Barriers to and Enablers of Older Adults’ Use of Dental Services

H. Asuman Kiyak, M.A., Ph.D.; Marisa Reichmuth, D.D.S.

Abstract: The theme of the Elders’ Oral Health Summit is older adults’ access to dental care and how this situation can be improved for future cohorts. A major question is whether older adults today, as well as baby boomers who will be entering their seventies within the next decade, will demand dental care as part of their overall well-being. The current cohort of elders varies widely in its use of dental services, from regular preventive users to non-users who report that they have not been to a dentist in more than twenty years. In 1999, 53.5 percent of older adults reported that they had visited a dentist, the lowest rate of any age group beyond eighteen. This article examines some determinants of older persons’ dental service utilization, both barriers and enablers, as a means of understanding why some people continue seeking preventive dental care throughout their lives while others are lifelong irregular users and still others discontinue regular use for factors such as retirement or relocation to a new community or long-term care. Based on the epidemiological and psychosocial literature available on this topic, barriers and enablers include cohort and age, race and ethnicity, income and education, availability of dental and medical insurance, urban vs. rural residence, physical access to a dental office, and systemic and functional health. Attitudes toward oral health and dental care and other psychosocial variables may override some of these demographic and structural variables. Research in medical and dental service utilization offers insights into the relative predictive ability of these variables. Dental providers can also be potent enablers or barriers to older adults’ access to dental care. Each of these factors plays a role in older adults’ use of dental services. Under different situations some serve as both barriers and enablers.

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The theme of the Elders’ Oral Health Summit is older adults’ access to dental care and how this situation can be improved for future cohorts. A major question is whether older adults today, as well as baby boomers who will be entering their seventies within the next decade, will demand dental care as part of their overall well-being. The current cohort of elders varies widely in its use of dental services, from regular preventive users to non-users who report that they have not been to a dentist in more than twenty years. In 1999, 53.5 percent of older adults reported that they had visited a dentist, the lowest rate of any age group beyond eighteen. The purpose of this article is to explore some of the determinants of older persons’ dental service utilization, both barriers and enablers, as a means of understanding why some people continue seeking preventive dental care throughout their lives while others are lifelong irregular users and still others discontinue regular use for factors such as retirement or relocation to a new community or long-term care. Based on the epidemiological and psychosocial literature available on this topic, barriers and enablers include cohort and age, race and ethnicity, income and education, availability of dental and medical insurance, urban vs. rural residence, physical access to a dental office, and systemic and functional health. Some of these same variables also serve as enablers, as do attitudes toward oral health and dental care. Dental providers can also be potent enablers or barriers to older adults’ access to dental care. Each of these factors plays a role in older adults’ use of dental services. Under different situations some serve as both barriers and enablers.

Demographic Variables

Cohort and Age

Perhaps the most obvious factor in this discussion is age and cohort. We examine cohort first, because it shapes our socioeconomic and psychosocial lives. Historical events as well as social and health policies of a given era influence our view of the world. An interesting approach to the role of cohort differences in oral health was introduced by Ettinger.2
By comparing socioeconomic and dental events of each decade, one can track the impact of these developments on each generation’s oral health behaviors. For example, the 1930s was a time of significant social and health policies in the United States, with the passage of the Social Security Act in 1935 and the first health insurance plans through Blue Cross in 1933. Dentistry was developing new aesthetics to make receiving care a less painful experience. Thus, the cohort born during this decade was more likely than previous decades to benefit from such developments. Those born in the 1950s and later had access to fluoridated water during tooth development and were influenced by toothpaste commercials with the advent of television. In recent decades, the concept of preventive and esthetic dentistry has reached a wider public as orthodontics, dental implants, commercial tooth bleaching, and new dental materials have become more common. Thus, cohorts born in the 1930s, 1950s, and 1980s have widely varying views of the purpose, maintenance, and appearance of teeth. Sociohistorical and dental influences on each cohort during the past century are shown in Table 1.

Perhaps one should not expect current cohorts of older adults—born before 1940—to value oral health and dental esthetics in the same way younger generations do. Nevertheless, as we learn more about the link between oral and systemic health, and as more people keep their natural teeth into old age, it is critical to help older adults learn and practice preventive oral health care.

