



Essential Principles to Create an Equitable, Inclusive, and Diverse EMS Workforce and Work Environment: A Position Statement and Resource Document

Sylvia Owusu-Ansah, Rickquel Tripp, Stacy N. Weisberg, Mary P. Mercer, Kimberly Whitten-Chung & The NAEMSP Diversity, Equity, & Inclusion Committee

To cite this article: Sylvia Owusu-Ansah, Rickquel Tripp, Stacy N. Weisberg, Mary P. Mercer, Kimberly Whitten-Chung & The NAEMSP Diversity, Equity, & Inclusion Committee (2023) Essential Principles to Create an Equitable, Inclusive, and Diverse EMS Workforce and Work Environment: A Position Statement and Resource Document, *Prehospital Emergency Care*, 27:5, 552-556, DOI: [10.1080/10903127.2023.2187103](https://doi.org/10.1080/10903127.2023.2187103)

To link to this article: <https://doi.org/10.1080/10903127.2023.2187103>



Published online: 24 Mar 2023.



Submit your article to this journal [↗](#)



Article views: 2172



View related articles [↗](#)




View Crossmark data [↗](#)

POSITION STATEMENTS



Essential Principles to Create an Equitable, Inclusive, and Diverse EMS Workforce and Work Environment: A Position Statement and Resource Document

Sylvia Owusu-Ansah^a, Rickquel Tripp^b, Stacy N. Weisberg^c, Mary P. Mercer^d , Kimberly Whitten-Chung^e, and The NAEMSP Diversity, Equity, & Inclusion Committee

^aDivision of Emergency Medicine, UPMC Children's Hospital of Pittsburgh, Pittsburgh, Pennsylvania; ^bDepartment of Emergency Medicine, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania; ^cDepartment of Emergency Medicine, University of Massachusetts Chan Medical School, Worcester, Massachusetts; ^dDepartment of Emergency Medicine, University of California San Francisco, San Francisco, California; ^eDepartment of EMS/Medical Sciences, Pikes Peak State College, Colorado Springs, Colorado

POSITION STATEMENT

Emergency medical services (EMS), similar to all aspects of health care systems, can play a vital role in examining and reducing health disparities through educational, operational, and quality improvement interventions. Public health statistics and existing research highlight that patients of certain socioeconomic status, gender identity, sexual orientation, and race/ethnicity are disproportionately affected with respect to morbidity and mortality for acute medical conditions and multiple disease processes, leading to health disparities and inequities. With regard to care delivery by EMS, research demonstrates that the current attributes of EMS systems may further contribute to these inequities, such as documented health disparities existing in EMS patient care management, and access along with EMS workforce composition not being representative of the communities served influencing implicit bias. EMS clinicians need to understand the definitions, historical context, and circumstances surrounding health disparities, health care inequities, and social determinants of health in order to reduce health care disparities and promote care equity. This position statement focuses on systemic racism and health disparities in EMS patient care and systems by providing multifaceted next steps and priorities to address these disparities and workforce development. NAEMSP believes that EMS systems should:

- Adopt a multifactorial approach to workforce diversity implemented at all levels within EMS agencies.
- Hire more diverse workforce by intentionally recruiting from marginalized communities
- Increase EMS career pathway and mentorship programs within underrepresented minorities (URM) communities and URM-predominant schools starting at a young age to promote EMS as an achievable profession.
- Examine policies that promote systemic racism and revise policies, procedures, and rules to promote a diverse, inclusive, and equitable environment.
- Involve EMS clinicians in community engagement and outreach activities to promote health literacy, trustworthiness, and education.
- Require EMS advisory boards whose composition reflects the communities they serve and regularly audit membership to ensure inclusion.
- Increase knowledge and self-awareness of implicit/unconscious bias and acts of microaggression through established educational and training programs (i.e., anti-racism, upstander, and allyship) such that individuals recognize and mitigate their own biases and can act as allies.
- Redesign structure, content, and classroom materials within EMS clinician training programs to enhance cultural sensitivity, humility, and competency and to meet career development, career planning, and mentoring needs, particularly of URM EMS clinicians and trainees.
- Discuss cultural views that affect health care and medical treatment and the effects of social determinants of health on care access and outcomes during all aspects of training.
- Design research and quality improvement initiatives related to health disparities in EMS that are focused on racial/ethnic and gender inequities and include URM community leaders as essential stakeholders involved in all stages of research development and implementation.

