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Abstract

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Keywords

SES; socioeconomically disadvantaged; pain disparities; qualitative; decision-making; chronic pain

Cover Page Footnote

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Healthcare providers' perceptions of socioeconomically disadvantaged patients with chronic pain: A qualitative investigation

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ABSTRACT

Socioeconomically disadvantaged individuals are at-risk for chronic pain and disparate care. In this qualitative study, we explored providers' experiences with socioeconomically disadvantaged patients, with a particular focus on providers': (1) perceptions of socioeconomically disadvantaged patients' barriers to pain care, (2) attitudes towards this patient population, and (3) chronic pain decisions for these patients. Individual interviews were conducted with twenty-four healthcare providers. Providers discussed several patient-level access barriers, such as not having health insurance, financial constraints, and scheduling difficulties. Providers believed socioeconomically disadvantaged patients were at-risk to misuse prescription opioids and were less comfortable prescribing opioids to these patients. This investigation found that providers perceived numerous patient-level barriers to pain care, expressed suspicion towards these patients, and considered patients' socioeconomic status when making pain management decisions. Future investigations should examine the extent to which providers' attitudes influence their actual pain management decisions and lead to treatment disparities for this patient population.

Keywords: SES, socioeconomically disadvantaged, pain disparities, qualitative, decision-making, chronic pain

INTRODUCTION

Socioeconomically disadvantaged individuals report more severe pain and disability than individuals of middle or higher socioeconomic status (SES; Institute of Medicine, 2011). One population survey using indicators of SES (i.e., income, education) found that respondents with ≤\$25,000 annual income or who had less than a high school education reported a higher prevalence of disabling pain than respondents with higher income and education levels (Portenoy

et al., 2004). Similar investigations found that individuals living in socioeconomically disadvantaged neighborhoods and who report more financial hardship are more likely to develop pain conditions, report more severe pain, and report more pain interference with daily activities, such as work and sleep (Fuentes et al., 2007; Green & Hart-Johnson, 2012; Rios & Zautra, 2011; Riskowski, 2014; Ulirsch et al., 2014).

Socioeconomically disadvantaged patients face numerous barriers to effective pain care. Two barriers that have received considerable attention in the literature are challenges with accessing healthcare and financial constraints (e.g., paying for treatments and medical appointments; Institute of Medicine, 2011). These barriers to care can lead to more severe and debilitating pain, which in turn can interfere with educational attainment and maintaining employment (Institute of Medicine, 2011). Compounding this problem is evidence that, even when able to access care, socioeconomically disadvantaged patients are at increased risk for having their pain undertreated compared to patients of higher SES (Joynt et al., 2013; Nampiaparampil et al., 2009). These disparities may be due, in part, to providers' biases against socioeconomically disadvantaged patients. A survey of medical residents found that half agreed with the statement that poor individuals abuse the healthcare system, and a quarter agreed that individuals were poor because they lacked the effort to change their situation (Price et al., 1988). In addition, both medical providers and trainees have been shown to implicitly prefer patients of higher SES relative to patients of lower SES (Haider et al., 2014; Haider et al., 2011). Despite these documented biases, it is unknown whether and how such attitudes influence providers' treatment decisions.

The current qualitative study represents an initial step in enhancing our understanding of pain care for socioeconomically disadvantaged patients. Specifically, in this secondary review of data from a study on provider decision-making (see Hollingshead et al., 2014), we examined: (1) providers' perceptions of socioeconomically disadvantaged patients' barriers to pain care, (2) providers' attitudes towards socioeconomically disadvantaged patients with chronic pain, and (3) the reported influence of SES on providers' chronic pain management decisions.

METHODS

Participants

Practicing clinicians, medical residents, and medical students (henceforth collectively referred to as "providers") were included in this investigation. Participants were recruited for the parent investigation by flyers and word of mouth. One-hundred participants completed the parent investigation (see Hirsh et al., 2013). Two to eight weeks after completing the parent investigation, eligible providers received follow-up emails asking them to participate in individual qualitative interviews to discuss the influence of patient characteristics on providers' chronic pain decision-making (see Hollingshead et al., 2014). Because all qualitative interviews were conducted in a single, face-to-face session in a private office on campus, to be eligible for this follow-up study, providers must be located within traveling distance of Indianapolis University – Purdue University Indianapolis. Of the 47 eligible providers, 52% agreed to participate in the qualitative interviews; the remaining 48% either declined to participate or did not respond to the interview request.

