

Factors Impacting Pharmacists' Roles in Mitigating the Opioid Crisis in Cities of Differing Affluence

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INTRODUCTION

- In 2020, approximately 92,000 drug overdose deaths occurred in the United States where nearly 75% involved the use of an opioid.¹ The misuse and over-prescription of opioids led to a national opioid crisis that healthcare professionals are desperately working to resolve.
- Existing research² indicates a strong association between socioeconomic disparities and patient health outcomes.
- We hypothesize that socioeconomic disparities may have a similar impact on pharmacists' efforts toward mitigating the opioid crisis in cities of differing affluence.

RESEARCH QUESTION

To determine the factors that impact a pharmacist's efforts toward mitigating the opioid crisis in cities with differing affluence.

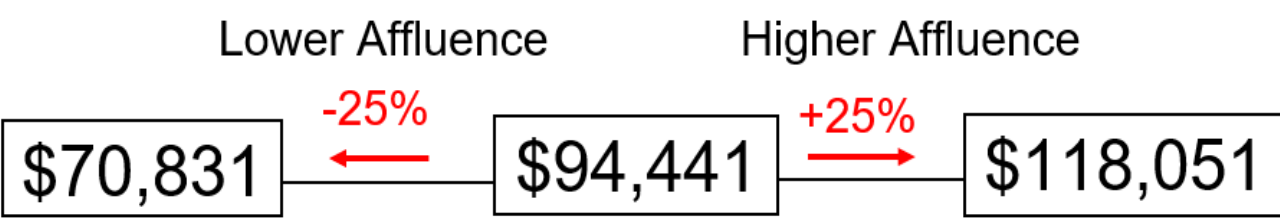
METHODS

This study is a cross-sectional descriptive study conducted among cities in Orange County (OC), California.

City Selection

- Household income parameters were determined from the US Census Data for the OC Median Household Income from 2016-2020.
- Lower Affluence Cities (LAC) are defined as cities with a median household income between \$70,831 and \$94,441 (Figure 1).
- Higher Affluence Cities (HAC) are defined as cities with a median household income between \$94,441 and \$118,051 (Figure 1).

FIGURE 1. Median Household Income from 2016-2020 for HAC and LAC in Orange County



Statistical Analysis

- Independent (unpaired) t-tests were performed for all Likert scale questions.
- Fishers' exact test and chi squared tests were performed for questions (Q's) 11 and 13, respectively
- Statistical significance was defined as a p-value ≤ 0.05 .

Survey Questions

- Surveys were distributed during July 2022 to pharmacists practicing in two HAC and two LAC in Orange County .
- Pharmacists practicing in community pharmacies were asked to complete an anonymous electronic survey designed to gauge perspectives regarding their roles, responsibilities, and viewpoints toward the opioid crisis and actions towards supporting individuals at risk for opioid misuse.
- Questions were either Yes or No or based on a Likert scale of 1 (Never/Not Very Useful) to 4 (Very Often/Very Useful).

TABLE 1. Survey Questions

Questions	
Q1	In general, how much do you think workload affects pharmacists' ability to counsel?
Q2	In general, how much do you think inadequate training of pharmacists/staff affects pharmacists' ability to counsel?
Q3	In general, how much do you think waiting time/number of patients waiting in line affects the decision of the patients to be counseled?
Q4	Please rate how often naloxone is supplied with opioid prescriptions at the pharmacy.
Q5	Please rate how often pharmacists follow up with patients who refill opioids to make sure they still have naloxone at home.
Q6	Please rate how often the naloxone supply from the manufacturers/drug wholesalers matches the needs of patients.
Q7	Please rate how often the naloxone supply in the pharmacy matches the needs of patients.
Q8	Please rate how likely pharmacists are to discuss opioid storage safety with patients (e.g. securing opioid medications, avoid sharing/saving medications for future use without the doctor's direction, etc).
Q9	Please rate how often pharmacists consult guidelines for opioid discontinuation or tapering.
Q10	Please rate how often do pharmacists provide patients who receive opioid medications with information about addiction treatment resources (e.g. substance abuse national helplines).
Q11	Does the pharmacy utilize CURES (Controlled Substance Utilization Review and Evaluation System) to screen for patients eligible for naloxone?
Q12	Please rate how useful the prescription drug monitoring program i.e. PDMP/CURES used at your site is as a resource to combat opioid addiction.
Q13	Does your pharmacy offer drug take-back programs or drug take-back boxes for patients to dispose of unused or expired opioid prescription medications?
Q14	What other resources do you provide patients with for opioid drug disposal, if any?

