

Assessing the contribution of the dental care delivery system to oral health care disparities

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Introduction

Oral disease is a significant health problem in the United States, and the burden of oral disease falls more heavily on the poor and racial/ethnic minorities, who have less access to oral health care (1,2). These populations experience disparities in access to dental care, including fewer dentist visits, and this lower utilization has been linked to poorer oral health (2-4). Disparities are partly due to lack of dental insurance, leading to policies to promote access by providing public insurance and directing federal funds to low-cost providers in dental health shortage areas. Yet difficulties in access to care for the underserved continue to exist due to the inadequacies of the dental care delivery system (2,5,6).

Abstract

Objectives: Existing studies of disparities in access to oral health care for underserved populations often focus on supply measures such as number of dentists. This approach overlooks the importance of other aspects of the dental care delivery system, such as personal and practice characteristics of dentists, that determine the capacity to provide care. This study aims to assess the role of such characteristics in access to care of underserved populations.

Methods: We merged data from the 2003 California Health Interview Survey and a 2003 survey of California dentists in their Medical Study Service Areas (MSSAs). We examined the role of overall supply and other characteristics of dentists in income and racial/ethnic disparities in access, which was measured by annual dental visits and unmet need for dental care due to costs.

Results: We found that some characteristics of MSSAs, including higher proportions of dentists who were older, white, busy or overworked, and did not accept public insurance or discounted fees, inhibited access for low-income and minority populations.

Conclusions: These findings highlight the importance of monitoring characteristics of dentists in addition to traditional measures of supply such as licensed-dentist-to-population ratios. The findings identify specific aspects of the delivery system such as dentists' participation in Medicaid, provision of discounted care, busyness, age, race/ethnicity, and gender that should be regularly monitored. These data will provide a better understanding of how the dental care delivery system is organized and how this knowledge can be used to develop more narrowly targeted policies to alleviate disparities.

Efforts to improve access often focus on increasing supply of providers, frequently measured as presence of licensed dentists in an area (7,8). These efforts are based on the assumption that availability of more dentists will increase access to dental care for everyone. But general supply measures fall short of evaluating the true capacity for providing dental care to the underserved. A comprehensive evaluation should examine characteristics such as part-time employment, size of staff and operatories, acceptance of public coverage or reduced fees, or multilingualism. The dearth of such information hinders the development of more effective policies to address the systemic barriers that lead to racial/ethnic disparities.

Studies of the role of supply using limited licensure or professional association membership data provide a broad

overview of supply but lack sufficient detail (7). Other studies of the role of the dental care delivery system in access are slowly emerging. Areas with shortages of dental health professionals are designated based on the age of the dentist, the number of hours the dentist works (full-time equivalent or FTE), and the number of allied personnel in the practice (9). Two studies have indicated that such characteristics of dentists are linked to provision of care to publicly insured patients. Specifically, dentists who were less busy, specialized in pediatric dentistry, or were African American or Latino were more likely to see Medicaid patients, but dentists who were not in solo practice, female, and older were less likely to do so (10,11). Another study found that bilingual/multilingual capacity in practice, acceptance of discounted fees, multiple practice locations, shorter appointment times, and provision of more operative, periodontic, and surgical care were positively associated with dentists' provision of care to publicly insured patients (5). However, few available studies have directly assessed the role of the dental care delivery system, as measured by a broad range of dentist characteristics, in access to care in general and in disparities in access to care in particular.

We developed an analytic framework (Figure 1) to examine the role of the dental care delivery system in disparities in access to dental care. This framework complements

Andersen's conceptual framework by developing the contextual indicators of access to care (12) and builds on another framework to identify indicators of service provision by dentists (13). In this study, we propose that overall measures of supply of dental care include the safety net and private-practice dentist supply (e.g., the ratio of full-time equivalent dentists per 5,000 population in private and safety net settings). The capacity for providing care in private practice further consists of personal characteristics of dentists (e.g., sex, years in practice), their practice structure and work characteristics (e.g., number of dental assistants, how busy), financial indicators (e.g., payer source), and cultural competency (e.g., non-English capacity). Access to oral health in general, and for underserved populations in particular, is determined by overall supply and capacity in the private setting, but these effects are modified by population characteristics, which include "predisposing," "enabling," and "need" Characteristics. In our analyses, we anticipated that access is promoted with more public and private practice dentists per 5,000 population. Also, the presence of more dentists who accept discounted fees or publicly insured patients or are multilingual promotes access, particularly for the underserved. Conversely, access is inhibited when dentists are older, newly graduated, female, specialist, white, not busy or overworked, or have smaller practices (no hygienists, fewer

