Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

_____ _____

Date

A QUALITATIVE ANALYSIS OF RESIDENT EXPERIENCES WITH SMOKE-FREE POLICIES IN NORTH CAROLINA AND GEORGIA MULTIUNIT HOUSING

By

Michelle M. Ivy
MPH

Behavioral Sciences and Health Education

Michelle Kegler, DrPH., MPH
Committee Chair

Erin Lebow-Skelley, MPH
Committee Member

Colleen McBride, PhD
Department Chair

A QUALITATIVE ANALYSIS OF RESIDENT EXPERIENCES WITH SMOKE-FREE POLICIES IN NORTH CAROLINA AND GEORGIA MULTIUNIT HOUSING

BY

Michelle M. Ivy
B.A., Southern Methodist University, 2013

Thesis Committee Chair: Michelle Kegler, DrPH

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Behavioral Sciences and Health Education
2018

ABSTRACT

A QUALITATIVE ANALYSIS OF RESIDENT EXPERIENCES WITH SMOKE-FREE POLICIES IN NORTH CAROLINA AND GEORGIA MULTIUNIT HOUSING

By Michelle M. Ivy

Second-hand smoke (SHS) exposure is a serious problem for millions of people in the United States. Studies have shown that smoke-free policies in low-income housing can not only reduce SHS exposure to non-smokers but can also reduce smoking in low-income individuals. However, there is limited literature surrounding low-income housing residents' participation and experiences with implementation of smoke-free policies. Additionally, the Consolidated Framework for Implementation Research has never been used to investigate smoke-free policy adoption and implementation in multiunit housing (MUH).

Qualitative resident interviews with twenty-three residents asked about their personal experiences with the smoke-free policy initial decision-making process, implementation, enforcement, and organizational and community context. Thematic analysis was utilized to organize the relevant responses residents of public housing agencies (PHA) and privately-owned affordable housing properties provided in regard to their experiences with smoke-free policy implementation and enforcement.

The study found that the majority of residents did not have a problem with the policy, regardless of smoking status. When residents were asked about their concerns and opinions toward smoke-free policy implementation and impact they answered by providing concerns about the enforcement process, providing smoking cessation programing, and security. The residents felt the policy was favorable because it aided in the reduction or stopping of smoking in smokers, children not being exposed to smoking as a model at home, and all residents were able to breathe easier inside their homes. Residents stated that they were involved in the implementation of the policy by asking questions and coming up with their own reasons why they should support the policy. Most of the residents stated that they believed the policy was being put into place for multiple reasons such as resident health concerns, cleanliness, and safety. This study asked about residential culture and the perceived role it plays in policy implementation. Regardless of the community's culture, close or distant, all residents felt that the culture of their community affected policy implementation, enforcement, and support.

Most of the CFIR related resident responses fell into the constructs: Networks & Communications, Culture, Implementation Climate, Learning Climate, and Engaging. The CFIR constructs highlight specific things that PHAs and MUH management should take into account when they implement a policy. By asking residents to describe aspects of the implementation process, this study was able to get a better idea about how residents of low-income housing may react to the implementation and enforcement of a smoke-free policy.

A QUALITATIVE ANALYSIS OF RESIDENT EXPERIENCES WITH SMOKE-FREE POLICIES IN NORTH CAROLINA AND GEORGIA MULTIUNIT HOUSING

BY

Michelle M. Ivy
B.A., Southern Methodist University, 2013

Thesis Committee Chair: Michelle Kegler, DrPH

A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Behavioral Sciences and Health Education
2018

ACKNOWLEDGEMENTS

This study would not have been possible without the hard work of the Emory Prevention Research Center (EPRC). Thank you to the EPRC team for being so gracious with your data and time.

Thank you to the residents who willingly shared their perspectives and experiences.

A very special thank you to Dr. Michelle Kegler and Erin Lebow-Skelley. You have both invested numerous hours of patience, encouragement, and guidance into helping me with this project, I appreciate you.

To family and friends, thank you for your continuous support.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION & REVIEW OF LITERATURE

This section presents background information on the burden of secondhand smoke (SHS), smoke-free polices in multiunit housing (MUH), the US Department of Housing and Urban Development's (HUD) recent ruling on smoke-free housing, gaps in the literature, and the need for qualitative studies to explore resident experiences with smoke-free policy implementation. Next, an overview of the Consolidated Framework for Implementation Research (CFIR), its previous uses in clinical care settings and tobacco cessation literature, and its utility in exploring smoke-free policy implementation experiences of residents living in MUH will be presented. Lastly, the formal problem statement, study purpose, and research questions are provided.

Problem Definition

Research has shown that cigarette smoking remains a leading cause of preventable disease in the United States. This problem underscores the need for continuing vigorous tobacco control efforts (Rostron, Chang & Pechacek, 2014). According to the Centers for Disease Control and Prevention (CDC), cigarette smoking results in approximately 443,000 deaths and $193 billion in direct health-care expenditures and productivity losses each year (MMWR, 2008). In 2014, in the United States, adults had a combined 14 million major smoking-attributable medical conditions (Rostron et al., 2014). Al-Sayed and Ibrahim (2014) explained that cigarette smoking produces harmful chemicals that cause hazardous effects on almost every organ in the body of smokers and non-smokers who inhale secondhand smoke (SHS). SHS is the

smoke that comes from tobacco products such as cigarettes, cigars, or pipes; it is also the smoke exhaled from the smoker's mouth (Institute of Medicine Committee on Secondhand Smoke Exposure and Acute Coronary Events, 2010).

Burden of Secondhand Smoke Exposure

SHS exposure can be measured by testing blood, urine, or saliva for traces of cotinine (Office on Smoking & Health, 2006). Cotinine is the chemical compound created by the body after it breaks down the nicotine found in tobacco (CDC, 2017). Cotinine measurement studies have shown that SHS exposure has been decreasing throughout the United States. In 1991, 90 out of 100 nonsmoking adults had measurable levels of cotinine (MMWR, 2010). In 1998, 40 out 100 nonsmokers had measurable levels of cotinine, and in 2008, 25 out of 100 nonsmokers had measurable levels of cotinine (Homa et al., 2015). The CDC published a fact sheet by Homa et al. (2015) stating that the decreases in cotinine levels are most likely from the decreasing numbers of smokers in the United States and the cultural shift of smoking becoming less acceptable. Today, many communities and states have enacted laws prohibiting smoking inside workplaces, public spaces, and restaurants (Homa et al., 2015).

Despite the decrease of smoking prevalence throughout the United States, 58 million nonsmokers were still exposed to SHS daily in 2012 (Homa et al., 2015). In 2004, the American Academy of Actuaries reported an estimated 2,500 new cases of lung cancer caused by SHS (Behan, Erikson, & Lin, 2015). That year, $2.6 billion was spent on the medical costs of non-smokers suffering from lung cancer or heart disease. (Behan et al., 2015). It was estimated that the combined medical costs and economic losses in

non-smokers were $6 billion in 2006 (Behan et al., 2015). Behan and colleagues' analysis was published in 2006, costs are likely even higher now due to inflation and because this figure does not include the cost of other medical problems caused by SHS (Behan et al., 2015).

In non-smoking adults, SHS exposure causes heart disease, stroke, and lung cancer (Alberg, Shopland, & Cummings, 2014). In children, SHS exposure has been known to cause ear infections, more frequent or severe asthma attacks, Sudden Infant Death Syndrome (SIDS), respiratory symptoms and infections such as coughing, sneezing, shortness of breath, bronchitis, and pneumonia (Alberg et al., 2014). Wang et al. (2015) showed that children with SHS exposure and asthma are nearly twice as likely to be hospitalized with asthma exacerbation and are more likely to have lower pulmonary function test results then asthmatic children without SHS exposure. In 2004, SHS exposure caused 604,000 premature deaths worldwide (Oberg, Jaakkola, Woodward, Peruga, & Pruss-Ustun, 2011). However, the burden of exposure to SHS is not equally shared across demographics.

