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Examination of Market Segmentation among Medical Marijuana Dispensaries

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Abstract

Background.—As medical marijuana legislation becomes more common, concerns arise about the overconcentration of dispensaries, raising questions about the number of medicinal marijuana dispensaries (MMD) needed to serve medicinal users.

Objectives.—This paper applies niche-marketing theory—which suggests dispensaries market to specific types of people—to examine if MMDs might be targeting recreational users. Observed differences between dispensary populations and between dispensary clients and local residents may indicate that dispensaries are drawing in patients based on factors other than medical need.

Methods.—Data were collected via exit surveys with patients at four dispensaries in Long Beach, CA. A total of 132 patients were surveyed regarding demographic data, purchase information, medical condition, and nearest cross street for their home address. Census tract information was collected for every dispensary.

Results.—Chi-squared tests show significant associations between dispensary visited and race ($\chi^2 = 31.219$, $p < .001$) and significant associations between medical condition and dispensary visited ($\chi^2 = 22.123$, $p < .05$). Lastly we found that all four of the dispensaries had patients who were different from community residents in some characteristics.

Conclusions.—There were significant differences relating to race, medical condition, and distance traveled across dispensaries. Results suggest dispensary users do not necessarily reside in the same area in which dispensaries are located and do not necessarily reflect the local population. Taken together these results provide some support for market segmentation.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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Keywords

Medicinal Marijuana; Niche Marketing; Medical Marijuana Dispensaries; Marijuana Use; Marijuana Legislation

Introduction

Medical and recreational marijuana legislation has become more common across the United States as public acceptance of the use of marijuana for medical purposes has increased (Grinspoon, 2010). The primary means of distribution of marijuana for medical use, storefront dispensaries, has resulted in concerns of overconcentration of dispensaries in some local areas that may result in higher rates of crime (Freisthler et al., 2016) or abuse and dependence (Mair et al., 2015). For states that only allow medical use of marijuana, questions are raised about how many dispensaries are needed in order to ensure access to all patients and whether these dispensaries are marketing towards non-medical populations. This controversy been prominent in California, as California has allowed medical marijuana use since 1996 and does not have a state-wide law governing the existence of dispensaries.

A high number of marijuana dispensaries or retail outlets may increase competition and, in response, businesses may diversify in order to create market segments through which consumers can be specifically targeted, called niche marketing (Gruenewald, 2007). Theories on niche marketing suggest that dispensary owners may select types of clients they wish to use their services in order to increase market share (Dalgic, 2006). As more dispensaries open in the same area, market segmentation can occur through the development of niche categories that are best served by specific retailers, i.e., social clubs vs. medical facilities, thus minimizing market competition (Turow, 2000). As one example, patients living in areas with higher median incomes and more medical marijuana dispensaries within .5 km were more likely to purchase marijuana edibles (Author Redacted).

Limited evidence suggests that several types of dispensaries exist, which may be evidence of niche marketing (Penick, 2006). Graves (2011) identified 5 types of dispensaries: medical care (focusing on compassionate care and/or traditional health services), granola (appeal to natural environment and/or holistic therapy), no category, recreational (using marijuana slang and tropes such as 420, psychedelic paint), and bunker (appearing to intentionally obscure themselves to the public and authorities through obtuse names or lack of signage). These last two categories are significant because they make no mention of medical use or care, suggesting intentional marketing to recreational users in medical cannabis-only states.

Niche marketing may also allow dispensaries to take advantage of cheap retail locations in economically disadvantaged areas. The difference between the local population and dispensary patients along with the existence of non-medically identified dispensaries may indicate that dispensaries are appealing to specific niche categories of recreational users, rather than medical use patients. Evidence suggests that dispensary patients tend to be young, white men who report daily marijuana use (Ilgen et al., 2013; Reinarman, Nunberg, Lanthier, & Heddleston, 2011; Walsh et al., 2013). When examining the demographics of people living in the areas which dispensaries are located and those using the dispensaries,

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observed differences between the populations may indicate that dispensaries are intentionally drawing in patients based on factors other than convenience to patients' homes.

In this exploratory study, we ask: 1) Do dispensaries serve different types of patients from each other? and 2) Do dispensaries serve patients who are different from the neighborhood in which they are located? We hypothesized that market segmentation has already started to occur such that the demographics of populations served by dispensaries will differ and they will not reflect the neighborhood characteristics where they are located.

