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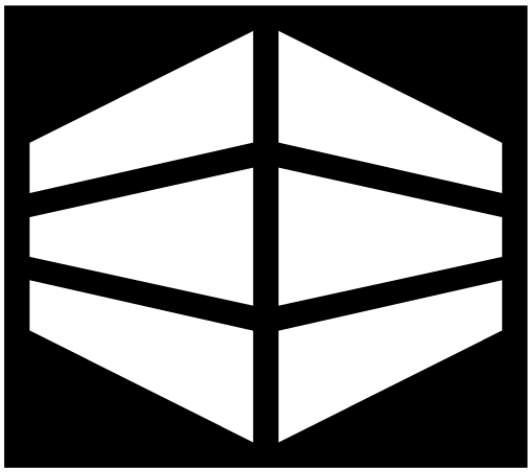

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VOLUME 1 · ISSUE 1

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FROM THE VOX TEAM

A LETTER TO OUR READERS

Welcome to the inaugural issue of the VOX Equity Journal. This first volume represents the culmination of a semester of work by student researchers with their faculty mentors who share a conviction that health equity is an issue which is to be solved and an issue that is a worthwhile endeavor to understand are articulate through research.

Every article in this issue began as a question a student asked in a meeting or on a Slack thread. Every one of them was refined through mentorship, revision, and honest feedback. Every one of them belongs equally to the students who authored it and to the community it serves.

This is what VOX exists to do. We aim to bring undergraduate and emerging researchers to the table alongside faculty, to give them the mentorship and structure to produce work that matters, and to ensure that work reaches beyond the walls of academia into the community-facing work of Voices of Equity.

We are proud of this issue. We hope you'll find something in it that challenges you, teaches you, or moves you to act.

We would humbly like to thank all of those who made this first inaugural issue possible, and we look forward to the many more to come.

With gratitude,

VOX Equity National Team

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VOX EQUITY THINK TANK JOURNAL · ORIGINAL RESEARCH

Neighborhood Disadvantage and Cognitive Disparities: A Community-Centered Investigation of Processing Speed Effects Across Racial and Ethnic Groups in Older Adults

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ABSTRACT

Background. Neighborhood disadvantage is associated with cognitive decline, but whether this effect differs by race/ethnicity is unclear.

Methods. Data from participants in the Health and Aging Brain Studies were analyzed using linear regression to test whether race/ethnicity moderates the relationship between Area Deprivation Index and processing speed (Trail Making Test Part A, Digit Symbol Substitution Test), adjusting for age. Analyses were conducted for Non-Hispanic White (NHW, n=1,271) vs Hispanic/Latino (n=1,264) and Non-Hispanic Black (NHB, n=1,346) vs Hispanic/Latino participants.

Results. The ADI x ethnicity interaction was significant for both Non-Hispanic White vs Hispanic/Latino (Trails A p=0.0194; DSST p=0.001) and Non-Hispanic Black vs Hispanic/Latino (Trails A p<0.001; DSST p<0.001), but stronger for the Non-Hispanic White comparison. Hispanic/Latino adults showed 3.4X stronger effects of neighborhood disadvantage on Trails A compared to Non-Hispanic White Adults.

Discussion. These findings suggest that structural inequities compound to shape cognitive outcomes. While neighborhood disadvantage affects processing speed across all racial/ethnic groups, Hispanic/Latino older adults experience disproportionate effects. This differential vulnerability may reflect the intersection of marginalized identities and structural inequities, including educational attainment and environmental stressors, as well as limited access to protective resources. Educational disparities between groups suggest systemic inequities in opportunity and access begin long before older age, with downstream effects on cognition.

Health Equity Implications. Structural inequities in education and neighborhood conditions intersect to amplify cognitive health disparities for Hispanic/Latino older adults. Interventions addressing neighborhood disadvantage must be paired with efforts to reduce educational disparities to effectively reduce cognitive health inequities.

Keywords: *Area Deprivation Index, Processing speed, Cognitive disparities, Health equity, Neighborhood disadvantage, Social Determinants of Health, Cognitive Aging, Neuropsychological assessment, Environmental stressor*

INTRODUCTION

Social determinants of health, particularly neighborhood disadvantage measured via the Area Deprivation Index (ADI), plays a key role in shaping cognitive aging trajectories. While neighborhood deprivation is broadly linked to accelerated cognitive decline, significant gaps remain regarding whether environmental stressors differentially impact cognitive processing speed, an area highly vulnerable to early neurodegenerative changes, across distinct racial and ethnic cohorts. Older adults navigate distinct socio-structural contexts across the lifespan. Hispanic/Latino older adults face unique vulnerabilities, including disproportionate exposure to neighborhood deprivation and systemic barriers to educational attainment. Early-life educational disparities reduce cognitive reserve, potentially heightening vulnerability to late-life environmental disadvantage. This study utilizes data from the Health and Aging Brain Study –Health Disparities (HABS-HD) to address a primary research question: To what extent does neighborhood disadvantage, as measured by ADI, differentially affect processing speed performance among Hispanic/Latino, Non-Hispanic Black (NHB), and Non-Hispanic White (NHW) older adults? Cognitive processing speed performance was evaluated using the Trail Making Test Part A (Trails A) and the Digit Symbol Substitution Test (DSST). By testing whether race/ethnicity moderates the relationship between ADI and processing speed, while controlling for age, sex, and educational attainment, this study clarifies how lifespan structural inequities compound to drive ethnic disparities in cognitive health