ARTICLE HISTORY

Received 20 February 2023
Accepted 27 February 2023

Resource Document

Introduction: Defining the Problem and Terms

All sectors of the emergency care delivery system, including emergency medical services (EMS), can play a role in examining and reducing health disparities through educational, operational, and quality improvement interventions. When

providing care to patients, EMS personnel need to understand the definitions of implicit bias and circumstances surrounding health disparities, health care inequities, and social determinants of health.

Implicit or unconscious bias is defined as attitudes, behaviors, and actions that occur automatically and unintentionally, which nevertheless cause judgments and decisions

to be prejudiced in favor of or against one person or group compared to another (1).

Social determinants of health (SDOH) are conditions based on where people live, learn, work, and play that affect a wide range of health risks and outcomes. Social determinants of health, such as poverty, unequal access to health care, lack of education, stigma, and racism, are contributing factors to health disparities and inequities (2). Race and ethnicity are social determinants of health based on conditions (e.g., structural racism, implicit bias) and not based on biological makeup (1, 3). Structural racism is defined as “the normalization and legitimization of an array of dynamics—historical, cultural, institutional and interpersonal—that routinely advantage White people while producing cumulative and chronic adverse outcomes for people of color” (1, 4). This system leads to “differential access to the goods, services, and opportunities of society by race, determines societal values and power hierarchies, and underlies persistent health disparities in the United States” (4). Social determinants of health, race/ethnicity, and gender/sex are closely intertwined to be significant factors influencing comorbidities, severity of conditions, and access to primary or preventative care, which then influences EMS utilization and prehospital care disparities.

According to the Centers for Disease Control and Prevention, health disparities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health experienced by socially disadvantaged racial, ethnic, and other population groups and communities (5). The World Health Organization defines health inequities as “differences in health status or in the distribution of health resources between different population groups, arising from the social conditions in which people are born, grow, live, work, and age” (6). Health disparities stem from preventable and unjust systematic differences, policies, and practices that interfere with attaining full health potential for specific socially disadvantaged communities and groups—leading to an increase in incidence, prevalence, mortality, and burden of disease and other adverse health conditions (6). From the *Disparities in Emergency Medical Services Care Delivery in the United States: A Scoping Review* (3), we learned that there are important differences in prehospital care for women and racial and ethnic minorities observed for time-sensitive conditions including acute coronary syndrome (ACS), out-of-hospital cardiac arrest, and stroke, while differences in care by sexual orientation were rarely investigated (7). Disparities may exist in all phases of patient care stemming from prehospital management, the emergency department, and inpatient and outpatient settings. Research has shown that disparities are more prominent for underrepresented groups based on race/ethnicity and gender identity (8–10).

Recent public health statistics show that patients of certain socioeconomic status, gender, and race/ethnicity are disproportionately affected with respect to morbidity and mortality for multiple disease processes, leading to health disparities and inequities (2). Health care legislation and delivery in the United States have incorporated social justice

and equity elements through the 1986 Emergency Medical Treatment and Active Labor Act. Additionally, social justice and equity are addressed in the entitlements granted through Medicare and Medicaid for the elderly and those with low socioeconomic status (11). Social justice is defined as “the objective of creating a fair and equal society in which each individual matters, their rights are recognized and protected, and decisions are made in ways that are fair and honest” (12) The Centers for Disease Control defines health equity as “the state in which everyone has a fair and just opportunity to attain their highest level of health.

Achieving this requires ongoing societal efforts to:

- Address historical and contemporary injustices
- Overcome economic, social, and other obstacles to health and health care; and
- Eliminate preventable health disparities (13).”

The Medicare and Medicaid developments have made progress toward social justice by ensuring equal access to care and quality of life for patients; however, health disparities and inequities continue to affect patient health outcomes, especially in underserved communities. The persistence of such inequities reinforces that there is still work to be done.

