2022. Accessed September 1, 2022.

24. Roberts DE. Abolish race correction. The Lancet. 2021;397(10268):17–18. doi:10.1016/S0140-6736(20)32716-1

25. Chapman EN, Kaatz A, Carnes M. Physicians and Implicit Bias: How Doctors May Unwittingly Perpetuate Health Care Disparities. J GEN INTERN MED. 2013;28(11):1504–1510. doi:10.1007/s11606-013-2441-1 [PubMed: 23576243]

26. FitzGerald C, Hurst S. Implicit bias in healthcare professionals: a systematic review. BMC Medical Ethics. 2017;18(1):19. doi:10.1186/s12910-017-0179-8 [PubMed: 28249596]

27. House JS. Beyond Obamacare: Life, Death, and Social Policy. Russell Sage Foundation; 2015. Accessed September 1, 2022. http://ebookcentral.proquest.com/lib/unc/detail.action?docID=4003839

28. Dedoose. Dedoose Version 9.0.62 web application for managing, analyzing, and presenting qualitative and mixed method research data. Published online 2022.

29. National Kidney Foundation. Changes to eGFR Calculation and What that Means for People Living with Kidney Disease. National Kidney Foundation. Published September 23, 2021. Accessed November 11, 2022. https://www.kidney.org/newsletter/changes-to-egfr-calculation-and-what-means-people-living-kidney-disease

30. Buchbinder M, Jenkins TM. Burnout in critical care: time for moving upstream. Annals of the American Thoracic Society. 2022;prepub ahead of print. doi:10.1513/AnnalsATS.202202-111IP

31. Ochieng N, Musumeci M, 2022. Funding for Health Care Providers During the Pandemic: An Update. KFF. Published January 27, 2022. Accessed September 30, 2022. https://www.kff.org/coronavirus-covid-19/issue-brief/funding-for-health-care-providers-during-the-pandemic-an-update/

32. Rudolph L, Ben-Moshe K, Dillon L. Health in All Policies: A Guide for State and Local Governments. American Public HEalth Association and Publi Health Institute; 2013.

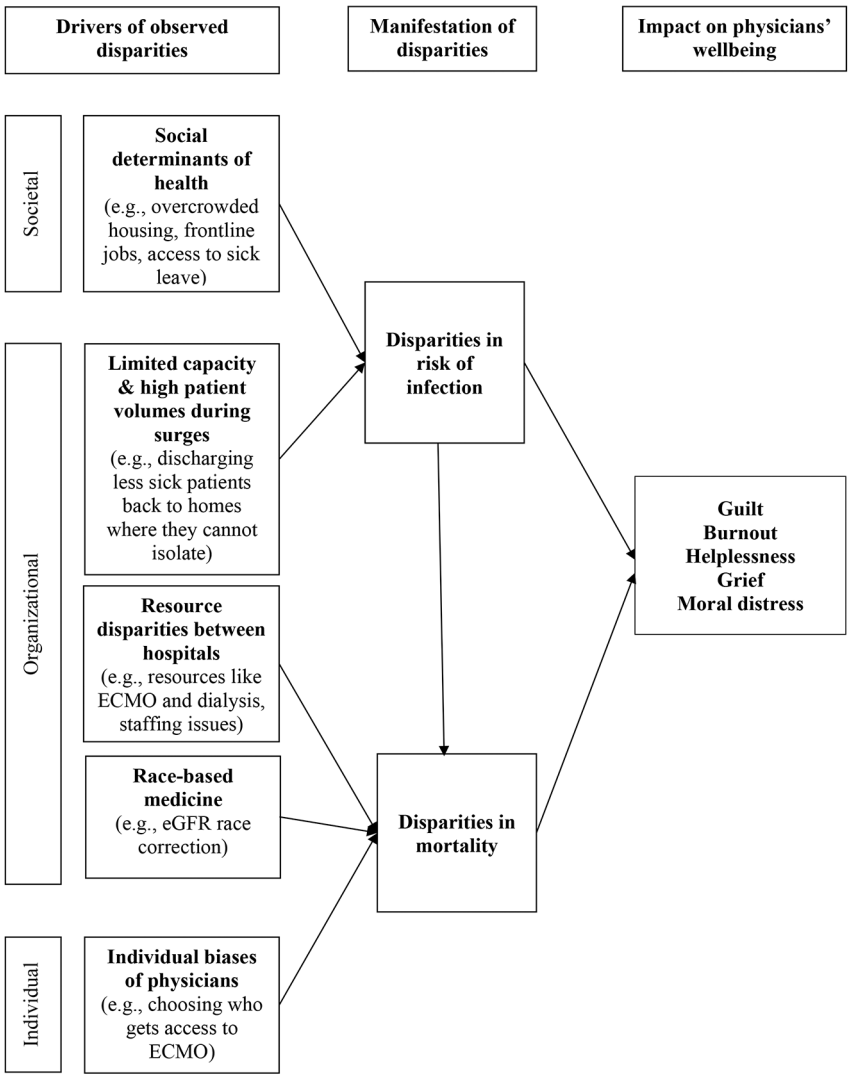

Figure 1.
Conceptual Model

Table 1.