RESULTS

TABLE 2. Baseline Characteristics of Selected Orange County, CA Cities (2016-2020)³

	Higher Affluence City (HAC)		Lower Affluence City (LAC)	
	Orange	Lake Forest	Anaheim	Santa Ana
Population				
Population Estimates	137,264	85,742	345,940	309,441
Population per square mile	5,450.80	5,136.90	6,898.80	11,347.40
Economic				
Per capita income in the last 12 months	\$41,825	\$48,474	\$30,122	\$22,868
Median Household Income	\$96,605	\$112,988	\$78,723	\$72,406
Persons in poverty	10.3%	6.5%	13.8%	13.4%
Demographic				
Bachelor's Degree or Higher	38.9%	49.2%	26.6%	16.8%
Foreign born persons	22.3%	24.7%	35.0%	42.7%
White alone (not Hispanic or Latino)	43.8%	51.8%	23.9%	10.0%
Owner-occupied housing unit rate	59.2%	70.4%	45.6%	46.2%
Language other than English spoken at home	38.9%	33.0%	59.7%	78.6%

FIGURE 2. Survey Responses from HAC and LAC, excluding Question 11 & 13

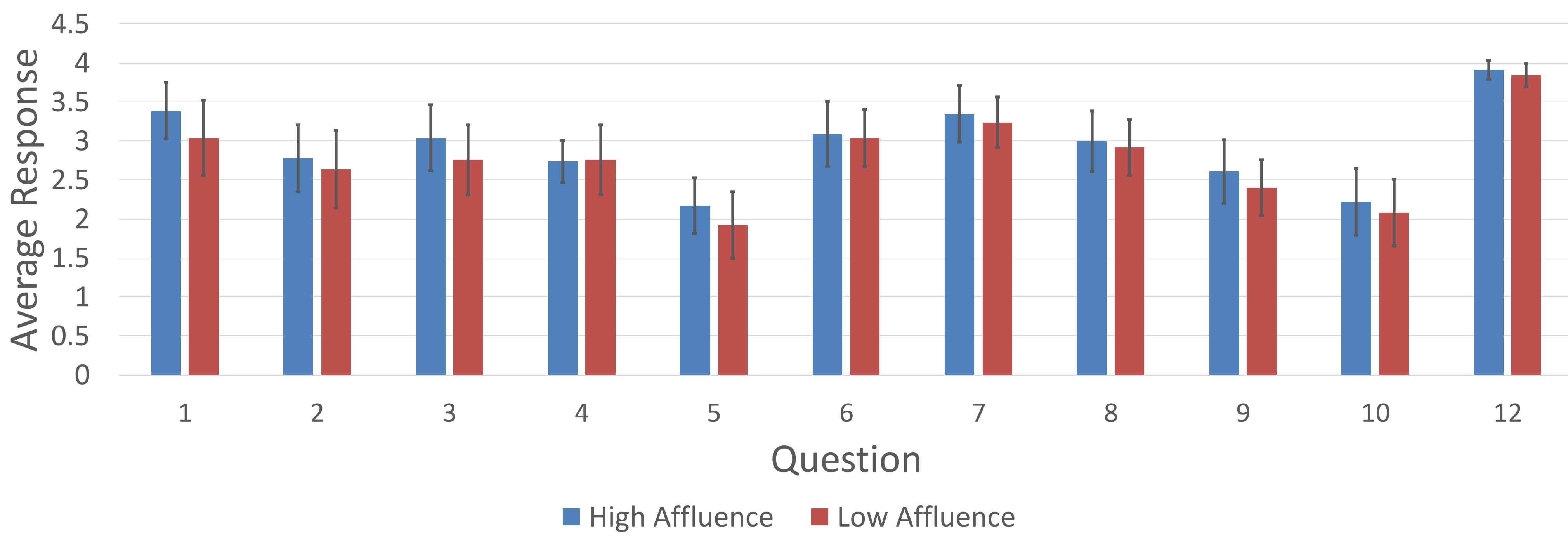


TABLE 3. Comparison of Survey Responses from HAC and LAC

Question	HAC Mean (SD), n = 23	LAC Mean (SD), n = 25	P-value
Q1	3.39 (0.84)	3.04 (1.17)	0.24
Q2	2.78 (1.00)	2.64 (1.22)	0.66
Q3	3.04 (0.98)	2.76 (1.09)	0.35
Q4	2.74 (0.62)	2.76 (1.09)	0.93
Q5	2.17 (0.83)	1.92 (1.04)	0.35
Q6	3.09 (0.95)	3.04 (0.88)	0.86
Q7	3.35 (0.83)	3.24 (0.77)	0.65
Q8	3.00 (0.90)	2.92 (0.86)	0.76
Q9	2.61 (0.94)	2.4 (0.87)	0.43
Q10	2.22 (1.00)	2.08 (1.04)	0.64
Q11	1.00	0.84	0.11
Q12	3.91 (0.29)	3.84 (0.37)	0.45
Q13	0.52	0.44	0.78

RESULTS (cont.)

- A total of 48 pharmacists in OC completed the anonymous survey — 23 and 25 pharmacists from HAC and LAC, respectively.

- Although statistical significance could not be determined, overall trends indicate that LAC had lower (more negative) responses on a scale of 1 to 4 compared to HAC.

- Responses in both HAC and LAC indicate that pharmacists do not often follow up with patients who refill opioid prescriptions to make sure they have naloxone at home.

- Pharmacists in both HAC and LAC consider PDMP/CURES to be very useful as a resource to combat opioid addiction.

- HAC pharmacies have more on-site services to help patients easily dispose of opioids they no longer need compared to LAC. HAC provide on-site DisposeRx™ and/or drug take-back bins for safe opioid disposal, whereas LAC mainly suggest outside resources to patients for the disposal of opioids.

DISCUSSION