This discussion of cohort effects suggests that it may not be age per se, but cohort differences that affect oral health practices and values. Several researchers have reported significant differences between younger and older adults in oral health status and utilization patterns. These include epidemiological studies comparing different countries such as the International Collaborative Studies (ICS) I and II,3 as well as surveys in Australia,5,6 Great Britain,6 Denmark,7 and the United States.8-13 In studies in which age groups are compared, significant differences generally emerge, with older adults more likely to report not seeking dental care within the most recent five or more years. Utilization appears to peak in middle age, then declines dramatically by age sixty-five; 1999 National Health Interview Survey (NHIS) data revealed that only 53.5 percent of adults age sixty-five and older had seen a dentist in the past year, compared with 67 percent of thirty-five to fifty-four year-olds. More than a quarter (28 percent) of the older group had not been to a dentist in more than ten years. Nevertheless, utilization rates for all age groups increased between 1989 and 1999, with the greatest increase among the oldest age group, from 43.2 percent to 53.5 percent.1

Utilization rates vary from state to state, from 41 percent of older adults in Kentucky to 75 percent in Hawaii reporting a dental visit in the past year. Dental care was far less frequent than blood pressure and cholesterol screenings in the NHIS survey, reported by at least 95 percent and 72 percent of older adults respectively.14 Even lower rates of dental visits were found in the 1996 Medical Expenditure Panel Survey (MEPS), with 47 percent of respondents ages sixty-five to seventy-four and 32 percent of those seventy-five and older reporting a dental visit in the past year.13

Racial and Ethnic Differences

The oral health status of ethnic minority elders is worse than that of white elders and younger cohorts in the same ethnic groups. Findings of the ICS II3 revealed greater differences between white and disadvantaged minorities within the United States than between adults in the United States and their peers in other countries (Germany, Poland, and Japan). Navajo and Lakota Indians, African Americans in Baltimore, and Latinos in San Antonio, for example, had worse oral health status and poorer utilization patterns than their white counterparts in the same communities. Differences were particularly dramatic between older adults in the ethnic minority groups.

The 1996 MEPS revealed sharp differences in dental visits between non-Hispanic white, Latino, and African American elders, with adjusted odds ratios of 0.58 and 0.38 respectively for the two minority groups compared to whites.13 Other national studies have revealed higher rates of untreated dental caries and periodontal diseases in African American and Latino elders and more edentulism among the former, which results in higher DMFT scores for these ethnic and racial minorities. Data from the 1988-91 National Health and Nutrition Examination Survey (NHANES) revealed that African Americans had, on average, 4.3 decayed coronal and 4.1 decayed root surfaces, compared with 3.5 and 1.7 for Latinos, and 1.5 and 1.4 for white elders, respectively. Despite having worse oral health status and utilization than whites, Latino elders appear to be better off than their African American counterparts.
There is some association between poor oral health status and perceived oral health among disadvantaged ethnic minorities, but generally they do not report difficulty chewing or discomfort with the appearance of their teeth. Such complacency with one’s oral health status represents a barrier to seeking care even when symptoms of oral diseases are present. In an analysis of NHIS results comparing data from 1957-59 and 1989, Jones et al. found an increase in utilization among older adults, from 17 percent reporting a dental visit in the previous year to 45 percent in the 1989 survey. However, the rate of increase has been much greater for white elders than for the other two groups. This is particularly a problem among African Americans, whose utilization rate in the 1989 survey had increased to 22 percent, only slightly higher than their utilization rate of 20 percent in the 1975 survey (Figure 1).

