

Dissatisfaction with dental care among mothers of Medicaidenrolled children

Milgrom P, Spiekerman C, Grembowski D. Dissatisfaction with dental care among mothers of Medicaid-enrolled children. Community Dent Oral Epidemiol 2008; 36: 451–458. © 2008 The Authors. Journal compilation © 2008 Blackwell Munksgaard

Abstract – Objectives: This paper is part of a larger study examining the impact of mothers' having a regular source of dental care (RSDC) on utilization of dental care and oral health of their preschool children. We describe levels of satisfaction with care among mothers whose preschool children were enrolled in Medicaid in Washington State. We report mothers' satisfaction related to having a RSDC by type of dental setting/office. Methods: Disproportionate stratified sampling by racial/ethnic group selected 11 305 children aged 3-6 in Medicaid in Washington State. Mothers (n = 4373) completed a mixed-mode survey. Satisfaction with dental care was measured using the Dental Satisfaction Questionnaire (DSQ). Results: Overall mean DSQ was 57.1 ± 9.9 (range 18-89). A higher score indicates greater satisfaction. There was not evidence of a difference in dissatisfaction by race/ethnicity but Blacks and Hispanics were less satisfied with pain management than Whites. The majority of respondents agreed with the statement that 'Dentists sometimes act rude to their patients.' Satisfaction is higher for mothers who have a regular private dentist they see consistently versus having a regular dentist through a public or non-profit clinic. Conclusions: The satisfaction with dental care for this population is low, and considerably lower than found in other studies for primary medical care. Steps need to be taken to increase dental satisfaction and access to private dental clinics, and to increase perceived quality and pain management of dental care in both private clinics and public/non-profits serving low-income populations.

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Key words: health services accessibility; mothers; oral health; patient satisfaction

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Submitted 30 April 2007; accepted 21 August 2007

There is strong evidence that continuity of primary care results in better health outcomes (1). Dissatisfaction with a primary care provider or perceived barriers to access results in increased non-emergent use of the emergency department and poorer outcomes (2). This relationship persists even after adjusting for race/ethnicity and other demographic variables. In a longitudinal study of general medical care, decreases in satisfaction were predictive of a change in provider (3). However, those with a usual source of medical care can be dissatisfied but afraid to leave for fear of not finding another provider (4). On the other hand, an involuntary change in health plans can be the reason for switching providers or not having one. Insurance

doi: 10.1111/j.1600-0528.2007.00423.x

coverage is a strong and consistent predictor of access to a usual and continuous source of medical and dental care (5–7).

Other than insurance coverage, racial and ethnic minorities encounter barriers because of problems of availability of care, convenience of services, and language and cultural barriers. Providers may lack cultural competence resulting in dissatisfaction (8). A large body of literature reveals that, relative to whites, racial and ethnic minorities are more likely to receive lower quality of basic clinical services (9, 10). Services available to minorities may be perceived by them to be less effective in meeting their needs, and they may be less satisfied with their care (11).

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Current U.S. health policies create barriers to dental care for low-income populations that may reduce satisfaction, continuity of care and the likelihood of having a regular source of dental care. Pregnant women qualify for Medicaid (U.S. public dental insurance for low-income persons) if their family incomes are below 133% of the federal poverty level (FPL) or higher in some states, but at 60 days postpartum eligibility reverts to the FPL (12). As a result, low-income parents, particularly women, have experienced loss and instability of Medicaid coverage and less dental utilization (13–15).

Uneven administration and congressional policies at the Federal level have led to uncertainties about the availability of care for low-income populations through community health centers (CHCs) and other safety net clinics. The CHCs face persistent problems in professional recruitment of dental personnel (16). Thus, there are barriers to both dental private practices and public/non-profits. Moreover, little is known about the preferences of the low-income population. In one survey that included low-income people, private practices were rated more highly than a hospital dental clinic, neighborhood health center or large group practice located in a shopping center on dimensions, such as dentist and staff quality and efficiency (17). The shopping center-based practice was rated most highly for accessibility. However, the differences in satisfaction overall between the delivery systems were small, and the results may be biased because the characteristics of the respondents from each practice sample may differ systematically.

Mixed evidence exists about access to dental care and dental satisfaction among low-income mothers. Continuity of care is related to satisfaction with dental services in the general population of dental care utilizers (18). A previous study found no differences in satisfaction of low-income mothers with dental care by race/ethnicity but continuity of care was not measured directly (19). However, satisfaction was related to whether a low-income mother would seek care for her child (20). Similarly, there was a positive relationship between satisfaction and self-reported oral health (19).