Those Affected

Unfortunately, there are major disparities in SHS exposure, with higher rates among certain racial/ethnic groups, persons of low socioeconomic status (SES), and low educational attainment (Garrett, Dube, Winder, & Caraballo, 2013). It is projected that 2 out of every 5 children aged 3 to 11, including 7 out of every 10 Black children, in the United States are exposed to SHS regularly (Homa et al., 2015). In 2016, it was estimated that 40% of children around the world were regularly exposed to SHS (Marsh et al.,

2016). Garrett et al. (2013) showed that children of lower SES are more likely to live in a home with a smoker. This increases their exposure to SHS. A study by Gan, Mannino, and Jemal (2015) concluded that, SES and SHS exposure are associated in a dose-response fashion. When compared to the highest SES group, participants in the lowest SES group were 2-3 times more likely to have SHS exposure (Gan et al., 2015).

Smoke-free Policies

Due to the health consequences of SHS exposure, many countries around the world have begun to implement and evaluate smoke-free policies. Smoke-free policies are regulations that prohibit smoking in indoor spaces and designated public areas (The Community Guide, 2017). Research suggests that smoke-free polices can reduce non-smokers exposure to SHS, supporting quit attempts in smokers, and discourage teens and young adults from taking up smoking (Stevenson et al., 2017). Smoke-free policies are estimated to curb the attributable costs of SHS exposure in children and adults by $183 million and $267 million annually (Mason, Wheeler, & Brown, 2015). In the United States, many smoke-free policy initiatives have taken place in multiunit housing (MUH) buildings and communities.

Low-income Multiunit Housing

Low-income housing was established to provide decent and safe rental housing for eligible low-income families, the elderly, and persons with disabilities. There are two general types of low-income housing in the United States, privately-owned affordable and public housing. Privately-owned affordable housing is typically not regulated by

HUD and is not insured by the Federal Housing Administration (FHA). Privately-owned affordable housing is usually owned by a private developer who receives a Low-Income Housing Tax Credit through the government (Lotzar & Lotzar, 2016). In contrast, public housing is regulated by HUD and managed by local or state housing authorities (or agencies). Today, there are approximately 80 million people living in public housing units, managed by 3300 public housing agencies (PHA) throughout the United States (Homa et al., 2015). These PHAs are given federal funding from HUD to operate and manage these developments (HUD.gov, 2016).

Many low-income communities classify as MUH. MUH, also known as multifamily housing, is a type of housing where multiple separate housing units are contained within one building or several buildings within one complex (Zandi, 2017). In the United States, the average MUH renter makes an income of $32,400/ year and single-family home renters make an average of $42,600/year (The Editors, 2017).

Smoke-free policies in MUH

A study performed in 2012 found that among families where there are no adult smokers present, children living in MUH have 45% higher cotinine levels than children who live in single-family homes (Homa et al., 2015). Due to the close proximity of units and shared ventilation, residents of MUH can be exposed to tobacco smoke even if they do not permit smoking in their own homes (King, Travers, Cummings, Mahoney, & Hyland, 2010). Residents who do not allow smoking in their own units are classified as keeping a smoke-free home. However, smoke-free policies are policies that are implemented in an entire building, not just one unit. In 2009, a study found that 44 - 46%

of MUH residents living in a smoke-free home were exposured to SHS in their units (King, Babb, Tynan, & Gerzoff, 2013). The CDC has published findings stating that even though smoke-free laws have been implemented in indoor public places and workplaces, many people are still exposed to SHS at home (MMWR, 2010).

Other recent studies have focused on the health disparities found in peoples of lower SES, particularly those who live in MUH. Arku, Adamkiewicz, Vallarino, Spengler, and Levy (2015) found that in winter months residents are more likely to smoke indoors to avoid the cold. The exchange rates of outdoor-indoor air are also low during these months. Arku et al. argues that these are some of the reasons why health-disparities in low-income communities exist (Arku, et al., 2015). It is believed that by supporting the use of smoke-free polices in MUH, SHS exposure to residents can be reduced or eliminated (Arku et al., 2015).

Nguyen, Gomez, Homa, and King (2016) found that one third of MUH residents experience SHS incursions and a quarter of MUH residents use tobacco products. MUH residents have a greater prevalence of tobacco use than people living in single-family homes. Residents in MUH also have a lower prevalence of adopting smoke-free homes (Nguyen et al., 2016). Due to the overwhelming evidence behind the dangers and prevalence of SHS, the surgeon general concluded that there is a need for interventions and smoke-free building policies to protect all MUH residents from the dangers of SHS (Surgeon General, 2006).

King et al. stated that smoke-free policies could effectively protect residents of MUH from SHS exposure (2010). Pizacani, Maher, Rohde, Drach, and Stark (2012) agreed with King's results. Pizacani et al. mailed out questionnaires to residents and staff

members of low-income housing units in Portland, OR. The residents answered the questionnaires before implementation and four months after implementation of a MUH smoke-free policy. The resident questionnaires showed that there was a decrease in smoking rates among residents after policy implementation (Pizacani et al., 2012). The study used a mixed-methods approach to evaluate the policy effectiveness. Resident responses were quantitative in nature and staff responses were quantitative and qualitative. Staff were asked, in an open-ended question, to describe the complaints they received from residents about the smoke-free policies. However, the questionnaire the residents received did not ask them to describe their complaints about the smoke-free policies.

The CDC funded a study by Berg, Haarodorfer, Windle, Soloman, and Kegler in 2015 assessing smoke-free MUH policies. Quantitative data was gathered from a survey given to residents. Residents reported their use of cigarettes and attitudes toward smoke-free policies. The attitudes toward the smoke-free policies ranged from residents who liked the policy to others who were not as supportive and felt as if it was their right to smoke in their own home. However, this study did not ask residents about their attitudes toward the implementation process of the smoke-free policy, it focused on the resident attitudes about the policy itself.

In Minnesota, smoke-free policies were found as an effective strategy to reduce exposure to SHS among residents of low-income housing (Kingbury & Rechinger, 2016). Kingbury and Rechinger (2016) evaluated smoking status in low-income housing by handing out quantitative surveys to residents 6 months before smoke-free policy implementation and six-months after. The data indicated that smoke-free polices in MUH

reduce residents' exposure to SHS. This study agreed with the findings of the Pizacani et al. performed in Portland, Oregon (2012). They both found that smoke-free policies in MUH reduced residents' exposure to SHS. In Massachusetts, Levy, Adamkiewicz, Rigotti, Fang, and Winickoff (2015) measured levels of cotinine in non-smoking residents before and one year after the implementation of smoke-free polices in all Boston area PHAs. Among some Boston area residents, there was a significant decrease in cotinine levels of non-smokers before and after the implementation of smoke-free policies (Levy et al, 2015).

Along with the reduction of SHS exposure among non-smokers, instituting smoke-free policies have been shown to help current smokers to stop smoking (Klein, Liu, & Conrey, 2014). Klein et al. (2014) used secondary data from the Pregnancy Nutrition Surveillance System to measure the rates of smoking among low-income women who had given birth before and after the institution of the Ohio Smoke-free Workplace Act. They found that fewer women were smoking before conception after the implementation of the policy (Klein et al., 2014). This study provides evidence that smoke-free policies can not only reduce SHS exposure to non-smokers but can also reduce smoking in low-income individuals.

US Department of Housing and Urban Development Smoke-free Policy

Due to research supporting the health benefits of smoke-free policies, HUD issued a new federal policy requiring all conventional public housing buildings and a 25-foot boundary outside of the buildings to be smoke-free by July 2018 (HUD, 2016). This smoke-free policy will affect the estimated 80 million people living in public housing

households by not allowing the use of cigarettes, hookahs, cigars, and pipes inside buildings or in a 25-foot perimeter (New York Times, 2016). The Federal Register houses the final policy pertaining to the 2016 Smoke-Free Housing Documentation (HUD, 2016). The rule bases its scientific merit on the Surgeon General's 2006 conclusion that:

> Eliminating indoor smoking fully protects nonsmokers from exposure to SHS. Separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot eliminate exposure to secondhand smoke. (p. 9)

HUD believes that improvements in air sealing between units and improvements in ventilation will not fully eliminate SHS exposure (HUD, 2016). HUD also notes that due to smoke-free policies, accidental fires set by lit tobacco products are projected to decrease inside the units of tenants. The ban does not limit the use of e-cigarettes or Electronic Nicotine Delivery Systems (ENDS). HUD believes that the research on ENDS is not conclusive. They believe that there is not enough evidence that ENDS increase the risk of fires or that the vapers produced by the ENDS can cause damage to units (HUD, 2016).