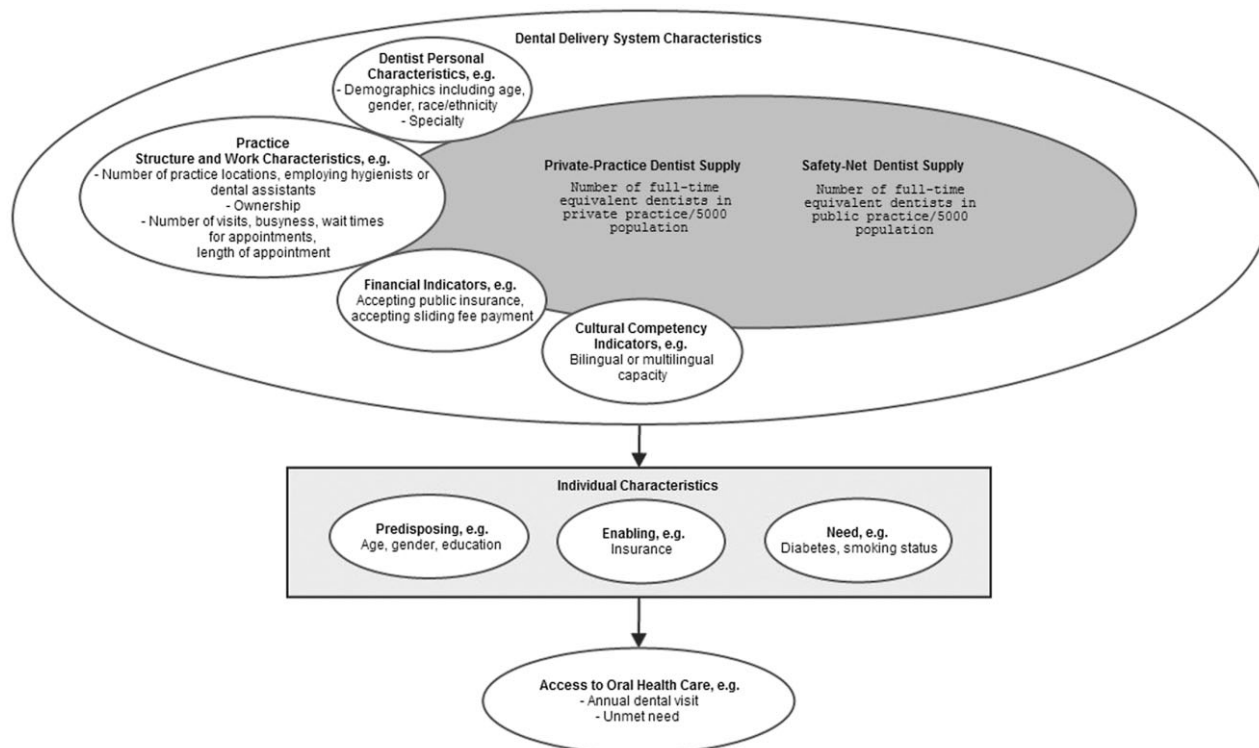


Figure 1 The framework for assessing the role of dental care delivery system in access to care overall and for underserved populations.

dental assistants, fewer visits, longer wait times, longer appointment time per visit) or multiple locations. We examined if these effects differed by race/ethnicity and income.

