BACKGROUND: The COVID-19 pandemic led to significant disruptions in healthcare and rapid increases in virtual healthcare delivery. The full effects of these shifts remain unknown. Understanding effects of these disruptions is particularly relevant for patients with chronic pain, which typically requires consistent engagement in treatment to maximize benefit, and for Black patients, given documented racial disparities in pain treatment and telehealth delivery.

OBJECTIVE: To understand how Black patients with chronic pain experienced pandemic-related changes in healthcare delivery.

DESIGN: In-depth, semi-structured qualitative interviews

PARTICIPANTS: Black veterans with chronic pain.

KEY RESULTS: Participants described decreased ability to self-manage their chronic pain, obtain nonpharmacological services such as physical therapy, see their primary care providers, and schedule surgery. Most did not believe telehealth met their needs, describing feeling inadequately assessed for their pain and noting that beyond renewing prescriptions, telehealth visits were not that useful. Some believed their communication with their providers suffered from a lack of in-person contact. Others, however, were willing to accept this tradeoff to prevent possible exposure to COVID-19, and some appreciated the convenience of being able to access healthcare from home.

CONCLUSIONS: Black patients with chronic pain described mostly negative effects from the shift to telecare after the pandemic’s onset. Given existing disparities and likely persistence of virtual care, research on the longer-term effects of virtual pain care for Black patients is needed.

KEY WORDS: chronic pain; healthcare disparities; telehealth; COVID-19.
been well-documented in chronic pain treatment.\textsuperscript{8–10} Some evidence suggests that the rapid shift to telehealth during the pandemic may have exacerbated existing healthcare disparities.\textsuperscript{11} Conversely, these changes may have been beneficial for those who experienced barriers to accessing in-person care. Given existing disparities in pain care and telehealth, coupled with the swiftly changing landscape of healthcare delivery since spring of 2020, it is imperative to understand how minoritized groups have experienced these changes—and whether the shift to virtual delivery provided benefits or presented challenges for minoritized patients with chronic pain. The purpose of the current study is to understand qualitatively how Black patients with chronic pain experienced the effects of the COVID-19 pandemic on healthcare access and delivery.

METHODS

Participants. Study participants were Black veterans with chronic pain who received care from VA primary care clinics and completed the COOPERATE study, a randomized controlled trial of an intervention focused on communication and patient activation for Black patients with chronic pain. Details of this study are published elsewhere.\textsuperscript{12} To be eligible to participate in COOPERATE, patients had to identify as Black or African American and have musculoskeletal pain in the low back, cervical spine, or extremities (hip, knee, shoulder) for at least 3 months. Only those who had completed the COOPERATE study at the time of recruitment ($n=110$) were eligible for participation, to avoid any influence of this sub-study on the parent study. Potential participants in this sub-study were mailed letters inviting them to participate, followed by a phone call from the project coordinator. During this phone call, we shared our interest in learning about the experiences of Black veterans during COVID-19. Recruitment continued until saturation was reached (i.e., sampling to the point of redundancy in the data).\textsuperscript{15}

Qualitative Interviews. Interviews took place from October 2020 through January 2021 and were conducted one-on-one, via telephone, in observance of COVID safety protocols. The interview first asked broadly how participants were affected by the pandemic, with additional questions probing into specific effects, including effects on their health and healthcare, economic effects, social effects, and mental health. Interviews lasted from 45 min to an hour and were audio-recorded, transcribed, and de-identified for analysis. Participants were compensated with a $30 gift card for their time.