The rule provides no additional financial assistance for policy implementation; however, HUD mobilized partners such as the CDC, American Cancer Society, the American Lung Association and Environmental Protection Agency, among others, to support PHAs (HUD, 2016). The rule does acknowledge the strain that this policy may play on PHAs, specifically smaller ones, but it reconciles that a "reduction in maintenance costs, less risk of catastrophic fires, and fewer residential complaints from residents who are impacted by smoke" are effective ways to even out the initial cost of

smoke-free policy implementation (HUD, 2016, p.11). King, Peck, and Babb (2013) found that the projected cost savings of implementing smoke-free policies in low-income housing is $496.82 million including $310.48 million in SHS related care costs, $133.77 million in renovation budgets, and $52.57 million in fire losses from smoking.

PHA implementation will take up to 18 months to occur nationwide. The final ruling went into effect on February 3, 2017 meaning that full implementation of smoke-free policies was expected by July 30, 2018. Each PHA policy must prohibit the use of included tobacco products in all indoor areas, common areas, administrative office buildings, and outdoor areas within 25 feet of the buildings. The Tobacco Control Legal Consortium summarized the rule by stating that the policy must be written into new tenant leases, the local PHA will be responsible for enforcing the policy, and HUD may use audits and inspections to make sure smoke-free polices are being enforced (Tobacco Control Legal Consortium, 2016). The policy also stresses that it does not grandfather (i.e., legally allow the continuation of) existing smoke-free policies that do not meet the minimum HUD requirements. If a PHA or individual complex has a policy that does not follow the same strict guidelines as the HUD ruling, it must update its policies to follow the current guidelines (HUD, 2016).

Landlord Concerns

Although smoke-free policies have been proven successful in reducing SHS exposure, a Nebraska study found some landlords and owners are reluctant to ban smoking for fear of decreased occupancy rates or tenant dissatisfaction (Cramer, Roberts, & Stevens, 2011). Cramer et al. asked owners and landlords of MUH what they perceived

would be the greatest impact of a smoke-free policy (2011). Close-ended surveys were sent to owners of smoke-free and non-smoke-free MUH. The study concluded that most of the non-smoke-free policy MUH owners and landlords felt that vacancy rates, turnover rates, rental fees, management time, and maintenance costs would increase with a smoke-free policy (Cramer et al., 2011). The owners of smoke-free MUH disproved these perceptions by indicating that all of the factors either decreased or stayed the same after their MUH implemented a smoke-free policy (Cramer et al., 2011).

A study in North Carolina was performed to examine housing operators' concerns about enforcement, legal issues, and loss of market share associated with smoke-free policies (Stein et al., 2016). Stein et al. gave a close-ended survey to 1063 housing operators to explore their concerns and experience with smoke-free policy implementation and enforcement (Stein et al., 2016). The study found that fears of decreased occupancy rates and tenant dissatisfaction were largely unfounded (Stein et al., 2016).

In New York City, a study found that nearly three quarters of owners of MUH without smoke-free units were interested in prohibiting smoking in all of their building/units (Farley et al., 2015). Among owners, interest in adopting smoke-free policies came from an increased awareness that SHS is a health issue and knowledge of their legal rights to prohibit smoking in their buildings (Farley et al., 2015).

Resident Factors Influencing Preference for Smoke-free Policies

In 2016, Snyder and colleges further explored smoke-free policy preferences of residents living in MUH through a systematic review (Snyder, Vick, & King, 2016).

From 2001 to 2014 the analysis compiled a total of 16 studies that utilized survey data from MUH residents; 8 of the 16 studies assessed residents' preference or support for a smoke-free building. In 6 of the studies, the majority of residents expressed a preference for a smoke-free building (Snyder et al., 2016). Snyder et al. (2016) found inconsistences among studies in regard to their conclusions about individuals who have different demographic or behavioral factors. For example, one study found that racial/ethnic minorities were more likely to favor a smoke-free building policy, but another study found no relationship by race/ethnicity (Snyder et al., 2016). Two other studies, found that men were less likely to favor smoke-free MUH, while another study found no association with sex (Snyder et al., 2016). Another study found that educational attainment was unrelated to smoke-free MUH support, while two other studies found conflicting results related to education and policy support (Snyder et al., 2016).

Another behavioral factor that has been noted many times in the literature is the difference in preference toward smoke-free policies between smokers and non-smokers. Hood, Wewers, Ferketich, Klein, and Pirie (2013) investigated this trend and found that never-smokers were more likely to support smoke-free MUH policies than current or former smokers. Additionally, in Montana, a questionnaire was issued to 895 adult tenants living in MUH. The majority (80.6 %) of respondents supported having a smoke-free policy in their building, with support being significantly higher among nonsmokers (Schmidt, Reidmohr, Helgerson, and Harwell, 2016).

Resident Implementation Experiences

In regard to preference and enforcement of smoke-free policies, a study in Boston MUH found that residents were supportive of the policy, but believed enforcement was low a year after implementation (Rokicki et al., 2016). These residents felt that the landlords needed more help in monitoring and enforcing the smoke-free policies (Rokicki et al., 2016).

There has been little literature surrounding resident engagement in the implementation process. While the majority of literature focuses on resident preferences toward the establishment of smoke-free policies, only one study was found to have interviewed residents about their perceptions and concerns regarding the implementation of smoke-free policies. This study was performed after smoke-free policy implementation at a MUH in Richmond, VA (Yerger, Battle, and Moore, 2014). The study conducted semi structured focus groups with residents of MUH. Themes found in resident responses included: preparation of residents, sensitivity to needs of smokers who might wish to quit, enforceability concerns, concerns about marijuana smoke, issues with designated smoking areas, and perceived effectiveness of ordinance (Yerger et al., 2014). Unfortunately, very little other literature has asked residents about their experiences with smoke-free policy implementation.

Gaps in Literature

A number of quantitative studies have been performed asking residents about their current smoking status before and after smoke-free policy utilization as well as their preference for or against the policies. Previous studies, such as the study by Berg and

colleagues, have asked residents about their views on the smoke-free policy in a quantitative manner (Berg et al., 2015). However, almost none have asked residents about their involvement in the implementation process. Resident perspectives about the implementation of smoke-free policies have yet to largely be explored. The HUD ruling states that PHAs should involve residents in the implementation process, but it does not state how to engage them (HUD, 2016). The perspectives of residents on the actual implementation process however, are yet to be explored qualitatively.

Qualitative Research

Qualitative research is important in answering the "how" and "why". It is useful in assigning meaning to phenomena by providing depth and detail (Grieb, Eder, Smith, Calhoun, & Tandon, 2015). Qualitative studies also encourage openness by allowing participants to talk about subjects that may be sensitive. Individual experiences are valued and can be used to provide a detailed picture of why people have certain feelings or act in certain ways. When combined with quantitative data, qualitative data can provide more information about an individual's response.

Qualitative research is often used to gather formative data. The data can then be used to inform further research (Grieb et al., 2015). While qualitative studies often have small sample sizes, participants' perspectives can help to design quantitative questions and surveys that can be used on larger samples (Grieb et al., 2015).

In the current study, qualitative methods were used since residents have rarely been asked to share about their experiences with smoke-free policy implementation. As in the study by Rokicki et al., residents have previously been asked about their

experiences with policy enforcement and compliance, but the implementation process has yet to be explored (2016). This study explored the experiences residents of low-income MUH have had with smoke-free policy implementation.

The Consolidated Framework for Implementation Research

CFIR was used in this study to explore specific implementation experiences residents had with smoke-free policies. The CFIR was developed in 2009 by Damschroder et al. to provide a framework for understanding factors that influence implementation. The CFIR was created to compile the works of existing implementation theories into one all-encompassing framework (Damschroder et al., 2009). Designed to answer the who, what, how, and why of implemented programs and interventions, CFIR constructs came from a significant review and synthesis of 500 published sources spanning across 13 different scientific disciplines. (Damschroder et al., 2009).

