Income, dental insurance coverage, and financial barriers to dental care among Canadian adults

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Abstract

Objectives: To explore the issue of affordability in dental care by assessing associations between income, dental insurance, and financial barriers to dental care in Canadian adults.

Methods: Data were collection from a national sample of adults 18 years and over using a telephone interview survey based on random digit dialing. Questions were asked about household income and dental insurance coverage along with three questions concerning cost barriers to accessing dental care. These were: "In the past three years . . . has the cost of dental care been a financial burden to you? . . . have you delayed or avoided going to a dentist because of the cost? . . . have you been unable to have all of the treatment recommended by your dentist because of the cost?"

Results: The survey was completed by 2,027 people, over half of which (56.0%) were covered by private dental insurance and 4.9 percent by public dental programs. The remainder, 39.1 percent, paid for dental care out-of-pocket. Only 19.3 percent of the lowest income group had private coverage compared with 80.5 percent of the highest income group ($P < 0.001$). Half (48.2%) responded positively to at least one of the three questions concerning cost barriers, and 14.8 percent responded positively to all three. Low income subjects ($P < 0.001$) and those without dental insurance ($P < 0.001$) were most likely to report financial barriers to care. While private dental insurance reduced financial barriers to dental care, it did not entirely eliminate it, particularly for those with low incomes. Those reporting such barriers visited the dentist less frequently and had poorer oral health outcomes after controlling for the effects of income and insurance coverage.

Conclusions: Canadian adults report financial barriers to dental care, especially those of low income. These barriers appear to have negative effects with respect to dental visiting and oral health outcomes. For policy, appropriateness will be key, as clarity needs to be established in terms of what constitutes actual need, and thus which dental services can then be considered a public health response to affordability.

Introduction

Social determinants of health frameworks have tended to diminish the role of health services (1,2), focusing more on living and working conditions, on the inequitable distribution of income, power, and autonomy, and on the psychosocial consequences of such inequities. While these are fundamental to the health of populations and require immediate attention, it is still estimated that 25 percent of the differences in health status between advantaged and disadvantaged groups is to be found in differences in access to health care (3). Lantz *et al.* (4), while recognizing that there

is more to health than health care, state that access to care is a "necessary component of population health." Braveman and Gruskin (5) also consider health care "a key social determinant of health." For dentistry, access to care may be even more significant, simply because of its effectiveness in immediately relieving pain and restoring function when dealing with common oral infections (e.g., toothache), and in its ability to prevent disease with relatively simple and proven modalities (e.g., fluoride varnish). To be sure, using data from a national population health survey in Sweden, Wamala *et al.* (6) demonstrated that access to dental care explained 60 percent of the socioeconomic differential in oral health of those aged 21-84 years, while lifestyle factors explained only 29 percent.

In Canada, Med Care is funded through provincially managed public insurance programs and free at the point of delivery, yet dental care is predominantly private with only approximately 5 percent of current expenditures on dental services coming from public programs (7). Data from national health interview surveys indicate that approximately half of the Canadian population 15 years and over is covered by employment-related dental insurance plans (8). However, there is substantial variation across individual plans in terms of which services are covered and the extent of deductibles and co-payments. Since this coverage is a benefit of employment in specific occupations or by specific employers, it is also not present in all employment circumstances and may be lost when people change jobs or retire. In terms of the public sector, only approximately 5 percent of the adult population has their dental care paid for by provincial government or municipal programs, usually as part of social assistance or welfare provision. Such individuals are usually, but not exclusively, from low income groups. The remainder of the adult population, approximately 40 percent, must then pay for care out-of-pocket, which from the point of view of access raises the issue of affordability (9).

Recent policy attention has been given to this issue, especially within the context of working poverty (10). Policymakers have argued that a significant minority of the adult population is likely to experience financial barriers in accessing dental care, especially when they do not have dental insurance, public or private. This study seeks to obtain information on the issue of affordability in general. Its importance lies in the fact that financial barriers are perhaps the most amenable to change by government policy and programs or professional intervention. The specific objectives of this study are to document the percent and characteristics of adult Canadians who encounter financial barriers to dental care, to assess the associations between income, dental insurance and financial barriers, and to assess the consequences of these financial barriers in terms of the use of services and oral health outcomes.