METHODS

Study Design and Setting

Data were obtained from the Health and Aging Brain Study–Health Disparities (HABS-HD) [3], an ongoing longitudinal study designed to investigate cognitive aging and Alzheimer's disease among ethnically diverse older adults in the United States. Access to the HABS-HD dataset was granted through the Laboratory of Neuro Imaging (LONI) following approval of a data access request and completion of required data use agreements.

Participants and Recruitment

Participants were included in this analysis if they identified as Non-Hispanic White (NHW), Non-Hispanic Black (NHB), or Hispanic/Latino and had complete data for all study variables. Individuals with missing data for Area Deprivation Index (ADI) national rank or age were excluded from analyses. A total of 2,535 participants (1,271 NHW, 1,264 Hispanic/Latino) were included in the primary analysis comparing NHW to Hispanic/Latino participants.

Ethics Approval

All members of the research team completed Collaborative Institutional Training Initiative (CITI) Human Subjects Research training before accessing and working with participant data.

Measures

Neighborhood socioeconomic disadvantage was assessed using the Area Deprivation Index (ADI) [4] National Rank, with higher values indicating greater neighborhood disadvantage. Processing speed was evaluated using two standardized neuropsychological measures: the Trail Making Test Part A (Trails A) [5], for which longer completion times reflect poorer performance, and the Digit Symbol Substitution Test (DSST)[6], in which higher scores indicate better cognitive performance. Age and education were included as covariates in sensitivity analyses because of their established association with cognitive function. Ethnicity was coded as a categorical variable with NHW serving as the reference group.

Statistical Analysis

All statistical analyses were conducted in RStudio. Descriptive statistics, including means and standard deviations, were calculated for demographic and cognitive variables by ethnic group. Prior to hypothesis testing, model assumptions were evaluated through visual inspection of histograms, scatterplots, residual diagnostic plots, and Levene's tests for homogeneity of variance.

Separate linear regression models were fit for Trails A and DSST outcomes. For each cognitive measure, a main-effects model including ADI, ethnicity, and age was first estimated. A second model added an ADI × Ethnicity interaction term to examine whether ethnicity moderated the association between neighborhood disadvantage and processing speed. For significant interactions, simple slopes analyses were conducted, and interaction effects were visualized using predicted regression lines with 95% confidence intervals. Statistical significance was defined as $p < .05$.

RESULTS

Sample Characteristics

The final sample consisted of 2,553 participants (1,275 Non-Hispanic White [NHW] and 1,278 Hispanic/Latino) for the primary comparison. For the Non-Hispanic Black comparison, the sample consisted of 2,314 participants (1,036 Non-Hispanic Black [NHB] and 1,278 Hispanic/Latino). Multiple linear regression analyses were conducted to examine whether neighborhood disadvantage, measured by Area Deprivation Index (ADI), was associated with processing speed and if this relationship differed by ethnicity while controlling for age.

Primary Outcomes: Processing Speed

Trail Making Test Part A

The ADI × Ethnicity interaction was significant for the Non-Hispanic White vs. Hispanic/Latino comparison ($p = 0.0194$), indicating the association between neighborhood disadvantage and processing speed differed between groups. Simple slopes analyses showed higher ADI scores were associated with slower processing among NHW adults ($b = 0.07$, $p = 0.01$). This relationship was considerably stronger among Hispanic/Latino adults ($b = 0.24$, $p < .001$), representing a slope approximately 3.4 times greater than observed for NHW participants. See Figures 1 and 2.

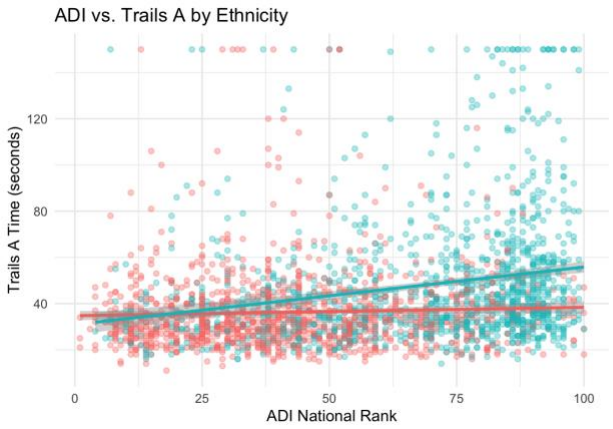

Figure 1. *Relationship between ADI National Rank and Trails A performance by ethnicity (NHW vs. Hispanic/Latino) with age-adjusted regression lines.*