Damschroder and Hagedorn (2011) argue that the framework meets three overarching objectives to promote wider implementation of evidence-based practices: "(a) differentiation of core versus adaptable components of evidence-based interventions need; (b) development of methods to design implementation strategies, effectively adapted to the broad context; and (c) design and testing of predictive models to assess likelihood of effective implementation and prospects for sustainability while taking into account salient contextual factors" (Damschroder & Hagedorn, 2011, p.194). With these three objectives, the CFIR model is an effective way to evaluate factors that influence implementation. The CFIR is comprised of 5 major domains each with separate sub-constructs.

In most literature, the results are presented within the boundaries of the domains. The five major domains are: Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Process (Damschroder et al., 2009) Table 1 lists the five major CFIR domains and constructs.

Domain 1: Intervention characteristics. Intervention characteristics are based on the goals and details of the interventions themselves. Intervention characteristics include 8 constructs: intervention source, evidence strength and quality, relative advantage, adaptability, trialability, complexity, design quality and packaging, and cost (Damschroder et al., 2009).

Domain 2: Outer Setting. The outer setting includes 4 constructs: patient needs and resources, cosmopolitanism, peer pressure, and external policy and incentives (Damschoder et al., 2009). Each of these concepts are related to the social, political, and economic context in which an organization or community resides and how they may influence the implementation of an intervention.

Domain 3: The Inner Setting. The inner setting includes 5 constructs with numerous sub-constructs: structural characteristics, networks & communications, culture, implementation climate, and readiness for implementation (Damschoder et al., 2009). The inner setting concepts relate to the internal factors influencing an organization such as staff member communication and relationships between stakeholders.

Domain 4: Characteristics of Individuals. Characteristics of individuals includes 5 constructs: knowledge and beliefs about the intervention, self-efficacy, individual state of change, individual identification with organization, and other personal attributes (Damschroader et al., 2009). This domain realizes that organizations are made up of

individual people. Each person within an organization has differing experiences and expectations. These unique experiences shape their view of the intervention and its implementation. Domains 2, 3, and 4 breakdown the characteristics of an organization by the contextual factors surrounding an organization, the inner structure of the organization, and the individual people who make up said organizations. Each domain seeks to assess factors that influence implementation across levels within an organization.

Domain 5: Process. Process contains 4 constructs: planning, engaging, executing, and reflecting and evaluating (Damschroder et al., 2009). This domain does not focus on the details of the intervention itself but how it was implemented and utilized.

Table 1: CFIR Constructs				
I: Intervention Characteristics	II: Outer Setting	III: Inner Setting	IV: Characteristics of Individuals	V: Process
• Intervention Source • Evidence Strength & Quality • Relative Advantage • Adaptability • Trialability • Complexity • Design Quality & Packaging • Cost	• Patient Needs & Resources • Cosmopolitanism • Peer Pressure • External Policy & Incentives	• Structural characteristics • Networks & Communications • Culture • Implementation Climate • Readiness for Implementation	• Knowledge & Beliefs about the Intervention • Self-efficacy • Individual Stage of Change • Individual Identification with Organization • Other Personal Attributes	• Planning • Engaging • Executing • Reflecting and Evaluating

CFIR Utilization in Prevention-Oriented Interventions

The CFIR is commonly used in clinical practices such as nursing, pharmacy, and primary care. It has been used for qualitative, quantitative, and mixed methods research. Prevention-oriented interventions have used the CFIR to assess implementation of programs to promote physical activity (Damschroder & Lowery, 2013), decrease alcohol use (Abraham, Lewis, Drummond, Timko, & Cucciare, 2017), regulate prescription drug distribution (Desveaux et al., 2017), and screen for Intimate Partner Violence (IPV) (Bender, 2016). However, all of these interventions were performed in a clinical setting, such as a hospital, clinic, or treatment facility.

One of the first studies to utilize the CFIR was performed by the VA in 2013, led by the author of CFIR, Damschroder. Damschroder and Lowery (2013) studied the implementation of the MOVE! weight management program. The CFIR was used to guide collection and analysis of qualitative data to address the high prevalence of overweight/obesity among Veterans. Constructs that most strongly influenced implementation effectiveness were: relative advantage, patient needs and resources, networks and communications, tension for change, relative priority, goals and feedback, learning climate, leadership engagement, planning, and reflecting and evaluating (Damschroder & Lowery, 2013).

In 2017, Abraham et. al sought to use the CFIR to better understand barriers and facilitators that hinder or help women Veterans discuss their alcohol use with providers in primary care settings. Participants reported six barriers and five facilitators that they perceived affect women Veteran's decision to accurately disclose alcohol use during screenings and openness to discussing harmful drinking with a primary care provider

(Abraham et al., 2017). The study found that three CFIR domains: characteristics of providers, outer setting, and inner setting, were the most common domains described by the participants (Abraham et al., 2017).

In 2014, nursing home administrations and government officials used the CFIR to investigate the variation of antipsychotic medication prescribing across Ontario nursing homes (Desveaux et al., 2017). This study used the CFIR to describe what domains of implementation were presenting barriers to proper prescribing practices. Constructs within the CFIR domains of outer setting, inner setting, and characteristics of individuals revealed barriers to proper antipsychotic drug prescribing (Desveaux et al., 2017).

Bender (2016) sought to demonstrate the utility of the CFIR as a tool to implement universal screening practices for intimate partner violence (IPV), with a particular focus on rural family practice settings. He concluded that external factors, that is, state or national policies mandating IPV screening in clinics, may be an effective way to increase provider identification of a major public health problem affecting women (Bender, 2016). His findings suggest that most of the factors influencing IPV screening practices were in the outer setting domain.

While all of these studies used the CFIR to implement prevention-oriented programing, none of them were performed outside of the clinical setting. It is rare to find the CFIR being used for prevention-oriented programing outside of a clinical setting.

Limitations of CFIR

When originally published, the CFIR's comprehensive nature limited its usefulness as an implementation framework because it did not discriminate between the

relative importance of its many constructs for implementation success (Damschroder et al., 2009). In response to this problem, Varsi, Ekstedt, Gammon, and Ruland (2015) performed a study to identify which CFIR constructs were the most promising to distinguish between high and low implementation success across settings and interventions. Varsi et al. (2015) concluded that findings from this study could be used to refine the CFIR into a framework with more utility for planning and evaluating the implementation of clinical interventions (Varsi et al., 2015).

Liang et al. (2016) built on the idea of exploring construct hierarchy for successful implementation. This work showed that each construct can have levels of low to high implementation importance. This study was instrumental to understanding which constructs are most important to implementation effectiveness in the context of cancer screening and primary care (Liang et al., 2016). The research showed that low levels of certain constructs were associated with less successful intervention outcomes. Some constructs are higher in importance because their proper implementation appeared to lead to a more successful intervention in this study (Liang et al., 2016).

A study by Breimair, Heckemann, Halfens, and Lohrmann (2015) found that the lack of planning phase consideration was another limitation of CFIR usage. This study found that the CFIR did not take into account consideration of stakeholder aims, wishes, or needs during implementation. Nor did it provide pre-established measures or strategies related to the intended innovation implementation (Breimair et al., 2015).

The CFIR is not without its limitations but it continues to be a useful and valuable framework for exploring the implementation of interventions and programs throughout many different settings.

CFIR Usage in Tobacco Studies

Despite the fact that the CFIR is becoming an increasingly popular framework to use in implementation research, there have been very few studies to use it for evaluating tobacco use, treatment, or control interventions. Additionally, CFIR usage in tobacco control has rarely been seen outside of the clinical setting. One study by VanDevanter et al. (2017) used the CFIR in Taiwan to inform intervention modifications that may be necessary to use on a model of care delivery for tobacco cessation from a high-income country to a low-middle income country. The study found four constructs related to the implementation of the tobacco cessation intervention: intervention characteristics, outer setting, inner setting, and individual characteristics (VanDevanter et al., 2017). Although this intervention was not using the CFIR to analyze policy implementation, it was using the CFIR to explore a tobacco related intervention.

