Older Adults’ Contact With Health Practitioners: Is There an Association With Smoking Practices?

Mark S. Kaplan,1 Jason T. Newsom,2 and Bentson H. McFarland3

1School of Community Health and the 2Institute on Aging, Portland State University, Oregon. 
3Department of Psychiatry, Oregon Health & Science University, Portland.

Background. Approximately 12% of the North American population aged 65 and older smoke cigarettes daily. Late-life smokers represent an important population for intervention by health practitioners. The objective of this study was to determine the extent to which contact with health practitioners (dentists or physicians) affects smoking status among older adults.

Methods. We used data on a probability-based sample of community-dwelling elderly respondents (N/H13,363) from the Canadian 1996–1997 National Population Health Survey. Descriptive statistics were calculated, and multivariate logistic regression analysis was performed to examine the associations between current tobacco use and contact with health care practitioners controlling for potential confounders, especially sociodemographic characteristics, selected health conditions, self-reported health, body mass index, functional status, perceived social support, and psychological distress.

Results. Older adults without a regular physician (adjusted odds ratio [AOR], 1.33; 95% confidence interval [CI], 1.11–1.59), with infrequent physical (AOR, 1.22; 95% CI, 1.07–1.40), and dental (AOR, 2.68; 95% CI, 2.07–3.47) checkups were more likely to be current smokers. Age (younger), church attendance (infrequent), drinking behavior (former or occasional), body mass index (normal weight), and psychological distress were all independently related to current smoking.

Conclusions. Results indicate that patients’ contact with health care providers is strongly negatively associated with smoking. More specific data are needed to learn the frequency with which physicians and dental professionals attempt to modify older individuals’ smoking behavior and the degree to which such efforts are effective.

“...It’s the only pleasure Grandpa has got left, so why not leave him alone?” (1)

Approximately 12% of the North American population aged 65 and older smoke cigarettes daily (2–4). As baby boomers age, the number of older smokers is likely to continue to rise (5). Because most tobacco-related mortality occurs among older adults, the impact of smoking in this population and the potential benefits of cessation are large (6). According to Khaw, “tobacco smoking must be the single most preventable cause of ill health and disability; the benefits of not smoking in terms of respiratory function and cardiovascular disease are apparent even at older ages” (7). Indeed, elderly smokers who quit can gain significant health benefits and reduce their risk of death (8).

Late-life smokers represent an important population for intervention by health practitioners. Physicians (9,10) and dentists (11) are in a prime position to play a role in smoking-cessation activities. In fact, older smokers are likely to see physicians more frequently than are younger groups (5). Moreover, up to 70% of adult smokers see their dentists each year (12). As a result, the practice guidelines of the United States Public Health Service recommend that clinicians identify smokers and encourage cessation as a routine part of virtually all health care providers’ contacts (13).

In spite of the opportunities to do so, critics have argued that dentists and physicians continue to miss opportunities to provide advice on smoking cessation (14–16). Therefore, the purpose of this report was to determine the extent to which contact with health care providers correlates with smoking behavior in the elderly population. Such evidence will contribute to the development of more targeted clinical and public health interventions to reduce late-life smoking.

Methods We analyzed data from the Canadian National Population Health Survey (NPHS), a large, population-based longitudinal study conducted by Statistics Canada. The questionnaire comprises two components: the general, which is administered to all household members, and the health, which is administered thereafter to selected respondents. Using a multistage, stratified, random sampling procedure, the NPHS surveyed 73,402 households across Canada by telephone in the health component of the study (17). The overall response rate at the household level was 82.6% (18). Of the 13,744 people aged 65 and older who were selected as respondents (from the completed general component), 13,404 completed the health component, for a response rate of 97.5% (F. Brisebois, personal communication, 2001). Analyses in the present study were conducted using the 1996–1997 cross-sectional health file for 13,363 persons aged 65 and older who had complete data.
The dependent variable was “current smoking,” and the independent variables of interest were three variables measuring contact with a physician (“Do you have a regular medical doctor?”) and “When was the last time you had a physical checkup?” and a dentist (“When was the last time you went to a dentist?”). NPHS respondents were asked: “At the present time do you smoke cigarettes daily, occasionally, or not at all?” Current smoking was “daily” or “occasionally.” To be consistent with recommendations for medical and dental checkups, we defined those who reported a physical checkup in less than the previous 2 years and those who reported a dental visit within the last year.