Supporting Evidence

Diversity, Equity, and Inclusion within the EMS Workforce

EMS systems can enhance career pathways and mentorship programs to promote EMS as an achievable position and career to increase diversity within our workforce and to reflect the communities we serve. A study led by Crowe et al. demonstrated that women and underrepresented minorities (URM) make up a substantially low percentage of our EMS workforce (14). In particular, the study showed that 8% of EMS personnel (3% of paramedics and 5% of EMTs) are Black (African-American). These statistics for Black EMS personnel have not changed in 10 years (15). The EMS workforce continues to be predominantly represented by White males, who make up the large majority. Hispanic/Latino EMS personnel numbers are increasing (14). Much work remains to increase the numbers of women and URM in the field of EMS (14–16). Since the Crowe et al. study, not much has changed. A recent scoping review noted that while there are more women and Hispanics at the EMT level, the number of Black EMTs remained stagnant. Women and nonwhite EMS clinicians “continue to be underrepresented in EMS training, education, and workforce, irrespective of level”, revealing continuing challenges in diversifying the EMS workforce. This shows that not much has changed in over a decade (15). Continued qualitative research demonstrating the real-world experiences of URM EMTs, paramedics, and EMS physicians concerning peer and patient interactions would provide a better picture of career success and strategies for overcoming the daily

challenges of bias, microaggressions, prejudice, and discrimination. This study also elucidated that there is work to be done in improving the EMS environment to allow for diverse workspaces, recruitment, and retention.

Promoting Antiracism Policies within EMS

Mechanisms to foster a more equitable and inclusive work environment with more diverse leadership may include evaluating and, where necessary, rewriting policies that may be affected by systemic racism, especially hiring and promotion practices. When evaluating the composition of the EMS workforce, it has been demonstrated that systemic racism is present not only in patient care but also in professional experiences and advancement (14–19). One study examined the association between the race of EMS clinicians and career outcomes. The Longitudinal Emergency Medical Technician Attributes and Demographics Study (LEADS) project in 2008 compared career success among race (White vs minority) and gender in EMS clinicians to determine the degree to which these groups succeed in the EMS profession (17). Success was measured objectively by salary, promotions, and subjectively by personal judgments related to job satisfaction. A representative sampling from the National Registry of EMTs database in 2000 and 2004 predicted objective career success by education, experience, and hours worked.

Subjective career success was predicted by satisfaction with other paramedics (work relations) and supervisor relationships. The results of the LEADS project showed that gender had a negative influence on objective career success but was unrelated to subjective career success. This finding suggests that women receive lower salaries than men but appear satisfied in their careers. In the same study, minority status was not associated with differences in either objective or subjective career success, suggesting that minority paramedics experience the same degree of objective and subjective career success as their White peers. However, this study had several methodological limitations, including a lower response rate among nonwhite participants compared to White participants and grouping all ‘minority’ clinicians (Asian, Black, Hispanic, and Native American/Alaskan Native) into one heterogeneous group without examining outcomes for more differentiated subgroups, such as URM (17). The limited data and methods of such preliminary studies emphasize the need for more systematic approaches to examining workforce experience within EMS through the lens of race to promote a more inclusive and equitable environment.

Effects of Systemic Racism within EMS

In EMS, more awareness and acknowledgment of the effects of systemic racism on health disparities, health care inequities, and social determinants of health for Black, Indigenous, and people of color (BIPOC) and underserved populations are needed. Clinicians may recognize and mitigate their biases to serve as better allies and improve health outcomes.

Evidence suggests that EMS clinicians may still misconstrue the concept of race as a biological construct instead of a social construct (20, 21). Boyd et al. noted that the use of the term ‘race’ without reference to ‘systemic racism’ when examining health disparities could result in “obscuring the role of [structural] racism in driving health inequities” (18). It is recommended that investigators and educators examining racial/ethnic disparities explicitly state such issues with the goal of increasing knowledge and discussing root cause contributions (1, 3, 4, 25, 26).