Procedures

Participants reported their demographic characteristics (i.e., age, sex, race, ethnicity) and provider-type (e.g., nurse, physician, medical resident, medical student) during the parent investigation.

A semi-structured interview guide with open-ended questions and probes was developed by an interdisciplinary team (clinical psychology doctoral student, clinical psychologist, internal medicine physician, and health communication scientist). Individual interviews were conducted in a private room located on campus. Informed consent was obtained from all individual participants included in this study.

During the interview, providers were asked to discuss how they made treatment decisions for all chronic pain patients, as well as for specific patient populations (e.g., patients of lower and higher SES). We included probes for any differences providers noticed between patients of lower and higher SES regarding their experiences with attending medical appointments and drug diversion. To increase the reliability of the interview data, the same individual (N.A.H., a clinical psychology doctoral student) interviewed all participants. Participants were compensated with a gift card. This study received ethical approval from Indiana University's institutional review board.

Data analysis

Independent *t*-tests and chi-square analyses were used to compare the demographic characteristics and provider-types of participants between this study and the parent investigation.

All interviews were transcribed by a professional transcription service. Transcripts were checked for accuracy, and all identifying information was removed prior to review. For the primary analysis, coding was done through an iterative process with the interdisciplinary team meeting to discuss first impressions, developing a code list, and reviewing every fourth transcript as a group (see Hollingshead et al., 2014). The current analysis included only those data that were coded as "SES" by the team. The SES data were then analyzed using a conventional content analysis approach (Hsieh & Shannon, 2005) in which each transcript was read and memos were used to record first impressions. Through this process, a code list was generated using a combination of new and previously used codes. Codes were then sorted into categories and themes. ATLAS-TI (Atlas-ti Scientific Software Development GmbH, Berlin, Germany) was used to facilitate coding.

RESULTS

Twenty-four participants completed interviews. Three participants were practicing clinicians (2 physicians, 1 registered nurse), 11 were medical residents, and 10 were medical students. Over half of the participants were female ($n=14$). The majority identified as non-Hispanic White ($n=15$), with the remainder identifying as Asian ($n=6$), African American ($n=1$), Hispanic ($n=1$), or Middle-eastern ($n=1$). All participants reported previous clinical experiences with socioeconomically disadvantaged patients. No significant differences emerged between the age [$t(98)=0.67$, $p=0.50$], sex [$\chi^2(1)=1.67$, $p=0.19$], race [$\chi^2(3)=1.63$, $p=0.65$], ethnicity [$\chi^2(1)=0.15$, $p=0.70$], or provider-type [$\chi^2(4)=4.85$, $p=0.30$] of the participants in this study and the parent investigation.

Perceptions of socioeconomically disadvantaged patients' barriers to pain care

All providers discussed barriers that socioeconomically disadvantaged patients face when accessing pain care. The most frequently mentioned barriers were lack of health insurance and

not having a primary care physician. Providers discussed that these barriers often led socioeconomically disadvantaged patients to delay seeking pain care, and resulted in these patients presenting with severe pain at emergency departments.

Providers also mentioned that socioeconomically disadvantaged patients face financial constraints and scheduling difficulties. Particularly for patients without health insurance, providers discussed how these patients may not be able to afford their pain treatments; “[I]f their opioid medicine works fantastically, but it costs too much and their monthly budget is pinched, then that will affect their [treatment] response because they won’t want to do it or they won’t do it as consistently as I would like” (P14). Financial barriers were also perceived to limit patients’ ability to pay for medical appointments and utilize multi-disciplinary treatments, such as physical therapy and diet/exercise recommendations. Providers also discussed barriers to scheduling and attending medical appointments because socioeconomically disadvantaged patients often lack reliable transportation, do not have childcare available, and are often employed in occupations that do not have flexible scheduling or paid sick days:

“There are huge difficulties with transportation. People have to get buses. People don't have their own automobiles. People have jobs that will not accept medical appointments as reasons to leave because they're, you know, shift work or part time. So, it's definitely a lot more difficult for people who are of [lower] socioeconomic status to get where they want to go.” (P19)

Attitudes towards socioeconomically disadvantaged pain patients with chronic pain

