

ENVIRONMENTAL TOBACCO SMOKE IN RENTAL HOUSING – PERCEIVED PROBLEMS & INTEREST IN SMOKE-FREE BUILDINGS

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ABSTRACT

Six hundred Minnesota renters were surveyed to determine the perceived extent of secondhand smoke transfer in multifamily buildings and to assess the marketability of smoke-free rental housing. Forty-eight percent of renters reported that, at times, tobacco smoke odors get into their current apartment from elsewhere in or around the building. Ten percent said this occurs often or most of the time, a proportion that would translate to roughly 37,000 households statewide. Thirty-seven percent of those experiencing secondhand smoke transfer say it bothers them a lot or so much they are thinking of moving. Forty-seven percent of households are extremely or very interested in living in a building where smoking is prohibited. Fifty-four percent would be very likely to choose a smoke-free building all other things being equal, and 34% would be willing to pay more to live in one.

INDEX TERMS

Environmental tobacco smoke, Air transport, Multifamily buildings, Surveys

INTRODUCTION

Previous research has shown that significant air leakage paths exist and significant air movement occurs between units in multifamily buildings (Modera et al., 1986; Diamond et al., 1986; Levin 1988; Francisco and Palmiter, 1994; Harrie et al. 1988). Minnesota renters have no legal right to a smoke-free place to live, and the market has so far provided very few smoke-free rental buildings. As a result, renters are sometimes exposed to environmental tobacco smoke (ETS) entering their apartments from other apartments, from common areas of the building such as hallways or party rooms, or from balconies, patios or grounds outside the building, a phenomenon that we refer to here as “ETS transfer” or “secondhand smoke transfer.”

The research reported here is part of a larger project focused on environmental tobacco smoke (ETS) in apartment buildings. The goal of the project as a whole is to build a sound base of knowledge that will facilitate two types of actions to reduce renters’ exposure to environmental tobacco smoke (ETS) in their homes:

- designation of smoke-free apartment buildings, and
- treatment of smoking-permitted buildings to reduce ETS transfer.

Qualitative, in-depth interviews of a small sample of multifamily building owners in Minnesota and a survey of 600 Minnesota renters have been completed. Three other tasks are still underway: legal research, field measurement of contaminant dispersal and air movement

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between units in multifamily buildings before and after building treatments, and financial analysis of the relative economics of smoke-free properties.

This paper focuses on the results of the renter survey (CEE and ANSR, 2001), which had two primary objectives:

- to quantify the perceived extent and severity of problems with ETS transfer among Minnesotans who live in multifamily rental housing, both overall and within selected population groups, and
- to provide owners with solid information regarding the marketability of smoke-free rental housing and the importance of ETS-free units to renters, both overall and by market segment.

METHODS

The population of interest is comprised of those Minnesota renters who live in buildings with two or more dwelling units. The sampling frame consists of rental households. The sample was drawn from a commercially available list of such households. A stratified random sample design was used to assure adequate representation of the overall population and of small sub-populations of particular interest.

Six hundred rental households were surveyed in late winter and early spring of 2001. This included a random sample of 405 households and over-samples of minorities, young adults, households with children and households living in 2-to-4 unit dwellings. These samples provide a margin of error due to sampling of $\pm 5\%$ for Minnesota rental households as a whole and $\pm 10\%$ or less for the over-sampled subgroups, as well as for low income households.

Data collection focused on achieving a high response rate to minimize non-response bias. We used a combination of mail and telephone approaches to achieve an overall response rate of 71%. Telephone interviews were completed in Spanish where necessary; other languages were not sufficiently prevalent in the sample to warrant the cost of translation. The addresses corresponding to completed surveys were matched with addresses in tax assessors' and other property databases to obtain accurate information on the age and number of units in the building occupied by the respondent. The survey data were analyzed using SPSS and WinCross statistical software.

RESULTS

Twenty-nine percent of rental households in the random sample have one or more smokers. Households with children and non-senior households are significantly more likely to have a smoker (40% and 34% respectively) than other households. The data suggest that households with incomes qualifying for federal poverty status ("very poor") and households with incomes at or below 50% of the Minnesota median for their household size ("poor") may also be more likely to have a smoker, but the sample sizes were not large enough for this particular difference to reach significance. There are no statistically significant differences in the prevalence of smokers by rent category (affordable, standard, luxury or first through fourth quartile of rent paid for a given number of bedrooms), by ethnicity, or by residence in the Minneapolis-St. Paul Metropolitan area vs. other areas of the state (Metro vs. Outstate).