Addressing Health Disparities in EMS

According to the Disparities in Emergency Medical Services Care Delivery in the United States: A Scoping Review, there are important differences observed in prehospital care for women and racial and ethnic minorities for time-sensitive conditions including ACS, out-of-hospital cardiac arrest, and stroke, while differences in care by sexual orientation were rarely investigated (7). The results showed that Black, Asian, and Hispanic patients waited longer before seeking care for ACS. This may be attributable to racial/ethnic minorities not recognizing signs of ACS or stroke compared to their White counterparts. Black patients were more likely to access EMS than Asian patients. However, Hispanic patients showed mixed findings regarding contacting EMS. One study stated higher usage than White patients and another study showed those with limited English proficiency were also less likely to call 9-1-1 (8). This is due to concerns relating to an inability to communicate with 9-1-1 telecommunicators, along with additional barriers of distrust of law enforcement, cost and language issues, and concerns about immigration status. These studies also demonstrated a lower rate of correct diagnosis of stroke and other health conditions when the patient was Black or Hispanic and was female. Female patients also received less epinephrine than male patients for anaphylaxis. Multiple studies highlight inequities in Black, Hispanic, Asian, and American Indian/Alaska Native patients receiving less prehospital administration of analgesia with or without pain scale documentation, suggesting implicit clinician bias may be a strong factor. While female patients were more likely to recognize signs and symptoms of life-threatening conditions, they waited longer to access the EMS system after symptom onset compared to men (3, 8). This may suggest there are disincentives for seeking care based upon influences from experiences of marginalization and trivialization of their medical complaints by clinicians. These findings are important given that racial and ethnic minority patient populations have disproportionate deaths due to heart disease and other major medical conditions (3, 18).

Although a growing area of inquiry, there remains a paucity of data, research studies, and quality improvement initiatives related to health care disparities in EMS, which has been highlighted as critical to address. Racial and ethnic inequities in health care pose significant moral and ethical dilemmas within the United States health care system. Inaccessibility to health care, increased rates of death and

morbidity, and poor and inadequate medical care are just a few examples of health care inequities we face in the U.S. today related to systemic racism (22–27). Health care has controversially been viewed as an entitled right for each person (11, 28). However, systemic racism interferes with the rights of BIPOC to be afforded equitable quality of care and services. EMS clinicians care for patients with many medical conditions reflecting health care disparities and social determinants of health, disproportionately affecting BIPOC communities. These conditions include but are not limited to COVID-19 (29–33), out-of-hospital cardiac arrest (34, 35), cardiovascular disease (36), diabetes (10), hypertension, stroke (8), asthma/COPD (37), and alcoholism (38).

Continued Research and Quality Improvement around Health Disparities in EMS

Research addressing EMS-related health care disparities has remained relatively unexamined until recently. A 2003 study by Young et al. examined the administration of pain medication (morphine) associated with the patient's pain scale in adult blunt trauma patients in Contra Costa County, CA (39). Black patients were half as likely to receive morphine compared to White patients when a pain score was documented. Black patients were only 15% as likely as White patients to receive morphine when a pain score was not documented (40). Another study investigated a patient's race as a risk factor in the medication-based treatment of pain in select traumatic injuries (e.g., fracture, burns, and penetrating trauma) in adults and children (41). Using a large national dataset of standardized EMS medical records from the National Emergency Medical Services Information System, Hewes et al. found that adult Black patients received pain medications significantly less often than White patients after controlling for pain as a documented symptom (42).

Children (defined as < 15 years of age) who were identified as racial minorities were also found to receive pain medications significantly less often, with 10.9% of African American children receiving pain medications compared to 25% of White children (41). An additional study examining racial disparities in pain management showed that Black/African American and Asian patients in Oregon receiving prehospital emergency medical assistance for painful injuries or conditions were less likely to receive the same treatment as White patients. These studies document racial health inequities in pain management practices found in hospital-based emergency medicine (39–43). Such study outcomes call into question the long-held assumption that high-quality and equitable EMS care is easily attained through 'color-blind' protocols (2,41). While these studies represent necessary initial steps to understand racial health disparities in EMS, they did not control for socioeconomic or environmental factors that also drive health outcomes. These few studies support the need for EMS training to focus on understanding social determinants of health, cultural and structural competency, and strategies for mitigating implicit bias.