Methods

Data were collected via venue-based exit surveys with patients at four purposively selected dispensaries in Long Beach, CA. Venue-based surveys allow for the recruitment of large numbers of individuals who may engage in low base-rate behaviors in the population (e.g., medical use of cannabis). Surveys were collected during one day at each site.

Patients were randomly selected as they exited the establishment. One dice was rolled and the number (1 through 6) was used to determine the first person leaving the dispensary who would be selected. After that person, every other person exiting was sampled. If the potential respondent was over 18, he or she was informed that his or her participation was voluntary and would receive $20 cash as an incentive for participating in a 5-minute survey. Verbal informed consent was collected for all survey participants. A total of 132 patients (33 per dispensary) of 166 approached were surveyed, for a 79.5% response rate. Study protocols were approved by the Institutional Review Board.

Measures

The survey collected demographic data, information about the patient's purchase that day, his or her condition needing medical cannabis, and nearest cross street information for his or her home address. 90.9% of intersections near home addresses were successfully geocoded. Respondents were able to choose from 15 medical conditions for which they could have received their medical marijuana recommendation. These medical conditions included: Anorexia, Anxiety, Arthritis, Cachexia/Wasting Syndrome, Cancer-Related Symptoms, Chronic Pain, Crohn's Disease/Gastrointestinal Disorder, Epilepsy, Glaucoma, HIV/AIDS, Migraine, Sleep Problems, Spasticity/Multiple Sclerosis, Depression, Appetite Stimulant and Other. Patients could choose multiple conditions, but these were recoded to the most serious condition. The Census tract information that was collected for each dispensary was used as the expected or model parameter for the age, gender, and race composition of patients.

Analysis procedures

To test for differences between medical marijuana patients and community residents, we completed one-sample tests of means/proportions and chi-square goodness-of-fit tests. To evaluate differences in the ethnic composition of patients and community residents, individual chi-square goodness-of-fit tests were completed where each Census tract's ethnic composition was used as the model distribution for the corresponding dispensary.

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Results

Medical Marijuana Patients across Dispensaries

We found significant differences between dispensaries by average distance traveled to the dispensary, medical condition for which the patient received his or her medical recommendation, and by race/ethnicity (see Table 1). Figure 1 shows the distribution of medical marijuana patients in relation to location of the dispensaries.

Differences from the General Population

For one of the four dispensaries we found significant differences by age (dispensary patients are younger than the Census tract population). We found significant differences in three of the four dispensaries for sex (more males use dispensaries than the Census tract population), and by race/ethnicity (see Table 2). With respect to race/ethnicity, the differences between the dispensary patients and Census tract population were not systematic across the four dispensaries sampled. Combined, these results suggest that dispensaries attract patients for areas not just within the Census tract and either target specific groups (young Black males) that live in the Census tract or who come to the Census tract for other purposes.

Discussion

For both of our research questions, we found significant differences across dispensary patient characteristics and with Census tract population characteristics. Differences between dispensaries in regards to medical condition and distance traveled may be indicative of clients seeking certain products at specific dispensaries for their health care needs. For these dispensaries, niche marketing may be occurring as dispensaries seek to serve distinctly different clienteles (Graves, 2011; Gruenewald, 2007).

With regards to whether or not dispensaries are largely drawn from resident populations, three of four dispensaries have clients with lower median age, higher percent male, and differ on race/ethnicity compared to the Census tract in which they reside. A study of patients seeking medical marijuana across California, from when it became legal in 1996 to 2007 finds the majority of users to be White, male, with a median age of 32 (O'Connell & Bou-Matar, 2007). Our results revealed similar patterns related to age and gender as that previous work; however, our results differed in that the majority of dispensary patients were not white. This demographic segmentation by dispensaries is one form of market segmentation that allows markets to identify and target potential clients by their demographic characteristics. In our study, race/ethnicity may be one of the key ways dispensaries target patient populations. Segmentation by race/ethnicity may point to disproportionate levels of marijuana use and related problems among different groups. Further, as the racial/ethnicity of Census tract population differs from the patient race/ethnicity, the individuals living in the Census tracts with or next to medical marijuana dispensaries may be exposed to higher levels of crime (Freisthler et al., 2016). Ultimately, this may lead to disparities in outcomes for different segments of the population.