### Table 1. A history of socioeconomic events and dentistry (1900-2003)

<table>
<thead>
<tr>
<th>Decade</th>
<th>Socioeconomic Events</th>
<th>Dental Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>1890 Benzocaine (Ester)</td>
<td>1905 Procain: Einhorn &amp; Braun (Ester)</td>
</tr>
<tr>
<td>1910</td>
<td>1913 Personal Income Tax</td>
<td>1910 Hunter Theory of Focal Infection</td>
</tr>
<tr>
<td>1920</td>
<td>1922 Model T</td>
<td>1921 Dental Act (License of Dentists)</td>
</tr>
<tr>
<td>1930</td>
<td>1933 Blue Cross</td>
<td>1930 Tetracaine: Fussanger (Ester)</td>
</tr>
<tr>
<td>1940</td>
<td>1940-1945 WWII</td>
<td>1943 Lidocaine: Lofgren (Amide)</td>
</tr>
<tr>
<td>1950</td>
<td>1950 National Conference on Aging</td>
<td>1945 1st Public Fluoridation of ( \text{H}_2\text{O} )</td>
</tr>
<tr>
<td>1960</td>
<td>1961 1st White House Conference on Aging</td>
<td>1960s Dental Insurance Plans</td>
</tr>
<tr>
<td>1990</td>
<td>1995 Fourth White House Conference on Aging</td>
<td>1968 Plaque Control Programs</td>
</tr>
<tr>
<td></td>
<td>2003 Medicare Prescription Drug Bill</td>
<td>1980 Osseointegrated Dental Implants in U.S.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1989 The first commercial home tooth bleaching product is marketed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1990s New tooth-colored restorative materials, increased usage of bleaching, veneers, and implants inaugurate an era of esthetic dentistry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1997 FDA approves the erbium YAG laser, the first for use on dentin, to treat tooth decay.</td>
</tr>
</tbody>
</table>

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### Education and Income

Educational achievement and income (both real and perceived) are significant predictors of utilization among older adults. A national survey in Australia among the population age fifteen and older found that age at leaving school was most significantly associated with utilization among the oldest
Those who continued their education beyond age eighteen were 1.85 times more likely to have visited a dentist in the past year than those who had never attended school or had quit at age fifteen. Occupational status, closely related to education, was also significant, with blue collar workers only half as likely as other occupational levels to have made dental visits in the past year. Blue collar workers were 2.5 times more likely to have had an extraction at their last visit than those in managerial or professional occupations.

A survey of black and white adults in Florida found that both poverty and race were related to utilization, such that the lowest rates occurred among the poorest African Americans and that non-poor African Americans used dental services at about the same rate as the poorest whites in this sample. This same study revealed that perceived ability to pay for dental care predicted utilization as well as did actual income level. The 1996 MEPS revealed that older adults classified as poor had an adjusted odds ratio of 0.55 for utilization, compared to those classified as high income.

Dental and Medical Insurance

The availability of dental insurance has been found to be a significant predictor of utilization. Estimates of coverage range from 14.5 percent among all those sixty-five and older, to 28.4 percent of sixty-five to seventy-four year-olds and 16.5 percent of those aged seventy-five and older. When only private dental insurance is considered, adults aged sixty-five and older are least likely to be covered, with rates as low as 10 percent. The importance of third party coverage is highlighted by the fact that older adults with dental insurance are 2.5 times more likely to make regular dental visits, significantly more likely to be dentate, with more natural teeth remaining, and to hold more favorable oral health beliefs. These findings suggest that providing older adults with dental insurance (whether this is private coverage or Medicaid) may serve as an enabler of dental service utilization. This will become even more important as more and more people keep their natural teeth into advanced old age.

Figure 1. Racial differences in utilization

![Figure 1. Racial differences in utilization](chart.png)
Even the availability of supplemental medical insurance (Medigap) increases one’s chances of using dental services, presumably because the older person can divert some of the savings from their medical care to their out-of-pocket dental expenses. The 1993 Medicare Current Beneficiary Survey (MCBS) revealed that older adults covered by Medicare spent $310 per year on dental care and prescriptions, compared with $585 spent by those who had Medigap insurance.\textsuperscript{18}