Data Analysis. The qualitative analysis team was led by the first author and comprised of three experienced qualitative researchers. Guided by the constant comparison method, analysis took place in two phases: open coding and focused coding.\textsuperscript{13} In the open coding phase, analysts read transcripts for a broad understanding of the data, labelling each line with initial codes that reflected meanings or themes emerging from participants’ words. As each transcript was read, analysts continued to identify codes, combining, adding, and eliminating codes until the code list was stable and consistent and all analysts agreed on the final set of codes. Then, for focused coding, analysts applied these codes to all transcripts, discussing and resolving discrepancies by consensus. To maximize qualitative rigor and validity, analysts employed procedures such as reflexivity (i.e., awareness of potential biases, questioning interpretations), depth of description (i.e., staying grounded in the rich, descriptive details of participants’ own experiences), and searching for negative cases that might contradict interpretations of the data.\textsuperscript{13–16}

RESULTS

Twenty-four COOPERATE completers were approached, and 21 consented to be interviewed. Reasons for refusal included not enough time, not interested, and the gift card amount was too low.

Participants described at length the effects of the pandemic on their ability to obtain healthcare once services became limited, including access to care and their experiences with telehealth—both positive and negative. In addition, participants discussed the pandemic’s effects on their mental health and social support. Because of the richness and complexity of the responses related to mental health and social support, those qualitative results are reported in depth elsewhere.\textsuperscript{17} Here, we focus on participants’ experiences with healthcare access and telehealth. Demographics for the interview sample are provided in Table 1. Overall, study participants ranged in age from 36 to 78 years ($M=62.6, SD=8.9$). Almost 86% were male. A third were employed full-time, and almost half were retired. Over half had at least some college education.

Obtaining Healthcare During the Pandemic

Participants spoke extensively about the effects of the pandemic on their healthcare, including their ability to manage their chronic pain. In addition to describing disruptions in care and how they coped, participants also presented detailed accounts of their experiences of telehealth.

Access to Healthcare. Patients described changes in their access to healthcare, including primary care and specialized pain care, after the onset of the pandemic. In some cases, these changes were voluntary, because patients did not want to risk exposure to COVID-19 by going into a healthcare setting. For example, one patient needed hip surgery, but was delaying it because of the pandemic: “It’s just something I don’t want to do in the midst of the pandemic. I want to put everything off as
Table 1: Interview Participant Demographics (n=21)

| Demographic          | Mean (SD) or % (n) |
|----------------------|--------------------|
| **Mean age (SD)**    | 63 (8.9), range: 36–78 |
| Male                 | 86 (18)            |
| Hispanic             | 5 (1)              |
| **Marital status**   |                    |
| Married              | 38 (8)             |
| Divorced             | 38 (8)             |
| Separated            | 5 (1)              |
| Never married        | 14 (3)             |
| Member of unmarried couple | 5 (1) |
| **Employment**       |                    |
| Employed full-time   | 33 (7)             |
| Employed part-time   | 5 (1)              |
| Retired (n)          | 48 (10)            |
| Unable to work for health or disability reasons | 14 (3) |
| **Income**           |                    |
| Comfortable          | 52 (11)            |
| Just enough to make ends meet | 38 (8) |
| Not enough to make ends meet | 10 (2) |
| **Education**        |                    |
| Some high school     | 10 (2)             |
| High school or GED   | 29 (6)             |
| Technical trade or business school | 5 (1) |
| Two-year college degree or some college | 14 (3) |
| Four-year college degree | 33 (7) |
| Post graduate degree | 10 (2)             |

long as possible...so I’ve elected to do the steroid shots until I feel comfortable enough to get the hip replacement...I don’t feel comfortable going into the hospital right now...and so I just tolerate the pain as best I can.” (Participant 6).

Another patient described her need to be seen by her primary care provider for “extreme inflammation” in her knees. Her medical team told her “unless it’s life-threatening, don’t go to the emergency room. Then I was thinking to myself, well, who the heck wants to go there anyway, [with] all these sick people.” When she was finally able to see her doctor about a month later, she described feeling rushed: “I feel like, even though I went in to see him twice, he was rushing me in and rushing me out. Because they don’t want you there any longer than you need to be.” (P2)

Many more patients described interruptions in care that were the result of cancellations and closures beyond their control. Patients described the abrupt cessation of regular visits to chiropractors, physical therapists, and services at the interdisciplinary pain clinic. One patient, who described his knee pain as “a steady nine or ten,” (on a scale of 0–10, with 10 being most intense) said, “I was getting injections, physical therapy, chiropractor visits, things of that nature, and once the pandemic hit, all that went away,” which he described as “extremely frustrating.” In terms of scheduling an appointment with his primary care provider for his pain, he noted, “This is not life-threatening, so I’ve not been able to get any appointments.” (P20).