Methods

Study design

The study consisted of a telephone interview survey of a national sample of the Canadian adult population aged 18 years and over which utilized random digit dialing. It was undertaken on our behalf by a large commercial social research organization. The sampling design was that employed in all of their national telephone interview surveys. That is, Canada was divided into six regions, and telephone numbers identifying households randomly sampled from these strata, broadly in proportion to the population size of the strata. Within strata, age and gender quotas were set to ensure an accurate representation of subjects according to these variables. The interviews were conducted by fully bilingual French-English interviewers in the language of the respondent's choice. The study was undertaken in June of 2008 with a target number of completed interviews with 2000 subjects. All study procedures were approved by the University of Toronto's Office of Research Ethics.

Measures

Financial concerns regarding access to dental care

Three questions were used to assess financial concerns with respect to accessing dental care. These were: "In the past 3 years has the cost of dental care been a financial burden to you?"; "In the past 3 years have you delayed or avoided going for a dental examination or treatment because of cost?", and "In the past 3 years have you been unable to have all the treatment recommended by a dentist or specialist because of the cost?" All were scored using a simple "Yes" or "No" response. A summary variable was constructed by a count of the number of positive responses to these questions. Scores ranged from 0 to 3. The KR-20 statistic, equivalent to Cronbach's alpha but for items with binary response options, was 0.74, suggesting that the three questions are assessing a common underlying construct. Since two of the questions comprising the summary variable explicitly address financial barriers to care, we refer to this as a "financial barriers scale."

Income and dental insurance coverage

Household income was assessed using a six-category ordinal variable ranging from "Less than $20,000 per annum" to "$120,000 or more." Respondents were asked how they normally paid for dental care with the response options being: "Through insurance obtained from my employment," "Through someone else's employment insurance," "Through

a public provincial or municipal program, social assistance or welfare" and "Pay out-of-pocket."

Use of dental services

Use of dental services was assessed by two questions; the usual pattern of seeking care and time since last dental visit. The former asked "How often do you visit a dentist", with the following response options: "Never," "Only for emergency care," "From time to time for a check-up," "Less than once a year for a check-up," "About once a year for a check-up," and "More than once a year for a check-up." The latter asked: "When was the last time you visited a dentist." The response options for this question were: "Never visited," "Five or more years ago," "3 years to less than five years ago," "1 year to less than 3 years ago," and "Less than one year ago."

Self-reported oral health status

This was assessed using single-item questions and a multi-item scale. The single items were oral status (dentate/edentulous), wearing one or more dentures (yes/no), having lost a tooth or had a tooth taken out in the previous 12 months (yes/no), and self-rated oral health (excellent, very good, good, fair, poor).

The multi-item measure used was the short-form 14-item Oral Health Impact Profile (OHIP) (11) that consists of two items representing each of the seven subscales comprising the source measure. Each item asks about problems with the teeth, mouth, and dentures, and is scored on a Likert-type frequency scale as follows: never, hardly ever, occasionally, fairly often and very often, coded 0 through 4. The reference period used was the previous year. These responses can be summed in various ways to produce estimates of the prevalence, extent, and severity of the functional and psychosocial impacts associated with oral disorders (12). Prevalence is defined as the proportion of subjects reporting one or more items "fairly often" or "very often." Extent is the number of items with those frequency response options, and severity is the sum of the response codes across all 14 items.

Data analysis

Data were weighted to take account of the different probabilities of selection of subjects within regions. Poststratification weights were also applied based on the actual age and gender distributions within these regions using data from the census of 2006 (13). Bivariate and multivariate analyses were undertaken to assess the proportion of subjects reporting financial concerns with respect to dental care and to identify their sociodemographic characteristics. These analyses were conducted using each of the three financial questions and/or the scale constructed from positive responses to those questions. Chi-square tests and nonparametric Mann–Whitney and Kruskal–Wallis tests were used to assess the statistical significance of associations. Significant *P*-values were set at <0.05. Similar tests were used to assess the associations between financial concerns and their dental visiting and oral health outcomes. Binary logistic regression models were used to determine if the associations between financial concerns and these outcomes remained after controlling for income, private dental insurance, and sociodemographic variables.