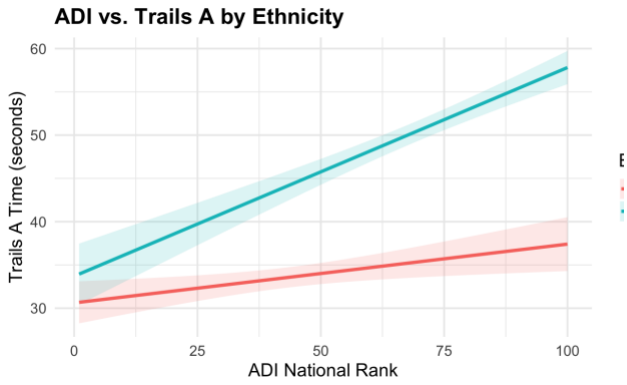

Figure 2. *ADI × Ethnicity moderation effect on Trails A: differential slopes demonstrating stronger effects of neighborhood disadvantage for Hispanic/Latino compared to Non-Hispanic White older adults.*

Digit Symbol Substitution Test

The ADI × Ethnicity interaction was significant for the Digit Symbol Substitution Test for the Non-Hispanic White vs. Hispanic/Latino comparison (DSST; $p < .001$), demonstrating that neighborhood disadvantage divergently predicted processing speed across ethnic groups. For NHW adults, higher ADI scores were associated with lower DSST performance ($b = -0.09$, $p < .001$). This negative association was significantly stronger among Hispanic/Latino adults ($b = -0.18$, $p < .001$), representing approximately twice the magnitude of the association observed in NHW participants. See Figures 3 and 4.

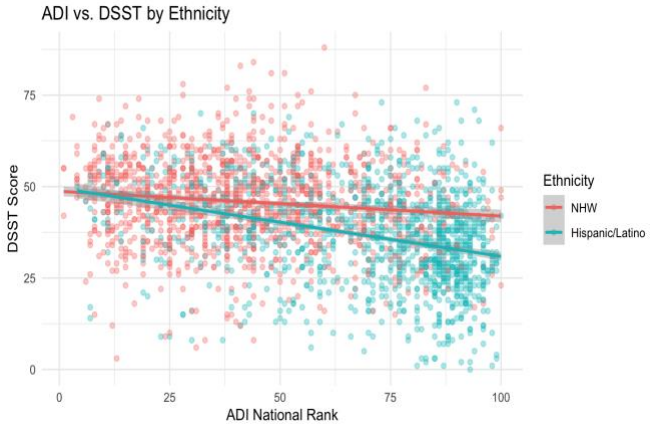

Figure 3. *Relationship between ADI National Rank and DSST performance by ethnicity (NHW vs. Hispanic/Latino) with age-adjusted regression lines.*

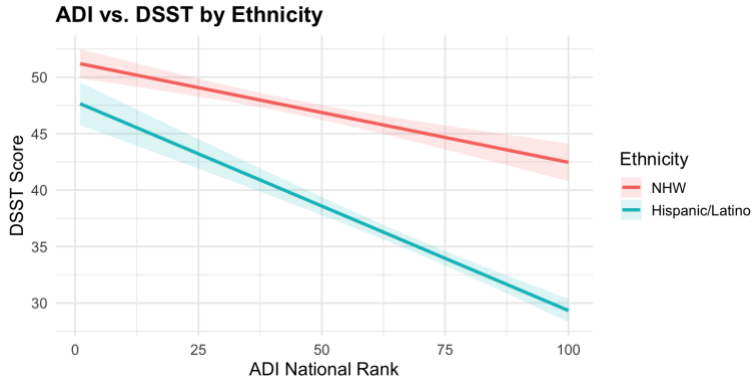

Figure 4. *ADI × Ethnicity moderation effect on DSST: differential slopes showing steeper decline in processing speed for Hispanic/Latino compared to Non-Hispanic White older adults as neighborhood disadvantage increases.*

Non-Hispanic Black vs Hispanic Latino

The ADI × Ethnicity interaction was also statistically significant when comparing Non-Hispanic Black (NHB) to Hispanic/Latino participants for both Trails A ($p < .001$) and DSST ($p < .001$). For Trails A, NHB adults showed an

ADI slope of 0.11 ($p < .001$), while Hispanic/Latino adults showed a slope of 0.24 ($p < .001$), representing approximately a 2.2-fold difference. For DSST, NHB adults showed an ADI slope of -0.11 ($p < .001$), while Hispanic/Latino adults showed a slope of -0.18 ($p < .001$), representing approximately a 1.6-fold difference.

Comparison of effect sizes between the two ethnic comparisons reveals that the ADI × Ethnicity interaction is stronger for the Non-Hispanic White vs. Hispanic/Latino comparison. For Trails A, the difference in slopes between the two ethnic groups is 0.17 points (NHW: 0.07 vs. Latino: 0.24) compared to 0.13 points for the Non-Hispanic Black comparison (NHB: 0.11 vs. Latino: 0.24). Similarly, for DSST, the Non-Hispanic White comparison shows a slope difference of 0.09 points (NHW: −0.09 vs. Latino: −0.18) compared to 0.07 points for the Non-Hispanic Black comparison (NHB: −0.11 vs. Latino: −0.18). See Figures 5 and 6.