Twenty-three percent of rental households said they allow smoking in their apartments, 18% "sometimes" allow it, and 59% do not allow it. Among households with at least one smoker,

65% allow smoking in their homes, 19% sometimes allow it, and 16% do not allow it. Among households with no smokers, 6% allow smoking in their homes, 17% sometimes allow it, and 77% do not allow it.

Forty-eight percent of rental households in multifamily buildings in Minnesota report that, at times, tobacco smoke odors get into their current apartment from somewhere else in or around the building. Three percent say this occurs “most of the time” and 7% say it occurs “often.” Considering the 482,000 rental households in the state, and assuming that roughly 80% of these are in multifamily buildings (as was the case in the 1990 Census), this means that about 37,000 rental households experience secondhand smoke transfer “often” or “most of the time.” Another 20% “sometimes” experience secondhand smoke transfer, and 18% experience secondhand smoke transfer “rarely.” Households with children, very poor households, non-senior households and households in older buildings report significantly or marginally more frequent secondhand smoke transfer into their current apartment. There are no significant differences in the frequency of secondhand smoke transfer by rent category, minority status, presence of smokers in the household, building height (low-rise, mid-rise or high-rise), building size (2-to-4, 5-to-9, 10-to-50 and 51+ units) or the floor on which the tenant is located.

Respondents who said that tobacco smoke odor gets into their current apartment from somewhere else were asked how much this bothers them. Five percent of those who are experiencing ETS transfer (2% of all renters) said it bothers them so much that they are thinking of moving, and 32% (15% of all renters) said it bothers them “a lot.” Forty-two percent of those who are experiencing ETS transfer said it bothers them “a little” and 21% said it does not bother them at all. These findings imply that statewide about 7,700 rental households are currently experiencing ETS transfer severe enough that they are thinking of moving, while another 58,000 households are experiencing ETS transfer to a degree that bothers them “a lot.” Households that experience more frequent ETS transfer are more bothered by it. Households with no smokers and households with children under five years of age are significantly more bothered by ETS transfer than other households, with 6% and 13%, respectively, saying that the ETS transfer they are experiencing bothers them so much that they are thinking of moving.

Those who experience ETS transfer in their current apartments were asked to indicate the most common way the odor gets in. Forty-three percent said from the hallway, 23% said through the windows, 9% said through air leaks from other apartments and 6% said through bathroom or kitchen fans. Secondhand smoke transfer is reported to occur roughly equally in all four seasons. There is only a weak relationship between the most common route of ETS transfer and building size, rent category (a possible rough proxy for building condition) and building age.

Sixty-four percent of renters have had a problem with ETS transfer in a current or previous apartment at some time. The actions these renters have taken in response to ETS transfer are to close their windows (41%), block the gap under the door to the hallway (22%), talk to the landlord (17%), turn off or block their bathroom or kitchen fan (12%), talk to the people who smoke (8%), move (7%) and seal leaks in walls, floors or ceilings (5%).

Fourteen percent of renters in the random sample said that they live in buildings where the landlord prohibits smoking in all apartments. This proportion seemed implausibly high based on the owner survey and our familiarity with the rental market in Minnesota, so we sought to

verify this information by contacting the owners of these buildings (without disclosing that one of their renters had been surveyed). This resulted in a corrected estimate that about 2.4% of Minnesota renters currently live in buildings where smoking is prohibited in all apartments.

Minnesota renters express a high level of interest in smoke-free buildings. Twenty-six percent of respondents in the random sample said they would be “extremely interested” in living in a building where smoking is not allowed anywhere, and 20% said they would be “very interested.” The level of interest is much higher among households with no smokers than among households with smokers: 63% of households with no smokers are extremely or very interested, vs. 8% of households with one or more smokers. Minorities are also more interested in living in a smoke-free building. We found no other statistically significant differences in the level of interest in smoke-free buildings: interest was statistically consistent across income levels, rent levels and age groups and regardless of whether the household had children or not or was located in the Metro or Outstate area.

By way of comparison, 20% of renters said that it is very important to them to live in a building that allows smoking, 12% said it is somewhat important, 16% said it is not very important, and 52% said it is not at all important. Households with smokers are much more likely to say that living in a building that allows smoking is very important than are non-smokers (43% vs. 11%). Poor households and renters over 24 are more likely to say that living in a building where smoking is allowed is important to them than are other renters.