A patient who had been receiving healthcare in the interdisciplinary pain clinic shared that, as a result of pandemic-related closures, “I literally don’t have any access to healthcare...you almost have to have an emergency...if you don’t have the virus and don’t have an emergency sickness, then you just don’t get any service.” He went on to describe the effects of these disruptions on his ability to self-manage his pain, saying “it made it kind of hard to manage it, because it’s hard to manage it on your own.” These disruptions to his pain care led this patient to express a reduced sense of trust in the healthcare system, saying that “six months to a year, you’ve basically been out here on your own, just hoping that you didn’t get sick.” (P15). Another patient with diabetes as well as chronic knee pain echoed this sentiment, saying about his pain care during the pandemic, “It’s not considered a priority, I guess.” (P20).

In addition to disruptions in primary care and specialty pain care, patients experienced interruptions in regular diabetes checks, prescription medications, and services such as mental health visits, including group therapy.

Experiences with Telehealth. During the time when services were shut down, the VA medical center offered visits via telephone and video. These visits were met with mixed assessments by participants, although the majority of patients disliked these formats. Many indicated that phone and video visits were inadequate to handle complaints related to their pain. For example, one patient said, “My back went out. It was hard for me to walk, and I just got a phone call...It’s really not anything that talking on the phone would be able to handle right now. [So] they sent me a bunch of Tylenol, which doesn’t manage the pain at all...and a topical cream that works for maybe thirty to forty minutes, and then back to the pain.” (P1).

A common sentiment, especially about phone visits, was that patients felt inadequately evaluated and assessed without physical contact or even a visual image (for phone visits). The following patient expressed this common concern:

I need to show you where it hurts...You need to be able to touch that area and, you know, if it’s hard or if it’s soft. Does it hurt here, or where does it hurt?...It’s the contact...you can’t describe it. You know, L5, lower lumbar, the doctor needs to press back there...I don’t understand examination over the phone. The verbal examination doesn’t do the patient much good. And then their recommendation: Well, take another pill. (P8).

Another patient took this idea farther, comparing a phone visit to calling a mechanic about a car:

With the in-person visit, there’s some things that you have to look at. You have to look into the person’s eyes, you have to take their temperature, you have to take their blood pressure. You can explain, hey, I got this bruise here...[and] they can physically look at it. But over the phone, it’s hard. It’s like a car, you know. Say I got a car here and I’m telling the mechanic, hey,
well this, you know. He is going to say bring it in. You got to bring the car in. I can’t explain to him what’s going on with the car over the phone, but if I bring it in and point this out and he checks this and checks that, then he might come up with the right diagnosis. (P13).

One patient said simply, “Renewing prescriptions [is] pretty much all you can accomplish over the phone” (P16).

Even with video visits, patients pointed out problems. One patient complained, “They’re asking me to examine my own self, you know, and the only thing that I can do is tell you where I hurt and where I feel pain, but I’m not a trained doctor. And these video [visits], they’re basically asking us to examine ourselves, and I feel like I may be falling short. (P15).

Some patients missed the in-person interactions and communication with their healthcare providers. One shared, “I like to go in and smile at my doctor and look her in the eye, because we have a nice communication together.” (P17). Another lamented that, “I just don’t want to up my medicine doses. I actually want to talk to someone. Before [the pandemic] we actually sat down and talked and wrote a plan out…But now it’s like a quick two-minute phone call.” (P1).

Patients were not universally critical of phone or video visits. Some acknowledged the difficult tradeoff between thoroughness and safety. The following patient, while acknowledging the limitations of not having weight and blood pressure checked and not having physical contact with the doctor, said, “I have to look at both sides of the coin. I would hate to…have an in-person visit [because] I would have to expose myself [to COVID-19].” (P6).