A second study used the CFIR to analyze perioperative tobacco use treatments that had been put into practice (Nolan & Warner, 2017). The review used the five major domains as a conceptual framework. It concluded that understanding factors important to successful implementation can help to guide clinicians who are implementing tobacco use treatment in surgical care (Nolan & Warner, 2017). Again, this study was not using the CFIR to evaluate smoke-free policies, but it was used to explore a tobacco related issue.

The only study found to use the CFIR to examine implementation of a tobacco related intervention outside of the clinical setting was performed by Thompson et al. in 2017. This study described a Smoke-Free Homes Program (SFH) intervention offered within 2-1-1 information and referral call centers to promote smoke-free homes in low-

income populations. It is stated that they used the "CFIR to conduct a mixed-methods analysis of facilitators and barriers to scaling up SFH to five 2-1-1 sites in the United States" (Thompson et al., 2017, p.1). However, little is described about how the CFIR constructs were operationalized in this study. Regardless, the study is unique in its focus on the implementation of smoke-free homes programs in low-income areas using the CFIR.

These three studies about tobacco control and cessation are related by their use of the CFIR in one form or another. However, literature linking smoke-free policies to CFIR usage specifically could not be found. The CFIR has never been used to evaluate smoke-free policy implementation in published liteRrature.

Summary

Second-hand smoke exposure is a serious problem for millions of people in the United States (MMWR, 2010). SHS can cause serious medical problems in both children and adults (Glantz & Johnson, 2014). People living in MUH are disproportionally exposed to SHS (Homa et al., 2015). However, studies have shown that smoke-free policies can not only reduce SHS exposure to non-smokers, but it can also reduce smoking in low-income individuals (Klein et al., 2014). Due to this research, the US Department of Housing and Urban Development developed a policy that would ban smoking inside any conventional public housing authority buildings and within 25 feet of the buildings.

Due to the limited literature surrounding residents' participation and experiences with implementation of smoke-free policies, there is a major gap in research that needs to

be investigated. It is imperative that research is conducted to best analyze what factors of implementation need to be addressed and focused on for smoke-free policies to be successful in MUH.

Although the HUD rule was not the main driving force for the original study, it is a large part of why this research is currently relevant. Since the HUD rule is set to take effect all over the country, it is important for smoke-free policy implementers to understand resident perspectives as they may inform the implementation process, as well as compliance and enforcement.

Additionally, the Consolidated Framework for Implementation Research is used in a unique way to investigate smoke-free policy adoption and implementation in MUH. Traditionally, the CFIR is used in clinical settings. This study seeks to use it in a public health manner outside of clinical boundaries. These unique usages of the CFIR framework will greatly add to the sparse literature on CFIR usage in non-clinical settings and in policy adoption and implementation.

Formal Statement of Problem

While many other studies have focused on residents' opinions about smoke-free policies in general, few have investigated actual smoke-free policy implementation experiences from the resident perspective. It is important to understand the attitudes and thoughts of residents who, in the past, have experienced the implementation of a smoke-free policy. Investigating their perceptions, before, during, and post implementation could assist in future implementation of smoke-free policies. Since the CFIR has never been used in this particular population for this type of research, the following study will be

novel and useful to further research on implementation of smoke-free policies throughout the United States.

Purpose

The purpose of this study is to describe the experiences residents of North Carolina and Georgia had toward smoke-free policies implementation in their MUH prior to the new HUD rule.

Research Questions

This study will focus on answering five primary research questions:

1. Did attitudes towards smoke-free policies vary by smoking status?
2. What were resident concerns and opinions about the smoke-free policy implementation and impact?
3. How and in what ways were residents involved in smoke-free policy implementation?
4. How is a resident's perception of community culture related to their perceptions and enforcement of smoke-free policies?
5. Which CFIR constructs were relevant to resident experiences with smoke-free policy implementation?

CHAPTER II

METHODOLOGY

This study is a secondary analysis of qualitative data collected as part of a study on smoke-free housing conducted by the Emory Prevention Research Center (EPRC). The EPRC conducts research "to understand how social and physical environments affect tobacco use, physical activity, nutrition, obesity and cancer screening" (Emory University, 2014, p.1). The EPRC was a part of the National Cancer Institute's (NCI) State and Community Tobacco Control Research (SCTC) program from 2011 - 2017. The EPRC's SCTC grant focused on developing a smoke-free homes intervention that is easy to deliver and effective in protecting children and non-smokers from SHS exposure (Kegler, 2017). The SCTC also provided funds for developmental projects. This study used data from a developmental project focused on smoke-free MUH, referred to as the parent study hereafter.

In the parent study, the EPRC researchers sought to investigate whether and how the adoption, implementation, and enforcement processes differ for privately-owned affordable and public housing when implementing smoke-free policies (Kegler, in press). In addition to interviewing decision makers, project staff conducted interviews with resident opinion leaders within privately-owned affordable and public housing to identify resident perspectives on barriers and facilitators to adoption, implementation, and enforcement of smoke-free policies.

Study Participants

The sampling frame for the parent study was all the privately-owned affordable housing and public housing agencies in Georgia and North Carolina that had adopted smoking restrictions for at least one of their properties. Semi-structured qualitative interviews were conducted with residents of the different complexes and housing agencies. The parent study plan was to conduct interviews (n=10-12) with resident opinion leaders within both privately-owned affordable and public housing.

Types of Public and Affordable Housing

Resident participants lived in two main types of housing: public housing and privately-owned affordable housing. For this study, public housing was classified into two types: conventional Public Housing Agency (PHA) and non-conventional PHA. In conventional PHAs, properties are owned and managed by a PHA and fully funded by HUD. A non-conventional PHA has mixed funding streams.

Privately-owned affordable housing was also categorized into two types: a mix of market rate & affordable housing and affordable housing. Affordable housing is privately-owned and managed. Mixed market rate and affordable housing are run by companies who have some market rate units and some affordable units. Companies that only had market rate units were not included in the sampling frame for the parent study.

Recruitment

To recruit participants from PHAs, study staff started with HUD's list of smoke-free PHAs and an informational e-mail to the Georgia Association of Housing and

Redevelopment Authorities listserv. Recruitment for the privately-owned affordable housing utilized existing collaborations, association listservs, website listings, and word of mouth. Next, using snowball sampling, PHA and affordable housing representatives identified individual residents who were involved in the smoke-free policy decision making process or who were living at a property with smoking restrictions (Appendix A).

Residents were given preference if they were active on a resident council or resident advisory board. This preference was implemented so that individuals interviewed would be able to give the most knowledgeable responses. Residents on a board or council were thought to be more likely to be involved with the smoke-free policy implementation processes. Youth residents (individuals under the age of 18) were not eligible for participation.

In order to obtain a rich resident perspective, the current study sought to focus its analysis on resident perspectives about the implementation and enforcement of smoke-free policies on their properties.

Research Design and Procedures

Interview Guide

The interview guide covered a range of topics from the initial decision-making process, implementation, resident involvement, organizational and community context, and experiences with enforcement. There were seven total sections of questions asked of residents. The first section asked questions about the decision-making process when the apartment owners or managers first decided to adopt a smoke-free policy. The second section involved perspectives about the implementation and enforcement process of the

current smoke-free policy. The third section asked the residents about the impact of the smoke-free policy at their apartment community. The fourth set of questions asked more broadly about the apartment community and the Resident Council, if they had one. The fifth section asked the residents about their community context. Last, residents were asked about their type of housing, age, gender, race/ethnicity, educational attainment, and smoking status. Table 3 provides detail about resident demographics (p. 36).

Each section contained questions that mapped onto different CFIR constructs. The CFIR website's Interview Guide Tool informed some of the questions (CFIR Guide, n.d.). This tool provides guidance for writing interview questions related to specific CFIR constructs. For example, "How do you think your apartment complex's (or the PHA's) culture (general beliefs, values, assumptions that people embrace) has affected the implementation of the smoke-free policy? Can you describe an example that highlights this?" was a question used to ask residents about the CFIR construct of Culture in the Inner Setting Domain. Table 2 gives an example of the kinds of questions asked of residents. Appendix B provides the entire interview guide produced by the parent study.