Objectives

This paper is part of a larger prospective study that examines the impact of mothers' having a regular source of care on the utilization of dental care and the oral health of their children. This is important because unhealthy mothers have been shown to be the major source of dental disease infection of their children and that improving a mother's oral health can result in lower rates of infection in the children and less tooth decay (21).

The objective of this paper is to describe levels of satisfaction with dental care among mothers whose preschool children are enrolled in Medicaid in Washington State. Further, we report whether mothers' satisfaction with care is related to having a regular source of dental care by type of dental setting/office. We hypothesize that satisfaction is higher in mothers with a regular source of dental care; and that relative to mothers with an established relationship with a private dentist, satisfaction with dental care will be lower for mothers who do not see the same provider at every visit in a private practice or receive care from a public or non-profit clinic.

Methods

Population and sample

The population consisted of 108 151 children enrolled in Medicaid aged 3-6 and their mothers in Washington State (children's household income eligibility for Medicaid is 250% of FPL). On April 30, 2004, a disproportionate stratified random sample of 11 305 preschool children aged 3-6 was selected from the Medicaid Management Information System, a computer database containing eligibility information for the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program and the State Children's Health Insurance Program, in the following four racial/ethnic groups: 3791 Black; 1902 White; 2806 Hispanic (Medicaid's name for this group); and 2806 from other racial/ethnic groups. If a household had more than one child in the age range, one child was selected randomly. The adjusted response rate was 73%, 4762 respondents (6). The Washington State Institutional Review Board approved the protocols.

Measures

Regular dental place and regular dentist

Measures were based on Starfield's definition of a regular source of care: one place, one provider, over time for preventive and therapeutic care (7). Measures of a regular dental place and regular dentist that satisfied the definition were constructed from usual source of health care items in the Community Tracking Study and Medical Expenditure Panel Survey, as well as survey items in the Access to Baby and Child Dentistry (ABCD) Study (22).

Mothers had a regular place of dental care if: (a) they responded 'yes' to 'Is there a particular dental office, clinic, health center or other place that you usually go to for dental care?;' and (b) the place where the mother goes was *not* a hospital emergency room; and (c) they went to the place for 1 year or more; and (d) the place was a source of preventive services, measured by having teeth cleaned in the past 2 years.

Mothers had a regular dentist if: (a) items (a), (b) and (d) for a regular dental place were met; (b) mothers reported seeing the same dentist each time they went there; and (c) mothers went to that dentist for 1 year or more. Thirty-eight percent of mothers had a regular dental place and 27% had a regular dentist (6).

Type of dental practice visited (public or private) was elicited through a multiple choice question asking the mother to indicate which place most closely matched where she usually goes for dental care. If 'Dentist's office' was chosen this was indicated as a 'private' practice. The mother was coded to use a 'public' dental office if she chose one of: Emergency room, Dental clinic in a community health center, Farm workers dental clinic, Dental school clinic, Local health department, or Some other place.

Mother and family characteristics

Race/ethnicity was measured by mothers' response to: 'What race or ethnic background best describes you?,' with responses of Hispanic, Latino, or Spanish; White, not Hispanic; Black or African-American; American-Indian; Alaska Native; Asian (such as Vietnamese, Korean, Japanese, Filipino, Chinese, Asian Indian); Pacific Islander (such as Hawaiian or Samoan); or some other race indicated by the mother.

Satisfaction with dental care was measured using the Dental Satisfaction Questionnaire (DSQ) (23). The DSQ is a 18-item instrument designed for selfadministration. The individual items are rated on five-point Likert-like scales ranging from strongly agree (score 1) to strong disagree (score 5) and the scale has a range from 18 to 90. One-half of the items had their scoring reversed to avoid response set bias. In all the DSQ scales, items were coded according to DSQ protocols so that a higher score meant greater satisfaction. In addition to the overall score, subscales assessing pain management and quality of care were also constructed. The pain management subscale consisted of three items with a possible score from 3 to 15, and the quality subscale consists of seven items with a possible score from 7 to 35. We also measured perceived rudeness of dentists, an item originally developed for the DSQ but not included in the final version ('Sometimes dentists act rude toward their patients'). Previous work has shown the items had acceptable reliability and validity in a population of mother's of children of low-income families in Seattle (19).