Demographic Characteristics

Participant characteristics (N = 145)	New York City n (%)	New Orleans n (%)	Los Angeles n (%)	Miami n (%)	All Cities n (%)
Age (%)					
18-29	0 (0.0)	0 (0.0)	0 (0.0)	2 (6.7)	**2 (1.4)**
30-39	17 (42.5)	17 (43.6)	23 (63.9)	12 (40.0)	**69 (47.6)**
40-49	16 (40.0)	17 (43.6)	9 (25.0)	6 (20.0)	**48 (33.1)**
50-64	6 (15.0)	5 (12.8)	3 (8.3)	8 (26.7)	**22 (15.2)**
65+	1 (2.5)	0 (0.0)	1 (2.8)	1 (3.3)	**3 (2.1)**
Not recorded	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.3)	**1 (0.7)**
Gender (%)					
Female	25 (62.5)	21 (53.9)	19 (52.8)	15 (50.0)	**80 (55.2)**
Male	15 (37.5)	18 (46.2)	17 (47.2)	15 (50.0)	**65 (44.8)**
Race (%)					
White	30 (75.0)	32 (82.1)	18 (50.0)	22 (73.3)	**102 (70.3)**
Black or African American	1 (2.5)	1 (2.6)	1 (2.8)	1 (3.3)	**4 (2.8)**
Asian	9 (22.5)	6 (15.4)	15 (41.7)	5 (16.7)	**35 (24.1)**
Biracial	0 (0.0)	0 (0.0)	1 (2.8)	2 (6.7)	**3 (2.1)**
Not recorded	0 (0.0)	0 (0.0)	1 (2.8)	0 (0.0)	**1 (0.7)**
Ethnicity (%)					
Non-Hispanic	37 (92.5)	38 (97.4)	33 (91.7)	22 (73.3)	**130 (89.7)**
Hispanic	3 (7.5)	1 (2.6)	3 (8.3)	8 (26.7)	**15 (10.3)**
Medical specialty (%)					
Internal medicine/hospital medicine	14 (35.0)	15 (38.5)	14 (38.9)	10 (33.3)	**53 (36.6)**
Emergency medicine	9 (22.5)	10 (25.6)	9 (25.0)	3 (10.0)	**31 (21.4)**
Pulmonary/critical care	8 (20.0)	10 (25.6)	9 (25.0)	8 (26.7)	**35 (24.1)**
Palliative care	2 (5.0)	3 (7.7)	3 (8.3)	5 (16.7)	**13 (9.0)**
Other (redeployed)	7 (17.5)	1 (2.6)	1 (2.8)	4 (13.3)	**13 (9.0)**
Mean years practicing medicine post-residency	10.26	9.31	8.7	12.8	**10.1**

Table 2.

Characteristics of participants' primary hospital workplaces (N = 145)

Hospital characteristics	New York City n (%)	New Orleans n (%)	Los Angeles n (%)	Miami n (%)	All Cities n (%)
Hospital Type (%) *					
Academic	18 (45.0)	23 (5.0)	12 (33.3)	15 (50.0)	68 (46.9)
Community	7 (17.5)	10 (25.6)	17 (47.2)	4 (13.3)	38 (26.2)
Public	15 (37.5)	6 (15.4)	7 (19.4)	11 (36.7)	39 (26.9)
Hospital funding structure (%) †					
Voluntary Nonprofit	25 (62.5)	19 (48.7)	14 (38.9)	18 (60.0)	76 (52.4)
Proprietary	0 (0)	13 (33.3)	0 (0.0)	1 (3.3)	14 (9.7)
Governmental (city, federal)	15 (37.5)	7 (18.0)	22 (61.1)	11 (36.7)	55 (37.9)
Safety Net Hospital (%) ‡	20 (50.0)	10 (25.6)	7 (19.4)	12 (40.0)	49 (33.8)
Hospital Size (Bed Count) (%)					
0-200	2 (5.0)	12 (30.8)	4 (11.1)	3 (10.0)	21 (14.5)
201-700	9 (22.5)	17 (43.6)	32 (88.9)	15 (50.0)	73 (50.3)
701-1000	23(57.5)	10 (25.6)	0 (0.0)	2 (6.7)	35 (24.1)
1001+	6 (15.0)	0 (0)	0 (0.0)	10 (33.3)	16 (11.0)

* *Academic hospitals* are research hospitals affiliated with medical schools that operate as the primary hospital site for graduate medical education; *community hospitals* may or may not be affiliated with medical schools and offer minimal-to-no graduate medical education; *public hospitals* are publicly funded institutions supported by federal, state, and local governments.

† *Voluntary nonprofit* hospitals are owned and operated by nonprofit associations, such as churches and universities; *proprietary* hospitals are privately owned for-profit hospitals owned by corporations; *governmental* hospitals are those that are solely funded by federal, state, and local governments.

‡ *Safety net* hospitals are obligated to provide care to patients regardless of patients' insurance status or ability to pay.