Table 2: Example of Interview Guide Questions in Section B: Smoke-Free Policy Implementation and Enforcement Process	
Question:	Related CFIR Domain & Construct:
Q1: After the decision to adopt a smoke-free policy was made, what steps did your PHA/apartment owner or managers take to actually implement the policy?	Domain: Process, Construct - Executing
Q2: [If Resident Council] How was the resident council involved in putting the policy into place?	Domain: Inner Setting, Construct – Leadership Engagement
Q4: What benefits did you see to adopting a smoke-free policy?	Domain: Intervention Characteristics, Construct – Relative Advantage
Q11: How do you think the policy is going? Why do you say that? Are people generally obeying it?	Domain: Characteristics of Individuals, Construct - Knowledge & Beliefs about the Intervention
Q21: To what extent do you interact with residents of other public housing apartment complexes? Where does that happen? What kind of information do you share with each other?	Domain: Outer Setting, Construct – Cosmopolitanism

Description of Data Collection

Resident Interviews

Four staff members conducted semi-structured interviews with the residents. Two staff members were masters level professionals who worked for Emory University and the North Carolina Department of Public Health and two were graduate research assistants from Emory University. All interviews were conducted from January 2016 to August 2016. Most of the interviews were conducted in person, with five conducted by telephone. Resident interviews averaged 30-45 minutes. All interviewees provided informed consent to be interviewed and audio-recorded. The interviews were all audio-recorded and transcribed. However, one interview audio file was corrupt, so detailed interview notes were used for further analysis.

Participant Protection

Numerous steps were taken to ensure the protection of the participants during this study. Prior to data collection, Emory University's Institutional Review Board reviewed the research protocol, recruitment materials, data collection instruments, and informed consent forms to ensure protection of the participants (Appendix C). Written or verbal informed consent was obtained from the interviewees before each interview session (Appendix D). When reporting the data, the organizations and individuals interviewed were kept confidential and information was presented in aggregate form.

Data Analysis

All of the interviews were audio-recorded and transcribed verbatim into Microsoft Word by an external transcriber, except for one interview where detailed notes had been taken. All further transcription clarifications were performed by the research team and all data were double coded using NVivo. The current study was a secondary data analysis of the data collected by the parent study team.

For the current study, each transcript was read in its entirety to orient the primary analysis of the data. Then, the codebook developed by the parent study was used to link each interview guide question to the code that most closely corresponded to it. For example, responses from question: "what did you think about the decision to adopt a smoke-free policy?" were generally coded as 5.4 labeled Initial Concerns. Each code contained sub-codes for the types of responses residents provided for each question (possible themes). This information helped to inform the structure of the matrices used for the current study.

A series of matrices were constructed in MS Excel. Each MS Excel sheet (or matrix) represented a different interview guide question. The rows represented each resident ID. The columns of each sheet represented responses (possible themes) residents gave for each interview guide question. Each type of response represented a potential theme. When each potential theme was mentioned by more than one resident it was considered a theme. Each interview guide question and its corresponding code was analyzed for its sub-codes (types of responses) or themes. Next, the summary document was organized by research question. The research questions were:

1 - Do attitudes towards smoke-free policies vary by smoking status?

2 - What were resident concerns and opinions about the smoke-free policy implementation and impact?

3 - How and in what ways were residents involved in smoke-free policy implementation?

4 - How is a resident's perception of community culture related to their perceptions and enforcement of smoke-free policies?

5 – Which CFIR constructs were relevant to resident experiences with smoke-free policy implementation?

Resident quotes were used to illustrate the major themes related to each interview guide question. To identify themes related to CFIR constructs, a cross-walk was developed. The cross-walk, originally designed by the parent study, was used to analyze which interview guide questions related to which CFIR construct. An example of the analysis documents are included in Appendix E**.**

Summary

The qualitative resident interviews collected for the parent study were used as the data source for this study. Residents were asked about their personal experiences with the smoke-free policy initial decision-making process, implementation, enforcement, and organizational and community context. Resident interviews averaged 30-45 minutes. Each interview was audio-recorded, and the audio files of these interviews were

transcribed and analyzed in conjunction with the data from the other interviews. Interview data were organized through matrices using Microsoft Excel.

Thematic analysis was utilized to organize the relevant responses residents of PHAs and privately-owned affordable housing properties provided in regard to smoke-free policy implementation and enforcement. Lastly, the themes were used to answer the five research questions of this study.

CHAPTER III

RESULTS

Description of Participants

There were 23 residents interviewed from 21 different public and privately-owned affordable housing communities. Ages of residents ranged from 31 to 82 years, with a mean age of 60 years (SD = 19.6 years). Twenty-one (91%) of the residents identified as female and 2 (9%) identified as male. Fifteen (65%) of the residents identified as Black, 5 (22%) identified as White, 2 (9%) identified as Mixed Race, and 1 (4%) resident did not identify their race/ethnicity. When asked about educational attainment: 1 (4%) resident identified as having less than a 9th grade education, 8 (33%) did not graduate from high school, 7 (30%) had a high school diploma, 4 (20%) had completed some college, 2 (9%) had a college degree, and 1 (4%) resident did not respond. Of the 23 resident interviews conducted and analyzed, 11 (48%) of the residents were current or former smokers. Eight (33%) were current smokers who admitted to smoking during at least 2 of the last 30 days and 3 (15%) were former smokers who had not smoked in the past 30 days. Twelve (52%) of the residents had never smoked. Six (26%) of the residents lived in conventional PHAs, 10 (43%) residents lived in non-conventional PHAs, 5 (22%) lived in privately-owned affordable housing, and 2 (9%) lived in a community owned by a company that runs both market-rate and privately-owned affordable housing. 10 (43%) of the residents lived in Georgia and 13 (57%) lived in North Carolina (Table 3).

Table 3: Demographics of Residents			
	Georgia n = 10 (43%)	North Carolina n = 13 (57%)	Total n = 23 (100%)
Types of Housing			
Conventional PHA	3 (30%)	3 (23%)	6 (26%)
Non-Conventional PHA	4 (40%)	6 (46%)	10 (43%)
Privately-Owned Affordable	1 (10%)	4 (31%)	5 (22%)
Mix of Market Rate and Privately-Owned Affordable	2 (20%)	0 (0%)	2 (9%)
Age			
Mean	58 (SD = 24.4 years)	62 (SD = 14.5 years)	58 (SD = 19.6 years)
Range	38 – 79 years	31 – 82 years	31 – 82 years
Gender			
Female	9 (90%)	12 (92%)	21 (91%)
Male	1 (10%)	1 (8%)	2 (9%)
Race/Ethnicity			
Black	9 (90%)	6 (46%)	15 (65%)
White	1 (10%)	4 (31%)	5 (22%)
Mixed Race	0 (0%)	2 (15%)	2 (9%)
Unidentified	0 (0%)	1 (8%)	1 (4%)
Educational Attainment			
Less than 9th grade	0 (0%)	1 (8%)	1 (4%)
Some High School	4 (40%)	3 (23%)	7 (30%)
High School Graduate	4 (40%)	3 (23%)	7 (30%)
Some College	3 (30%)	1 (8%)	4 (20%)
College Degree	0 (0%)	2 (15%)	2 (9%)
Unidentified	0 (0%)	1 (8%)	1 (4%)
Smoking Status			
Current Smoker	3 (30%)	5 (38%)	8 (33%)
Former Smoker	2 (20%)	1 (8%)	3 (15%)
Never Smoker	5 (50%)	7 (54%)	12 (52%)

Resident Interview Results

Interviews were conducted with residents who lived in low-income housing communities where smoking restrictions had been adopted and implemented. Findings from the interviews were used to answer the five research questions.

1 - Do attitudes towards smoke-free policies vary by smoking status?