Methods

Sample and data

We used data on the civilian noninstitutionalized adult population in California from the 2003 California Health Interview Survey (CHIS), a statewide and nationally used health survey (14,15). The CHIS (60 percent adult response rate) is geocoded to allow for merging of external variables at the geographic unit of interest, is conducted in Spanish and multiple Asian languages, and is the largest source of data on populations with limited English proficiency nationally. Data on private-practice dentists were obtained from the 2003 California Dentist Survey (CDS), a representative survey of California dentists in private practice conducted by the authors of this study. The sample included 4,400 completed surveys with an overall unadjusted response rate of 31 percent and an adjusted response rate of 46 percent, discounting responses from ineligible or unlocatable respondents and those of unknown eligibility (13,16). Eligible dentists were actively practicing in dentist-owned private practices and were not public health dentists or oral and maxillofacial surgeons, pathologists, or radiologists. CDS data were weighted to account for sampling design and nonresponse (17). The primary practice location of each dentist in CDS was geocoded according to his or her Medical Study Service Area (MSSA). MSSAs are designated by the California Office of Statewide Health Planning and Development (OSHPD) after each decadal census. MSSAs include one or more complete census tracts, are confined within county lines, and are recognized by the U.S. Public Health Service as rational service areas for providing primary health care services (18).

Data on size of the population and percentage who were white were obtained from Census 2000 Summary File 3 (19). The number of the public practice dentists was obtained from the 2003 OSHPD Primary Care Clinics Annual Utilization Data, which includes dentists working in federally funded or independent community clinics as well as those affiliated with hospitals or dental and hygiene schools. OSHPD data do not represent the universe of public providers but provide the best approximation. We also obtained data from California dental schools on the total number of FTE students and faculty providing patient care in 2003 in schools and satellite clinics and removed the overlap in FTE dentists between these providers and OSHPD data.

The CDS and CHIS data were merged at the MSSA level. Of 542 California MSSAs, 14 had no dentists in 2003, while 85 were not represented in the CDS survey and were excluded from the final dataset. Up to 29 additional MSSAs were

excluded from analysis due to CDS survey item nonresponse. All MSSAs had CHIS respondents. Of the 42,044 adult respondents in CHIS, 40,249 resided in MSSAs where data on characteristics of dentists were available in CDS. The final sample size ranged from 39,216 to 40,084 dentists and from 414 to 443 MSSAs.

Dependent variables

Access to dental care was measured at the individual level (CHIS data) in terms of annual visit or whether a respondent had made a dental visit within the past year (objective measure). Access was also measured by unmet need or whether a respondent reported having forgone or delayed needed dental care due to costs (subjective measure).

Independent variables

The dental care delivery system measures included CDS indicators calculated at the MSSA level. Personal indicators included percentages of dentists in the MSSA who were over age 60, nonwhite, generalist, and female. Practice structure and work indicators included percentages of dentists who employed two or more dental assistants, employed a dental hygienist, had multiple practice locations, were owners or partners in their practice, reported being busy or overworked, reported lower than median wait time for an appointment of 5 days, and reported lower than median length (45 minutes) for appointments. The average number of dental visits per dentist in a week per MSSA was also calculated. Financial and cultural competency indicators included percentages of dentists/dental practices who accepted discounted fees, accepted public insurance, and only spoke English. Safety net and private practice dentist supply were measured by calculating the number of FTE dentists in each setting per 5,000 population for each MSSA. The proportion of white population per MSSA, obtained from census data, was also included as a contextual measure of population characteristics.

The individual-level control variables included age (65 years of age or older versus 18–64), gender, race/ethnicity (African American, Latino, Asian American, and American Indian and other versus white), US citizenship (citizen versus noncitizen), college education (any versus none), and residence (rural versus urban) as “predisposing” characteristics (12). “Enabling” determinants of access included income (200 percent of federal poverty level versus lower) and dental insurance coverage (public/private versus none). Self-assessed health (fair/poor versus excellent/very good/good), smoking habits (being a current or past smoker versus never having smoked), and medical history (having been diagnosed with asthma, diabetes, or high blood pressure) were included to control for the impact of need for health care.

Analysis methods

We assumed that the CDS variables were independent and normally distributed and accounted for the sampling error associated with CDS data by calculating the variance of the CDS variables at the MSSA level and using the resulting variance data in the models. We used generalized linear mixed models (GLIMMIX) with binomial distribution and logistic link in SAS (v. 9.1.3) in order to specify the variance of CDS data and account for the multilevel nature of the data. We included the numbers of private-practice and public-practice FTE dentists per 5,000 in all models to control for the overall effect of supply of dental providers. We examined the relationship of additional dentist characteristics in separate models, because our models did not converge when using more than three external variance estimates in GLIMMIX. We also included the proportion of the population that was white and all the individual control variables described above in all the models. We further stratified each model by race/ethnicity and poverty level to examine racial/ethnic and income disparities in access. All analyses were weighted for the CHIS survey design. We report the Bonferroni adjustments to the probability values in tables to account for multiple comparisons but discuss the significant variables based on their original probability values because of the high likelihood of type II error. This study was approved by the appropriate committee for protection of human subjects.