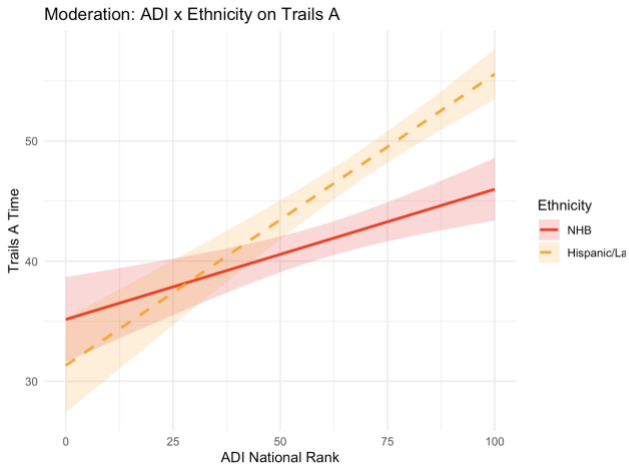

Figure 5. *ADI × Ethnicity moderation effect on Trails A (NHB vs. Hispanic/Latino): statistically significant interaction demonstrating differential effects of neighborhood disadvantage on processing speed between Non-Hispanic Black and Hispanic/Latino older adults.*

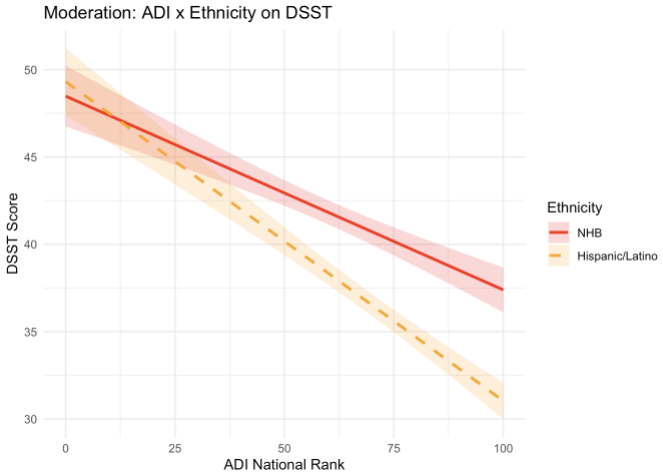

Figure 6. *ADI × Ethnicity moderation effect on DSST (NHB vs. Hispanic/Latino): statistically significant interaction showing differential effects of neighborhood disadvantage on processing speed between Non-Hispanic Black and Hispanic/Latino older adults.*

Covariates

Age was a significant predictor of processing speed across both models ($p < .001$), with older age associated with poorer processing speed performance. Overall, these findings supported the hypothesis that neighborhood disadvantage has a stronger negative association with processing speed among Hispanic/Latino older adults than among Non-Hispanic White older adults.

DISCUSSION

The results of this analysis reveal a critical intersection between neighborhood socioeconomic context and race/ethnicity in shaping cognitive aging patterns. Our finding that the relationship between neighborhood disadvantage and processing speed differs significantly across racial and ethnic groups challenges the notion of uniform neighborhood effects and instead points to the salience of structural racism in determining cognitive health outcomes. For Hispanic/Latino

older adults specifically, increasing neighborhood disadvantage appears to carry a steeper cognitive cost compared to their Non-Hispanic White peers, a pattern consistent with weathering theory, which posits that chronic exposure to discrimination and socioeconomic adversity accelerates biological aging.

The magnitude of the ADI × Ethnicity interaction for both Trails A and DSST suggests that neighborhoods are not simply economic spaces but are racialized environments embedded within broader systems of inequality. Hispanic/Latino communities are disproportionately concentrated in neighborhoods with high deprivation indices, yet the steeper cognitive decline observed in these contexts may also reflect compounding exposures: limited access to preventive healthcare, lower educational attainment opportunities, employment precarity, linguistic isolation from health information, and reduced access to cognitive-stimulating activities. Additionally, immigration-related stressors, including legal status uncertainty, family separation, and cultural displacement, may amplify the negative effects of neighborhood disadvantage on cognitive function in ways not captured by standard socioeconomic indicators.

From a health equity perspective, these findings underscore the importance of moving beyond individual risk factor modification toward structural interventions that address the root causes of neighborhood disadvantage. Community-based cognitive health promotion must be grounded in the lived experiences and strengths of Hispanic/Latino older adults, incorporating cultural values, family systems, and community networks as protective factors. Simultaneously, advocacy efforts must target upstream policy changes including fair housing enforcement, equitable education funding, workforce development, and healthcare expansion in underserved neighborhoods. Without addressing the structural inequities that create and perpetuate neighborhood disadvantage, individual-level interventions will remain insufficient.