Providers expressed negative attitudes towards socioeconomically disadvantaged patients with chronic pain. Providers reported that socioeconomically disadvantaged patients expect a “quick fix” for their pain, which they attributed to patients’ limited education about pain management; “I feel like [socioeconomically disadvantaged patients] just want that magic pill that will fix it now. Whereas higher SES, they’re more educated, they understand the process more, they’re okay more with physical therapy that might not help immediately but maybe six month down the line it’ll help” (P17). Providers also reported that socioeconomically disadvantaged patients tend to be more “demanding” and “needy” than other patients. One provider in particular shared an especially strong negative attitude toward socioeconomically disadvantaged patients: “Indigent populations, they may feel like they’re entitled....And I’ll tell a patient, you know, ‘This is a hospital. This is not a Hilton. I’m not your butler. Let’s talk to me appropriately and I will treat you appropriately’” (P16). However, not all providers expressed these attitudes. One provider acknowledged the stereotype of socioeconomically disadvantaged patients being more demanding and needy, but remarked that he/she had not personally noticed a difference between patients of different SES.

Providers also expressed the belief that socioeconomically disadvantaged patients are more drug-seeking than patients of higher SES. In response to an interview question about whether the provider has noticed any drug diversion in patients of lower or higher SES, one participant responded, “Yeah. In the lower classes, it’s everywhere” (P11). Providers’ increased suspicion about medication misuse may be related to their beliefs about socioeconomically disadvantaged patients being more likely to use illicit drugs: “I have noticed that a lot of the patients from the lower socioeconomic groups do have more problems with addictions to different medications, both prescribed and not prescribed...” (P6). Some providers reported being aware that medication misuse occurs across all social classes, but described how misuse is

often more suspected in patients of lower SES compared to more socioeconomically advantaged patients:

“Because there still is that stigma, true or not, you’re probably less likely to assume that [patients of higher SES] have a drug problem, or less worried about it, or feel like maybe they can manage it. [Patients of higher SES] look more put together. So their red flags maybe aren’t up; you don’t catch it as soon. It seems like more red flags go up when you’re treating a lower SES person. You’re more on the lookout for drug dependency issues.” (P10)

“Red flags,” or suspicious behaviors that suggest medication misuse, specifically prescription opioid misuse, emerged often when discussing socioeconomically disadvantaged patients. Reported examples of “red flag” behaviors are when patients do not appear to be taking their prescription opioids (confirmed through either self-report or urine drug screens), run out of their medication early, claim to lose prescriptions, or ask for more pain medication or stronger dosage.

Influence of SES on chronic pain management decisions

Due to concerns about opioid misuse, providers reported being uncomfortable prescribing opioids to socioeconomically disadvantaged patients. Providers were especially hesitant when a low SES patient displayed a “red flag” behavior: “[I]f I had someone of a lower SES, and there was a reason to suspect that they might abuse pain medications, especially something that’s got, like a high street value, like Vicodin, I would be a little bit more hesitant to prescribe that” (P8). Interestingly, this hesitancy was not discussed in the context of pain care for higher SES patients, suggesting it is particularly salient for disadvantaged patients. One provider relayed socioeconomically disadvantaged patients’ stories about opioid misuse among their peers, which made the provider hesitant to prescribe opioids:

“The patients will even come in and say, ‘Yeah my friend gets it from her doctor and sells it everywhere,’ and so they were telling us that this is going on; so we’re more aware of it in this population so we’re really hesitant. We try everything else possible before we give them narcotics.” (P11)

Providers also reported that they do not intentionally want to treat socioeconomically disadvantaged patients differently than patients of higher SES, but that the barriers these patients face can limit their treatment options. Providers reported relying more on generic or formulary pain medications for socioeconomically disadvantaged patients because they are more affordable. Providers also reported relying on the same limited range of treatment options for these patients — even if they were ineffective: “[I]f they’re not able to come to all their doctor’s appointments, then we’re not able to continue to try new options. Or, even financial [barriers] ...you know, that could lead to continuously trying [the same treatment] options that obviously aren’t working for them” (P9). Providers also reported feeling constrained in prescribing non-pharmacological treatments because of access to care barriers. One provider reported referring only patients of higher SES to mental healthcare and physical therapy rather than socioeconomically disadvantaged patients because, “there’s really no point in prescribing it or suggesting it or recommending it because they can’t pay for it, so what’s the point?” (P18).

Providers’ concerns about continuity of care also influence their pain management decisions for socioeconomically disadvantaged patients. As one provider stated, “If you’re giving somebody a medication, you want them to show up and follow up. You want to keep track of how their progress is, since I don’t see [socioeconomically disadvantaged patients] as

often, it can influence the way that I treat them” (P17). Specifically, providers reported avoiding prescribing stronger pain medications, such as opioids, for socioeconomically disadvantaged patients because of continuity of care concerns; “I don’t think it would be a good idea for a patient that you wouldn’t have access to, you know, checking with them and see how they are doing on this new medication to throw them on something that was really strong” (P6).