Results

Interviews were completed by 2,027 Canadian adults; just over half, 51.6 percent, were female, their ages ranged from 18 to 98 years (Mean = 47.6; SD = 17.2). One-fifth (21.1%) were interviewed in French. Just under one-tenth (8.2%) were edentulous, and 21.9 percent wore one or more dentures. Twenty-eight percent had no education beyond high school, and 28.4 percent lived in households with an annual income of less than $40,000. One-quarter (23.9%) visited the dentist less than once a year for a check-up, and 24.4 percent had not had a dental visit in the last year. One-tenth (10.8%) had lost one or more teeth in the past year, 12.3 percent reported their oral health to be only fair or poor, and 19.5 percent were OHIP-prevalent cases and had experienced one or more OHIP-14 impacts "fairly often" or "very often" in the year prior to the interview.

Just over half of study participants (56.0%), were covered by employment-related private dental insurance, either their own or that of a family member, and 4.9 percent had their dental care paid for by public dental programs or through social assistance or welfare provisions. The remainder, 39.1 percent, paid for their dental care out-of-pocket.

There was a significance association between household income and mode of payment for dental care ($P < 0.001$). In the lowest income group, 16.7 percent had private dental insurance, 20.3 percent were covered by some form of public program, and 63.0 percent paid out of pocket. In the highest income group the corresponding percentages were 75.3, 2.1, and 19.5 percent, respectively (Table 1).

There were no differences in private insurance coverage according to gender but significant differences according to age. Among those aged 18-34 years, 66.6 percent had coverage compared with 34.7 percent of those aged 75 years and over ($P < 0.001$). Those interviewed in French were less likely than those interviewed in English to have private coverage (46.0% versus 59.0%; $P < 0.001$), and those with only high school education or less were less likely to be covered than those with post-secondary education (46.0% versus 64.9%; $P < 0.001$).

Positive responses to the three financial concern questions were as follows: cost of care a burden – 29.7 percent; avoided or delayed dental visits – 30.0 percent; and unable to have all the treatment recommended – 32.2 percent. Almost half

Table 1 Method of Paying for Dental Care by Annual Household Income (%)

	Method of paying for dental care		
Annual household income	Private dental insurance	Public program	Out-of-pocket
>$20,000	16.6	20.4	63.0
$20,000-39,000	35.8	7.2	56.9
$40,000-59,000	59.1	1.9	39.0
$60,000-79,000	67.7	2.8	29.5
$80,000-120,000	75.3	0.7	24.0
$120,000 or more	78.5	2.0	19.5

$P < 0.001$: chi-square test.

(48.2%) of the participants responded positively to one or more of these questions, and 14.8 percent responded positively to all three.

As expected, low income subjects and those without dental insurance coverage were the most likely to report financial barriers to dental care (Tables 2 and 3). Among those living in households with annual incomes of less than $20,000, 45.5-49.0 percent responded positively to each of the financial barriers items, and 27.6 percent responded positively to all three. In those living in households with annual incomes of $120,000 or more, only 5.3 percent responded positively to all three questions. Similarly, for those who paid for care out-of-pocket, two-fifths responded positively to each of the financial barriers questions, and one-quarter responded positively to all three. For those with private insurance, less than one-tenth (9.1%) responded positively to all the financial barriers items. Those receiving care from a public program fell between these two extremes.

Consequently, although financial barriers were much more likely to be reported by the poor and uninsured, some high-income subjects and some with private insurance also reported cost concerns with respect to dental care. Further, for the lowest income group and those who paid out-of-pocket, the most common concern expressed was the financial burden imposed by the costs of dental care. For the highest income group and those with private insurance coverage, not being able to have all the treatment recommended by a dentist or specialist was the most frequently expressed concern.