Future research should employ longitudinal designs to track whether differential cognitive aging trajectories persist over time and to identify critical periods of vulnerability. Mechanistic investigations examining stress-related biomarkers, social isolation, access to environmental enrichment, and health service utilization could illuminate pathways through which neighborhood context "gets under the skin" to affect cognition. Community-engaged research that centers the voices and expertise of older Hispanic/Latino adults and other historically marginalized groups will be essential to developing interventions that are culturally relevant, feasible, and sustainable.

Limitations

Neighborhood disadvantages are a direct driver of health inequity that greatly impairs speed processing and cognitive function in older adults of all backgrounds. Populations that have been minoritized face a larger burden of environmental inequalities

HEALTH EQUITY IMPLICATIONS

These findings speak directly to the structural conditions that shape health outcomes for underserved populations [2]. Older Mexican adults were more likely to reside in deprived areas, whereas older non-Hispanic White adults resided in areas

with higher advantages [2]. Neighborhood disadvantage disproportionately impacts cognitive function among Hispanic/Latino older adults, suggesting that place-based interventions must be paired with efforts to address educational and economic inequities. Findings may also be influenced by social capital of residents and specific cognitive protection methods that are derived from ethnic culture [1]. Practitioners and policymakers may find these results useful when designing culturally-tailored interventions intended to reach populations historically excluded from mainstream health systems. Community-centered scholarship and participatory approaches remain central to advancing equitable cognitive health outcomes for all older adults.

STATEMENTS AND DECLARATIONS

Ethics Approval. This secondary data analysis used de-identified data from the Health and Aging Brain Studies: Health Disparities (HABS-HD). All team members completed CITI (Collaborative Institutional Training Initiative) certification in research ethics and human subjects protection prior to data analysis.

Consent to Participate. Written informed consent was obtained from all HABS-HD participants at the time of original data collection.

Consent for Publication. Not applicable — no individually identifying data are included.

Declaration of Conflicting Interests. The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding. This work was supported in part by the VOX Equity Think Tank Cohort Program. No external funding was received.

Data Availability. Data supporting the findings of this study are from the Health and Aging Brain Studies: Health Disparities (HABS-HD), available through LONI with submission of a Data Use Agreement.

AI Use Disclosure. No generative AI tools were used in the preparation of this manuscript.

Author Contributions. Nina Mananu, Aya Oulida, Nika Jalali, Chiamaka Okafor and Samir Gulati, contributed to conceptualization, analysis, and manuscript preparation. India Ratha contributed to final edits. Dr. Michelle Chen supervised the project, provided methodological guidance, and reviewed all drafts.

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VOX EQUITY THINK TANK JOURNAL · ORIGINAL RESEARCH

Language, Bias, and Outcomes: A Literature Review of Healthcare Disparities at the Intersection of Race and Housing Status

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ABSTRACT

Stigmatizing language documented in electronic health records (EHRs) has emerged as an important contributor to healthcare inequities by influencing clinician perceptions, treatment decisions, and patient-provider relationships. Black patients are more likely to receive credibility-undermining or negatively framed language in their medical records than White patients, while individuals experiencing homelessness frequently report discrimination, dehumanization, and reduced trust in healthcare systems. Despite these parallels, there is little research on how race, ethnicity, and homelessness intersect within clinical documentation or whether biased EHR language contributes to long-term healthcare disengagement among unhoused populations. This literature review integrates evidence on racial bias in medical documentation, stigmatizing language in healthcare, and healthcare experiences among those experiencing homelessness to identify major themes and persistent knowledge gaps. Across the literature, stigmatizing medical documentation is associated with altered clinical decision-making, reduced patient trust, and poorer healthcare experiences, yet few studies investigate downstream outcomes such as continuity of care, preventative service utilization, or missed appointments among unhoused patients. The review concludes that intersectional research examining both racial or ethnic identity and housing status is needed to better understand how documentation practices perpetuate healthcare inequities and to inform interventions that promote equitable, person-centered clinical communication and care.

Keywords: *stigmatizing language; electronic health records; racial bias; homelessness; health equity*

INTRODUCTION

Healthcare documentation is often viewed as an objective record of a patient's medical history. However, growing evidence suggests that the language used in electronic health records (EHRs) may unintentionally communicate bias that influences subsequent clinical care [2, 8]. Studies have shown that stigmatizing descriptors such as "noncompliant," "drug-seeking," "aggressive," or other credibility-undermining phrases can alter clinicians' perceptions of patients, contributing to differences in treatment recommendations and reinforcing existing healthcare disparities [6, 7]. These concerns are particularly relevant for populations that already experience structural inequities, including unhoused populations, who are disproportionately represented by racial and ethnic minority groups.

This literature review examines the current evidence regarding stigmatizing language in EHRs and explores how such documentation may contribute to inequitable healthcare experiences among unhoused individuals. Specifically, this review investigates whether existing research adequately addresses the intersection of race, ethnicity, homelessness, and biased clinical documentation. While numerous studies have independently examined racial disparities in EHR language or healthcare stigma toward people experiencing homelessness, few have considered how these factors interact to influence healthcare engagement and continuity of care [9].