**Residence**

Where an older person lives has also been considered to be a predictor of oral health status and dental service utilization. Not surprisingly, residence in rural areas is associated with more unmet dental needs and lower utilization rates. However, the problem is particularly acute for older adults, with 47 percent of rural elders vs. 58 percent of urban dwellers reporting a dental visit in the past year, 51 percent vs. 42 percent reporting unmet dental needs, and 37 percent vs. 28 percent who are edentulous, respectively. The availability of private dental insurance, reflecting lower income status among rural populations, is lower among this group of elders (28 percent vs. 34 percent), based on the findings of the 1999 NHIS.\textsuperscript{19} Similar findings are reported by Chalmers in Australia, where rural elders had significantly more missing and decayed teeth than their urban counterparts and fewer filled coronal and root surfaces.\textsuperscript{4} One must ask if these differences could be alleviated by increasing the number of dental practitioners in rural communities, or if inadequate financial resources and unfavorable oral health attitudes among rural elders would preclude their use of dental services even if they became more available.

Oral health is generally poor among older adults living in long-term care facilities. This problem can be attributed to a combination of poor functional health, difficulty in making visits to dental providers, and the unavailability of dentists who provide dental care in these settings. In an epidemiological study of older adults in Australia who were living independently in the community or in nursing homes and chronically mentally ill elders in boarding homes, dramatic differences were found across the three groups, with independent elders having 2.5 times more filled coronal surfaces than the institutionalized groups. The former group had an average 0.3 decayed coronal surfaces, compared with 1.7 among nursing home dwellers and 5.4 among institutionalized chronically ill elders,\textsuperscript{4} as shown in Table 2. These findings highlight the impact of limited access to professional care and the availability of daily oral hygiene.

**Health Status as a Barrier**

One would posit that dental service utilization is related to oral health status. Certainly the studies comparing edentulous and dentate elders support this hypothesis; the 1996 MEPS revealed that dentate elders are 6.5 times more likely to seek dental care than their edentulous counterparts.\textsuperscript{13} These findings suggest that future cohorts, who will retain more natural teeth, will be more likely than their predecessors to seek dental care. However, the presence of large numbers of decayed root and coronal surfaces and deep periodontal pockets does not necessarily mean the individual will seek dental care, as illustrated by the barriers described above. Poor systemic health and multiple chronic diseases can also deter the older person from obtaining needed dental care. Indeed, those who make frequent medical visits and who spend more on medications and medical visits are less likely to use dental services. This is most likely due to their focus on the chronic conditions that impair their activities of daily living and the time and energy required to deal with medical problems.\textsuperscript{20} In fact, even among educated elders who have had a history of regular dental service use, the more ADL limitations an older person reports, the less likely he or she is to seek dental care.\textsuperscript{9}

Not surprisingly, older adults with natural teeth are more likely to seek dental care than edentulous

### Table 2. Dental caries by residence, Australia, 2001

<table>
<thead>
<tr>
<th>Caries</th>
<th>Independent Living</th>
<th>Nursing Home Residents</th>
<th>Psych Patients in Boarding Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of decayed coronal surfaces</td>
<td>0.3</td>
<td>1.7</td>
<td>5.4</td>
</tr>
<tr>
<td>Mean number of decayed root surfaces</td>
<td>0.4</td>
<td>1.5</td>
<td>2.7</td>
</tr>
</tbody>
</table>

elders, and those with more teeth make more visits than their counterparts with fewer teeth. The likelihood of seeking dental care increases fourfold if the older person is edentulous in one arch only or has at least one tooth in each arch, compared with those who have no natural teeth. To date there have been no reports of dental service utilization among older adults who wear an implant-supported bridge; this would be an interesting group to compare with elders wearing complete dentures because of the additional care needed for implants.

**Older Patients and Caregivers as Barriers: If You Build It, Will They Come?**

There is a widespread belief among community health providers and elders themselves that they would be more likely to use dental services if the clinics were located nearby, or delivered directly via mobile units, or were less costly. Indeed, surveys of community-dwelling older adults in the 1980s reported that respondents wanted dental treatment but had difficulty climbing stairs and could not find dentists with ground floor offices or that mobility problems prevented up to 30 percent of elders from obtaining dental services. Even in more recent surveys, such as one conducted in a community north of London, 52 percent of housebound older adults who participated in the study reported that they preferred to receive dental care in their own homes and complained of inadequate transportation options to dental providers. The overwhelming number of these frail elders (93 percent) said they only made a dental visit when they had dental problems, but 86 percent perceived no need. However, in our own experience and in reports of other programs that have attempted to provide such services, there is little support for the concept, “If you build it, they will come.” In one survey of dentists and residential care supervisors in northern Scotland, no more than 25 percent of elderly residents in these facilities had had contact with a dentist in the past year, despite the fact that 86 percent of dentists were willing to do home visits and 93 percent of facilities provided transportation to dental providers. These low rates of dental utilization by elders in domiciliary care did not vary by frailty.