Three-way contingency table analysis further highlighted the disadvantage of the low income uninsured. Four-fifths (80.0%) of those living in the lowest income households who paid for care out-of-pocket responded positively to one or more of the financial concern items, and 37.5 percent responded positively to all three. For the highest income group covered by private insurance, the corresponding proportions were 30.9 and 3.6 percent. These analyses also indicated that while private insurance coverage reduced the financial concerns of the lowest income group, it did not eliminate it, with 37.0 percent of the group still reported one or more cost concerns with respect to dental care (Table 4). The number of subjects covered by public programs was too small to allow this analysis to be undertaken, so these subjects have not been included in this table.

Nonparametric tests (Mann–Whitney and Kruskal–Wallis) were used to determine which other variables were associated with scores on the ordinal financial concerns scale. Females had higher scores than males and were more likely to report financial concerns ($P < 0.01$), as were younger compared with older subjects ($P < 0.05$) and those whose education was high school or less compared with those with post-secondary education ($P < 0.01$). Those interviewed in French were less likely to report financial concerns than those interviewed in English ($P < 0.05$).

Figure 1 shows the association between scores on the financial concerns scale and the two variables assessing use of dental services. Those who responded positively to all three questions were the least likely to report visiting the dentist at least once a year for check-ups and the least likely to report a dental visit in the last year.

Since bivariate analyses indicated that income and insurance coverage were significantly associated with both of the dental visiting variables ($P < 0.001$) in the expected direction, logistic regression analyses were undertaken to determine if the associations shown in Figure 1 remained after controlling

Table 2 Percent Responding Positively to Each of the Financial Barriers Questions by Household Income

	Costs a burden	Avoided/ delayed care	Unable to have all treatment	Positive responses to all three
Income group				
>$20,000	49.0	46.2	45.5	27.6
$20,000-39,000	42.6	43.2	45.3	26.8
$40,000-59,000	32.9	34.7	36.7	17.3
$60,000-79,000	25.1	28.7	27.7	10.0
$80,000-120,000	18.2	19.3	22.1	8.1
$120,000 or more	15.1	15.0	22.7	5.3
P-values*	<0.001	<0.001	<0.001	<0.001

* *P*-values from chi-square tests.

Table 3 Percent Responding Positively to Each of the Financial Barriers Questions by Method of Paying for Dental Care

Paying for dental care:	Costs a burden	Avoided/ delayed care	Unable to have all treatment	Positive responses to all three
Private insurance	19.2	22.3	28.0	9.1
Public program	26.5	33.0	37.9	15.3
Pay out of pocket	48.5	42.8	39.5	25.0
P-values*	<0.001	<0.001	<0.001	<0.001

* Chi-square tests.

Table 4 Percent Responding Positively to the Financial Barriers Questions by Household Income and Method of Paying for Dental Care*

	Private dental insurance		Pay out-of-pocket	
Method of paying for care	Percent responding positively to one or more	Percent responding positively to all three	Percent responding positively to one or more	Percent responding positively to all three
>$20,000	37.0	14.8	80.0	37.5
$20,000-39,000	57.6	22.9	67.1	32.3
$40,000-59,000	46.8	12.3	63.8	25.4
$60,000-79,000	38.7	5.0	62.3	24.6
$80,000-120,000	31.0	5.9	54.1	10.0
More than $120,000	30.9	3.6	43.2	16.2

* Those covered by public programs excluded from this analysis.

Table 5 Results of the Logistic Regression Analyses: Predictors of Irregular Visits for Dental Check-Ups and No Dental Visit in the Previous Year

	Regular preventive visits (no = 1, yes = 0)			Dental visit in last year (no = 1, yes = 0)		
Dependent variable	*B*	Exp(*B*)	*P*-value	*B*	Exp(*B*)	*P*-value
Independent variables						
Gender (males = 1; females-0)	0.181	1.20	0.167	0.052	1.05	0.681
Language (French = 1; English = 0)	–0.001	0.99	0.994	0.135	1.15	0.384
Education (high school only = 1; postsecondary = 0)	0.401	1.49	0.004	0.551	1.74	0.0005
Age (six category ordinal variable)	0.113	1.12	0.040	0.133	1.14	0.013
Income (six category ordinal variable)	–0.280	0.76	0.001	–0.197	0.82	0.001
Insurance coverage (no = 1; yes = 0)	0.550	1.73	0.001	0.409	1.51	0.004
Financial barriers score (four category ordinal variable)	0.232	1.26	0.001	0.154	1.67	0.008

for the effects of these and the four sociodemographic variables also used in the bivariate analyses. The results are shown in Table 5.