Market segmentation of alcohol outlets is likely to result in intensification of problems (e.g., development of violent bars; Gruenewald, 2007). The question remains as to whether or not

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this same sort of segmentation will result in problem dispensaries or, in the case of recreational marijuana, problem outlets. For example, dispensaries where patients routinely spend significantly more in a discrete purchase may be indicative of people buying marijuana to re-sale on the street. Further, having a significantly higher percentage of patients who have a medical recommendation for 'chronic pain' may be on sign that medical dispensaries are selling to a recreational outlet. Although our study did not find significant differences by purchase amount, we did by type of medical condition for which patients were purchasing medical marijuana. As the problems associated with dispensaries continue to be examined, understanding the placement of dispensaries and the characteristics of their patients are important to assess what their impacts on local communities might be.

Limitations.

While these results provide support for market segmentation; the sample size for our study was small. We did not assess patient characteristics and the distribution of dispensaries in regards to types of products purchased. This would give a better indication of people were seeking out products more related to medical or recreation use, i.e. CBD-only products, which do not have psychoactive effects. Investigation should rule out if patients are traveling to dispensaries because they are near locations that they might otherwise be going to, i.e. work, social places. These relationships should be understood in terms of where dispensaries are located, the effects they may have on surrounding neighborhoods, and the distribution of different kinds of products and services.

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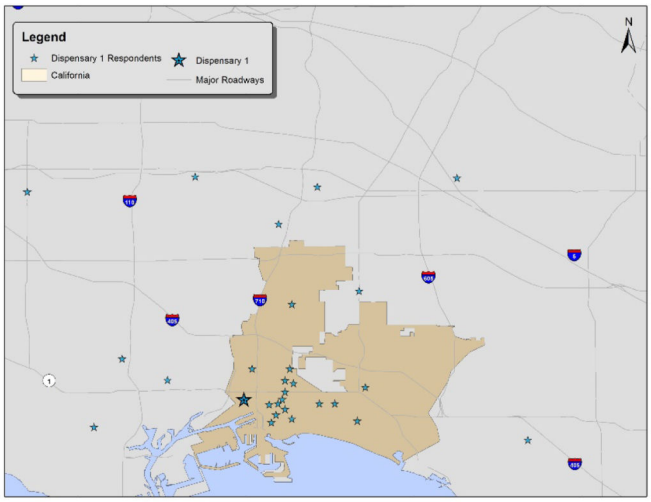

Figure 1a: Location of Patients for Dispensary 1 (mean = 5.7 miles)

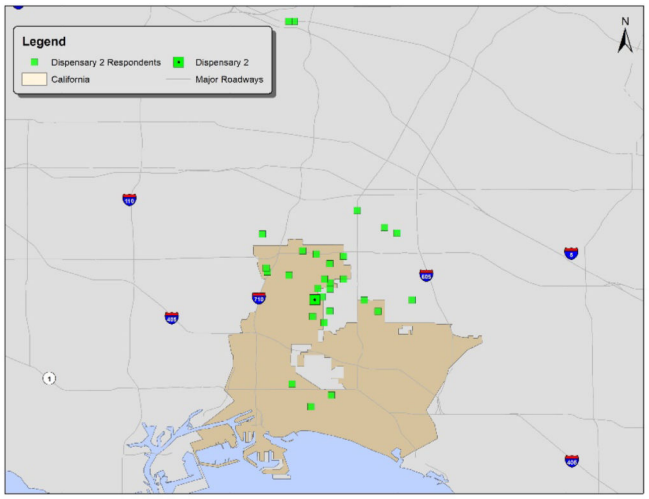

Figure 1b: Location of Patients for Dispensary 2 (mean = 4.4 miles)

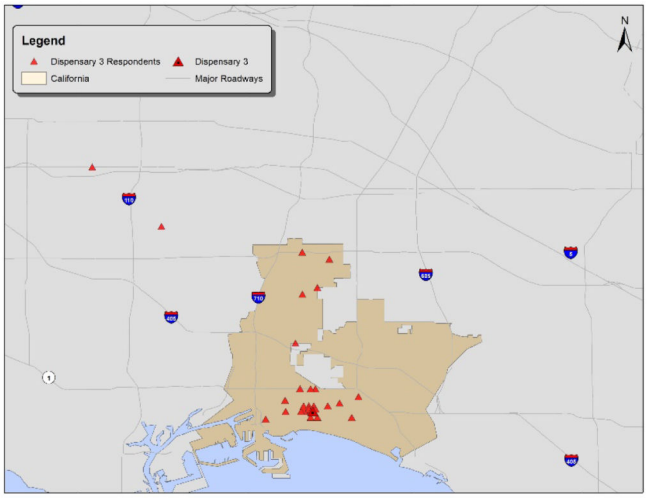

Figure 1c: Location of Patients for Dispensary 3 (mean = 2.2 miles)