We computed the pro-rated mean score for each scale, which allows comparison of average scores across indices. The pro-rated mean score is a percentage defined as the original scale score minus the minimum possible score divided by the highest possible score minus the minimum score possible. This results in all scores having a common 0 to 100 scale, with 0 and 100 indicating lowest and highest possible scores, respectively. A higher score represents greater satisfaction.

Data collection

On June 11, 2004, the Department of Social and Health Services (DSHS), which administers the Medicaid Program, mailed the parents of sampled children letters in English, Spanish, Vietnamese, and Russian, the most prevalent primary languages in the population based on Medicaid records, describing the study and containing instructions to notify DSHS if they did not want to participate. By the July 14 deadline, 396 parents opted out of the study or had nondeliverable letters, leaving 10 909 participants.

The Social and Economic Science Research Center (SESRC) at Washington State University performed a mixed-mode, web-mail-telephone survey of mothers using methods developed by Dillman (24). Medicaid eligibility files contained a child's name, address, telephone number, and primary language but did not indicate mother's name. Contact materials were addressed 'To the Mother of [child's full name],' and all letters and instruments were at the 6–8th grade reading level. English instruments were translated into Spanish, Russian and Vietnamese. All modes of the instrument contained the same 66 questions with 109 items.

Starting September 3, SESRC mailed invitation letters to the 10 909 mothers to complete the Web survey, with a Spanish letter also included for families with that primary language. Each letter

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contained a unique password for accessing the Web survey, and respondents were entered into a drawing for 25 \$50 grocery certificates. The Web survey was closed on November 3.

Beginning September 27, mothers who had not completed a Web questionnaire were sent a mail questionnaire with letters in English and Spanish to everyone with a \$2 bill incentive in the first mailing. Follow-ups to nonrespondents included a thank you/reminder postcard mailed 2 weeks later to everyone, and replacement questionnaires and cover letter mailed to nonrespondents of the Web and mail questionnaire 4 weeks later by U.S. Priority Mail. Questionnaires received by January 31, 2005 were included in the study.

Starting November 3 SESRC mailed letters in English and Spanish to mothers who had not responded to the Web or mail questionnaires that invited them to complete a telephone interview in English, Spanish, Russian, or Vietnamese. If a contacted parent refused to participate, refusal conversions were not attempted, and calling ended on December 31, 2004. Completed instruments from the three modes were combined for the analysis.

Analysis

Figures, means, and confidence intervals were computed accounting for the disproportionate random sampling scheme. Means and standard errors were computed by weighting each observation by its respective stratum's proportion in the overall population. Differences in mean satisfaction measures between source-of-care groups were assessed using a weighted least-squares regression analysis adjusting for race/ethnicity group (Black, Hispanic, White, Other). Multiple comparisons within satisfaction measure were accounted for using the Bonferroni correction. Differences in satisfaction levels between races were tested using unweighted ANOVA. Of the 4373 mother-respondents, 4191 were included in the analyses. Those respondents not included were 140 where no race/ethnicity was available and 42 without a response to the questions about a usual source of dental care. Computations were carried out using the statistical programming language R, version 2.2.1 (25).

Results

The overall mean DSQ, not including the extra 'rudeness' item, was 57.1 ± 9.9 with a range from

18 to 89. A higher score for all pro-rated means indicates greater overall satisfaction. The pro-rated mean (PR) was 54%. The subscale scores were: Quality ($X = 25.1 \pm 4.3$, PR = 65%, range 7–35); and Pain Management ($X = 8.6 \pm 3.1$, PR = 47%, range 3–15). The mean score for the rudeness item was 3.3 ± 1.3 (PR = 57%, range 1–5).

Figure 1 gives three comparative histograms of the overall pro-rated means for the overall satisfaction scale and the two subscales, and a bar plot describing the rudeness measure results. These figures take into account the disproportionate sampling scheme of the study and reflect estimates for the population of low-income mothers of Medicaid-enrolled children in Washington State.

Table 1 presents the distribution in the sample of RSDC by race. It is striking that more than 60% of the women had no regular place or dentist and that Whites were much more likely than the other groups to have a regular private dentist (P < 0.001). The percentage of mothers with a regular place of dental care was not significantly different across racial/ethnic groups.

Table 2 gives the pro-rated mean scores (and 95% confidence interval) for the satisfaction measures by race. There was not evidence of a difference in the overall DSQ by race/ethnicity (P = 0.23). Blacks and Hispanics were less satisfied with pain management than Whites but the differences were relatively small (P < 0.001). Perhaps reflecting this dissatisfaction, the distribution of the pain management index is bimodal in contrast to the other scales (see Fig. 1). With respect to the quality index, scores were similar, but Hispanics were slightly more satisfied than Blacks or Whites (P < 0.001). The rudeness item pro-rated means for Blacks and Hispanics are higher (greater satisfaction) than the mean for Whites (P < 0.001).