During these discussions, several providers described resources and strategies they use with socioeconomically disadvantaged patients to maximize effective pain management. For example, they discussed the importance of talking with these patients about how pain is affecting their life (e.g., interference with daily activities and work responsibilities) and their ability to access treatments. Providers also mentioned the importance of informing socioeconomically disadvantaged patients about financial and transportation assistance programs available at their clinic. One provider shared that assisting patients with accessing treatment is an important part of medical care: “If you do refer them somewhere...you shouldn’t just do it and walk away. You should try to help make some arrangements for them to get there, which is something I think some doctors don’t worry enough about. But it is part of the care” (P5).

DISCUSSION

This qualitative study examined healthcare providers’ perceptions of socioeconomically disadvantaged patients’ barriers to pain care, their attitudes towards socioeconomically disadvantaged patients with chronic pain, and the influence of patient SES on providers’ chronic pain treatment decision-making. Providers identified numerous access to care barriers that socioeconomically disadvantaged patients face when managing their chronic pain. These barriers included lack of insurance, financial constraints, and scheduling difficulties. Providers expressed negative attitudes towards socioeconomically disadvantaged patients and believed these patients were more likely to misuse medications relative to patients of higher SES. Furthermore, providers reported being less likely to prescribe opioids and make multi-disciplinary treatment referrals for socioeconomically disadvantaged patients.

Providers perceived numerous patient-level barriers to pain management. They remarked that socioeconomically disadvantaged patients are less likely to have health insurance, a primary care provider, financial means to pay for appointments/treatments, reliable transportation, and accommodating childcare/work schedules. Although such barriers are particularly important considerations in the context of pain care for socioeconomically disadvantaged patients, they are not the only relevant factors. System- and provider-level factors are also important and may contribute to suboptimal care for these patients (Institute of Medicine, 2011). It is interesting then that no provider in our sample discussed system- or provider-level barriers that interfere with socioeconomically disadvantaged patients’ pain management. For example, one systems-level barrier identified in the literature is that pharmacies in socioeconomically disadvantaged neighborhoods are less likely to stock prescription opioids (Green et al., 2005; Morrison et al., 2000). Considering socioeconomically disadvantaged patients’ transportation and financial barriers, this additional barrier may result in patients not filling their opioid prescriptions. Provider-level barriers can also limit disadvantaged patients’ access to adequate pain care. In a quantitative study, healthcare providers ranked “inadequate staff knowledge regarding pain management” as one of the most important barriers to optimal pain management for socioeconomically disadvantaged minority cancer patients (Anderson et al., 2000). While inadequate provider knowledge about pain is not unique to socioeconomically disadvantaged

patients, a trial-and-error approach to pain management may be particularly detrimental for this patient population, as it may prolong their already severe pain and strain their limited resources.

Providers in this investigation expressed negative attitudes towards socioeconomically disadvantaged patients. These biased attitudes may lead to pain care decisions that could ultimately discriminate against this patient population, both directly (e.g., declining to write an opioid prescription) and indirectly (e.g., referring patients without offering support services). For instance, socioeconomically disadvantaged patients were perceived to want a “quick fix” and to be more “demanding” and “needy.” This attitude was shared by almost half of family practice residents in another study who agreed that poor patients are “usually more difficult patients to deal with” (Price et al., 1988). Providers in our investigation were also more likely to suspect socioeconomically disadvantaged patients of opioid misuse compared to other patients. These negative attitudes may help explain previous findings that poorer patients are less likely to be treated with opioids for their pain compared to patients of higher SES (Joynt et al., 2013; Nampiaparampil et al., 2009). However, it is important to note that these negative attitudes were not expressed by all providers in this investigation. Future studies should measure the prevalence of these negative attitudes among healthcare providers and specifically examine the influence of these attitudes on their pain decisions for socioeconomically disadvantaged patients. This work will help elucidate the extent to which these attitudes pose another significant barrier for this vulnerable patient population and whether these attitudes contribute to documented treatment disparities.