**Psychosocial Variables as Barriers and Enablers**

**Self-Reported Reasons**

The primary reason why people seek health services is their belief that they need health care and that the situation will get worse without professional help. Furthermore, individuals must believe that their health status will get better. However, researchers have demonstrated that many older adults accept chronic disease as an inevitable and even normal part of the aging process. Low income and less-educated elders have been found to have lower expectations of good health in their old age. Such acceptance of poor health is particularly striking in the area of oral health. Whether this means living without natural teeth or poorly fitting dentures or with pain and halitosis due to caries, some older persons attribute the problems to aging and do not seek dental care. Numerous studies have reported a consistent finding: older people who are irregular or nonusers of dental care do so not because of cost or fear but because they believe that they do not need any treatment. In a comparison of adults under age fifty-five with those who were fifty-five and older, Abrams et al. found that almost twice as many of the younger group cited cost and fear as reasons, while “no need” was cited by 38.5 percent of the former and 72.5 percent of the latter. In other studies as many as 90 percent of older adults give “no need” as a reason. A comparison of these reasons in two studies is shown in Table 3.

**Dental Attitudes**

A related barrier to seeking dental care is the attitude of the individual toward oral health and toward dental providers. The Florida Dental Care Study interviewed dentate African American and white adults ages forty-five and older to determine the impact of dental attitudes and demographic characteristics on dental service utilization. As noted above, race and poverty (both objective income levels and perceived ability to pay for dental care) had independent effects on utilization patterns. However, six attitudinal constructs significantly discriminated regular users of dental services from irregular and nonusers. These included questions regarding respondents’ beliefs about the importance of dental visits in preventing future problems, perceived quality and
effectiveness of dental care received in the past, cynicism toward dentists and dental care, eventuality of dental decline, and the impact of costs on their previous use of dental treatment. Respondents who were African American, poor, and lived in rural areas of the state held more negative attitudes toward oral health and were less likely to be regular dental service users.

The perceived importance of dental care has emerged as a significant predictor of utilization in other studies. One of the first to examine multiple components of attitudes was a study in the Seattle area, comparing low income elders who had enrolled in free or low cost dental services in the community and who had (according to clinic records) used the service regularly (preventive users) or only for emergency purposes or not at all since enrolling two or more years prior to being interviewed.26 As in other communities where dental services have been developed for those who cannot pay, these clinics have experienced high levels of utilization initially, but once emergency needs are attended to, return visits become irregular. Attitudes were measured as a multidimensional concept, including beliefs regarding oral health and the importance attributed to each belief. The importance component of attitudes could discriminate the three groups better than beliefs or the multiplicative attitude score. Using Andersen and Newman’s27 model of predisposing, enabling, and need variables, several demographic and health characteristics were also included in the design. Even so, the importance attributed to oral health remained as the best predictor of preventive vs. emergency or nonutilization, together with perceived need and the number of teeth remaining. For example, one barrier cited by older adults in other studies has been transportation or physical access. In this study, none of these indicators of access could discriminate between users and nonusers and did not emerge among the list of significant predictors.

A subsequent study by Gilbert et al.10 also tested Andersen and Newman’s model of health behavior to predict older adults’ reported interval since their last dental visit. As with the study described above, perceived importance attributed to oral health and perceived value of dental care were significantly associated with utilization. Other significant predictors were educational status, income, and being dentate vs. edentulous. In both of these studies, attitudes served as both a barrier to and an enabler of utilization. Older people who placed more importance in oral health, who viewed it as valuable, and who perceived a need for dental care were more likely to seek dental services on a regular basis.