Personal Opinions About Policy Adoption

When residents were asked about their personal feelings toward the smoke-free policy, most of the current and former smokers believed that the policy adoption was not a problem or a good idea. One of the current smokers stated:

> It was fine with me. It was fine with me. No problem with me. I'm so used to, you know, not smoking - you know, I don't smoke a lot, but at work I don't smoke at all. So, it's just - it's just something I've gotten used to. (Georgia, non-conventional PHA)

Among the never smokers, almost all felt that the policy adoption was not a problem. One never smoker said:

> I know for me - for me, I don't smoke, so I really don't care, you know, how they did it, either or, because it don't affect me at all. You know? (Georgia, non-conventional PHA)

Overall, residents felt that the smoke-free policy was not a problem, regardless of their smoking status. Some of the residents gave other responses to their feelings toward the policy adoption, such as: concern for smokers, shock, and the policy being a motivation

to quit smoking. Overall, the data acquired from the 23 participants indicated that they did not have a problem with the policy.

Opinions of Other Residents About Policy Adoption

When participants were asked what their neighbors thought of the policy adoption, they responded in many different ways. Among the current and former smokers, about one third responded that they believed other residents were happy about the decision to adopt a smoke-free policy. Another third felt as if their neighbors were not supportive of the policy, and the rest didn't know how their neighbors felt. A former smoker said that her neighbors were happy to hear about the policy adoption:

> They was happy to hear about it. They were… But they was very happy to hear about it, and a lot of them was glad to get [the policy adopted] around children. (Georgia, non-conventional PHA)

Among the never smokers, half said that they thought other residents perceived the policy adoption as a good idea. One of the never smokers shared that her neighbors did not have a problem with the policy being adopted:

> They thinking it's a good idea. They really do. They feel like secondhand smoke is bad on you. And they feel the same way. They say, well, I wish they will put that down. I said maybe they will one day. They feel real good about. I didn't get no complaints about it. None at all. (Georgia, non-conventional PHA)

The rest of the never smokers did not feel as if their neighbors were supportive of the policy. These results show that a few current and former smokers and half of the never smokers believed other residents thought the smoke-free policies were a good idea. Of

note, some of the residents, regardless of smoking status, felt as if they didn't know how other residents felt. For example, one of the never smokers said that she herself didn't know about the implementation of the policy so she had no idea how her neighbors felt.

2 - What were resident concerns and opinions about the smoke-free policy implementation and impact?

Resident Concerns About Policy Implementation

The residents were asked about their general concerns about how the smoke-free policies had been implemented in their buildings. The responses were wide ranging due to the open-ended nature of the questions. However, many of the responses fit into three general themes: concerns about the enforcement process, offering programing to help smokers quit, and security.

Enforcement Process

Many participants showed concerns about the repercussions residents would face if they violated the smoke-free policy. They reported how the policy would be carried out if someone was caught breaking the policy rules. Most of the implications involved fines, warnings, and evictions. One resident believed there should be punishment for breaking the rules but wasn't sure how harsh it should be:

> It all depends on what the violation is. You could be fined, you could be - you could be fined, which is like, one of the main things. If you violate certain policies on the lease agreement, your lease could be terminated. If - you know, like that. (Georgia, privately-owned affordable)

Another resident felt that it was pretty harsh to evict people because of smoking:

> Getting kicked out, man. You know, if you get kicked out of your apartment and you have nowhere to go, I mean, you're homeless, you know, all because of one cigarette. (Georgia, conventional PHA)

On the other hand, one resident was adamant that people should move out if they smoke indoors:

> I don't know, just tell them they're going to have to move and get out of there if you don't stop smoking. (North Carolina, non-conventional PHA)

Smoking Cessation Programing

Some residents expressed concerns related to offering smoking and nicotine cessation programing to individuals who smoke. They believed that the policy implementation shouldn't just tell people where they can and cannot smoke but offer them an educated way to quit if they desired. One resident said that they didn't mind the policy implementation but believed they should offer help to current smokers:

> Like I stated before, I don't - I don't mind a smoke-free policy, but it was - the way it was done - give the residents an opportunity and give them some help to try to help them combat their smoking, don't just go cold turkey on them. (Georgia, privately-owned affordable)

Security

A couple residents made comments about concerns for security and safety. They felt as if their community was unsafe and wished that the management would implement some kind of policy to address those concerns. They felt as if going outside to smoke could be dangerous. One resident said:

> They be telling them that we need security. We don't have security. They be telling them that all the time, we need security. (Georgia, non-conventional PHA)

General Opinions Toward Smoke-free Policy Impact

All of the residents were asked how the policy implementation has impacted residents. About half of the residents stated that they personally and/or other residents believed the implemented policy was having a positive impact, a little less than half said that they and/or other residents did not like the impact of the policy implementation, and the rest said they found no impact of the policy implementation. Some residents gave multiple opinions in different categories.

The residents who stated that the policy implementation had a positive impact provided detailed reasoning for their responses. Their thoughts included: aiding in the reduction or stopping of smoking habits, breathing easier, and not modeling smoking in front of children.

<u>Aiding in the Reduction or Stopping of Smoking Habits</u>

Some of the residents felt that the implementation of the policy had helped themselves or other residents cut back or quit smoking. One resident stated that her neighbor was tired of going outside to smoke, so she quit:

> She got tired of going outside, standing in the summer - in the wintertime...she was telling me that 'I just quit, I didn't want to keep going out there in the cold.' (Georgia, non-conventional PHA)

Breathe Easier

Many of the residents said that the policy made it easier for them to breathe. They felt like the air was healthier and cleaner, so they were pleased with this impact of the policy. One resident said that she liked the policy's impact because she didn't have to breathe in the cigarette smoke:

> For me it's - I don't have to smell the smoke, actually, and from what we do know of the cigarette smoke or anything like that, you know, you probably - I guess you benefit health-wise. You know, your lungs aren't going to get filled up with all the smoke and something like that, I guess. (Georgia, non-conventional PHA)

Not Modeling Smoking in Front of Children

Many residents also mentioned concerns for children being around cigarettes and SHS exposure. One resident felt that the policy was beneficial because it kept children from seeing adults smoke:

> ...so, my children ain't looking at all these cigarette butts, and nobody ain't smoking around your children, and influencing your children in a negative way because they got bad habits, you know what I'm saying? (Georgia, privately-owned affordable)

3 - How and in what ways were residents involved in smoke-free policy implementation?

All residents were asked how their apartment owners or managers/PHA involved residents in the decision to implement a smoke-free policy. Residents were often not able

to answer this question directly. Instead, responses to this question typically fell into two categories: reasons for smoke-free policy adoption and lease renewal.

Reasons for Smoke-free Policy Adoption

Some residents said that they were involved in policy implementation by asking their management why the community was adopting the policy. These residents provided the reasons they were given by management and their own reasons why they supported the policy adoption. The reasons included: health, safety, and cleanliness.

Health

Many residents commented that they believed health reasons were a motivating factor for policy implementation. Health concerns included: asthma, COPD, allergies, and lung cancer. For example, one resident felt that:

> ...I could see the benefits of it, though, if someone has asthma or, you know, allergies or things like that, I could see how potentially it could affect somebody that's living right next door… (North Carolina, non-conventional PHA)

Safety

A number of the residents were told that the policy would decrease the risk of fires. The risk of starting fires with lit cigarettes provided the reasoning why many residents supported the policy adoption. A resident specifically stated:

> ...you know, it's safer because, you know, there's a lot of - we have gas ovens and stuff, so it's safer, you know, as far as that goes. (Georgia, non-conventional PHA)

Cleanliness

The third reason in support of smoke-free policy adoption was the possible increase in cleanliness of the units and grounds by making the buildings smoke-free. Some residents commented about the yellow wall stains caused by nicotine, furniture smelling of cigarettes, and cigarette butts on the ground. One resident described the lack of cleanliness in her unit due to smoking:

> Back inside your apartment, seems like it smokes up the wall, and you know it gets in your curtains and chairs. (North Carolina, conventional PHA)

Lease Renewal

Some residents stated that the policy had been written into their lease renewal. These residents said that they were involved in the smoke-free policy implementation by signing a new lease or addendum to a previous lease. One resident responded that they were okay with following the policy rules because they were moving to a different building and a new lease had a smoke-free policy already in place:

> ...everybody that came there that had to be re-certified, she [building manager] talked to one person at a time about the smoking, you know, and she even put - she even sent letters out to everybody, you know, about the smoking, so – (Georgia, conventional PHA)

However, there were some residents who did not move and still had to sign a new lease or addendum that included the smoke-free policy. The residents who mentioned lease renewal mostly described their lack of involvement in the implementation process. While some of the residents were okay with the new leases or addendums, others felt like the

new policy gave them little say in the implementation process. One resident said that people either had to sign it or leave so there wasn't much choice:

> …The ones that smoked didn't like it, but then, you know, they were given a choice to either sign it or, you know, to participate or to leave, so – and most of them ended up signing it. (North Carolina, non-conventional PHA)

4 - How is a resident's perception of community culture related to their perceptions and enforcement of smoke-free policies?