Satisfaction related to RSDC

After adjustment for the stratified sampling scheme, the overall pro-rated mean DSQ score for those with a regular dentist was 61%, 95% confidence interval (60%, 62%). Those with a regular place but no regular dentist had significantly lower DSQ scores, 54%, (51%, 57%), P < 0.001, as did those with no regular source of dental care 51%, (50%, 52%), P < 0.001. The sources of dental care were further subdivided to explore the effect of private versus public dental offices on patient satisfaction. Table 3 reports the dental satisfaction scores by RSDC with adjustment for the stratified sampling scheme.



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Table 1. Distribution of RSDC by mother's race/ethnicity in the sample, *n* (% within race)

		Regular place		Regular der		
Race/ethnicity	No regular place	Public	Private	Public	Private	Total
Black	503 (62)	47 (6)	60 (7)	30 (4)	165 (20)	805
Hispanic	781 (60)	146 (11)	44 (3)	140 (11)	184 (14)	1295
White	847 (62)	20 (1)	64 (5)	23 (2)	421 (31)	1375
Other	451 (63)	52 (7)	34 (5)	41 (6)	138 (19)	716
All categories	2582 (62)	265 (6)	202 (5)	234 (6)	908 (22)	4191

Values in parentheses are in percent.

Table 2. Pro-rated mean scores (and 95% Confidence Interval) for satisfaction measures by race/ethnicity, Washington State

	Black	Hispanic	White	P-value*
Rand dental satisfaction index (DSQ)	53.9 (52.9, 54.8)	55.2 (54.6, 55.8)	54.4 (53.6, 55.2)	0.226
Rand pain management index for mother	43.2 (41.2, 45.1)	46.8 (45.6, 48.0)	48.5 (47.0, 50.0)	< 0.001
Rand quality index for mother	64.3 (63.2, 65.3)	66.5 (65.8, 67.2)	64.0 (63.1, 64.9)	< 0.001
Sometimes dentists act rude toward their patients	58.9 (56.6, 61.2)	59.6 (57.7, 61.5)	54.2 (52.5, 56.0)	< 0.001

*Difference of means between races (ANOVA).

Relative to having a regular private-practice dentist, PR = 63%, 95% confidence interval (61%, 64%), there was a consistent decrement in satisfaction with alternative forms of service delivery. The differences are small in the DSQ score between those who had a regular dentist at a public clinic, (PR = 56%, (50%, 62%), regular place in a privatepractice but not the same dentist each time,

PR = 56%,) (51%, 60%), and for those who attend a public clinic but do see the same dentist each time, PR = 51% (46%, 56%). Individuals with no regular place of care rate their satisfaction as PR = 51%, 95% confidence interval (50%, 52%). Similarly, the satisfaction with pain management subscale score is significantly lower for individuals with a regular private place of care, PR = 43%

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Table 3.	Association	between a	mother's	regular	source o	f dental	care and	dental	satisfaction
				()					

			Regular place only		Regular dentist	
		No regular place $(n = 2657)$	Public (<i>n</i> = 274)	Private (<i>n</i> = 203)	Public (<i>n</i> = 238)	Private (<i>n</i> = 938)
Rand dental satisfaction index (DSQ)	Mean 95% confidence interval	51.0* (49.8, 52.1)	50.7* (45.9, 55.5)	55.6* (51.2, 60.0)	56.3* (50.3, 62.3)	62.6 (60.9, 64.3)
Rand pain management index for mother	Mean 95% confidence interval	44.9* (42.8, 47.1)	51.5 (40.9, 62.1)	42.6* (34.0, 51.2)	51.6 (41.7, 61.5)	54.2 (50.8, 57.6)
Rand quality index for mother	Mean 95% confidence interval	62.3* (61.1, 63.6)	63.5* (57.5, 69.6)	65.5* (60.0, 70.9)	64.9 (59.0, 70.8)	69.6 (67.7, 71.5)
'Sometimes dentists act rude to their patients' (higher score indicates disagreement with statement)	Mean 95% confidence interval	46.8* (43.7, 49.9)	52.4* (38.5, 66.3)	57.4 (46.6, 68.1)	42.4* (25.4, 59.5)	63.6 (59.0, 68.2)

Means and confidence intervals are estimates for the WA state Medicaid population and take into account the disproportionate stratified random sample. Index scores were transformed to a 0–100 scale, with high scores indicating generally positive responses.

