

This is a supplemental document for the manuscript titled “The effects of smoke-free policy among residents of multi-unit public housing in Minnesota” which was submitted to the American Journal of Health Promotion on October 29, 2019.

**Purpose:** The primary purpose of this study was to evaluate the impact of a local policy intervention on exposure to secondhand smoke (SHS) for low-income multiunit residents and on cigarette smoking behavior. We also wanted to examine if this policy was effective with individuals with disabilities, older adults, and persons who define themselves as Somali and Oromo.

**Design:** We employed a single-arm pre- and post-intervention survey design to evaluate if a smoke-free policy had an effect on SHS exposure reported at the apartment level. Anonymous surveys were administered in 2 waves: the pre-survey 2 months before the policy took effect in each building, and the post-survey 5-6 months after the policy took effect.

**Sample:** Nine multiunit apartment buildings owned by Minneapolis Public Housing Authority that implemented a smoke-free policy in the summers of 2013 and 2014.

**Measures:** The key outcome variables were 2 measures of SHS exposure inside the apartment and 1 on current cigarette use that we evaluated using identical questions on the pre- and post-surveys.

**Survey respondents:** The pre-intervention survey was completed by residents from 761 apartments, a 71.3% response rate. Residents from 765 apartments completed the post-intervention survey, a response rate of 71.6%. Sample description for study population primarily using pre-survey data is provided in Table 1.

Table 1. Characteristics of residents from nine Minneapolis Public Housing Authority buildings, Minnesota, 2013-2014.

Demographic characteristics		Pre survey (Total=761)	
		N	%
Age	18-34	49	6.6
	35-54	128	17.3
	55-64	204	28.4
	65+	357	47.6
Gender	Male	392	53.0
	Female	348	47.0
Race and ethnicity	White	126	17.3
	Black/African-Somali/Oromo	361	49.5
	Black/African- Other	169	23.2
	Other race and multi-racial	73	10.0
Less than high school education		344	47.6
Household income \$10,000 or less		562	78.3
Having a disability <sup>a</sup>		182	30.0
Households with children aged 0-17		29	3.8

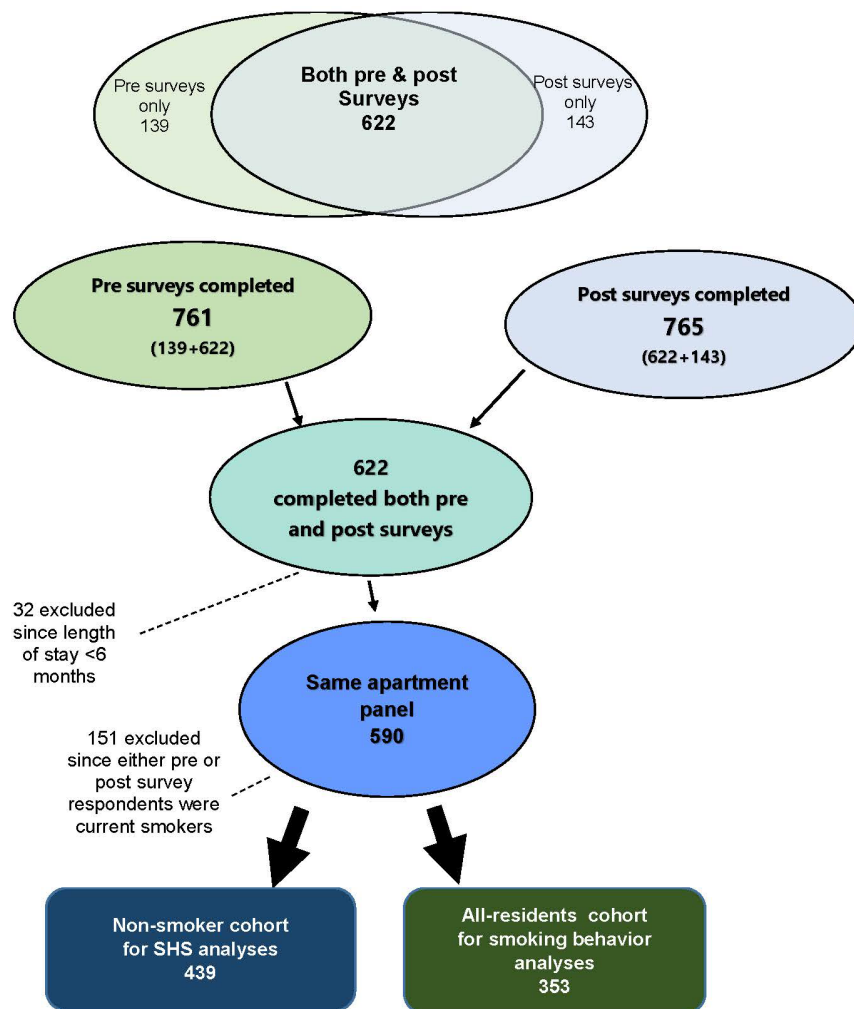
a. Data is only available from the post survey.

**Analysis: Formulation of two data analysis cohorts**

The pre-intervention survey was completed by the residents from 761 apartments. The post-intervention survey was completed by the residents from 765 apartments. Residents from 622 apartments completed both the pre and post survey.

For the evaluation of SHS exposure and smoking behavior change, 32 surveys were excluded from the 622 apartments that have participated in both pre and post surveys, as they indicated that they stayed in the same building for less than 6 months. This reaches a size of 590 same apartment panel for evaluation. Two analysis cohorts were derived from this panel. The illustration of the formulation process is described in Figure 1.

**Figure 1. Formulation of two data analysis cohorts**



**Non-smoker cohort:** Of the 590 respondents in the same apartment panel, 151 respondents reported that they were current smokers either at time of pre- or post-survey. The non-smoker cohort (n=439) excluded these current smokers and were used for evaluating SHS exposure outcomes.

**All-resident cohort:** Of these 590 respondents in the same apartment panel, 353 were highly likely to have the same respondent complete both the pre- and post-intervention surveys, as inferred by having the same gender, race, and ethnicity and the same age within 1 year.

**Results:** The manuscript briefly describes the results, but the detailed comparison of outcome indicators before and after smoke-free policy among residents from nine Minneapolis Public Housing Authority buildings is described in Table 2.

