Implicit Bias in Pain Management: A Very Brief Overview of a Complicated Topic

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Background

- African-Americans less likely to be prescribed opioid analgesics than European Americans
  - 14% less likely for traumatic or surgical pain
  - 34% less likely for chronic pain
  - Meta-analysis showed no change in prescribing disparities over 20 year period

- Meghani, S. H., Byun, E., & Gallagher, R. M. (2012). Time to take stock: A meta-analysis and systematic review of analgesic treatment disparities for pain in the United States.

Background

- Nursing and medical students judge African-Americans as less likely to experience pain than European-American under similar conditions

- Trawalter, S., Hoffman, K. M., & Waytz, A. (2012). Racial bias in perceptions of others' pain. PloS one, 7(11), e48546.
- Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences

Pain Study

- Participants recruited from REACH cohort
  - Indigent HIV infected adults in San Francisco
  - Probability sampling from homeless shelters, free-meal programs and SROs
- Participants' PCPs recruited by mail and advertising at clinics

Participant Characteristics

	n=296
Age (mean (SD))	48.1 (7.3)
Female at birth	83 (28.0%)
Race	
African-American	122 (41.2%)
White	114 (38.5%)
Mixed Race / Other	60 (20.3%)

Substance use disorder, alcohol use disorder, and smoking history

	n=285
Lifetime history of use disorder (DIS-IV)*	
Crack / Cocaine	157 (55.1%)
Methamphetamine	116 (40.7%)
Heroin / Opiates	84 (29.5%)
Alcohol	167 (58.6%)

* Abuse or dependence as defined by DSM-IV

Recent drug, alcohol and tobacco use

Past 90-Day Use	n=296
Crack / cocaine	70 (23.7%)
Methamphetamine	47 (15.9%)
Heroin	18 (6.1%)
Regular drinking	21 (17.1%)
Cigarette smoking	215 (72.6%)

Pain was common

- 270 (91.2%) reported past week pain or pain rx

	n=270
Pain Severity	
Severe	145 (53.7%)
Moderate	103 (38.1%)
None / Mild	22 (8.1%)
Pain lasting ≥ 6 months	243 (90.0%)
Pain every day (past 90 days)	175 (64.8%)

Miaskowski C et al. Occurrence and Characteristics of Chronic Pain in a Community-Based Cohort of Indigent Adults Living With HIV Infection (J Pain 2011 Jun 17)

Primary Care Provider Study

- Participants identified primary care providers (PCPs); who were surveyed with brief questionnaires
  - General questionnaires about themselves and general beliefs
  - Specific questionnaires about matched study participants

Few PCPs from non-majority groups

	n = 61
Mean Age (SD)	46.7 (8.3)
Women:	28 (45.9%)
Race / Ethnicity	
White	49 (80.3%)
Black/African American	1 (1.6%)
Hispanic	5 (8.2%)
Asian or Pacific Islander	6 (9.8%)

Vijayaraghavan M, Penko J, Guzman D, Miaskowski C, Kushel MB. Primary Care Providers' Judgments of Opioid Analgesic Misuse in a Community-Based Cohort of HIV-Infected Indigent Adults. J Gen Intern Med. 2011;26(4):412–8.

PCPs were unable to accurately assess misuse

- PCPs did not identify 38.1% of participants who reported misuse
- PCPs mis-identified 46.4% who did not report misuse
- No concordance between PCPs' opinions and participants' self-reports of past-year misuse (Kappa score 0.09, $p<0.10$)

Vijayaraghavan M, Penko J, Guzman D, Miaskowski C, Kushel MB. Primary Care Providers' Judgments of Opioid Analgesic Misuse in a Community-Based Cohort of HIV-Infected Indigent Adults. J Gen Intern Med. 2011;26(4):412–8.

PCPs overestimated misuse in African-American patients

- PCPs were more likely to suspect misuse in:
  - Patients with past-year illicit substance use (AOR = 3.3 (1.4-8.2))
  - Younger patients (age AOR = 0.90 (0.8-0.97)
  - African American (AOR = 2.5 (1.1-6.1))

Vijayaraghavan M, Penko J, Guzman D, Miaskowski C, Kushel MB. Primary Care Providers' Judgments of Opioid Analgesic Misuse in a Community-Based Cohort of HIV-Infected Indigent Adults. J Gen Intern Med. 2011;26(4):412–8.