*Indicates significantly different from the mean in the private-regular-dentist group at the 0.01 significance level. *P*-values are adjusted for race/ethnicity of the participant (Black, Hispanic, white, or other) and take into account the multiple comparisons made within each index.

(34%, 51%), relative to those with a regular private dentist, PR = 54% (51%, 58%), and is similar to the subscale score for those with no regular access at all, PR = 45% (43%, 47%). The trends in satisfaction across levels of care are similar for the quality, pain-management subscales and the rudeness measure.

Discussion

Overall satisfaction

The overall level of satisfaction with dental care for this population is low. Moreover, the ratings are considerably lower than found for primary medical care, where most patients are satisfied with their care (26, 27). The distributions in Fig. 1 demonstrate the negative skew of the responses on pain management and rudeness and highlight the role of these clearly modifiable parameters in the overall problem of dissatisfaction in this vulnerable population. The level of dental dissatisfaction is remarkably consistent with the 1995 study of mothers of Seattle public school children in similar circumstances who were randomly selected within strata according to their child's dental health status. That study also found no systematic differences in satisfaction by race/ethnicity using the same measure. However, in both studies pain management scores were lower for African-Americans. The scores are also similar to that found in a more recent study of low-income mothers in Washington state (28).

Relationship of DSQ to RSDC

More than 6 of 10 women did not have either a regular place or regular dentist. Access to private dentists was much greater for Whites than the other groups. This may reflect the limited of racial and ethnic diversity of American dentists, particularly in communities where non-White people predominate. It may also be a consequence of racial discrimination (29).

Not surprisingly, satisfaction with dental care is much less for those who lack a regular source of care. The DSQ includes items that measure access and continuity, which in part drive the score down for those without a regular place or dentist. Nevertheless, the same patterns are also present in the quality and pain management subscales. The high levels of dissatisfaction further compound the impact of a lack of access on the ability of the mother to secure care for herself and her child. This is because satisfaction is related to having a RSDC.

The hypothesis was supported that relative to an established relationship with a private dentist, satisfaction with dental care is lower for respondents who do not see the same dentist at every visit in a private practice or receive care from a public or nonprofit clinic. Satisfaction is higher for mothers who have a regular private dentist they see consistently versus even the availability of a regular dentist through a public or nonprofit clinic. This finding, while not completely unexpected given the literature, is troubling given the unsettled status of CHC dental programs and the shortage of dental personnel. Similar results are seen for the quality of care and rudeness measures while satisfaction with pain management is particularly low (avg 42.6) for respondents who report using a private clinic but seeing a different dentist each time. Such clinics are typically staffed by young and relatively inexperienced dentists, who turnover often and who may be less able than their more experienced peers, or these clinics may stress volume and revenue over patient satisfaction.

In this cross sectional study, it is not possible to determine whether dissatisfaction is a result of poor access or the outcome of poor interactions with providers. Interestingly, one previous paper found women with lower satisfaction with dental care more likely to self-report a RSDC (29). Those with a RSDC can be dissatisfied but afraid to leave for fear of not finding another provider. The data in this paper suggests that this may indeed be true. The women who report experiencing more rudeness (see Table 3 regular dentist-public) are largely Hispanic and may have limited choice of dentists outside of the public and nonprofit sectors because of geographic isolation or language limitations. Rudeness scores were better when the women receiving care from public, non-profits but seeing multiple dentists (see Table 3, regular place—public). Others without a RSDC could have been dissatisfied but then unable to find a provider. Both of these conditions may be true for those at the bottom of the income ladder (6).

Overall, the very low satisfaction scores, independent of race, suggest that the dental profession needs to provide more patient-centered care. This problem is most striking when examining the poor state of satisfaction with pain control. This may also explain why dental anxiety and fear levels in the U.S. population are high and have not changed in 30 years, in spite of new technology (30). Similar findings have been reported in other areas of medical care (31). The lack of access to private practice and the shortages of CHCs and public health dentists is a national crisis (16, 32). Still, if the public/nonprofits are to be part of the solution, attention needs to be focused on improved patient management.

Conflicts of interest

No conflicts of interest.

Acknowledgments

This research was supported by Grant No. DE14400 from the National Institute of Dental and Craniofacial Research (NIDCR/NIH).

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