Results

The population characteristics are displayed in Table 1, and dental care delivery system characteristics are displayed in Table 2. Table 2 includes the mean value for each characteristic per MSSA, as well as the number of MSSAs and the population size available for the analyses of the entire population.

Table 3 shows that odds of annual visits were higher with some dentist characteristics. For example, a higher proportion of female dentists in an MSSA increased the odds of annual visits (OR = 1.2) in general and that by whites in particular (OR = 1.27). In contrast, a higher proportion of dentists over the age of 60 in an MSSA reduced the odds of visits by lower-income groups (OR = 0.65), Asian Americans (OR = 0.39) and Latinos (OR = 0.63). Other significant dentist characteristics associated with disparities are indicated in Table 3.

Table 4 shows that the odds of experiencing unmet need in the past year increased with some dentist characteristics. For example, the odds of unmet need decreased with a higher proportion of female dentists in an MSSA in general (OR = 0.72) and for all racial/ethnic groups and higher-income populations, but not for the low-income. But a higher proportion of dentists who graduated within the past 5 years increased the odds of unmet need for African Americans

Table 1 Characteristics of Adult Population Sample, California, 2003 (n = 40,084)

Access to dental care	
Annual dental visit (dental visit in the past year)	67%
Unmet need (delayed or forgone needed dental care due to costs in the past year)	20%
Predisposing characteristics	
Age 65 years or older (versus 18–64)	15%
Female	51%
Race/ethnicity	
White (reference group)	52%
African American	6%
Latino	26%
Asian American	12%
Native American	1%
Other	3%
College education or higher (versus less education)	56%
US citizen (versus noncitizen)	82%
English language proficiency	
Native English speaker (reference group)	73%
Speaks English well	11%
Speaks English poorly/not at all	16%
Rural residence (versus urban)	10%
Enabling characteristics	
Income 200% of federal poverty level or greater (versus lower)	67%
Dental insurance	
No dental insurance (reference group)	35%
Public insurance	12%
Private insurance	53%
Need characteristics	
Has asthma	12%
Has diabetes	7%
Smoking status	
Currently smokes	16%
Quit smoking	24%
Never smoked (reference group)	60%

Source: 2003 California Health Interview Survey.

Weighted estimates are presented.

(2.95). Other dentist characteristics associated with more unmet need are indicated in Table 4.

Discussion

The findings confirm that the practice norms of private-practice dentists, who constitute the great majority of US dentists, affect income and racial/ethnic disparities in access. For example, older, newly graduated, and female dentists work fewer hours, and female dentists see fewer patients per hour and have fewer staff (8,20,21). Another finding is that nonwhite dentists are more likely to have nonwhite or low-income patients (22). The CDS data show that most California dentists are white or Asian American, which is discordant with the size of the Latino and African American populations. Female dentists also tend to spend more time on provision of preventive care, which is more often received by white patients (13,23).

Table 2 Dental Care Delivery System Characteristics and MSSA and Adult Population Sample Size per Characteristic

	Average per MSSA	Number of MSSAs	Population size
Dentist supply			
Public-practice/safety-net dentists per 5,000 people	0.34	443	40,084
Private-practice dentists per 5,000 people	2.86	443	40,084
Personal characteristics of dentists in private practice			
Over age 60	14%	423	39,499
Graduated within past 5 years	10%	423	39,499
Nonwhite	10%	422	39,488
Generalists	87%	423	39,499
Female	25%	422	39,488
Practice structure and work characteristics of private dental practices			
Average number of dental visits in a week	39	421	39,393
Ownership of or partnership in dental practice	80%	422	39,452
Employ a dental hygienist	45%	420	39,395
Employ two or more dental assistants	62%	422	39,452
Multiple practice locations	15%	421	39,429
Busy or overworked	24%	422	39,452
Lower than median (45 minutes) appointment length	38%	418	39,277
Lower than median (5 days) wait time for an appointment	50%	414	39,048
Financial indicators of private dental practices			
Accept discounted fees	52%	416	39,216
Accept public insurance	47%	418	39,277
Cultural competency of private dental practices			
English only	26%	423	39,499