Although not as common, some patients recognized positive aspects to a virtual format. One patient told us that, even without in-person visits, “I know if I really need something, I’ll be taken care of.” He said that his experience with video visits were productive, and even said, “They’ve been kind of fun.” He went on to say, “I like the convenience. I can just do it from home.” (P3).

**DISCUSSION**

Study participants described numerous disruptions in their healthcare as a result of the COVID-19 pandemic, as well as impacts of these disruptions, including perceived effects on the ability to self-manage their chronic pain, see their primary care providers, obtain nonpharmacological services such as physical therapy and chiropractic care, and schedule surgery. These difficulties in access to healthcare may be especially problematic for patients with chronic pain, given that care for chronic pain typically requires consistent engagement in treatment to maximize benefit. In addition, patients sometimes spoke more broadly about healthcare, beyond pain care, indicating that they felt as if they were on their own, unable to obtain care unless they had an emergency.

Participants described their experiences with telehealth in the midst of the VA’s rapid shift toward this modality at the onset of the pandemic. Most of those participating in the qualitative interviews did not believe telehealth met their needs, describing feeling inadequately assessed for their pain complaints and noting that beyond renewing prescriptions, telehealth visits were not that useful. Some believed their communication with their providers suffered from a lack of in-person contact. Others, however, were willing to accept this tradeoff in order to prevent them from potential exposure to COVID-19, and some appreciated the convenience of being able to access healthcare from home.

The negative experiences described by participants in the current study contrast with studies conducted prior to the pandemic, which found generally positive experiences, as well as outcomes, associated with telehealth. A 2017 systematic review focusing on patient satisfaction with telehealth found that telehealth use was associated with a number of positive attributes, including improved outcomes, better communication, ease of use, decreased wait times, and increased medication adherence. Similarly, a 2019 systematic review released by the Agency for Healthcare Research and Quality generally found telehealth to be associated with improved or comparable outcomes relative to in-person consultations in a variety of inpatient and outpatient settings, as well as with improved access to care, although in some cases there was insufficient evidence to draw conclusions. However, these studies were not focused specifically on patients with chronic pain or minority patients and likely involved patients and providers who voluntarily engaged in telehealth. In contrast, the pandemic led to suspension of most in-person services, forcing patients and healthcare providers to shift to telehealth, even if they had no prior experience or preferred in-person visits.

Patients with chronic pain, especially those receiving nonpharmacological treatments, may face unique challenges in a telehealth environment. As some study participants noted, the inability of a healthcare provider to perform a physical examination may inhibit pain assessment. Adding to these challenges, there has been an increased emphasis on multimodal pain care, which includes behavioral and nonpharmacologic approaches in addition to medication. Although medication can usually be prescribed virtually, and there is some evidence that psychotherapy and behavioral interventions can be effective when delivered virtually, certain pain care modalities (e.g., acupuncture, chiropractic, physical therapy) that use more “hands-on” approaches may be challenging to deliver in a virtual environment. Thus, patients receiving these types of services might be more likely to experience challenges managing their pain if these services are disrupted.

Adding to these challenges is the decrement in patient-provider communication discussed by some participants. Communication about chronic pain has been described as difficult for both patients and providers and both have pointed to the critical role of the patient-provider relationship, including rapport, trust, and effective communication, as
integral to chronic pain care. Given its centrality in chronic pain care, any negative effects on communication have the potential to reduce the quality of pain care for patients.