The most interesting result of these analyses is that the ordinal variable created from a count of the number of positive responses to the three financial barriers questions had a significant independent effect after controlling for all other variables in the model. This indicates that those reporting financial barriers were less likely to make regular visits for check-ups or to have had a dental visit in the previous year irrespective of their insurance status and household income.

With respect to oral health outcomes, there was no association between dental status or denture wearing and scores on the financial barriers scale. For the denture-wearing variable, this was the case for all subjects and for the dentate only. However, there was a significant association between the financial barriers scale and self-rated oral health, having lost a

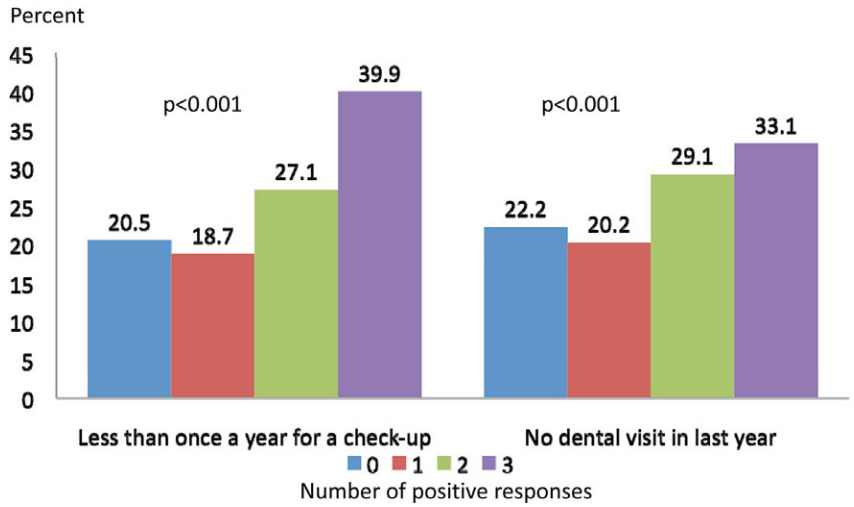

Figure 1 Dental visiting by number of positive responses to the financial barriers questions.

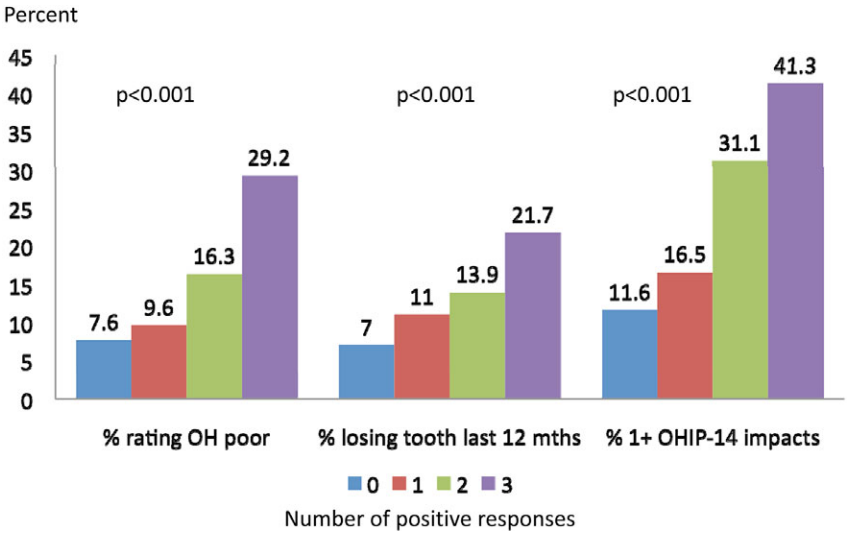

Figure 2 Oral health outcomes by number of positive responses to the three financial barriers questions.

tooth in the previous year and OHIP-14 prevalence, extent, and severity scores (Figure 2 and Tables 6 and 7).

