

ADOPTION, HEALTH IMPACT, AND COST OF SMOKE-FREE MULTI-UNIT HOUSING POLICIES

Study Background:

Smoking in residential settings presents serious and substantive health hazards as well as significant challenges in protecting the health and well-being of residents. Individuals who choose to make their own units smoke-free, but reside in close proximity to one another in MUH facilities, are vulnerable to compromised air quality from the routine operation of heating, ventilating and air conditioning systems that can distribute SHS throughout a building. MUH includes public or private buildings containing two or more dwellings or other housing units that share a common wall. Approximately 75 million Americans reside in MUH, which comprises nearly 26% of all housing in the U.S. Over the past 25 years, Federal, state, and local government actions to protect the public from SHS exposure have increased in public areas, but few of these actions have included mandatory restrictions on smoking in personal living space.

This project examines factors that facilitate or limit implementation of local policies to promote smoke-free MUH facilities and characterize reductions in exposure to SHS associated with implementation of smoke-free policies on a jurisdictional basis. Information will be collected at two points in time in two cities in Los Angeles County, CA. The quasi-experimental study is not designed to detect changes in residents' health. To obtain additional contextual information on the implementation of smoke-free MUH policies, this project also collects information in locations that vary in terms of relevant state laws: Maine, Minnesota, and Florida.

Study Questions:

1. What is the impact, including the social impact, of a required smoke-free MUH policy on MUH operators and residents?
2. What is the cost of required MUH smoke-free policies?
3. What are operators' and residents' self-reported barriers to compliance and factors that support their involvement in MUH policy adoption, implementation and enforcement?

AT A GLANCE

The Centers for Disease Control and Prevention has funded this Task Order to study the adoption of smoke-free multi-unit housing (MUH) policies in multiple communities. The purpose of the project is to expand the evidence-base regarding the impact of jurisdiction-wide strategies in reducing the exposure for individuals from SHS: specifically, the magnitude of the exposure; how exposures can be measured; and how exposures change when smoke-free policies are implemented in MUH facilities. The study will also examine the experience of facility operators and residents before a policy has been implemented and then again after implementation. The results will be used to:

1. Inform CDC's understanding of the potential short-term impacts on resident exposure to SHS, and changes in knowledge and behaviors related to smoke-free housing policies.
2. Provide a source of data for CDC's effort to model the potential cost-effectiveness of such policies.
3. Examine potential barriers and facilitators to the implementation of smoke-free policies to reduce SHS exposure in MUH complexes



Study Methods:

The study involves two components:

1. Two rounds of data collection in LA County, **using a quasi-experimental pretest, posttest design with intervention and comparison arms** to study the behavioral, social and cost impact of implementing MUH policies; and
2. A limited number of **interviews and focus groups** in Augusta, ME, Minnesota, MN and Orlando, FL in localities that have already adopted and broadly implemented smoke-free MUH policies either as a response to local regulations or voluntarily. Data collection in Maine, Minnesota, and Florida is intended to provide qualitative data and include market rate as well as subsidized housing.

Study Locations

- **Intervention City: Baldwin Park, CA, a community that implemented a city-wide smoke-free MUH ordinance in 2014**
- **Comparison City: La Puente, CA, a city that has not adopted a smoke free ordinance but has comparable demographics to Baldwin Park.**
- **Minnesota, Maine, and Florida – three states that have diverse experiences and legal frameworks related to smoke-free policies in MUH.**

Sample Sizes

- **LA County: a multistage cluster probability sampling design will be used to randomly select MUH complexes and units within complexes in both Baldwin Park and La Puente, CA. Up to 500 MUH residents and up to 130 MUH operators will be selected from MUH in each city.**
- **MN, ME, FL: A total of 60 residents will be selected to participate in short focus groups**

Data collection instruments for LA County include:

- a. **MUH Operator Survey and visual assessment:** The overall goal of this instrument is to understand how apartment managers implement smoke-free policies to reduce exposure to SHS and what it takes to carry out those policies. Questions were adapted from state, national, and international surveys. Visual observations of building exteriors and grounds provide data on compliance with the apartment policies and other conditions that might independently trigger respiratory conditions and episodes, such as traffic.
- b. **MUH Resident Survey and visual assessment:** The goal of this instrument is to understand residents' experiences and beliefs about smoke-free policies intended to reduce exposure to SHS and changes in their health after the policies have been implemented. Questions were adapted from state, national, and international surveys. Visual observations of the living room, kitchen, and building common areas are also performed to identify ventilation conditions that permit SHS to move between units or the presence of other housing conditions that could independently trigger resident respiratory conditions and episodes, such as presence of mold or pests.
- c. **Saliva Cotinine** samples will provide an objective measure of SHS exposure in adults and children. This activity will be confined to adults and to children over the age of two, who are able to comply with instructions. One resident adult and one child will be randomly selected to provide samples.
- d. **Indoor Air Quality (IAQ)** monitoring for a seven day period for a subsample of 100 residences in the intervention and 100 residences in the comparison city. The IAQ monitoring will provide data on residents' exposure to particulates smaller than 2.5 micrometers in diameter that are known to be associated with respiratory conditions, including SHS.