Social Support

Another psychosocial variable that is gaining more attention as a predictor of health status and health service utilization is social support and “social connectedness.” The MacArthur Studies of Successful Aging have found this variable, together with income adequacy and functional health, to be a significant predictor of successful aging.28 In the area of dental care and utilization, there is growing evidence that older adults with strong interpersonal ties maintain their oral health better than their peers who are isolated. When “social connectedness” is measured in terms of marital status and living arrangement, elders who are married or living with others have better periodontal health and more filled and fewer decayed coronal and root surfaces than those who are unmarried or are living alone.29 Similarly, a study of dentate community-dwelling adults aged eighty and older in Denmark found that those who had lived alone or became alone during the preceding seven years had 2.4 times greater likelihood of coronal caries. Those who were dissatisfied with their level of social contacts were 2.9 times more likely to develop root caries during this interval.7 Thus, it behooves dental practitioners to encourage regular dental visits by their older patients who experience increased social isolation through widowhood or loss of close friends and family or who have recently relocated to a new community.

Other Psychosocial Barriers and Enablers

Self-efficacy, self-concept, and the desire to look attractive may also play a role in older adults’ willingness to seek dental care. The first of these concepts has been widely tested in the health behav-

<table>
<thead>
<tr>
<th>Reason</th>
<th>Kiyak 1987 (%)</th>
<th>Abrams et al. 1992 (%)</th>
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<tbody>
<tr>
<td>Transportation</td>
<td>3.0</td>
<td>NA</td>
</tr>
<tr>
<td>Fear</td>
<td>3.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Cost</td>
<td>13.0</td>
<td>15.0</td>
</tr>
<tr>
<td>“No Need”</td>
<td>71.0</td>
<td>72.5</td>
</tr>
</tbody>
</table>
ior area. Across diverse ages, people who have high levels of self-efficacy relevant to a particular aspect of health (e.g., weight loss, smoking cessation) are more likely to improve their behavior in that area. In our own research, we have found an association between low self-efficacy, gingivitis, and caries incidence over one to two years.\(^30\)

Self-concept has been found to be an important predictor of behavior across the lifespan. Adolescents who have high levels of self-concept in multiple domains perform better in school and are less likely to experiment with drugs and alcohol. Young adults with high self-concept are more likely to adhere to orthodontic regimens. In the same manner, a high self-concept may help older adults maintain their oral health and dental appearance. The desire to look attractive has become more important for baby boomers than for their predecessors, as evidenced by the increasing numbers seeking plastic surgery and botox treatments, as well as the growing numbers of fifty- and sixty-year-olds turning to orthodontics after a lifetime of experiencing malocclusion and the trend toward cosmetic dentistry and tooth whiteners among middle-aged adults. To the extent that such an aesthetic focus can motivate people to maintain their oral health in the later years, dental service utilization will improve for future cohorts of older adults.

A Summary of the Best Predictors of Utilization

This review illustrates the conclusion that multiple variables influence dental service use by older persons. In one of the few multivariate analyses available, Kiyak found the best predictor of dental utilization by elders to be perceived importance of dental care.\(^26\) Furthermore, the research demonstrated that this was the best predictor of the use of preventive or emergency services and nonutilization. In addition to perceived importance, perceived need and number of teeth remaining also influenced utilization patterns. Gilbert et al. confirmed these findings.\(^10,11\) They showed that the elder’s perceived importance attributed to oral health and perceived value of dental care are the major predictors of utilization patterns. Educational status, income, and number of teeth remaining also influenced these patterns.

Health services researchers have also attempted to determine the best predictors of elders’ medical care utilization. Shah et al. used logistic regression to identify symptom onset within four hours of seeking care. They found that older age, deficiencies in activities of daily living, worse physical and social functioning, less education, living alone, and higher comorbidity scores predicted higher use of emergency medical services.\(^31,32\) Similarly, McCusker et al. used regression analyses to determine the best predictors of emergency department visits by elders.\(^33,34\) The researchers found that number of functional problems, hospitalization in the last six months, feeling depressed, cognitive impairment, a lack of social support, some medical diagnoses, history of heart disease and diabetes, marital status, not drinking daily, recent emergency visits, lack of social support, and previous functional problems best predicted repeated Emergency Room (ER) visits.