The literature included in this review encompasses studies of racial bias in clinical documentation, investigations of stigmatizing language and physician decision-making, qualitative studies describing healthcare experiences among unhoused populations, and emerging research evaluating bias in artificial intelligence (AI) systems trained on clinical documentation [13]. These sources provide insight into how language shapes healthcare experiences by addressing one or more of these domains. Studies specifically on homelessness prevalence or healthcare utilization without discussion of stigma or documentation practices were excluded, as well as papers unrelated to clinical communication or electronic health records.

Across the literature, several consistent findings emerge. First, Black patients are more likely to receive negatively framed or credibility-undermining language within their medical records than White patients. Second, people experiencing homelessness frequently report stigmatizing interactions that discourage future healthcare utilization [10]. Third, stigmatizing documentation has shown to influence clinician attitudes and treatment decisions. However, the literature rarely examines whether unhoused Black or Hispanic patients experience disproportionately biased documentation compared with unhoused White patients, nor does it evaluate whether

stigmatizing EHR language predicts long-term healthcare engagement, including preventative care utilization, continuity of care, or trust in healthcare providers. This represents a significant gap that warrants further investigation.

RACIAL BIAS IN ELECTRONIC HEALTH RECORDS (EHRs)

The pervasive presence of racial bias within Electronic Health Records (EHRs) significantly compromises patient care and provider objectivity. A 2022 analysis on negative patient descriptors highlights that Black patients, alongside unmarried individuals and Medicaid/Medicare recipients, face disproportionately higher odds of having negative terms—such as "aggressive," "non-compliant," or "combative"—documented in their charts [11]. This bias directly targets patient reliability; a 2025 study found that clinicians are more likely to use credibility-undermining language when documenting Black patients compared to White patients, often insinuating untruthfulness [2]. The methodology of these studies is strong in identifying the prevalence of such language, but they feature notable omissions. For instance, the 2022 study fails to characterize the actual impact of this language on a patient's subsequent medical care, and the 2025 credibility study explicitly excluded nursing notes because they are heavily templated, leaving a massive portion of patient-provider interactions unexamined. Nevertheless, the physical and systemic consequences of recorded bias are evident. A 2018 study demonstrated that medical residents were more conservative in prescribing pain medications after reading stigmatizing notes, insinuating that chart language alters subsequent clinical decision-making [6]. Alarmingly, this bias is also being replicated by modern technology; a 2024 study revealed that AI large language models like GPT-3.5-turbo fabricate racially skewed patient histories and predict poorer outcomes for minority patients, though this study's methodology was limited by using case reports rather than authentic clinical records [13]. Overall, the literature confirms that biased EHR documentation acts as a structural mechanism that erodes trust and perpetuates disparities, though future research must push beyond quantifying the words to measuring their clinical fallout.

The consequences of biases in AI are not limited to issues arising from individual cases of mistakes made in hospitals. On the contrary, AI-generated biases may further systemic problems that threaten various marginalized social groups. In particular, homeless patients from Black and Hispanic backgrounds who suffer from discrimination governed by human doctors and nurses will now be at risk to discrimination perpetuated by AI systems that introduce another concealed form of unequal treatment in healthcare. In contrast to the bias that can be found in the work of one doctor, which, in theory, can be eliminated through

special training of specialists and their accountability for mistakes, the bias generated by an algorithm is already fixed in the main system of healthcare service delivery. This is especially problematic, as AI systems learn from the already existing information in EMRs, which presupposes the existence of biases in healthcare and the use of such biases in AI systems [13]. The increasing usage of AI tools is expected to worsen the racial inequalities in the healthcare sector, especially among marginalized patients without stable housing. To this end, there is insufficient empirical evidence that studies the impact of healthcare technologies on patients with intersectional statuses. Thus, this is a pressing modern issue given the widespread emergence of new innovative instruments in the clinical environment.

HEALTHCARE BARRIERS FOR UNHOUSED POPULATIONS

Parallel to the systemic biases found in medical documentation, unhoused populations face compounded, stigma-driven barriers to accessing healthcare. With a record-high of approximately 771,480 individuals experiencing homelessness in the United States in 2024, understanding these systemic failures is critical [12]. A 2025 study mapping the "Communicative Architecture of Stigma" identifies seven foundational biases against homeless individuals, including assumptions regarding substance addiction, individual failure, and a perceived lack of human qualities [3]. Consequently, this extreme stigmatization results in severe healthcare avoidance. A 2019 qualitative study found that unhoused patients experience the healthcare system as shaming, inflexible, and inherently designed for a middle-class population, leading directly to the abandonment of care [9]. Logistical and safety barriers further exacerbate this issue; a 2015 study noted that unhoused individuals struggle to register with general practitioners without a fixed address and often feel threatened or at risk of violence in medical settings [10]. While these qualitative reviews provide deep insight into the patient experience, their methodologies have limitations in generalizability. The 2019 study originally gathered its data strictly within a palliative care context, which may not accurately reflect routine, preventative healthcare interactions. Similarly, the 2015 study's sample inherently omits the perspectives of unhoused individuals who completely avoid the healthcare system or do not know how to engage with it. Despite these representational gaps, the literature cohesively illustrates that a systemic lack of compassion and structural rigidity actively forces unhoused individuals to deprioritize their health.