Control variables, identified in previous research as risk factors for tobacco use, included gender; age (5-year groupings); education (less than secondary, secondary, some postsecondary, and postsecondary); marital status; living arrangements (living alone vs other); smoking status (never or former versus current); alcohol use (abstainers, former, occasional, regular); chronic conditions (the sum of indicators for 13 specific conditions, including asthma, arthritis or rheumatism, back problems, high blood pressure, chronic bronchitis or emphysema, diabetes, heart disease, effects of a stroke, bowel disorder, Alzheimer’s disease, cataracts, or glaucoma); physical activity (physical activity at least three times per week vs less activity); body mass index (BMI); functional limitations (need for help with instrumental or basic activities of daily living vs no need); frequency of church attendance; perceived social support; and nonspecific psychological distress.

Social support was measured with four items that reflect whether the respondents felt that they had someone they could confide in, someone they could count on, someone who could give them advice, and someone that made them feel loved. The score is derived from the sum of all true responses (yes vs no) to the four items. Psychological distress was assessed by six items on a 5-point Likert scale, ranging from “all of the time” to “none of the time.” The participants indicated the frequency in the past month with which they had felt “so sad that nothing could cheer [them] up,” “nervous,” “restless or fidgety,” “hopeless,” “worthless,” or that “everything was an effort” (19).

All independent variables were entered into the logistic regression model simultaneously. The effect of a predictor was thereby calculated after controlling statistically for all the others (20). The analyses were weighted to reflect the sample design, adjustments for nonresponse, and poststratification with variance estimates computed using SUDAAN (release 7.5.4; Research Triangle Institute, Research Triangle Park, NC).

## RESULTS

Current smokers made up 15% of the sample, 41% were former smokers, and 44% never smoked. Among current smokers, 84% were daily smokers. On average, current smokers reported smoking 16.9 (standard error, 0.30) cigarettes per day and began smoking at age 20. The majority (50.7%) of older smokers had not visited a dentist in more than 5 years. The multiple logistic regression revealed (Table 1) an association between contact with health practitio-