Another negative attitude providers expressed was their concerns about socioeconomically disadvantaged patients’ “red flag” behaviors. For instance, providers reported being suspicious when these patients asked for more pills per month or higher doses of opioids. It is often difficult to discern the meaning of such “red flag” behaviors, as they could be due to aberrant drug seeking or to uncontrolled pain. For instance, a socioeconomically disadvantaged patient asking for more opioids could be misconstrued as a “drug seeking behavior” when, in fact, this request stems from uncontrolled severe pain and functional problems, for which disadvantaged patients are especially at risk (Fuentes et al., 2007; Green & Hart-Johnson, 2012; Portenoy et al., 2004; Rios & Zautra, 2011; Riskowski, 2014; Ulirsch et al., 2014). Coupled with limited non-pharmacological treatment options available to these patients, and providers’ reluctance to prescribe opioids (in general and for this population specifically), socioeconomically disadvantaged patients may feel their only option is to request pain medication. Furthermore, socioeconomically disadvantaged patients may prioritize pain treatment and relief during their medical appointments, whereas providers may prioritize other factors, including assessment of drug seeking behaviors. These differing priorities can break down communication between patient and provider, resulting in frustration and low satisfaction for both parties (Butow & Sharpe, 2013). Increasing providers’ awareness of socioeconomically disadvantaged patients’ pain experience and enhancing their ability to incorporate a patient-centered approach that integrates both patient and provider goals may optimize pain management for these patients.

Providers shared that the patients’ SES influenced their pain treatment decisions. This is somewhat surprising, as the parent investigation found that, overall, providers reported their pain management decisions were not influenced by patients’ demographic characteristics such as sex or race (see Hollingshead et al., 2014). Providers may be more comfortable expressing their use of SES to inform their treatment decisions due to their awareness of socioeconomically

disadvantaged patients' access to care barriers. However, some providers discussed various techniques to help overcome these perceived limitations, such as talking with disadvantaged patients about how their pain affects their life and connecting them with clinic services. These discussions highlight how patient-, provider-, and system-level factors interact in the context of pain care for socioeconomically disadvantaged patients. They also suggest that to improve pain care for these vulnerable patients, all three factors need to be addressed. For example, it is not enough for providers to be aware of and discuss barriers to pain treatments with these patients; system-level resources need to be available to help patients and providers overcome these barriers. In the event that such resources are available, it is important that medical centers ensure the information about patient assistance resources are disseminated to all patients and providers.

Some limitations to this investigation should be noted. Although providers did readily share their negative attitudes during interviews, given the sensitive topic (i.e., SES, class, social standing), some providers may have responded to the interview questions in socially desirable ways. Furthermore, providers with especially strong negative views of pain management may have refused to participate in this investigation altogether. Also, although our methods and results suggest we met theoretical saturation (i.e., additional data would not have resulted in new themes or theoretical insights; Guest, 2006), the investigation may have benefited from a larger sample size. Finally, all of the providers were from a single Midwestern metropolitan area in the United States, and the majority were medical residents and medical students affiliated with an academic medical center. Thus, the results may not generalize to other geographic areas, provider types, or providers who are not affiliated with academic medical centers. Future research can overcome this limitation by replicating this investigation with more experienced and diverse clinicians (e.g., practicing nurses, physicians, and pharmacists).

CONCLUSION

This qualitative study found that healthcare providers expressed awareness of patient-level barriers to pain care for socioeconomically disadvantaged patients, expressed negative attitudes towards this patient population, and reported that patient SES often influences their chronic pain management decisions. These results provide a starting point for future studies to better understand pain care for these vulnerable patients and to examine important factors that may lead to treatment disparities. One such factor, identified in the current study, is providers' negative attitudes (i.e., prejudice) towards socioeconomically disadvantaged patients. This prejudice could influence providers' pain management decisions for these patients and lead to direct and/or indirect discrimination (i.e., unfair treatment). Investigations are needed to determine the prevalence of these negative attitudes and the extent to which they influence pain management decisions. This line of research can inform future training and intervention work by (1) identifying the specific nature of providers' negative attitudes towards socioeconomically disadvantaged patients with chronic pain, as well as the types of providers who are most likely to express them, (2) enhancing providers' awareness of their negative attitudes, and (3) supplying information about how such prejudice can negatively influence treatment decisions.

