care and outcomes, increase efficiency and effectiveness, and inform mental health and health care policy.

### Continuing Oversight: Role of the Interagency Council

A sustained effort is required to address the complex factors that cause and prolong homelessness among people with severe mental illnesses. Therefore, we have recommended, and the Interagency Council on the Homeless has agreed, that the Council will develop, within 60 days from the issuance of this report, a plan for monitoring and tracking the completion of each of the Federal action steps outlined in the report and for identifying new opportunities to assist States and localities in meeting the needs of their homeless mentally ill citizens.

Additionally, a committee of the Council, working closely with NIMH and other agencies, will be constituted to provide integrated Federal leadership and oversight to address the needs of homeless severely mentally ill people on an ongoing basis.

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## Impact of a Local Ordinance Banning Tobacco Sales to Minors

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**Synopsis**

*Most addictions to tobacco begin when a person is younger than age 18. Although the sale of tobacco to minors is illegal in most jurisdictions, there is often little enforcement of these laws, and minors can usually purchase tobacco easily.*

*The impact of a local ordinance designed to prevent tobacco sales to minors was assessed by surveys of 10th grade students before and after the implementation of the ordinance.*

*Tobacco use declined from 25.3 percent to 19.7 percent overall, with a significant (P = 0.004) decline from 26.4 percent to 11.5 percent among girls. There was also a significant (P = 0.008) increase from 29.3 percent to 61.5 percent in the proportion of students reporting they were asked for proof of age when they attempted to purchase tobacco. Local ordinances may be an effective tool for reducing tobacco use by adolescents.*

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The age at which the use of tobacco begins is a critical variable in targeting prevention efforts. Unfortunately, tobacco use often begins during early adolescence and appears to be occurring at younger ages among more recent birth cohorts, especially among girls (*1*).

Although 43 States and the District of Columbia have laws prohibiting the purchase of tobacco by minors (*2*), it has been documented that such laws often have little or no effect and that purchase of tobacco by minors occurs often (*3,4*). In a recent survey by the Inspector General of the U.S. Department of Health and Human Services, two-thirds of State health department officials indicated that there is virtually no enforcement of their State law. What enforcement exists is typically of local ordinances (*5*). Everett, WA, is one city that has implemented a local ordinance designed to reduce access to tobacco by adolescents under age 18. Surveys of 10th grade students in a local high school suggest that the ordinance may be having a positive effect.

### Methods

In November 1988, the Snohomish Health District Board recommended to all cities within the district that a model ordinance be adopted with the objective of reducing access of minors to tobacco. The city of Everett (population 66,740) adopted the ordinance in the spring of 1989, with an implementation date of January 1, 1990. The delay in implementation provided an opportunity for a survey to be conducted in the local high school.

In October 1989, and again in October 1990, a one-page questionnaire was distributed to 10th grade students at the high school. This grade level was used because anecdotal information suggested

Table 1. Tenth grade students reporting regular tobacco use, Everett, WA, 1989 and 1990

| Responder group | 1989 Users | | 1990 Users | | P value |
|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | |
| Ages 14–15.... | 31 | 22.0 | 29 | 14.2 | 0.08 |
| Ages 16–17.... | 25 | 31.3 | 26 | 34.7 | 0.7 |
| Boys [1]..... | 25 | 22.9 | 39 | 27.9 | 0.5 |
| Girls [1]..... | 29 | 26.4 | 16 | 11.5 | 0.004 |
| All ..... | 56 | 25.3 | 55 | 19.7 | 0.16 |

[1] Two users in 1989 did not report their sex.

Table 2. Sources of tobacco products reported by tenth grade students, Everett, WA, 1989, 1990

| Source | 51 1989 Responders | | 53 1990 Responders | | P value |
|---|---|---|---|---|---|
| | Number | Percent [1] | Number | Percent [1] | |
| Store..... | 42 | 82.4 | 40 | 75.5 | 0.5 |
| Vending machine.. | 8 | 15.7 | 13 | 24.5 | 0.4 |
| Friend..... | 16 | 31.4 | 28 | 52.8 | 0.04 |
| Stealing ..... | 6 | 11.8 | 9 | 17.0 | 0.6 |
| Other [2]..... | 3 | 5.9 | 5 | 9.4 | 0.7 |

[1] Percentages add to more than 100 because multiple responses to question were allowed.
[2] Other source most frequently specified was parent.

Table 3. Tenth grade students asked for proof of age when they attempted to buy tobacco products at stores, Everett, WA, 1989 and 1990

| Age group (years) | 1989 | | 1990 | | P value |
|---|---|---|---|---|---|
| | Number [1] | Percent [2] | Number [1] | Percent [2] | |
| 14–15..... | [3]20 | 35.0 | 20 | 65.0 | 0.11 |
| 16–17..... | 21 | 23.8 | [3]19 | 57.9 | 0.06 |
| All ..... | 41 | 29.3 | 39 | 61.5 | 0.008 |

[1] Number attempting to buy tobacco.
[2] Percent asked for proof of age.
[3] Response missing for one 15-year-old in 1989 and for one 16-year-old in 1990.

that a substantial proportion of students in 10th grade use tobacco, most are younger than age 18, and most have not yet dropped out of school. Response to the questionnaire was anonymous, and no individual student's answers could be identified. One set of questions was asked of all students. Separate questions were added only for those who identified themselves as regular (once a week or more) users of any tobacco product. The questionnaire was completed voluntarily by all students present on the day it was distributed.

Data from the questionnaire were analyzed by a microcomputer program (*A*) using contingency table analyses. Chi-square values with continuity correction were used to assess the probability (two-tailed) of chance occurrence of differences in proportions. There were no special State or school-based anti-tobacco campaigns, increased tobacco taxes, or other recognizable occurrences that might have affected this high school population during the period of the study.