Predictors of elders’ and family caregivers’ use of formal home services were evaluated by Houde.\(^35\) Residence in elder housing, recent hospitalization, gender, limitations in daily living, being a recipient of Medicaid, age, quality of informal care, and number of household members were the best predictors of an older person’s use of home services. In comparing the findings of studies on dental vs. medical and home services utilization, it is apparent that subjective health and patient perceptions are more likely to predict dental service utilization, whereas objective health status is a better predictor of ER and home services utilization.

Dental Providers as Enablers and Barriers

Dentists’ beliefs, stereotypes, and comfort level with older patients can encourage or discourage the use of dental services by this population. Dentists who believe that older adults generally are uninterested in maintaining their teeth or that they cannot afford dental care may drive away potential patients. In contrast, dentists who assume that retirees have more time and money may expect them to be available for extensive and costly dental visits. In fact, one study that examined expectations of dentists and middle-aged and older patients regarding dental treatment found that dentists significantly overestimated their older patients’ reluctance to receive dental treatment.\(^36\)

It is difficult to gauge from dentists’ favorable responses to a survey whether they would actually provide care to a frail or institutionalized elder if asked to do so. The interpretation becomes more
problematic when response rates to surveys are low; does a nonresponse convey more negative attitudes or a lack of interest in the issue? In a survey of Vancouver, British Columbia dentists, 55 percent who received the survey responded. Despite having dental practices near long-term care facilities, only 19 percent had ever provided dental care (mostly emergency services) in these settings, and 37 percent indicated a willingness to provide services if asked. Even among these dentists who reported favorable intentions toward treating institutionalized elders, they perceived barriers such as low demand (56 percent) and inadequate equipment and space for dental care (91 percent) in these facilities. Almost one-fourth also felt unprepared for treating frail older patients.37,38 Data from this same survey revealed that interest in treating patients in long-term care settings was associated with lack of concern for time lost in one’s private practice, training in managing medically compromised patients, and positive attitudes toward older persons.39 One wonders what responses would have been obtained from the 45 percent of dentists who did not respond to this survey.

Hope for the Future

The patterns of utilization found among current cohorts of older adults may change in the future with the improving oral health of younger Americans. More people are retaining their natural teeth, and the evidence from multiple studies described above, both in the United States and other countries, is that dentate elders are far more likely than their edentulous peers to use dental services. Although private dental insurance plans are becoming less available through employers, many baby boomers who grew up with dental insurance elect to continue this benefit by paying the premiums themselves and will be more likely to continue doing so into their retirement than did earlier cohorts. This can only help increase utilization, as demonstrated by the significant association between insurance and access to dental care.

Other enabling factors are higher income and educational levels. Both are increasing for newer cohorts of elders, with poverty rates among those sixty-five and older declining to their lowest levels in recent years, and with the majority of young-old having completed twelve or more years of education. More educated, middle-class elders are most likely to seek regular dental care from private practitioners. In fact, a survey of 237 dentists in five states found that older persons comprised almost 20 percent of their patient load, up from 16.4 percent in a similar survey conducted ten years earlier.40 These older adults accounted for 17.5 percent of services and 22 percent of patient expenditures in these practices, both at higher levels than ten years previously. Although these private practitioners reported a decline in fees per visit for all age groups, adults age sixty-five to sixty-nine paid the highest mean fees, as shown in Table 4. To the extent that more baby boomers can pay for their dental care through private insurance or out-of-pocket, they will be an important segment of the private practice patient load in their later years.