The logistic regression analyses were repeated with each of the first three of these oral health outcome measures as the dependent variable. The OHIP-14 extent and severity scores were not subject to these analyses. These were highly skewed, could not be normalized by log transformations, and dichotomization produce variables very similar to the OHIP-14 prevalence variable. The three analyses undertaken confirmed that those reporting financial barriers to access also reported worse oral health outcomes after controlling for private insurance coverage, household income, gender, age, education, and the language in which the interview was completed. Across the five regressions undertaken, household income was an independent predictor of four of the five outcomes examined, as was private insurance coverage. Scores on the financial barriers scale were independent predictors of all five.

Table 6 OHIP-14 Prevalence, Extent, and Severity by Financial Barriers Scale Score

Number of positive responses to the 3 financial barriers questions	OHIP-14		
	Prevalence (%)	Mean/median extent score	Mean/median severity score
0	10.6	0.16/0.0	16.2/15.0
1	15.6	0.32/0.0	17.9/16.0
2	28.8	0.87/0.0	21.7/19.0
3	40.1	1.43/0.0	25.0/22.5
P-value	<0.001*	<0.001**	<0.001**

* *P*-value from chi-square test; ** *P*-values from Kruskal–Wallis test.
OHIP, Oral Health Impact Profile.

Discussion

This study confirms and extends previous work on dental insurance coverage and its effects in Canada. Such studies began to emerge in the early 1980s following a tremendous growth in the proportion of the population receiving dental insurance coverage over the previous decade. The main

Table 7 Results of the Logistic Regression Analyses: Predictors of Rating Oral Health Fair/Poor, Tooth Loss in Previous Year, and OHIP Prevalence

	Rating oral health fair/poor			Tooth lost in previous 12 months			OHIP-14 prevalence		
Dependent variable	*B*	Exp(*B*)	*P*	*B*	Exp(*B*)	*P*	*B*	Exp(*B*)	*P*
Independent variables									
Gender (males = 1; females-0)	0.384	1.47	0.027	0.432	1.54	0.009	–0.211	0.81	0.122
Language (French = 1; English = 0)	–0.170	0.84	0.382	–0.161	0.85	0.440	–0.336	0.72	0.058
Education (high school only = 1; postsecondary = 0)	0.666	1.75	0.001	0.262	1.30	0.145	0.610	1.84	0.001
Age (six category ordinal variable)	0.208	1.23	0.004	–0.066	0.94	0.368	–0.090	0.91	0.144
Income (six category ordinal variable)	–0.135	0.87	0.046	–0.124	0.84	0.047	–0.072	0.93	0.162
Insurance coverage (no = 1; yes = 0)	0.415	1.51	0.034	0.213	1.24	0.255	0.321	1.38	0.038
Financial barriers score (four category ordinal variable)	0.564	1.76	0.001	0.323	1.38	0.001	0.535	1.71	0.001

OHIP, Oral Health Impact Profile.

concern here was with the independent and joint effects of income and dental insurance on utilization rates. Subsequent studies focused on older adults and the elderly, groups likely to have the lowest rate of insurance coverage. The first found that insurance had no independent effect on utilization and failed to find any differences between the insured and the noninsured in self-reported or clinically defined oral health status. This may have been due to low levels of coverage or the nature of the plans themselves (14). However, among the dentate, oral health was significantly better for dental attendees compared with nonattendees. A second study of adults 50 years and over, focusing on inequities by age and income, found that those aged 75 years and over living in the lowest income households were the most disadvantaged, with less than 20 percent reporting dental insurance coverage (15). The study found that coverage increased utilization across all age groups, but that it increased use only for the lowest income group.

A national health interview survey of Canadians aged 15 years and over conducted at around the same time reported broadly similar results (8). Just over half (53%) were covered by some form of private or public insurance, with marked differences in coverage according to age, education, and household income. The odds of being insured were 7.39 (95% CI = 6.26-8.73) times higher for the highest compared with the lowest income group. Dental insurance was a major factor in influencing dental visits and increased utilization in all income groups. However, the effect was most marked for those from the lowest income households.

Recent work on publicly funded dental care programs for children also confirms that both national and state sponsored dental insurance programs can have a marked effect on utilization rates and also reduce unmet dental care need among low -income children (16,17). However, even when insurance is available, significant proportions do not take advantage of this coverage and access dental services other than for the relief of pain (18).