THE INTERSECTION BETWEEN HER BIAS AND HOMELESSNESS

While current literature robustly addresses EHR racial bias and healthcare stigma against unhoused individuals independently, there is a

distinct lack of research analyzing the intersectionality of these two vulnerabilities. Demographic data from a 2020 study highlights that minority populations are disproportionately affected by homelessness, showing that 1 in 6 non-Hispanic Black individuals and 1 in 12 Hispanic individuals experience homelessness in their lifetime, compared to just 1 in 20 non-Hispanic White individuals [4]. Despite knowing that Black patients suffer from credibility-undermining EHR language and that unhoused patients experience care-altering stigma, the current body of research fails to examine whether Black or Hispanic unhoused patients are disproportionately exposed to stigmatizing chart language compared to White unhoused patients.

One underexplored dimension of this intersection is the role that repeated stigmatizing encounters play in shaping long-term patient behavior beyond the clinical setting. When patients, especially those in housing crises or those belonging to a racial minority, receive treatment documents and care frequently denoting them as “low credibility,” they develop distrust towards the health system [5, 9]. This distrust is not confined to one specific doctor-patient relationship but rather accumulates in a person’s experience over time. This pattern of compounding distrust is especially significant for unhoused Black and Hispanic patients, who face overlapping structural vulnerabilities that make re-engagement with healthcare particularly difficult once trust has been broken [4]. Nevertheless, the existing research has mostly focused on whether patients use healthcare services rather than how stigmatizing documentation influences their decision-making process. Further research should not limit itself to the specific doctor-patient interaction but should analyze the relationship between records with biased content and patient behavior patterns with respect to the healthcare system [1].

Furthermore, a major weakness across the current literature is the omission of long-term patient behavioral metrics. While researchers have successfully measured how stigmatizing language alters a physician's attitude or prescribing habits, they have not thoroughly measured how this language impacts the long-term healthcare utilization of unhoused patients, such as missed appointments, emergency department dependence, continuity of care, and vaccination rates. This represents a vital gap in the literature. By designing intersectional studies that connect EHR language to concrete utilization metrics, researchers can move beyond merely identifying stigma to quantifying its systemic harm. Ultimately, addressing this gap is necessary to develop trauma-informed communication styles and person-first language frameworks that can rebuild trust and ensure equitable care for the most marginalized patient populations.

CONCLUSION

Ultimately, this literature review reveals a consistent pattern in which language recorded within clinical documentation is an active mechanism through which bias is transmitted and reinforced. With the rise of AI and automated technologies, we can expect this issue to be exacerbated even further. Studies on racial bias in EHRs and studies on stigma toward unhoused populations, describe similar downstream effects: erosion of trust, altered clinical decision-making, and avoidance or abandonment of care, all which have real health impacts. While no study directly investigates whether unhoused Black or Hispanic patients experience compounded documentation bias relative to unhoused White patients nor whether stigmatizing language measurably predicts long-term disengagement from care among unhoused individuals specifically, this literature review may serve as a starting point. Future research should adopt an intersectional approach to examine race, ethnicity, and housing status simultaneously within clinical documentation to determine whether biased language compounds across overlapping identities. This research will inform interventions capable of producing more equitable, person-centered clinical communication.

HEALTH EQUITY IMPLICATIONS

Addressing the gap explored in this literature review is necessary to develop trauma-informed communication styles and person-first language frameworks that can rebuild trust and ensure equitable care for the most marginalized patient populations. This research will inform interventions capable of producing more equitable, person-centered clinical communication, and speaks directly to practitioners, health systems, and policymakers seeking to reduce documentation-driven disparities for unhoused patients of color.

STATEMENTS AND DECLARATIONS

Ethics Approval. Not applicable — this manuscript is a literature review and did not involve the collection of primary human subjects' data.

Consent to Participate. Not applicable.

Consent for Publication. Not applicable — no individually identifying data are included.

Declaration of Conflicting Interests. The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Data Availability. Not applicable — this literature review did not generate new primary

data. All sources synthesized are publicly available and cited in the References section.

AI Use Disclosure. No generative AI tools were used in the preparation of this manuscript.

Author Contributions. All authors contributed to conceptualization and initial research on the topic. N.B. and M.L. supervised the project, provided guidance, and reviewed all drafts. N.B., C.M., L.S., S.S., and N.U. contributed to manuscript drafting.