The MSSA sizes for income and racial/ethnic stratified analysis varied by each characteristic: less than 200% of FPL (411–416), 200% of FPL or more (416–421), white race/ethnicity (417–422), African American race/ethnicity (296–298), Asian American race/ethnicity (327–328), and Latino race/ethnicity (385–390). Similarly, the population size for stratified analysis varied: less than 200% of FPL (10,868–11,103), 200% of FPL or more (28,339–28,557), white race/ethnicity (24,832–25,025), African American race/ethnicity (2,432–2,483), Asian American race/ethnicity (3,815–3,862), and Latino race/ethnicity (6).

FPL, federal poverty level; MSSA, Medical Study Service Area.

The results provide insights into how some private dentists practice: those with larger and busier practices often employ hygienists and multiple dental assistants, have multiple locations, have shorter appointment times and longer wait times, accept public insurance and discounted fees, and have multiple-language capacity in their practice. These dentists are more likely to provide care to lower-income, publicly insured, and nonwhite patients and those with limited English proficiency and to operate in densely populated areas (5). They may also focus less on preventive care, but more on services such as extractions and aesthetic care (13). Other dentists are more likely to provide care to privately insured and higher-income patients.

The relationship of access to number of FTE dentists per 5,000 people also indicates a tiered system of care by income and race/ethnicity. While more private-practice dentists in a community increases rates of annual visits, their pre-

sence tends to benefit higher-income and white patients more than their low-income and nonwhite counterparts. However, the presence of more dentists in safety-net community clinics and dental schools is insufficient to address the level of need in communities with low-income and nonwhite populations (24).

This study had certain limitations and strengths. The CDS excluded dentists who exclusively practiced in nonprivate settings. Comprehensive data on the universe of practicing dentists in corporate practices, school-based clinics, mobile clinics, hospital-based clinics, VA facilities, public hospitals, and county health facilities were not available. However, all public dentists practicing in licensed clinics in OSHPD data and California dental schools were included. Our study includes the substantial majority of the providers of low-cost dental care, and the absence of providers in alternative settings does not limit the

Table 3 Population Odds of Dental Visit within the Past Year Given Dental System Characteristics

	Total population	Income		Race/ethnicity				
		Less than 200% of FPL	200% of FPL or more	White	African American	Asian American	Latino	
Dentist supply								
Public-practice/safety-net dentists per 5,000 people	0.99*	1.00	1.00	0.98†	0.99	1.00	1.00	1.00
Private-practice dentists per 5,000 people	1.02†	1.04	1.02†	1.05†	0.94	1.00	1.00	1.01
Personal characteristics of private-practice dentists								
Percentage of dentists over age 60	0.83	0.65*	0.80	0.96	0.73	0.39†	0.63*	0.63*
Percentage of dentists who graduated within past 5 years	1.18	1.06	0.98	1.19	0.90	1.31	1.15	1.15
Percentage of nonwhite dentists	0.90	0.83	0.92	0.80	0.56*	1.03	1.00	1.00
Percentage of dentists who are generalists	0.92	0.77	1.03	0.87	1.33	0.82	0.87	0.87
Percentage of female dentists	1.20*	1.13	1.21	1.27*	0.81	1.46	1.17	1.17
Practice structure and work characteristics of private dental practices								
Average number of dental visits in a week	1.01	1.02	1.00	1.01	1.03	1.01	1.00	1.00
Percentage of dentists who own or are partner in a dental practice	0.93	0.96	0.91	0.86	0.64	1.17	1.01	1.01
Percentage of dentists who employ a dental hygienist	1.00	0.90	1.12	1.08	0.91	1.25	0.94	0.94
Percentage of dentists who employ two or more dental assistants	0.98	1.03	0.95	0.82*	1.28	1.27	1.17	1.17
Percentage of dentists who have multiple practice locations	1.24	1.47*	1.00	1.04	1.52	1.45	0.96	0.96
Percentage of dentists reporting being busy or overworked	0.81*	0.95	0.74*	0.79*	0.74	0.58*	1.25	1.25
Percentage of dentists who report lower than median (45 minutes) appointment length	1.02	1.67	0.95	0.90	1.35	0.89	1.31*	1.31*
Percent of dentists who report lower than median (5 days) wait time for an appointment	0.95	0.96	0.96	1.00	1.13	1.12	0.79	0.79
Financial indicators of private dental practices								
Percentage of dentists who accept discounted fees	1.11	1.27*	0.98	1.00	0.77	1.10	1.44†	1.44†
Percentage of dentists who accept public insurance	0.92	0.98	0.88	0.74†	1.08	1.34	1.09	1.09
Cultural competency of private dental practices								
Percentage of dentists and office staff who speak English only	0.71	1.08	0.53*	0.60	0.28	0.62	2.22	2.22

