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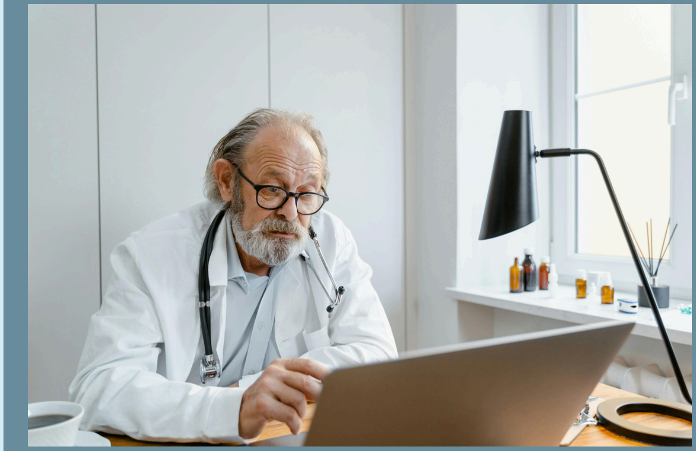
Racial Bias of Electronic Health Records

Electronic health records (EHRs) are often viewed as objective repositories of clinical information, yet emerging research suggests they can also serve as subtle pathways through which bias enters medical care. Racial inequities in healthcare have long been linked to both structural and interpersonal racism, contributing to disparities in access to care and the quality of treatment received by marginalized communities in the United States. Increasingly, scholars are examining how the language used in medical documentation may perpetuate these inequities. Although clinical notes are intended to provide neutral descriptions of a patient's condition, research shows that bias can appear through word choice and framing. For example, studies have found that Black patients are more frequently quoted in medical records when clinicians describe their symptoms or health concerns. The use of quotation marks can imply skepticism toward a patient's self-reported experience. Similarly, labels such as "difficult" or "noncompliant" may subtly signal doubt about the legitimacy of a patient's symptoms or behaviors. Because EHR systems allow providers to easily copy and carry forward prior notes, these characterizations may follow patients across multiple encounters. Future clinicians who review the chart may unconsciously adopt these impressions, which can influence diagnostic reasoning, treatment decisions, and overall patient care. In this way, biased documentation can quietly reinforce disparities that already exist within the healthcare system. As patients increasingly gain access to their own medical records, stigmatizing language may also damage trust within the patient-provider relationship. Addressing bias in clinical documentation is, therefore, an important step toward advancing ethical, equitable, and patient-centered care.

EHRs perpetuate racial bias through multiple factors: the implicit bias of their designers becomes encoded in the system, biased clinical documentation that essentially stigmatizes minority patients, and algorithms trained on biased data, strengthening these existing disparities. EHRs create a cyclical relationship where bias becomes embedded and amplified over time. The implicit bias of both EHR developers and users on the clinical end influences platform design and the information captured within it. Thereby leading to biased information that affects the clinical outcomes, especially in minority patient populations. These clinical biases are manifested in stigmatizing language, algorithmic bias, and structural factors.

According to research published in the Health Affairs volume 41, stigmatizing language represents a critical manifestation of bias. Black patients have at least 2.54 times the odds of having negative descriptors (such as "resistant" or "noncompliant") documented in their medical records as compared to White patients; this was present even after controlling for sociodemographic and health characteristics. Furthermore, algorithmic bias is embedded in the EHR-based clinical decision framework, requiring higher thresholds for minorities to qualify for management programs compared to their White counterparts. Finally, structural factors compound these issues. Oftentimes, EHRs fail to completely capture social determinants of health, fail to represent vulnerable populations with limited healthcare access, and experience variable data quality across the various minority populations. To address these factors, practical interventions must be streamlined across the algorithm parameters that include but are not limited to diverse developmental teams, community engagement, and accountability mechanisms for equity outcomes.



Structural racism is the way in which racial discrimination is pervasive and fostered within societal policies, practices, laws, and systems. It is an intangible concept that creates real damage, especially within healthcare. Structural racism further exacerbates racial inequity. It permeates throughout society, affecting not only the care of patients but also healthcare documentation with EHRs. Electronic health records are used to maintain factual documentation of a patient's medical treatments and events, as recorded by healthcare providers. Stigmatizing terminology such as “noncompliant”, “addict”, “refuses”, puts the blame entirely onto the patient, often ignoring other systemic factors, including but not limited to financial capabilities, health literacy, and healthcare access within the patient’s life that affect or hinder the patient’s willingness to care. This stigmatizing language remains with the patient throughout their lifetime, impacting future care. Through this stigmatizing language, healthcare provider bias is further perpetuated. This language neglects the structural racism that affects the patient’s ability to seek and receive care. Awareness of our biases as healthcare providers is a crucial step that we must take to ensure that our patients are being accurately represented within EHR in order for them to receive the appropriate care in the present and in their futures.

Electronic health record documentation directly affects patient-physician relationships. Language that ventures from descriptive to judgmental can lead to unintentional bias affecting treatment care decisions. Not only can negatively written clinical notes be accessed by patients, leading to mistrust of providers, but they can also alter the perception of a patient under the care of multiple providers. For example, providers must avoid using insinuating labels such as “noncompliant” when documenting a patient's history of not taking medications. Instead, they should first inquire if the patient faces any potential barriers to taking their medication, such as difficulties with the medication cost, transportation to the pharmacy, availability of medication, or understanding of the proper mode of medication delivery. After patient encounters, it is critical for clinicians to review their documentation of the visit, as they have the duty to uphold the patient's integrity. Providers must reflect on their documentation being objective, acknowledging barriers to care, and refraining from any assumptions. Beyond the individual level, providers in academic settings have the ability to equip trainees with skills to improve clinical documentation. One such way is through hosting implicit bias training that includes opportunities to practice writing patient notes following case-based scenarios and receiving peer-to-peer feedback.

Reflection Questions

- How might the language we choose in clinical documentation influence the perceptions, decisions, and biases of future providers who care for the same patient?
- What are some ways in which structural racism can affect a patient's electronic health records, and how can healthcare providers and institutions alleviate this healthcare inequity?
- What specific steps could providers take to ensure that their documentation avoids stigmatizing descriptors while still accurately capturing clinically relevant information?
- What role does reflective review of clinical documentation play in reducing implicit bias and promoting more equitable, compassionate patient care?

Helpful Links

- CDC | Tips For Stigma-Free Communication About Mental Health
- AAFP | Implicit Bias Resources
- NIH | How to Reduce Stigma and Bias in Clinical Communication: a Narrative Review
- Center for Health Care Strategies | Words Matter: Strategies to Reduce Bias in Electronic Health Records

Reference Questions

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