Conclusion

Social determinants of health, including race/ethnicity, socioeconomic status, gender, age, disability, and language, contribute to health disparities and health care inequities. These issues are present at all levels of EMS care delivery systems. The EMS workforce is not representative of the diverse communities we serve and the diversity within the US population. Evidence suggests that creating a workforce reflective of the diverse patient population served can decrease communication barriers, improve patient outcomes with more equitable prehospital care, and increase clinician recruitment and retention.

Mitigating implicit bias, diversifying the EMS workforce, and acknowledging the effects of social determinants of health can improve patient care outcomes and enhance clinician longevity and retention in the specialty (1).

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Mary P. Mercer  <http://orcid.org/0000-0002-9330-4024>

References

1. National Institutes of Health, Office of the Director, Chief Officer for Scientific Workforce Diversity. *Implicit Bias*. U.S. Department of Health & Human Services, 2023. [accessed 2023 December 1]. <https://diversity.nih.gov/sociocultural-factors/implicit-bias>.
2. Baciu A, Negussie Y, Geller A, Weinstein JN, editors. The state of health disparities in the United States [Internet]. *Communities in Action: Pathways to Health Equity*. U.S. National Library of Medicine, 2017. [cited 2021 Oct 18]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK425844/>.
3. Farcas AM, Joiner AP, Rudman JS, Torres RK, Crowe G, Curtis RP, Tripp T, Bowers R, von Isenburg K, Logan M, et al. A disparities in emergency medical services care delivery in the United States: A scoping review. *Prehosp Emerg Care*. 2022;29:1–14. doi:10.1080/10903127.2022.2142344. Epub ahead of print. PMID: 36369725
4. Churchwell K, Elkind MS, Benjamin RM, Carson AP, Chang EK, Lawrence W, Mills A, Odom TM, Rodriguez CJ, Rodriguez F, On behalf of the American Heart Association, et al. Call to action: Structural racism as a fundamental driver of Health Disparities: A presidential advisory from the American Heart Association. *Circulation*. 2020;142(24):454–68. doi:10.1161/CIR.0000000000000936.
5. Health Equity [Internet]. Centers for Disease Control and Prevention. Health Equity: "What is Health Equity?" Center for Disease Control and Prevention; July 1, 2022. [cited 2022 Dec 14]. Available from: <https://www.cdc.gov/healthequity/whatis/index.html>.
6. Health inequities and their causes [Internet]. World Health Organization; 2017. [cited 2020 Aug 6]. Available from: https://www.who.int/features/factfiles/health_inequities/en/.
7. Health disparities [Internet]. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention; 2017. [cited 2020 Aug 6]. Available from: <https://www.cdc.gov/aging/disparities/index.htm#:~:text=Health%20disparities%20are%20preventable%20differences,age%20groups%2C%20including%20older%20adults>.