Source: Based on authors' analysis of a 2003 survey of California dentists and the 2003 California Health Interview Survey.

Each row represents a regression with the same dependent variable and control variables. The control variables are population characteristics including predisposing, enabling, and need variables identified in Table 1.

* Significant at $P < 0.05$ without Bonferroni adjustment.

† Significant at $P < 0.05$ with Bonferroni adjustment.

FPL, federal poverty level; MSSA, Medical Study Service Area.

Table 4 Population Odds Ratios of Unmet Need within the Past Year Given Dental System Characteristics

	Total	Income		Race/ethnicity				
		Less than 200% of FPL	200% of FPL or more	White	African American	Asian American	Latino	
Dentist supply	1.01	1.00	1.01	1.00	1.00	1.01	1.04*	
Public-practice/safety-net dentists per 5,000 people	0.99	0.98	1.00	0.99	0.99	1.00	0.96	
Private-practice safety-net dentists per 5,000 people								
Personal characteristics of private-practice dentists								
Percentage of dentists over age 60	0.93	1.00	0.89	0.92	1.10	0.68	0.96	
Percentage of dentists who graduated within past 5 years	1.07	0.98	1.22	1.11	2.95*	1.59	0.82	
Percentage of nonwhite dentists	0.90	0.86	0.98	0.97	0.94	0.32*	0.92	
Percentage of generalist dentists	0.92	0.32	1.11	0.88	0.54	3.50*	1.02	
Percentage of female dentists	0.72†	0.85	0.70†	0.71†	0.54*	0.52*	0.70*	
Practice structure and work characteristics of private dental practices								
Average number of dental visits in a week	1.01	0.99	1.01	1.01	1.00	0.99	0.98	
Percentage of dentists who own or are partner in a dental practice	0.93	1.03	1.09	1.26	1.67	0.76	0.86	
Percentage of dentists who employ a dental hygienist	1.00	0.98	0.76†	0.83	0.64	0.12	0.85	
Percentage of dentists who employ 2 or more dental assistants	0.98	0.94	1.15	1.17	1.30	0.94	0.97	
Percentage of dentists who have multiple practice locations	1.24	0.84	1.06	1.22	0.72	0.87	0.67*	
Percentage of dentists reporting being busy or overworked	0.81*	1.20	1.18	1.19	1.29	1.12	1.01	
Percentage of dentists who report lower than median appointment length (45 minutes)	1.02	1.05	0.93	1.04	1.02	0.71	0.89	
Percentage of dentists who report lower than median wait time for an appointment (5 days)	0.95	0.74*	0.82*	0.78*	0.64	0.82	0.70*	
Financial indicators of private dental practices								
Percentage of dentists who accept discounted fees	1.11	0.98	1.08	0.98	1.48	0.70	0.86	
Percentage of dentists who accept public insurance	0.92	0.90	1.34†	1.08	2.03†	0.98	0.89	
Cultural competency of private dental practices								
Percentage of dentists and office staff who speak English only	0.71	2.40*	0.98	1.47	0.79	15.20	0.69	

Source: Based on authors' analysis of a 2003 survey of California dentists and the 2003 California Health Interview Survey.

Each row represents a regression with the same dependent variable and control variables. The control variables are population characteristics including predisposing, enabling, and need variables identified in Table 1.