Patients with illicit drug use were more likely to misuse; those who were AA were NOT

- People with past-year illicit substance use were more likely to report misuse

  (AOR = 3 (1.0-8.8))
- African American patients were not more likely to report misuse

  (AOR = 0.7 (0.3-2.0))

Implicit bias likely contributed to mis-assessment of risk of misuse

Pain Management in the Clinic and the Community

- Dr. Kelly Knight's NIDA funded study of pain management in safety net settings across the SF Bay Area
- In-depth interviews with patients with CNCP
- In-depth interviews with their PCPs
- Clinic Observations
- Ethnography

Patients perceive bias in type of services they receive

- Patient: But I'm saying that place I went to was a different clinic from what I'm going to now. They was more in depth with it [more services provided, more time spent on the clinical issue]. So when I went in there and didn't see too many Blacks up in there, you see a lot of Whites, Asians, but you see that up in there but you didn't see that many Blacks coming through there. You may see a few [but] they have prior medication. [Then my insurance changed] and I got dropped down. [At my safety net clinic] now you don't see too many Asians go up in there, you see a lot of under-appreciated Black people, some, a few Puerto Ricans.

Patients perceive that PCPs are biased against African-American patients, assuming that they are misusing/diverting

- Daughter: [The doctor's] probably thinking, you know, because, you know, because, I'm going to say it like this, because we are Black and people be selling. That's not the case, [with] my mom… So I'm trying to break it down to y'all - that's what [the doctor] think.

Patients express both awareness of potential implicit bias AND need for opioid safety

- Q: Being a woman of color, do you ever have to convince other people that you're in pain?
- Patient: Yeah, sometimes I have to convince my doctor.
- Q: Do you ever have trouble getting your pain medication?
- Patient: No. Sometimes I used to, like when I used drugs [my doctor] won't like give me my medication because he know I'm already using a drug and alcohol so he don't want to give it to me because I can overdose, you know, and he don't want to be responsible for that.

Patients feel that judgments about misuse are made based on bias

- Patient: But [the doctor] accused me of not taking them and selling them because I didn't look strung out. So he kicked me off as his patient. I said, "Why don't you test me?"
- Q: He didn't do a UTOX?
- Patient: Nothing. I had my contacts on, and he says, "What's wrong with your eyes?" and I said, "Nothing," real just cocky about it, I don't like him at all. And I know people that are actually on drugs that go to him and they get like Oxycontin, Oxycodone, and I'm like, "What gives?" [He said] "Because you don't look like the typical person, I'm going to kick you off." So there's so many categories of people.

Patients may read universal measures as stemming from bias (even if universal)

- Patient: [I had] a substitute doctor while my doctor was on vacation. And her whole thing was, at [the clinic] she was trying, you know, like stereotyping. If you're Black she wouldn't give you none of your medications, no matter if it was pain medicines or anything else, unless you signed the contract with her.

Providers judged use of universal measures as way to prevent against bias, but patients didn't see it that way

- Question: Have you found that the implementation of the pain agreements has gone smoothly, the actual providers describing and explaining them to the patients?

- Clinician: So when, so this is a patient I had for many years. I said to the patient, said, "This is a new thing that we have in our clinic, everyone's signing it." And she got very upset and left. And so I said, "I still want to treat all your other stuff, I just can't give you narcotics anymore." And, you know, she was in the ED a couple months later and was meth positive, so she definitely had some other drug problems. And I knew that, but it was really hard for me to not give her pain meds knowing that she was in pain. But then I also think I felt, "Well, this is not, it's an addiction and I want to help her addiction," and so I want to really treat all of her addiction. But I felt at least comfortable because at least now I knew the clinic supported, and I think it felt more like, "Okay, this is what everyone's doing, I'm not picking on you." Because that was the other thing, it was very easy for me to go to the patient and say, "This is not because your culture, or who you are, or what you've done, it's just this is for every patient that comes through the clinic." And so it made it feel a little bit less targeted, but that doesn't mean that every patient took it exactly the same.

Patients address how when providers recognize that they have SUD, complaints (unrelated to pain) are treated differently

- Patient: I went to the doctor…I went to the hospital and I was sick, I was hurting, or something was going on, I can't remember exactly, but I talked to the doctor in emergency and when they found out that I had drugs in my system that changed everything. Their whole attitude and everything, they was ready to sign me out…the whole atmosphere changed. Their whole way of talking to you changes, everything, "Oh, you're just a drug addict. Yeah, you go ahead [and leave], we done." Yeah, that happens. That's real life, yeah.