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REFERENCES

- Anderson, K. O., Mendoza, T. R., Valero, V., Richman, S. P., Russell, C., Hurley, J., ... Cleeland, C. S. (2000). Minority cancer patients and their providers: pain management attitudes and practice. *Cancer*, 88(8), 1929–38.
- Butow, P., & Sharpe, L. (2013). The impact of communication on adherence in pain management. *Pain*, 154 Suppl , S101–7. doi:10.1016/j.pain.2013.07.048
- Fuentes, M., Hart-Johnson, T., & Green, C. R. (2007). The association among neighborhood socioeconomic status, race and chronic pain in black and white older adults. *Journal of the National Medical Association*, 99(10), 1160–9.
- Green, C. R., & Hart-Johnson, T. (2012). The association between race and neighborhood socioeconomic status in younger Black and White adults with chronic pain. *The Journal of Pain: Official Journal of the American Pain Society*, 13(2), 176–86. doi:10.1016/j.jpain.2011.10.008
- Green, C. R., Ndao-Brumblay, S. K., West, B., & Washington, T. (2005). Differences in prescription opioid analgesic availability: comparing minority and white pharmacies across Michigan. *The Journal of Pain: Official Journal of the American Pain Society*, 6(10), 689–99. doi:10.1016/j.jpain.2005.06.002
- Guest, G. (2006). How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59–82. doi:10.1177/1525822X05279903
- Haider, A. H., Schneider, E. B., Sriram, N., Dossick, D. S., Scott, V. K., Swoboda, S. M., ... Cooper, L. A. (2014). Unconscious race and class bias: its association with decision making by trauma and acute care surgeons. *The Journal of Trauma and Acute Care Surgery*, 77(3), 409–16.
- Haider, A., Sexton, J., Sriram, N., Cooper, L., Efron, D., Swoboda, S., ... Cornwell, E. (2011). Association of Unconscious Race and Social Class Bias With Vignette-Based Clinical Assessments by Medical Students. *JAMA*, 306(9), 942–951.
- Hirsh, A. T., Hollingshead, N. A., Bair, M. J., Matthias, M. S., Wu, J., & Kroenke, K. (2013). The influence of patient's sex, race and depression on clinician pain treatment decisions. *European Journal of Pain (London, England)*, 17(10), 1569–79. doi:10.1002/j.1532-2149.2013.00355.x
- Hollingshead, N. A., Matthias, M. S., Bair, M. J., & Hirsh, A. T. (2014). Impact of Race and Sex on Pain Management by Medical Trainees: A Mixed Methods Pilot Study of Decision Making and Awareness of Influence. *Pain Medicine*, 16(2), 280–290. doi:10.1111/pme.12506
- Hsieh, H.-F., & Shannon, S. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277–1288.
- Institute of Medicine. (2011). *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. Washington, DC: The National Academies Press. Retrieved from http://www.nap.edu/catalog.php?record_id=13172
- Joynt, M., Train, M. K., Robbins, B. W., Halterman, J. S., Caiola, E., & Fortuna, R. J. (2013). The impact of neighborhood socioeconomic status and race on the prescribing of opioids in emergency departments throughout the United States. *Journal of General Internal Medicine*, 28(12), 1604–10. doi:10.1007/s11606-013-2516-z

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- Morrison, R., Wallenstein, S., Natale, D., Senzel, R., & Huang, L.-L. (2000). "We Don't Carry That" — Failure of Pharmacies in Predominantly Nonwhite Neighborhoods to Stock Opioid Analgesics. *New England Journal of Medicine*, *342*, 1023–26.
- Nampiaparampil, Devi E., Nampiaparampil, J., & Harden, R. N. (2009). Pain and Prejudice. *Pain Medicine*, *10*(4), 716–722.
- Portenoy, R. K., Ugarte, C., Fuller, I., & Haas, G. (2004). Population-based survey of pain in the united states: Differences among white, african american, and hispanic subjects. *The Journal of Pain*, *5*(6), 317–328.
- Price, J. H., Desmond, S. M., Snyder, F. F., & Kimmel, S. R. (1988). Perceptions of family practice residents regarding health care and poor patients. *Journal of Family Practice*, *27*(6), 615–621.
- Rios, R., & Zautra, A. J. (2011). Socioeconomic disparities in pain: The role of economic hardship and daily financial worry. *Health Psychology*, *30*(1), 58–66.
- Riskowski, J. L. (2014). Associations of Socioeconomic Position and Pain Prevalence in the United States: Findings from the National Health and Nutrition Examination Survey. *Pain Medicine*, *15*(9), 1508–21. doi:10.1111/pme.12528
- Ulirsch, J. C., Weaver, M. A., Bortsov, A. V, Soward, A. C., Swor, R. A., Peak, D. A., ... McLean, S. A. (2014). No man is an island: Living in a disadvantaged neighborhood influences chronic pain development after motor vehicle collision, and this effect is moderated by common genetic variation influencing HPA axis function. *Pain*, *155*(10), 2116–2123. doi:10.1016/j.pain.2014.07.025