The Everett ordinance (available upon request from the author) contains several provisions.

- a requirement that a sign indicating that sale of tobacco to persons younger than age 18 is illegal be posted at all points of retail sales,
- tobacco vending machines can be located only in areas where they are not accessible to minors,
- proof of age is required of any person attempting to purchase tobacco if he or she is not clearly older than age 18,
- a local license is required for all vending machines as well as any over-the-counter sales of tobacco products, and
- violations will result in suspension and revocation of the license, civil penalties, or both.

During the spring of 1990, all retail sales sites in Everett were identified and notified of the ordinance. Licenses and signs for posting were issued through the Everett Department of Licensing. Active enforcement began in July 1990, with one person having responsibility for enforcement of the ordinance. Snohomish Health District food establishment inspectors reported any infractions to the Everett Department of Licensing.

## Results

There were 221 usable responses to the 1989 survey, representing 70.6 percent of the enrolled 10th grade population in the high school and 279 responses in 1990, representing 82.3 percent. In 1989, 2.9 percent of the responses were not used, either because the student was age 18 or older or the answers given were obviously fraudulent. Nonusable answers amounted to 2.2 percent in 1990. The lower response rate in 1989 was due to one class of students being away on a field trip on the day the questionnaire was distributed.

In 1989, 2.7 percent of 1990 responders were age 14, 61.2 percent were age 15, 30.1 percent were age 16, and 5.9 percent were age 17. In 1990, 0.7 percent were 14, 72.4 percent were 15, 23.7 percent were 16, and 3.2 percent were 17. For most analyses, students were grouped as ages 14-15 and 16-17.

Table 1 shows the proportions reporting regular tobacco use for 1989 and 1990 by age and sex

groups. While there was an overall reduction in use, this change was not statistically significant. The reduction in use among students ages 14-15 years, however, was of borderline significance and among girls, was significant.

There was no clear change in the types of tobacco used most often between 1989 and 1990, with cigarettes being most common. In 1989, cigarettes were used by 77.8 percent, followed by chewing tobacco (14.8 percent), and snuff (7.4 percent). In 1990, it was cigarettes 75.9 percent, chewing tobacco 18.5 percent, and snuff 5.6 percent. Only one female respondent reported using a tobacco product other than cigarettes.

Table 2 indicates the various sources of tobacco identified by tobacco users in each year. In general, there was a tendency in 1990 toward less use of stores and more use of vending machines, friends, and theft as sources of tobacco. Among these sources, the only significant change between 1989 and 1990 was that of use of friends as a source.

In both years, a great majority of students indicated that they believe a person can become addicted to tobacco (93.6 percent in 1989 and 96.0 percent in 1990). There was, however, a substantial change in the proportion of students who agreed that it should be illegal to sell tobacco to persons younger than age 18. In 1989, 60.3 percent of 14–15-year-olds and 41.3 percent of 16–17-year-olds so agreed. In 1990, that increased to 66.5 percent of the 14–15 group and 52.8 percent of the 16–17-year-olds. For all ages, agreement that sale of tobacco to minors should be illegal increased between 1989 and 1990 from 53.6 percent to 62.8 percent ($P=0.05$).

Among all tobacco users, there was an increase between 1989 and 1990 in the proportion that indicated that they had been asked for proof of age when attempting to purchase tobacco. When this analysis was restricted to users who indicated that they purchased tobacco from a store (table 3), the increase between 1989 and 1990 in requests for proof of age was significant. As would be expected, younger students were more often asked for proof of age than older students.

## Discussion

Aggressive community education efforts to reduce sales of tobacco to minors can be partially successful, even in the absence of implementation and enforcement of a local ordinance (*3*). Education is, of course, an important component of the implementation of a new local ordinance, and such education, particularly of tobacco retailers, may play as large a role as the threat of civil penalties or suspension or revocation of a license in producing the desired reduction of sales to minors.

Our evidence, however, suggests that a local ordinance with enforceable provisions may have an important impact on the purchase and use of tobacco by adolescents. The findings also suggest that further measures may be of use, including placement of all tobacco products behind counters to prevent theft, banning of tobacco vending machines, and raising the legal age for purchase to age 19. The last measure might assist in reducing the availability of tobacco from high school friends, since a legal age of 19 would mean that very few high school students could purchase it legally.

This study further suggests that younger students in particular and all girls in general may be affected more strongly by knowledge that sale of tobacco to minors is illegal and that enforcement of the law is likely. We found no evidence that boys overall or students ages 16–17 reduced their tobacco usage, although the attitudes of these groups regarding tobacco sales to minors did appear to change, and they were asked more often for their age when attempting purchase. Perhaps it is not surprising that adolescent boys and older adolescents may be less influenced by concerns about illegal activities than are girls and younger teens. Additional provisions, such as those suggested previously, may be necessary to achieve a significant impact on tobacco use by boys and older adolescents.

National surveys indicate that there is strong public support for regulation of minors' access to tobacco products (*6*). Sustained efforts, such as an ordinance, may be necessary to maintain long-term reductions in sales to minors (*7*).

The achievement of a smoke-free society in the year 2000 will take efforts at all levels of society, not the least important of which is the local community level. An ordinance, such as the one enacted and implemented by the city of Everett, can assist a community in establishing an environment in which it is clear that tobacco use is not desirable, particularly for adolescents. It could also reinforce the educational messages that children receive in schools regarding tobacco and other drug use.

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### *Equipment*

*A.* StatView 512+, BrainPower, Inc., Calabasas CA.