Fifty-four percent of households in the random sample said that if two apartment buildings were the same in every way including rent, except that one did not allow smoking, they would be “very likely” to choose the smoke-free building. Nineteen percent said they would be “somewhat likely,” 9% said they would be “not very likely,” and 18% said they would be “not at all likely” to choose the smoke-free building. Households without smokers, seniors and minorities are more likely to say they would choose the smoke-free building.

We asked whether respondents would be willing to pay more to live in a smoke-free building partly for the intrinsic value of the responses and partly to get another indication of the level of interest in smoke-free housing. Thirty-four percent of renters said they would be willing to pay more. Fourteen percent would be willing to pay \$5 to \$15 more per month, 8% would be willing to pay \$16 to \$25 more per month, and 8% would be willing to pay \$26 to \$50 more per month. A few would be willing to pay \$51 to \$75 more per month (1%) or even \$76 or more per month (3%). Non-smokers, households with higher incomes, minorities and non-senior households are significantly more likely than others to be willing to pay more to live in a smoke-free building.

We asked respondents whether, if they were planning to move, they would be willing to make various tradeoffs to live in an apartment with little or no tobacco smoke odor. These questions were intended to give rental property owners a sense the importance of this issue relative to other features with which they have more market experience. About a third of tenants would be willing to live in a moderately less convenient location in order to live in an apartment with little or no tobacco smoke odor: 30% would be willing to drive ten minutes farther to work; 36% would be willing to travel 10 minutes farther to parks or lakes; and 31% would be willing to walk three blocks further to a bus line.

Not too many tenants are willing to trade space for a smoke-free environment: only 13% would be willing to live in an apartment with one less bedroom, and only 11% would be willing to live in an apartment with smaller rooms.

In terms of amenities, 30% would be willing to live in a building that was 20 years older and 12% would be willing to live in an apartment with older carpets, paint and cabinets. Fourteen percent of those who currently have underground parking would be willing to live in a building that did not have it in order to live in an apartment with little or no tobacco smoke odor. Eighteen percent of those who currently have a dishwasher would be willing to live in an apartment without a dishwasher to live in a building with little or no tobacco smoke odor.

Twelve percent would be willing to live in a building with less security, but only 6% would be willing to live in a somewhat less safe neighborhood in order to live in an apartment with little or no tobacco smoke odor. Seven percent would be willing to live in a somewhat noisier neighborhood.

CONCLUSIONS AND IMPLICATIONS

Secondhand smoke transfer appears to be a common occurrence in multifamily buildings in Minnesota, with almost half of renters experiencing it in their current apartments and almost two-thirds having experienced it in some apartment they have lived in. One in ten renters say ETS comes into their apartments from elsewhere often or most of the time. The design and construction of existing multifamily buildings in Minnesota is not isolating renters from contaminants generated outside their own apartments.

There appears to be strong market potential for smoke-free buildings in Minnesota. Only three in ten rental households include someone who smokes, and no market segment we looked at has smokers in more than four in ten households. Almost half of Minnesota renters are extremely or very interested in living in a smoke-free building, and market potential appears to be high across all demographic segments investigated.

Offering smoke-free buildings appears likely to be profitable for private owners. Over half of rental households said they would be very likely to choose a smoke-free building over a smoking-permitted building that was the same in all other ways, suggesting that owners could differentiate their properties simply by designating them smoke-free. Ninety-five percent of the smoke-free owners interviewed as part of another project task said that smoke-free designation had had neutral or positive effects on turnover, vacancy and amount of rent charged, and over half said that smoke-free designation had reduced turnover costs (for painting, decorating and leasing). Only one of twenty smoke-free owners had had to enforce his lease against a tenant who smoked. These experiences suggest that operating costs for smoke-free buildings would be the same or lower than those for smoking-permitted buildings. Over a third of renters said they would be willing to pay more to live in a smoking-permitted building, suggesting that smoke-free designation might increase income as well as decrease operating costs.

The results suggest that many clients of public and publicly-assisted housing are also very interested in smoke-free housing. Six in ten very poor households and almost two-thirds of poor households have no smokers. Very poor households are more likely to experience ETS transfer in their current apartments and very poor and poor households are as likely to be bothered by ETS transfer as higher income renters. These households have a level of interest in smoke-free buildings that is almost identical to that of higher income households – 45% of

very poor households and 44% of poor households are extremely or very interested. For obvious reasons, though, these households are less likely to say they would pay more to live in a smoke-free building.

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