- Pharmacists play a role in mitigating the factors contributing to the opioid crisis. Opioid misuse and over-prescription can be alleviated through pharmacists' utilization of prescription drug monitoring programs (PDMPs) like California's Controlled Substance Utilization Review and Evaluation System (CURES), assessing opioid deprescribing when performing medication therapy management (MTM), dispensing naloxone to reverse opioid overdose, and providing education/counseling on opioid risks, storage, and disposal.⁴

- While data did not reach statistical significance, pharmacists in HAC generally answered more favorably than LAC in terms of being cognizant of factors that affect patient counseling as well as playing a role in mitigating the opioid crisis.

- Pharmacists from both HAC and LAC indicated that it is not a common practice to follow up with their patients who receive opioid prescriptions to confirm that they have naloxone. The frequency of pharmacist-led follow-ups can be increased to better implement risk mitigation strategies like addiction treatment resources and opioid-use safety.

- Differences in opioid disposal options between HAC and LAC suggest that LAC may not have the resources in place to provide patients with more accessible methods, which may leave patients in these communities at an increased risk of opioid abuse.

- The high response rate from both HAC and LAC pharmacies regarding the perceived importance of utilizing CURES/PDMP can be attributed in part to the mandatory California policy for pharmacies to document dispensed controlled substances in the electronic database.

- Limitations of the study include fewer response rates from independent pharmacies due to many of them not dispensing CII's, a small sample size, and a survey design that included a Likert-scale with 4 answer choices.

- More research into the impact of socioeconomic disparities on opioid crisis mitigation efforts should be considered.

CONCLUSION

- The affluence of a city may impact care a patient receives with regards to their opioid medications. This study suggests that LAC could benefit from more intervention from pharmacists to mitigate the opioid crisis.

- This study focused on pharmacist-related roles; other barriers could be playing a role in perpetuating the opioid crisis. Future research might evaluate the impact of out-of-pocket cost of naloxone on access in a population.

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