Research to Enhance Utilization by Diverse Older Adults

Despite the improving socioeconomic status of future cohorts of older adults, it is unrealistic to expect all baby boomers to enter old age with high levels of education, income, and private Medigap and dental insurance. It is also unreasonable to assume that a lifetime of poor utilization patterns and low priority attributed to oral health can be modified in old age. What are some interventions that might enhance utilization among this latter group, particularly among disadvantaged ethnic minorities and immi-

<table>
<thead>
<tr>
<th>Table 4. Private practitioner reports of patients in practice</th>
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<tbody>
<tr>
<td>Caseload</td>
</tr>
<tr>
<td>% 65+</td>
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<tr>
<td>% total services</td>
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<td>% total patient expenditures</td>
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<td>Mean fee for service</td>
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<td>Age</td>
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<td>1-19</td>
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<td>40-59</td>
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<td>65-69</td>
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<td>80+</td>
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grant populations who have had low access to dental care during adulthood? Community-based health promotion efforts are one method of addressing this problem. In our own research, we have tested alternative preventive oral health regimens such as intensive educational interventions, fluoride varnish applications, and long-term rinsing with chlorhexidine. These interventions, aimed at low income ethnic minority and immigrant elders who have been irregular users of dental services, have yielded mixed results in terms of improving oral health parameters measured in each study. However, they have had an indirect effect of enhancing participants’ interest in and desire to seek dental care. Follow-ups with these elders two to four years later have found many of them with a regular dental provider, often through a public health or community dental clinic. Their greater awareness of the importance of oral health in the later years has led most of these older persons to become preventive dental users. In an ongoing study testing the impact of an intergenerational oral health promotion program on older adults’ retention and practice of new oral health and nutrition knowledge, ethnically, culturally, and linguistically diverse elders have improved their utilization of dental care in their local communities.

Health promotion has become an important means of improving older adults’ behaviors in a variety of areas, including exercise, weight loss, management of diabetes, and hypertension. Unfortunately, it has received less attention in dentistry except for some early efforts twenty or more years ago. With the rapid advances in materials and methods for home-based oral hygiene and materials and techniques in dental practice, it is important to educate the general population on an ongoing basis. Even those who make semiannual dental visits generally do not receive much systematic oral health education. Many patients would welcome such efforts, as illustrated by the findings of Abrams et al. that 73 percent of adults younger than fifty-five and 62 percent of those fifty-five and older indicated a desire for educational programs in their dentist’s office. For those who do not seek regular dental care, this information is even more critical and should be provided in alternative settings such as senior centers, assisted living facilities, and adult day health centers, as well as nontraditional settings such as churches and malls. Advocates of oral health care for current and future cohorts of elders can adopt many of the techniques used by the medical community to assist patients with chronic systemic diseases. The dental care community must find creative ways to reach out to underserved segments of older adults.

Medicaid is the second largest expenditure in most states’ budgets. Not surprisingly, it is the largest insurer in the country and is the primary third-party payer for long-term care services. Cuts in adult Medicaid dental services and bloc grants decreased by the federal government will reduce money available for elder dental care. For this reason, other ways to increase opportunities for intervention are needed.

Currently, licensed dentists must complete a certain number of hours in continuing education courses. One way to increase elders’ access to elder oral health care is by requiring dentists and hygienists to promote oral health care in underserved areas (nursing homes, community clinics, etc.) as part of a continuing education requirement. Such clinical programs may take place through dental education or by performing necessary dental care procedures on older patients. The communities in need could also be accessed through mobile dental units. This could make oral health care accessible to more elders and give back to the community. Dental residency programs represent another avenue for increasing access. Increasing numbers of Advanced Education in General Dentistry residency programs train recently graduated dental students. The curriculum of these programs could focus on providing care to underserved populations, one of which would be low-income older adults.

In some states, hygienists can be licensed to perform expanded dental functions. One way to increase oral health promotion is by allowing hygienists to perform simple restorations, as well as cleanings and fluoride treatments under this expanded function law without direct supervision by a dentist. Dentists can then be called in for more complex procedures. Under this law, more elders could receive basic dental services.

Another way to increase oral health care to older adults is through interdisciplinary training. Providing oral health training to physicians, nurse practitioners, nutritionists, and pharmacists in addition to dentists and hygienists would increase the frequency and amount of oral health information provided to elders. Finally, it would be beneficial to introduce the practice of good oral hygiene skills to the general public at an earlier age and provide better oral hygiene training to all age groups. With earlier education there should be a decrease in oral health problems among future cohorts of elders.
REFERENCES


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