8. Kothari R, Jauch E, Broderick J, Brott T, Sauerbeck L, Khoury J, Liu T. Acute stroke: Delays to presentation and emergency department evaluation. *Ann Emerg Med.* 1999;33(1):3–8.
9. Wright JL, Davis WS, Joseph MM, Ellison AM, Heard-Garris NJ, Johnson TL. Eliminating race-based medicine. *Am Acad Pediatr.* 2022;150(1):1–10.
10. Heisler M, Smith DM, Hayward RA, Krein SL, Kerr EA. Racial disparities in diabetes care processes, outcomes, and treatment intensity. *Med Care.* 2003;41(11):1221–32. doi:10.1097/01.MLR.0000093421.64618.9C.
11. Emergency medical treatment & labor act (EMTALA) [Internet]. CMS. 2021. [cited 2020 Aug 6]. Available from: <https://www.cms.gov/regulations-and-guidance/legislation/emtala>.
12. Social justice [Internet]. Oxford Reference. [cited 2020 Aug 6]. Available from: <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100515279>
13. What is health equity? [Internet]. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention; 2022 [cited 2022 Dec 17]. Available from: <https://www.cdc.gov/nchhstp/healthequity/index.html>
14. Crowe RP, Krebs W, Cash RE, Rivard MK, Lincoln EW, Panchal AR. Females and minority racial/ethnic groups remain underrepresented in Emergency Medical Services: A ten-year assessment, 2008–2017. *Prehosp Emerg Care.* 2020;24(2):180–7.
15. Crowe RP, Levine R, Eggerichs JJ, Bentley MA. A longitudinal description of emergency medical services professionals by Race/Ethnicity. *Prehosp Disaster Med.* 2016;31(S1):30–69.
16. Rudman JS, Farcas A, Salazar GA, Hoff JJ, Crowe RP, Whitten-Chung K, Torres G, Pereira C, Hill E, Jafri S, et al. Diversity, equity, and inclusion in the United States emergency medical services workforce: A scoping review. *Prehospital Emergency Care.* 2022:1–13. doi:10.1080/10903127.2022.2130485.
17. Russ-Eft DF, Dickison PD, Levine R. Examining career success of minority and women Emergency Medical Technicians (EMTs): A LEADS project. *Hum Resour Dev Q.* 2008;19(4):281–98. doi:10.1002/hrdq.1242.
18. Boyd RW, Lindo EG, Weeks LD, McLemore MM. On racism: A new standard for publishing on racial health inequities: Health affairs blog [Internet]. *Health Affairs.* 2020; [cited 2021 Oct 19]. Available from: <https://www.healthaffairs.org/doi/10.1377/hblog20200630.939347/full/>
19. Lawrence K, Keleher T. Chronic Disparity: Strong and pervasive evidence of racial inequities [Internet]. In *Race and Public Policy Conference*; 2004. November 11; Berkeley, CA. p. 1–24. Available from: www.intergroupresources.com>structural-racism.
20. Gannon M. Race is a social construct, scientists argue [Internet]. *Scientific American.* Scientific American; 2016. [cited 2021 Oct 19]. Available from: <https://www.scientificamerican.com/article/race-is-a-social-construct-scientists-argue/>.
21. Rosenberg NA, Pritchard JK, Weber JL, Cann HM, Kidd KK, Zhivotovsky LA, Feldman MW. Genetic structure of human populations. *Science.* 2002;298(5602):2381–5. doi:10.1126/science.1078311.
22. Phelan JC, Link BG. Is racism a fundamental cause of inequalities in health? *Annu Rev Sociol.* 2015;41(1):311–30. doi:10.1146/annurev-soc-073014-112305.
23. NIH (National Institutes of Health). NIH announces Institute on Minority Health and Health Disparities. 2010. [October 24, 2016]. <https://www.nih.gov/news-events/news-releases/nih-announces-institute-minority-health-health-disparities>.
24. Braveman P, Gottlieb L. The Social Determinants of Health: It's time to consider the causes of the causes. *Public Health Rep.* 2014;129(1_suppl2):19–31. doi:10.1177/00333549141291S206.
25. Yearby R. Race based medicine, color-blind disease: How racism in medicine harms us all. *Am J Bioethics.* 2021;21(2):19–27. doi:10.1080/15265161.2020.1851811.
26. HHS Action Plan to Reduce Racial and Ethnic Healthcare Disparities [Internet]. [cited 2020 Aug 6]. Available from: https://minorityhealth.hhs.gov/assets/pdf/hhs/HHS_Plan_complete.pdf.