This study replicates some of these findings and also extends them by examining financial barriers to dental care for three separate groups, those covered by private insurance, those who receive care through a public program, and those who pay out-of-pocket. It also examined financial barriers by income and by income and insurance status combined. Specifically, the results confirmed the disadvantage of lower income groups in Canada with respect to paying for dental care, two-thirds of who pay out-of-pocket for dental services. While those in the lowest income group were most likely to be covered by public programs, these are variable and usually limited to emergency care only. Consequently, these programs are unlikely to ensure that the poor are able to maintain or improve their oral health. By contrast, the highest income group was the most likely to have private insurance coverage and the least likely to have to pay for care out-of-pocket. In the light of epidemiological data which indicates social gradients in oral health in Canada, this provides a stark example of what has been referred to as the "inverse care law" (19); greater access and provision of care to those least in need. There were also variations in private insurance according to other potential sources of disadvantage, namely gender, age, education and language spoken.

A second finding from the study was that almost half of the subjects responded positively to one or more of the financial barriers questions, and one in seven responded positively to all three. If the three questions are considered to constitute a scale, then this identifies a subgroup who encountered the most severe financial barriers to dental care. As anticipated, those from low income groups and those without private insurance were more likely to report such barriers, with the most disadvantaged being those from low income households who paid for care out-of-pocket. Two-fifths of the latter had a score of three on the financial barriers scale. Consistent with the patterning of private insurance coverage financial barriers were also more likely to be reported by females, older subjects, those with lower levels of education and those completing the interview in French.

Two interesting observations were, first, that financial barriers were reported by some of those from high-income households with insurance coverage. It is not immediately apparent why this should be so. However, since their main concern of this group was being unable to have all of the treatment recommended by their dentist or specialist it may reflect the fact that their demands are for high-cost sophisticated dental procedures that are not paid for by their particular plans. Second, private dental insurance reduced but did not altogether remove financial barriers to care for low income groups, some of whom still reported cost concerns with respect to access. Again this may reflect the variation across plans in terms of what is and what is not covered and the extent of co-payments or deductibles. For both groups, variations in the demands for care and expectations regarding what should be covered by insurance may account for these residual cost concerns. Qualitative interviews with members of these groups are needed to address this issue further.

Consistent with the Andersen model of health care utilization (20), those reporting financial barriers to dental care exhibited less favorable dental visiting behaviors than those with no financial concerns. Those who responded positively to all three financial barriers questions were twice as likely to report that they did not visit the dentist on a regular basis and one and a half times as likely not to have had a dental visit in the past 12 months than those who responded negatively to all three items. These associations remained after controlling for income, dental insurance coverage, and the four sociodemographic factors included in the analysis. Similarly, those experiencing financial barriers also had worse oral health outcomes, and these associations remained after controlling

for income and dental insurance coverage. Consequently, those who perceived financial barriers to dental care exhibited less favorable dental visiting behaviors and had worse self-perceived oral health irrespective of income and the method of paying for dental care.

While consistent with the Andersen model, these findings should not be taken as evidence of the causal relationships specified by the model. Since the study was cross-sectional, it can demonstrate associations but not the correct temporal sequence necessary for drawing conclusions about causal mechanisms. Second, it was based wholly on self-reported data so that some, if not all, of the associations may have been confounded by psychological variables, such as depressive symptoms, or personality characteristics, such as negative affectivity. Both of these have been shown to influence self-reports of oral health and oral health-related quality of life (21,22). Studies which control for these variables are necessary to estimate their effects on the associations found in self-report data, as are studies which use clinical measures of oral health and disease.

Nevertheless, the study does suggest that financial barriers, whether actual or perceived, do limit use of dental services and negatively affect oral health. Consequently, one strategy for improving the oral health of disadvantaged populations is to minimize these barriers by appropriate policies and programs that facilitate access to services consistent with their needs. Ultimately though, appropriateness will be key, as clarity needs to be established in terms of what constitutes actual need, and thus which dental services can then be considered a public health response to affordability.

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