### Table 1. Factors Associated With Smoking Among Canadians Aged 65 and Older

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
<th>AOR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>7935</td>
<td>12.8</td>
<td>1.00</td>
</tr>
<tr>
<td>Men</td>
<td>5320</td>
<td>17.5</td>
<td>1.58 (0.91–2.75)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–69</td>
<td>3979</td>
<td>19.8</td>
<td>1.00</td>
</tr>
<tr>
<td>70–74</td>
<td>3752</td>
<td>14.1</td>
<td>0.62 (0.38–1.01)</td>
</tr>
<tr>
<td>75–79</td>
<td>2698</td>
<td>15.0</td>
<td>0.50 (0.37–0.68)**</td>
</tr>
<tr>
<td>80+</td>
<td>2826</td>
<td>7.0</td>
<td>0.20 (0.11–0.35)***</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>6281</td>
<td>12.6</td>
<td>1.00</td>
</tr>
<tr>
<td>Single</td>
<td>828</td>
<td>19.5</td>
<td>1.44 (0.68–3.02)</td>
</tr>
<tr>
<td>Widowed, divorced, separated</td>
<td>6111</td>
<td>17.9</td>
<td>1.92 (0.90–4.13)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Secondary</td>
<td>6680</td>
<td>15.7</td>
<td>1.00</td>
</tr>
<tr>
<td>Secondary</td>
<td>2052</td>
<td>13.4</td>
<td>0.85 (0.54–1.11)</td>
</tr>
<tr>
<td>Some postsecondary</td>
<td>2815</td>
<td>17.3</td>
<td>1.50 (0.90–2.48)</td>
</tr>
<tr>
<td>Postsecondary</td>
<td>1421</td>
<td>10.4</td>
<td>0.96 (0.72–1.27)</td>
</tr>
<tr>
<td>Live alone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>6986</td>
<td>13.1</td>
<td>1.00</td>
</tr>
<tr>
<td>Yes</td>
<td>6269</td>
<td>18.5</td>
<td>1.17 (0.76–1.81)</td>
</tr>
<tr>
<td>Attend church often</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>6133</td>
<td>20.2</td>
<td>1.00</td>
</tr>
<tr>
<td>Yes</td>
<td>6235</td>
<td>9.9</td>
<td>0.49 (0.33–0.73)**</td>
</tr>
<tr>
<td>Type of drinker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstainer</td>
<td>2199</td>
<td>8.0</td>
<td>1.00</td>
</tr>
<tr>
<td>Former drinker</td>
<td>3403</td>
<td>15.9</td>
<td>1.44 (1.02–2.04)*</td>
</tr>
<tr>
<td>Occasional drinker</td>
<td>2899</td>
<td>16.8</td>
<td>1.80 (1.54–2.09)***</td>
</tr>
<tr>
<td>Regular drinker</td>
<td>4581</td>
<td>16.0</td>
<td>1.48 (0.71–3.10)</td>
</tr>
<tr>
<td>Frequent physical activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>4502</td>
<td>16.7</td>
<td>1.00</td>
</tr>
<tr>
<td>Yes</td>
<td>8040</td>
<td>14.0</td>
<td>0.83 (0.46–1.49)</td>
</tr>
<tr>
<td>Body mass index</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptable (BMI 20.0 to 25.0)</td>
<td>5154</td>
<td>16.3</td>
<td>1.00</td>
</tr>
<tr>
<td>Insufficient (BMI &lt; 20.0)</td>
<td>948</td>
<td>22.1</td>
<td>1.25 (0.49–3.20)</td>
</tr>
<tr>
<td>Some excess (BMI 25.1 to 26.9)</td>
<td>4925</td>
<td>13.0</td>
<td>0.53 (0.36–0.79)**</td>
</tr>
<tr>
<td>Overweight (BMI ≥ 27.0)</td>
<td>1715</td>
<td>12.6</td>
<td>0.49 (0.40–0.61)***</td>
</tr>
<tr>
<td>Chronic conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absence</td>
<td>2866</td>
<td>16.3</td>
<td>1.00</td>
</tr>
<tr>
<td>Presence</td>
<td>10265</td>
<td>14.4</td>
<td>1.01 (0.74–1.38)</td>
</tr>
<tr>
<td>Perceived social support</td>
<td>12169</td>
<td>3.6</td>
<td>0.97 (0.83–1.14) (0.04)³</td>
</tr>
<tr>
<td>Psychological distress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absence</td>
<td>5845</td>
<td>13.4</td>
<td>1.00</td>
</tr>
<tr>
<td>Presence</td>
<td>6237</td>
<td>16.3</td>
<td>1.26 (1.13–1.41)***</td>
</tr>
<tr>
<td>Has regular physician</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12537</td>
<td>14.4</td>
<td>1.00</td>
</tr>
<tr>
<td>No</td>
<td>714</td>
<td>22.9</td>
<td>1.33 (1.11–1.59)**</td>
</tr>
<tr>
<td>Last physical checkup</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2 years ago</td>
<td>9290</td>
<td>13.3</td>
<td>1.00</td>
</tr>
<tr>
<td>≥2 years ago</td>
<td>2029</td>
<td>18.3</td>
<td>1.22 (1.07–1.40)**</td>
</tr>
<tr>
<td>Last dentist visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1 year ago</td>
<td>5263</td>
<td>9.4</td>
<td>1.00</td>
</tr>
<tr>
<td>≥1 year ago</td>
<td>7234</td>
<td>19.3</td>
<td>2.68 (2.07–3.47)***</td>
</tr>
</tbody>
</table>

Note: BMI = body mass index.