Patients with SUD feel unheard and feel mistreated

- Patient: [The doctor said to me] “You’ll be fine because it says here that you’re basically an addict,” or something, because somebody put something in the [medical] record. But they don’t know me. So I’m like, “How dare you?” And so I was like, “I don’t even care, bye. I don’t even care, I’m not going to let anybody talk to me that way.” So I just left and just dealt with it and it slowly went away. I was just in the ER and they had to do the spinal tap and all these other things. And, but like they felt, they knew something was wrong. But when that doctor came in, I don’t know who he was, he was some old guy, he just treated me like dirt. And he didn’t even know me.

SUD treatment

- If people with SUD feel mistreated in many different clinical encounters, may have a harder time hearing concerns about opioid safety as legitimate

Clinicians make generalizations based on race/ethnicity

- Clinician: I mean, you're dealing with an impoverished population who are struggling to get through their life and many of them are using these drugs, I think, just as a, as a way of getting through their, their day. I mean, I don't know that they're really using it for pain certainly, you know what I mean, I, I get the feeling it's part of their way of life. That's why I call them the Valium/Norco crowd. [I]t's like I wonder how much pain they're really having. They tell me, you know, it's 8 out of 10 and it, and it drops to 3 out of 10 and I think, "Well, that's, that's great," but, I still think it's maybe part of a lifestyle. It's, and it's mostly, it's mostly the African-Americans, not so much the Hispanics but the African-Americans and the Whites, but not, not the Hispanics so much.
- Q: In terms of what you see on urine testing or in terms of what you hear them saying about drug use?
- Clinician: The people, the people who are the chronic, the chronic Norco/Valium crowd tend to be African-American but they're, but I have a few, you know, Anglos, Anglo-Saxon people, too. Not so much the Hispanic population.

And clinician goes on….

- Clinician: I see ethnic groups having a particular characteristics and there tends to be little more, I don't know whether I should use the word demand for opioids and benzos in the African-Americans but there seems to be more usage in the African-American population. In a way I feel sympathetic, I mean, I feel it's part of their way of dealing with their life. You know what I mean, not that I want to, not that I want to give them the, the drugs [opioids] for that reason but I feel I, I can kind of understand the usage a little bit. I'm thinking about the stress, the, the poverty, the stress, the, the broken families, the marital infidelity, the, the angst that the, that the, that population tends to have. There's a little, there's a lot of angst in the Hispanic population but there's not as much broken families and, you know, moving around as there is in the African-American population.

Clinicians struggle with their own biases

- Clinician: [At the clinic] we ran some interaction analysis that weren't significant enough [to report, but] we found that patients who were African-American and had a history of substance use were multiplicatively less trusted by their physician. We have this, like this coefficient that was like ridiculously high for that group of patients [African-Americans] and my first patient in clinic that morning was this African-American gentlemen with a history of substance use. And I was just like, "Oh, like, I know that even though I'm aware of this, I still have some subconscious biases going on." So it's more just sort of being aware of like, just being like, "Oh, am I," like just asking that extra question, "Am I feeling more reluctant to prescribe Vicodin to this patient because they're Black?" And despite my best efforts to try and not to, I know that at some unconscious level enters in, just like it enters into everyone, and just trying to stay self-aware of that. So that's how I, you know, try to deal with it.

Clinicians acknowledge bias based on gender/sex

- Clinician: If there is a bias I would probably be more biased against a male patient, I would probably be a little more suspicious. But I'm not sure. Maybe you can evaluate my charts from last year. I think I might have a more suspicion that a man would divert than a woman but I'm not positive how that plays out in my, and I guess, yeah, I think I have more, my concern for like addiction or substance abuse is probably the same for men and women but my concern for diverting might be higher for the male patient.

Clinicians describe extra concern about diversion among patients in poverty

- Question: What were the red flags, just out of curiosity, for [the patient]?

- Clinician: Some of it is behavior around it, like really, really, really wanting it. Maybe some early refills, running out early, not a lot. Those are, those are harder to define and I don't, I mean, they're the intangibles that when we talk about parity across the board and treating everybody equally they're, they're a little harder, but there's just sort of an "on the edge" quality, and really poverty, you know. I know they're living on the edge, financially, and it wouldn't surprise me if they needed income out of Vicodin, you know.

Conclusions

- Clinicians gut assessment of opioid risk is poor
  - Not better than chance
  - Biased according to racial biases in the wrong direction
- Implicit bias affects clinical judgement
- There is substantial literature on differential assessment of pain
  - Complex decision-making may be more susceptible to bias

Conclusions

- Judgments about opioid risks are not immune from clinicians' implicit biases
- Patients feel the bias

Conclusions

- Lived experiences of bias in healthcare settings color interactions
  - Even if a particular decision/interaction is not motivated by bias
  - Universal precautions may not be read as universal
  - Concern re: opioid risk may be read through lens of other interactions