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Average Distance Traveled to Child/Adolescent Mental Health Clinics in the California San Francisco Bay Area

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Abstract

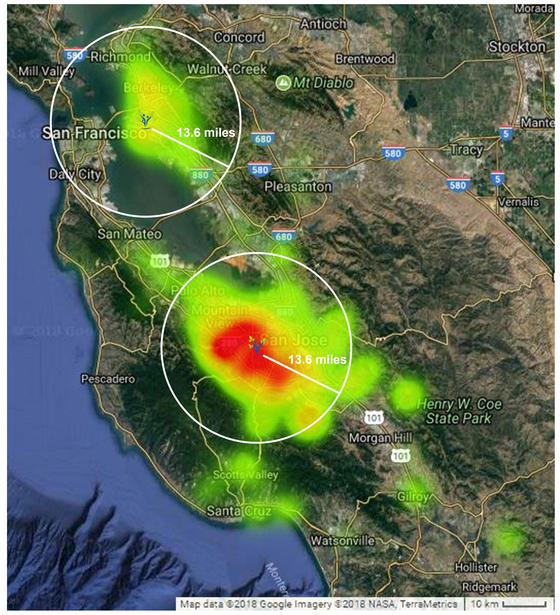
Background:
Previous research has examined the relationship between travel time and quality of mental health (MH) treatment. Traveling a long distance to clinical therapy appointments has been associated with a negative experience[1] and an increased likelihood of treatment non-adherence[2]. Research indicates travel time to outpatient MH treatment negatively predicts utilization of services[3] with decreased likelihood to utilize lower levels of care due to distance[4]. Utilization of outpatient services decreases the risk of psychiatric hospitalization in youth[5]. However, there is currently no research examining the distance people travel for MH treatment. This research investigates MH care seeking trends by examining patients' zip codes (ZC) in relation to two outpatient child/adolescent MH clinics in the California San Francisco Bay Area; Oakland (OAK), and San Jose (SJ). The objective of this study is to help identify where outpatient clinics should be made available for preventative, adequate and accessible care.

Methods:
Researchers determined ZC via medical records of patients receiving services between 2007-2017, n = 2,132 (n=353 patients receiving care in OAK and n=1,779 patients receiving care in SJ). Distance traveled was calculated via the shortest route on Google Maps from the center of the patients' home ZC to the respective clinic. This study excludes patients who had non-California ZC. Insurance status or ability to pay for services impacted the patient population studied.

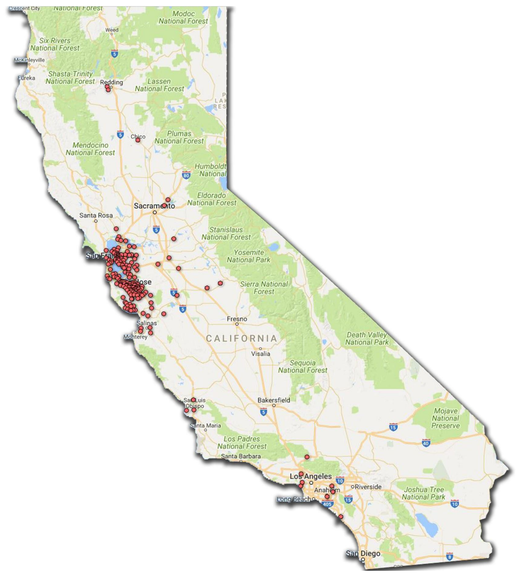
Results:
197 ZC were identified in this study and 146 ZC were within 30 miles from a clinic. Families traveled a mean distance of 13.63 ± 26.51 miles for treatment; 14.34 ± 23.50 miles to OAK and 13.60 ± 27.49 miles to SJ. When families who traveled over 30 miles to the clinic were excluded (n=32 in OAK, n=142 in SJ) the mean distance traveled was 9.12 ± 6.26 miles; 9.16 ± 6.47 miles to OAK and 9.11 ± 6.22 miles to SJ. 3.8% of patients (n=9 in OAK, n=71 in SJ) were from the same ZC as the clinic. 8.2% of patients traveled over 30 miles and came from 51 ZC, up to 405 miles away. Of those 51 ZC, 50.6% (n=88 to SJ) came from five ZC.

Conclusion:
This study suggests patients are traveling an average of 13.63 miles to child/adolescent MH clinics or 9.12 miles when traveling under 30 miles. These results are generalizable in the California San Francisco Bay Area as the average distances traveled was not impacted by location (Cohen's d= 0.03). The average distance traveled to each clinic varied by less than a mile and 0.05 of a mile for ZC under 30 miles away. We conclude child/adolescent MH clinics should exist about 28 miles apart; 18 miles for maximum accessibility. A notable amount of patients traveled further than 30 miles from neighboring ZC, indicating certain areas may suffer from inadequate and inaccessible MH treatment. This data does not account for other factors that may have influenced a family's decision to travel, such as local treatment centers not covered by their insurance. Other limitations of this study include relatively small sample size in OAK and only one geographic region: the San Francisco Bay Area. Future research should investigate why patients traveled far distances for treatment accounting for factors such as population density, provider accessibility and county MH budget allocation.

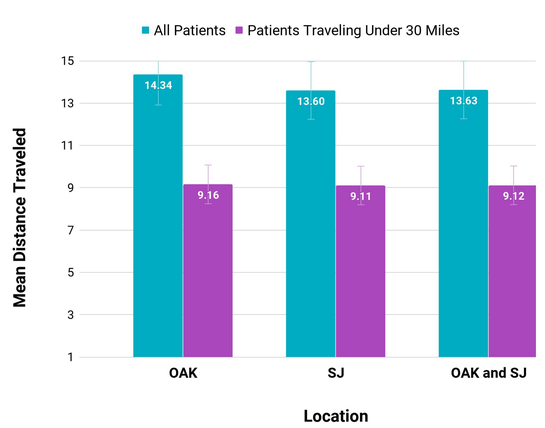
San Francisco Bay Area Heat Map of Zip Codes



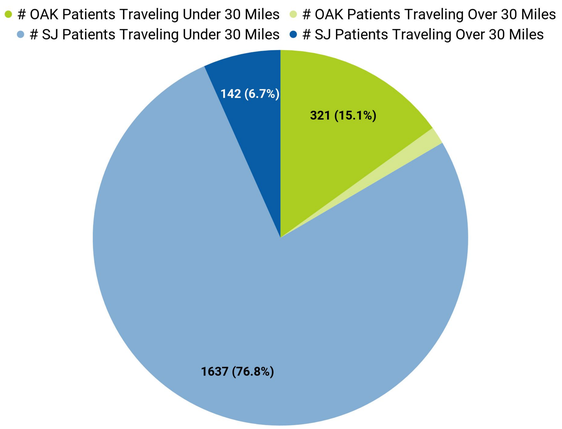
California Pin Map of Included Zip Codes



Mean Distance Patients Traveled per Location



Number of Patients by Location and Distance



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