Finally, it is important to note that all participants in the current study were Black veterans, which is especially relevant because racial disparities have been documented in pain care, patient-provider communication, and receipt of telehealth care. Despite ongoing efforts, minoritized groups, particularly Black patients, continue to experience greater pain severity, worse pain outcomes, and inadequate pain treatment. Racialized disparities in communication compound these disadvantages. Black patients report poorer quality communication with healthcare providers; they receive less health information and show reluctance to share health concerns and articulate their opinions and treatment preferences. Some have suggested that the rapid shift to telehealth during the pandemic may have exacerbated existing disparities. A study conducted early in the pandemic found that telehealth was less often used by those of non-White race, as well as those in rural areas. In addition, Black patients were more likely to have phone-only visits, versus video visits. Similarly, an analysis in the VA found that Black veterans had decreased likelihood of using video care in the VA during the pandemic, although the decrease was not considered clinically significant. And a study of over 360,000 patients found that minoritized patients had decreased odds of having completed telehealth visits. All of these disparities suggest that Black patients with chronic pain, who are the focus of this study, may be disproportionately affected by the substantial shift to telehealth that took place at the pandemic’s onset.

This study is limited in that interviews were conducted during the first 10 months of the onset of the pandemic. Although it is important to document and understand patients’ experiences during this period, subsequent work should focus on longer-term effects from the pandemic and the shift to telehealth for Black patients with chronic pain, to facilitate a more complete understanding of these effects over time. In addition, this study focused on veterans receiving care through the VA, which issued a VA-wide directive early in the pandemic to move most outpatient care to virtual formats and which, in many ways, was uniquely poised to offer virtual care on a large scale. Patients receiving care in the community may have had different experiences. It is also worth noting that we did not include a comparison group of White patients in this study. This approach was intentional and is responsive to recent calls for anti-racism research, which argue that comparing groups has limited value, effective for highlighting where differences exist, but falling short of enhancing our understanding of why and how differences emerge and shape the experiences of Black individuals with pain.

In contrast, centering the voices of racialized individuals living with pain serves to focus attention on the experiences and needs of these individuals and, as such, has the potential to move anti-racism efforts forward—ultimately helping to facilitate “more effective and relevant pain interventions for racialized groups.”

The COVID-19 pandemic led to extraordinary shifts in the way in which care is provided. Although much healthcare has since returned to in-person services, “the virtual care-into-the-home revolution has only started.” As such, it is crucial to understand differential effects of these shifts. Such an understanding can facilitate future optimization of telehealth services, including which diagnoses and treatments are most amendable to telehealth, how best to balance virtual and in-person care, and ensuring that all patients receive equitable care.

Corresponding Author: Marianne S. Matthias, Ph.D.; Department of Medicine, Indiana University School of Medicine, Indianapolis, IN, USA (e-mail: mmatthia@iu.edu).

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11606-022-07884-9.

Funding This work was supported by a Department of Veterans Affairs Health Services Research and Development Merit Review Award to Dr. Matthias (IR1 17-032) and by a COVID-specific supplement to this award. Dr. Eliacin’s effort was supported by a Department of Veterans Affairs Health Services and Development Career Development Award (CDA 16-153). The sponsor had no role in study design; in the collection, analysis, and interpretation of data; in the writing of the report; or in the decision to submit the article for publication. The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

Declarations:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

REFERENCES

1. Center for Medicare and Medicaid Services. Trump administration finalizes permanent expansion of Medicare telehealth services and improved payment for time doctors spend with patients. Updated December 1, 2020. Accessed October 4, 2021. https://www.cms.gov/newsroom/press-releases/trump-administration-finalizes-permanent-expansion-medicare-telehealth-services-and-improved-payment

2. COVID-19 Response Plan: Incident-Specific Annex to the VHA High Consequence Infection (HCI) Base plan (2020). Accessed June 22, 2022. https://www.va.gov/opas/docs/VHA_COVID_19_03232020_vF_1.pdf

3. Heyworth L, Kirsh S, Zulman D, Ferguson JM, Kizer KW. Expanding access through virtual care: the VA’s early experience with Covid-19. NEJM Catalyst. 2020: https://doi.org/10.1056/CAT.20.0327

4. Ferguson JM, Jacobs J, Yefimova M, Greene L, Heyworth L, Zulman DM. Virtual care expansion in the Veterans Health Administration during the COVID-19 pandemic: clinical services and patient characteristics associated with utilization. J Am Med Inform Assoc. 2021;28(3):453-62.