1Unweighted n’s.
2Percentage (weighted) of all respondents who were current smokers.
3AOR = adjusted odds ratios (adjusted for all other variables in the table).
4CI = confidence interval.
5Mean (SE).
6p < .05; **p < .01; ***p < .001.
these findings are not without limitations. Because the study
frequency of dental care among older smokers, communica-
perceive barriers to tobacco intervention (23,24). Given the
bacco-cessation skills and knowledge, and more likely to
they were less likely to assess and intervene, less supportive
sionals to estimate their patients’ tobacco use accurately,
more likely than physicians and other health profes-
tists are more likely than physicians and other health profes-
s were prepared by Portland State University, and the responsibility for the
were prepared by Portland State University, and the responsibility for the
important association with whether or not an older pa-
ated with smoking among older adults. Having a regular
practice implications for physicians and other health care
significant lower smoking rates, the inclusion of this vari-
able did not substantially change the magnitude or statisti-
cal significance of the AORs for the physician, physical
checkup, or dental visit variables. We present the analysis
without income, however, because inclusion of income led to
loss of more than 20% of the sample.

**DISCUSSION**

This study is one of the largest samples of older adults in
which correlates of late-life smoking have been investigat-
gated. Moreover, it includes one of the largest arrays of so-
cial and demographic variables as predictors of smoking be-
behavior to date. Few other comparable data on late-life
smokers and clinician interventions in this population exist
(C. Husten, personal communication, 2001).

The findings provide new information about factors asso-
ciated with smoking by older adults that have policy and
practice implications for physicians and other health care
providers. The results suggest that older adults’ contacts
with physicians and dentists are strongly negatively associ-
ated with smoking among older adults. Having a regular
physician and seeing that physician recently seems to have
an important association with whether or not an older pa-
tient is a current smoker. It is also interesting that dental vis-
its had an important relationship to smoking practice. Older
adults who had not seen a dentist in the past year were
nearly three times more likely to be current smokers.

These findings may guide future research and practice in-
volving dentists and physicians discussing smoking with el-
derly patients (21). Although physicians have a unique op-
opportunity to intervene when their patients need help to quit
smoking, fewer than half (49.4%) ask their patients about
tobacco use (22). Moreover, a recent survey of tobacco as-
essment and intervention practices showed that while den-
tists are more likely than physicians and other health profes-
sionals to estimate their patients’ tobacco use accurately,
they were less likely to assess and intervene, less supportive
of tobacco cessation, less likely to report having strong to-
bacco-cessation skills and knowledge, and more likely to
perceive barriers to tobacco intervention (23,24). Given the
frequency of dental care among older smokers, communica-
tion and cooperation between physicians and dentists are of
crucial importance with respect to the management of late-
life smoking.

Although the data suggest that contact with physicians
and other health professionals may reduce smoking rates,
these findings are not without limitations. Because the study
was cross-sectional and not on an experimental trial, we
cannot conclude that the physician and dental contacts were
causes of reduced smoking rates in this population. Older
adults with healthy behaviors may be both less likely to
smoke and more likely to see a health care professional, al-
though a wide range of personal characteristics were con-
trolled in this study. In addition, more specific data are
needed to learn the frequency with which physicians and
dental professionals attempt to modify older individuals’
smoking behavior and the degree to which such efforts are
effective.

Our findings may have important clinical implications for
health professionals who care for elderly smokers. If dental
contact can affect smoking behavior, tobacco-use behavior
modification strategies in dental school curricula and con-
tinuing education regarding tobacco (24) may be an impor-
tant route to smoking cessation. Moreover, because most el-
derly smokers in our study had not visited a dentist in more
than 5 years, periodontal preventive care appears to be
much needed among this group. Primary care providers
should remain alert to periodontal disease as well as other
serious but less common oral diseases in older smokers and
refer even their edentulous patients to dental professionals
(25). Clearly, more studies of tobacco control interventions
for older smokers are necessary.

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tion. This analysis is based on Statistics Canada’s National Population
Files, which contain anonymized data. All computations on these microdata
were prepared by Portland State University, and the responsibility for the
use and interpretation of these data is entirely that of the authors.

Address correspondence to Mark S. Kaplan, School of Community
Health, Portland State University, P.O. Box 751, Portland, OR 97207.
E-mail: kaplann@pdx.edu

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