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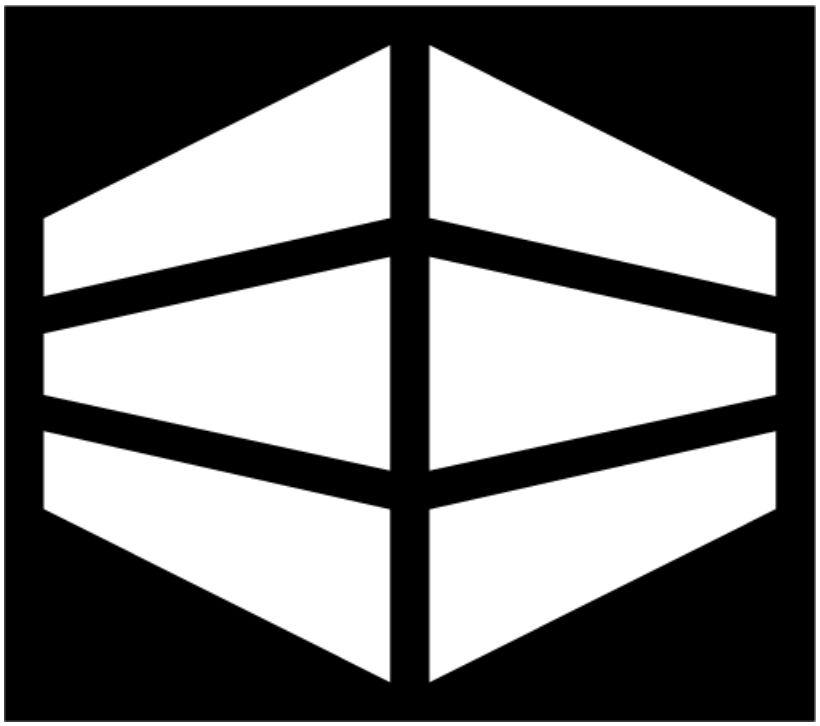

BACK MATTER

ABOUT VOX EQUITY

Mission

VOX Equity exists to cultivate student-driven health equity research that aims to serve communities through research and provide the chance for passionate individuals to engage in creating that research. We connect undergraduate and emerging researchers with experienced faculty principal investigators who give them the mentorship, structure, and support to go from curious student to published scholar. Every project we complete feeds directly into the community-facing work of Voices of Equity, turning academic insight into on-the-ground change.

Vision

A research ecosystem where no motivated student is shut out by lack of access and where undergraduates sit at the table alongside faculty, produce work that matters, and build careers rooted in equity.

How We Work

Each cohort brings together student researchers, team leads, and faculty principal investigators into research teams focused on a specific area of health equity. Over the course of an academic term, teams move from research question to methodology to data collection and analysis, culminating in a manuscript published in this journal.

Every VOX Equity Journal article is guaranteed publication upon meeting our submission standards. This is not a competitive peer-review venue; it is a rigorous, mentored, mission-driven space designed to ensure every student researcher finishes their cohort with a citable, publicly accessible scholarly output.

BACK MATTER

SUBMISSION GUIDELINES

The VOX Equity Journal accepts submissions from current VOX Equity Cohorts.

Who May Submit

- Current VOX cohort research teams (end-of-cohort manuscript)
- Invited contributors for Editorials and Book/Media Reviews

Review Process

The VOX Journal operates a mentored editorial review, not a competitive peer review. Editorial staff review for scope and formatting, the PI confirms scholarly standard, and revisions are made in collaboration with the editorial team. Manuscripts submitted at the close of a cohort are typically published within 1-4 weeks after a cohort has finished.

For more information about VOX, see voxthinktank.org or email jrq6@cornell.edu for more information.

BACK MATTER

CONTRIBUTOR DIRECTORY

A brief biography of each contributor to this issue.

Dr. Charles Senteio
Rutgers University

Dr. Senteio's work uses health informatics and mixed methods to study how information and technology shape health outcomes and inequities — especially among racial and underserved populations. His research includes studies on racial inequities in chronic disease care, access to health information, and community-based health communication interventions.

Dr. Michelle Chen
Rutgers University

Dr. Chen is a clinical neuropsychologist whose research centers on digital health and wearable sensor technologies for assessing neurological and cognitive symptoms, including fatigue, post-COVID conditions, and early markers of cognitive decline. Her work emphasizes remote, scalable assessment tools with a focus on improving representation and access in neurological research, particularly in aging and Alzheimer's disease studies.

On behalf of the VOX Equity National Team and Voices of Equity National Team, we would like to thank Dr. Chen and Dr. Senteio for their efforts this Summer in helping mentor and guide the first VOX Cohort.

--VOX Think Tank and Voices of Equity

THE THINK TANK OF VOICES OF EQUITY

Building awareness, inspiring change.

VOX Equity is a student-led research and policy think tank advancing community-centered scholarship in health equity, public health access, and systems-level change.

Get Involved

- **Join a cohort —** applications open August 1st 2026 through September 4th 2026 for the Fall 2026 Cohort. Future cohorts are available online.
- **Partner with VOX —** propose a project or community collaboration