5. Kerns RD, Krebs EE, Atkins D. Making integrated multimodal pain care a reality: a path forward. J Gen Int Med. 2018;33:1-3.

6. Newman S, Steed L, Mulligan K. Self-management interventions for chronic illness. The Lancet. 2004 2004;364(9444):1523-1537. Not in File. https://doi.org/10.1016/S0140-6736(04)17277-2

7. Elgiger B, Daiz MJ, Bancherla R, et al. Clinical policy recommendations from the VHA State-of-the-Art Conference on Non-Pharmacological
Approaches to Chronic Musculoskeletal Pain. J Gen Int Med. 2018;33:516-523.
8. Green C. Disparities in pain management and palliative care. In: Moore KJ, ed. Handbook of Pain and Palliative Care. Springer; 2013:795-806:chap 41.
9. Hausmann LR, Gao S, Lee ES, Kwoh CK. Racial disparities in the monitoring of patients on chronic opioid therapy. Pain. 2013;154:46-52.
10. Meghani SH, Byun E, Gallagher RM. Time to take stock: a meta-analysis and systematic review of analgesic treatment disparities for pain in the United States. Pain Med. 2012;13:150-74.
11. Gmunder KN, Ruiz JW, Franceschi D, Suarez MM. Demographics associated with US healthcare disparities are exacerbated by the telemedicine surge during the COVID-19 pandemic. J Telemed Telecare. 2021;23 https://doi.org/10.1177/1357633X21102959
12. Matthias MS, Adams J, Burgess DJ, et al. Communication and activation in pain to enhance relationships and treat pain with equity (COOPERATE): rationale, study design, methods, and sample characteristics. Contempo Clin Trials. 2022;118:106790. https://doi.org/10.1016/j.cct.2022.106790
13. Charmaz K. Constructing grounded theory: a practical guide through qualitative analysis. Sage; 2006.
14. Borkan J. Immersion/crystallization. In: Crabtree BF, Miller WL, eds. Doing Qualitative Res. Sage; 1999:179-194:chap 10.
15. Davies D, Dodd J. Qualitative research and the question of rigor. Qualitative Health Res. 2002;12:279-289.
16. Denzin NK, Lincoln YS. Introduction: the discipline and practice of qualitative research. In: Denzin NK, Lincoln YS, eds. Strategies of qualitative inquiry. 2 ed. Sage; 2003:1-45:chap 1.
17. Matthias MS, Adams J, Burgess DJ, et al. Effects of the COVID-19 pandemic on Black veterans’ mental health: a qualitative investigation. J Health Care Poor Undererved. 2022;33:1275-90.
18. Kruise CS, Krowski N, Rodriguez B, Tran L, Vela J, Brooks M. Telehealth and patient satisfaction: a systematic review and narrative analysis. BMJ Open. 2017;7:e016242. https://doi.org/10.1136/bmjopen-2017-016242
19. Totten AM, Hansen RN, Wagner J, et al. Telehealth for acute and chronic care consultations. Agency for Healthcare Research and Quality; 2019. https://www.ncbi.nlm.nih.gov/books/NBK547239/
20. Slattery BW, Haugh S, O’Connor L, et al. An evaluation of the effectiveness of the modalities used to deliver electronic health interventions for chronic pain: systematic review with network meta-analysis. J Med Inter res. 2019;21(7):e11086. https://doi.org/10.2196/11086
21. Fritz JM, Davis AF, Burgess DJ, et al. Pivoting to virtual delivery for managing chronic pain with nonpharmacological treatments: implications for pragmatic research. Pain. 2021;1628:1591-6. https://doi.org/10.1097/j.pain.0000000000002139
22. Matthias MS, Krebs EE, Bergman AA, Coffing JM, Bair MJ. Communicating about opioids for chronic pain: a qualitative study of patient attributes and the influence of the patient-physician relationship. European Journal of Pain. 2014;18:835-43. https://doi.org/10.1002/j.1532-2149.2013.00426.x