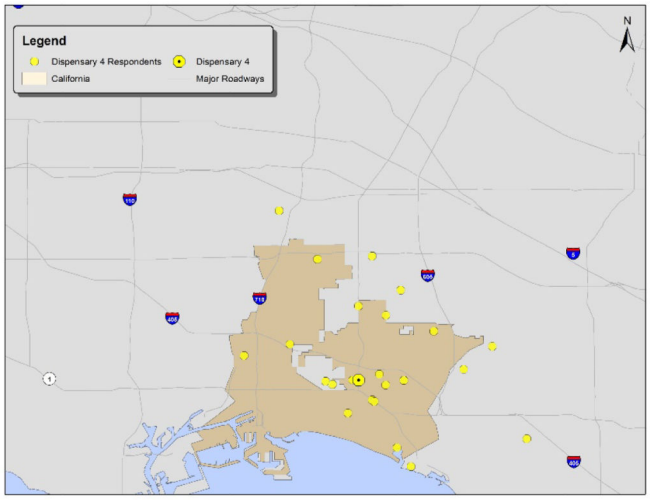

Figure 1d: Location of Patients for Dispensary 4 (mean = 3.6 miles)

Figure 1:
Distribution of Medical Marijuana Patients Relative to the Location of the Medical Marijuana Dispensary

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Table 1:

Differences in Respondent Characteristics across Dispensaries

	Location 1	Location 2	Location 3	Location 4	Statistic
Response Rate, % (n=166)	71.7	66.0	97.1	91.7	χ^2=17.004 ***
Male, % (n=132)	84.8	72.7	60.6	75.8	χ^2=5.093
Age, mean years (n=132)	32.1	31.4	30.0	28.3	F=0.626
Purchase Amount, mean dollars (n=117)	48.1	39.9	29.7	44.8	F=1.631
Distance Traveled, mean miles (n=120)	5.7	4.4	2.0	3.6	F=4.118 **
Medical Condition, % (n=131)					χ^2=22.123 *
Other Condition	33.3	18.2	31.2	42.4	
Chronic Pain	30.3	36.4	25	6.1	
Sleeping Problems	21.2	15.2	12.5	15.2	
Migraines	6.1	3.0	18.8	6.1	
Anxiety	9.1	27.3	12.5	30.3	
Race, % (n=132)					χ^2=31.219 ***
White	15.2	36.4	9.1	42.4	
Latino	60.6	18.2	33.3	18.2	
Black	21.2	33.3	48.5	21.2	
Other Race, incl. Asian	3.0	12.1	9.1	18.2	

* $p < .05$

** $p < .01$

*** $p < .001$

Subst Use Misuse. Author manuscript; available in PMC 2019 July 29.

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Table 2:

Demographic Differences between Dispensary Users and Surrounding Census Tract Population

	Median Age			% Male			Race								
							% White		% Black		% Latino		% Other		
	Obs.	Exp.	z[1]	Obs.	Exp.	z[2]	Obs.	Exp.	Obs.	Exp.	Obs.	Exp.	Obs.	Exp.	Chisq[3] (df=3)
Location 4	28.3	32.2	−1.94	75.76	48.39	3.53***	42.42	41.52	21.21	11.23	18.18	23.64	18.18	23.61	3.24
Location 3	30.0	26.6	1.69	60.61	49.12	1.13	9.09	7.37	48.48	17.19	33.33	53.51	9.09	21.94	9.48*
Location 2	31.4	36.0	−1.89	72.73	47.08	4.66***	36.36	22.43	33.33	17.35	18.18	31.54	12.12	28.68	9.08*
Location 1	32.1	38.5	−3.40**	84.85	60.50	3.67***	15.15	30.26	21.21	5.26	60.61	50.00	3.03	14.47	227.75***

[1] One-sample test of means

[2] One-sample test of proportion

[3] Chi-squared goodness of fit test

* p < .05

** p < .01

*** p < .001