27. Yearby R, Clark B, Figueroa JF. Structural racism in historical and modern U.S. health care policy. *Health Affairs.* 2022;41(2):187–94. doi:10.1377/hlthaff.2021.01466.
28. Soken-Huberty E. What does social justice mean? [Internet]. *Human Rights Careers.* 2022 [cited 2022 Sep 12]. Available from: <https://www.humanrightscareers.com/issues/what-does-social-justice-mean/>
29. Stokes EK, Zambrano LD, Anderson KN, Marder EP, Raz KM, El Burai Felix S. Coronavirus disease 2019 case surveillance - United States, January 22–May 30, 2020 [Internet]. Centers for Disease Control and Prevention; 2020 [cited 2021 Oct 18]. Available from: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6924e2.htm>.
30. Killerby ME, Link-Gelles R, Haight SC, Schrodt CA, England L, Gomes DJ, et al. Characteristics associated with hospitalization among patients with COVID-19 - Metropolitan Atlanta, Georgia, March– April 2020. [Internet]. Centers for Disease Control and Prevention; 2020. [cited 2021 Oct 18]. Available from: <https://www.cdc.gov/mmwr/volumes/69/wr/mm6925e1.htm>.
31. Gold JAW, Wong KK, Szablewski CM, Patel PR, Rossow J, da Silva J, et al. Characteristics and clinical outcomes of adult patients hospitalized with COVID-19 - Georgia, March 2020. [Internet]. *MMWR.* Centers for Disease Control and Prevention; 2020. [cited 2021 Oct 18]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737948/>.
32. Price-Haywood EG, Burton J, Fort D, Seoane L. Hospitalization and mortality among black patients and white patients with COVID-19. *N Engl J Med.* 2020;382(26):2534–43. doi:10.1056/NEJMs2011686.
33. Millett GA, Jones AT, Benkeser D, Baral S, Mercer L, Beyrer C, Honermann B, Lankiewicz E, Mena L, Crowley JS, et al. Assessing differential impacts of COVID-19 on Black Communities. *Ann Epidemiol.* 2020;47:37–44.
34. Galea S, Blaney S, Nandi A, Silverman R, Vlahov D, Foltin G, Kusick M, Tunik M, Richmond N. Explaining racial disparities in incidence of and survival from out-of-hospital cardiac arrest. *Am J Epidemiol.* 2007;166(5):534–43.
35. Naim MY, Griffis HM, Burke RV, McNally BF, Song L, Berg RA, et al. Race/ethnicity and neighborhood characteristics are associated with bystander cardiopulmonary resuscitation in pediatric out of hospital cardiac arrest in the United States: A study from CARES. *J Am Heart Assoc.* 2019;8(14).
36. Bell CN, Thorpe RJ, Bowie JV, LaVeist TA. Race disparities in cardiovascular disease risk factors within socioeconomic status strata. *Ann of Epidemiol.* 2018;28(3):147–52. doi:10.1016/j.annepidem.2017.12.007.
37. Shaya FT, Dalal AA, Du D. Burden of concomitant chronic obstructive pulmonary disease and asthma among adults: Racial disparities exist in a Medicaid population. *Chest.* 2008;134(4):21P. doi:10.1378/chest.134.4_MeetingAbstracts.p21002.
38. Schmidt L, Greenfield T, Mulia N. Unequal treatment: Racial and ethnic disparities in alcoholism treatment services [Internet]. *Alcohol research & health: the Journal of the National Institute on Alcohol Abuse and Alcoholism.* National Institute on Alcohol Abuse and Alcoholism, 2006. [cited 2021 Oct 19]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6470902/>.
39. Young MF, Hern HG, Alter HJ, Barger J, Vahidnia F. Racial differences in receiving morphine among prehospital patients with blunt trauma. *J Emerg Med.* 2013;45(1):46–52. doi:10.1016/j.jemermed.2012.07.088.
40. Kennel J, Withers E, Parsons N, Woo H. Racial/ethnic disparities in pain treatment. *Med Care.* 2019;57(12):924–9. doi:10.1097/MLR.0000000000001208.
41. Todd KH, Samaroo N, Hoffman JR, KH. Ethnicity as a risk factor for inadequate emergency department analgesia. *JAMA.* 1993;269(12):1537–9.
42. Hewes HA, Dai M, Mann NC, Baca T, Taillac P. Prehospital pain management: Disparity by age and race. *Prehosp Emerg Care.* 2018;22(2):189–97. doi:10.1080/10903127.2017.1367444.
43. Mills AM, Shofer FS, Boulis AK, Holena DN, Abbuhl SB. Racial disparity in analgesic treatment for E.D. patients with abdominal or back pain. *Am J Emerg Med.* 2011;29(7):752–6. doi:10.1016/j.ajem.2010.02.023.