23. Matthias MS, Krebs EE, Collins LA, Bergman AA, Coffing JM, Bair MJ. “I’m not abusing or anything”: patient-physician communication about opioid treatment in chronic pain. Patient Educ Couns. 2013;93:107-202. https://doi.org/10.1016/j.pec.2013.06.021.
24. Matthias MS, Parpart A, Nyland KA, et al. The patient-provider relationship in chronic pain care: providers’ perspectives. Pain Med. 2010;11:1688-97.
25. Upshur CC, Bacigalupo G, Luckmann R. “They don’t want anything to do with you”: patient views of primary care management of chronic pain. Pain Med. 2010;11(12):1791-1798.
26. Matthias MS, Johnson N, Shields CG, et al. “I’m not genius pull the rug out from under you”: patient-provider communication about opioid tapering. J Pain. 2017;18(11):1365-73. https://doi.org/10.1016/j.jpain.2017.06.008
27. Perez J, Niburski K, Stoopler M, Ingelmo P. Telehealth and chronic pain management from rapid adaptation to long-term implementation in pain medicine: a narrative review. Pain Rep. 2021;6(1):e912. https://doi.org/10.1097/PIN.0000000000000912
28. Henry SG, Matthias MS. Patient-physician communication about pain: a narrative review and conceptual model. Pain Med. 2018;19(11):2154-65. https://doi.org/10.1097/PJM.0000000000000903
29. Matthias MS, Bair MJ, Nyland KA, et al. Self-management support and communication from nurse care managers compared to primary care physicians: a focus group study of patients with chronic musculoskeletal pain. Pain Manage Nursing. 2010;11(1):26-34.
30. Henry SG, Bell RA, Fenton JJ, Kravitz RL. Goals of chronic pain management: do patients and primary care physicians agree and does it matter? Clin J Pain. 2017;33(11):955-61. https://doi.org/10.1097/AJP.0000000000000488
31. Meints SM, Cortes A, Morales CA, Edwards RR. Racial and ethnic differences in the experience and treatment of noncancer pain. Pain Manage. 2019;9:317-34.
32. Craig KD, Holmes C, Hudspith M, et al. Pain in persons who are marginalized by social conditions. Pain. 2020;161:261-5.
33. Morales ME, Yong RJ. Racial and ethnic disparities in the treatment of chronic pain. Pain Med. 2021;22:75-90.
34. Saha S, Freeman M, Toure J, Tippens KM, Weeks C, Ibrahim SA. Racial and ethnic disparities in the VA health care system: a systematic review. J Gen Intern Med. 2008;23(5):654-71.
35. Woodard LD, Hernandez MT, Lees E, Petersen LA. Racial differences in attitudes regarding cardiovascular disease prevention and treatment: a qualitative study. Patient Educ Couns. 2005;57(2):225-31.
36. Gordon HS, Street RL, Kelly PA, Souchek J, Wray NP. Physician-patient communication following invasive procedures: an analysis of post-angiogram consultations. Soc Sci Med. 2005;61(5):1015-25.
37. Peak ME, Odoms-Young A, Quinn MT, Gorawara-Bhat R, Wilson SC, Chin MH. Race and shared decision-making: perspectives of African Americans with diabetes. Soc Sci Med. 2010;71:1-9.
38. Pierce RP, Stevermer JJ. Disparities in use of telehealth at the onset of the COVID-19 public health emergency. J Telemed Tele. 2020; https://doi.org/10.1177/1357633X20963893
39. Hood AM, Booker Sg, Morris CA, et al. Confronting racism in all forms of pain research: a shared commitment for engagement, diversity, and dissemination. J Pain. 2022;23(9):913-28.
40. Letzen JE, Mathur VA, Janevic MR, et al. Confronting racism in all forms of pain research: reframing study designs. J Pain. 2022;23(6):893-912.
41. Morris CA, Aroke EN, Letzen JE, et al. Confronting racism pain research: a call to action. J Pain. 2022;23(6):878-92.

Publisher’s Note: Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.