* Significant at $P < 0.05$ without Bonferroni adjustment.

† Significant at $P < 0.05$ with Bonferroni adjustment.

FPL, federal poverty level; MSSA, Medical Study Service Area.

generalizability of the results. We used the FTE concept to address the potential overlap between private and public settings, though some overlap may exist when dentists volunteer in public settings.

We may have underestimated the impact of some dentist characteristics because individuals may travel between MSSAs to use dental care. Also, we excluded MSSAs without practicing dentists (2.6 percent) or with high levels of nonresponse (15.7 percent). However, travel across MSSA lines is more likely for those living at MSSA borders, when safety-net providers are unavailable, or in densely populated urban areas with multiple MSSAs than in rural MSSAs. But, factors such as language limitations, heavier reliance on public transportation, and less flexibility in paid time off from work may prevent underserved populations from traveling across MSSAs or cause delays in visits.

We were unable to simultaneously assess all dentist variables because of technical limitations and insufficient sample size for more complicated analyses, but we included the public- and private-practice dentist-to-population ratios in all models to address this limitation to some degree. We used smoking status, chronic conditions, and general health status as reasonable proxies for oral health status because the CHIS lacked direct measures. We also lacked information on obesity and whether dental care was received from private-practice dentists or public sources.

The generalizability of the findings may be limited due to the age of the data and lack of national data. Since 2003, the number of licensed California dentists has increased but their demographics and practice characteristics have remained consistent both in California and nationally (21). Similarly, the sociodemographic characteristics of the California population have remained relatively stable, and economic changes related to the recent recession have occurred nationwide. There is little evidence to indicate that the relationship of the dental care delivery system to access to care has changed significantly since 2003.

The major strengths of this study are the unprecedentedly detailed data on characteristics of the dental care delivery system, the use of representative California data to reduce the impact of variations in state-level policies and practices, examination of the role of system characteristics in access in an MSSA, and the focus on unmasking disparities in access often hidden in aggregate analysis. We refined the measure of supply by using FTE practicing dentists, as many licensed dentists do not practice or practice only part-time.

Policy implications

These findings highlight the deficiencies of focusing on traditional measures of supply such as licensed-dentist-to-population ratios and indicate that dentist characteristics

play a role in disparities in access. Lack of such data is a barrier to developing effective state and local policies to address disparities and monitor their impact. Minimum datasets with consistent information across geographic areas are needed (25), and state licensing boards can be the vehicles for collecting data on characteristics such as practice setting, acceptance of public insurance or discounted care, busyness, staffing, age, gender, and ethnicity. These data can be used to promote access for the underserved through policy and would allow for continuous monitoring of the impact of these policies on disparities. Such detailed data would better inform designation of shortage areas beyond current methods using dentist age and staff size (9). Loan repayment and scholarship programs are tied to shortage designation and would also be more targeted with detailed data. Efforts to train more African American and Latino dentists are sound policy solutions needed to alleviate disparities and should continue. Favorable small business loans or tax incentives can also be used to attract less busy or experienced dentists to underserved areas.

Addressing financial barriers to dental care access has been at the forefront of policy efforts, but permanent and effective solutions have consistently eluded policymakers. The problem of dentist participation in Medicaid is longstanding. Less than half of dentists in California reported having any publicly insured patients in their practice in 2003, and their numbers may have declined since 2009, when California cut Medicaid dental benefits. Despite reinstatement of these benefits in 2013, the lower reimbursement in the program is still a barrier. Increase in Medicaid fees to encourage Medicaid participation is unlikely as budget shortages continue to plague the nation. Even with higher fees, Medicaid beneficiaries still have to compete with privately insured and higher-income patients, and providers may continue to prefer privately insured and self-paying patients to avoid lower fees and authorization delays.

Availability of low-cost dental care in the form of discounted fees is an untenable solution, particularly as provider discounts are likely to fluctuate with recession and economic decline. Policies that improve dental insurance coverage and benefits are more effective. Mandating the offering of adult dental benefits in Health Benefit Exchange marketplaces, similar to the mandate to offer dental policies for children under the 2010 Patient Protection and Affordable Care Act, is one likely approach.

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