This research question sought to investigate how the culture of the community affected the implementation and enforcement of the smoke-free policy. Half of the residents described their community as tight-knit. For example, a resident stated that it was important for her community to feel close and like a family:

> ...one thing that's important to us is we try to become residents more of a family, and get close, and try to understand each other, and kind of watch out for each other, because we're realizing we're getting older, and according to our age, sad to say, sometimes at a certain age, my family… (North Carolina, non-conventional PHA)

A couple of these residents attributed the nature of policy enforcement to the collective culture of their community. They believed residents stopped smoking indoors and leaving butts on the ground because residents care about one another and have respect for their community. On the other hand, another resident attributed their lack of policy support to the closeness of the smokers in their community. In general, the tight-knit nature of the

community either prompted the residents to want to support the policy to show respect to their community or not support the policy to support their smoker friends.

A couple residents described their community as unsafe. They wanted safer conditions in and around their building. They stated that this could help smokers feel safer outdoors and less likely to smoke indoors. One resident discussed how unsafe it is for children to be outdoors:

> ...we've got to stay in the house, oh, we've got to take them away, just for safety, for them to develop and to knowing right from wrong, and I just think we need some things around here for our kids since kids do live on this property. (North Carolina, conventional PHA)

Some residents stated that they didn't really have a culture within their community. They all said that their neighbors were nice but kept to themselves. One example of this came from a resident who felt that her neighbors were not close:

> Because where I'm living, and I'll tell you the truth, they're nice peoples. They -- I never -- not one up there smokes, I don't think. No. I know that they – cause they solid people's, because one of them is...you don't mess with people's, they get mad. (North Carolina, conventional PHA)

The culture in each community varied from tight-knit to distant. However, regardless in type of culture, residents overwhelmingly felt like their community made a difference in policy enforcement and whether they supported the policy. The residents that were close to other residents either wanted to support the smokers by fighting the policy or support the policy believing that's the most respectful thing they can do for their neighbors. On the other hand, people who felt like their community was less close, made comments

about how people are more disrespectful of each other. One resident referred to her younger neighbors as "riffraff" and believed the community should be separated:

> I love it here. And it's just a beautiful place to live if we can keep some of the riffraff out of there and the smokers out of the way. I feel this should be for seniors only, but we've got a little mixture. We've got people in here not seniors or disabled. I don't have no control over that, but I feel the seniors should have their own dwelling. That's the way I feel. You know everybody don't feel the same way I do but I feel if we had our own dwelling. It's quiet but we'd have a better community and I believe we'd have a quieter community. (Georgia, privately-owned affordable)

Other residents believed that the type of relationship the residents had with management aided in implementation. One resident stated that the staff care about the residents and their heath, they believe this influenced the policy implementation and enforcement success:

> I think that it [community culture] may have had something to do with it [policy implementation success], you know, some of it was due to getting funding for different projects, as well as looking out for the benefit of the residents as a whole…they [PHA staff] talk a lot about the health and welfare and quality of life of the residents in the housing, so they care a lot about the residents. So, I think that has a lot to do with it, too. (North Carolina, conventional PHA)

5 – Which CFIR constructs were relevant to resident experiences with smoke-free policy implementation?

Most of the CFIR related resident responses fell into constructs within the domains of: Inner Setting and Process. In the Inner Setting domain, multiple constructs were represented throughout the themes: Networks & Communications, Culture, Implementation Climate, and Learning Climate. In the Process domain, Engaging was seen as a relevant construct. Some of the construct details and analyses were already provided by different research questions.

Networks and Communications

The construct of Networks & Communications describes the types and quality of social networks and the kinds of communications within an organization (CFIR, 2014). All of the residents were asked about the relationships they have with their neighbors and fellow residents. Most of the residents said that they interact with their neighbors on a regular basis. While some residents said that they are not close to the other people living in their community. These people said that they generally keep to themselves. Two residents from a conventional PHA in North Carolina were interviewed together, when asked about their community they said:

I've never been a lot to socialize.

I'm always to myself.

In regard to the staff, most residents said that they felt comfortable communicating with management if they had something to discuss. Most of the residents said they typically communicated over the phone. Other residents said that they were able to set up a

meeting with management anytime they were concerned about something. A few of these residents mentioned open trust and communication with their property manager. One resident described the relationship she had with management as an open-door policy:

> But really for me personally, I don't have no problems with the management of just going to -it's like an open door. It is open door. I mean, you know, I mean of course she don't like for five and six at the same time in the door waiting for her, but what I'm saying - I call an open-door policy. It is an open-door policy. (North Carolina, privately-owned affordable)

Culture

The CFIR construct of Culture was analyzed in the fourth research question by looking at how residents felt their community's culture influenced policy implementation, enforcement, and support. The CFIR defines the Culture construct as the norms and values of an organization (CFIR, 2014).

Learning Climate

The construct of Learning Climate is described as a climate in which: leaders express their need for team members' assistance and input, team members feel that they are needed in the change process, and individuals feel safe to voice opinions (CFIR, 2014). The residents discussed how they would report a violation of the smoke-free policy if they experienced it. Most of the residents said that they would call or meet with the property manager if they saw someone smoking or smelled cigarette smoke in the building. One resident said:

> If you want to be a rat, you tell on your neighbor...You would go to the office and hopefully it would be confidential. (Georgia, conventional PHA)

Only a few of the residents did not mention how they would report a violation if they saw one.

Implementation Climate

Implementation Climate was most relevant to research question 1 on attitudes toward policies. Implementation Climate is the capacity for change and the shared receptivity of involved residents to the policy intervention (CFIR, 2014). This construct was investigated by asking residents how they and their neighbors felt about the policy adoption (See Research Question 1 on p. 37).

Access to Knowledge & Information

Access to Knowledge and Information is the ability to access to information and knowledge about the smoke-free policy and how it would be incorporated into the community. A few of the residents commented about how the managers notified them of the policy implementation. One resident stated that they had received a letter before the implementation process so people were prepared for the change:

> Because they - like I said, they just sent out letters months in advance to let everybody know this was going to be the day we're going to start doing this. So I guess it prepared people… (Georgia, non-conventional PHA)

Most residents were notified by the use of flyers or handouts. Some were notified at community meetings while a few were given surveys and one was told by a bulletin

board post. The residents who filled out surveys had an overall favorable attitude toward policy implementation because they felt more involved in the process. Residents were made aware of the policy through different means and some residents mentioned that they were told ahead of time that the policy was going to happen. So, they had time to get used to the idea. A resident stated that they were told when the policy was going to go into effect:

> In our newsletter, we have a great newsletter, and maybe send out flyers and say this is the new policy, start in May, no more smoking on the premises or smoking outside in these designated areas. (Georgia, conventional PHA)

However, there were two residents who stated that originally the policy was implemented suddenly, and some people were upset. One of these residents asked for a six-month extension after the policy went into effect:

> ...and so, we had - we had another meeting...and still we didn't get any reprieve, and we got - what did we get? We got the six-month extension. That's what we got. (Georgia, conventional PHA)

Engaging

Engaging is the process of involving residents in the implementation of the policy (CFIR, 2014). Research question 3 on resident involvement was related the engaging construct and looked at the ways in which residents were involved in the policy implementation process.

Summary

Twenty-three residents were asked about their experiences of and opinions on smoke-free policy adoption, implementation and enforcement in their communities. The residents' responses were analyzed through thematic analysis to answer the five research questions. The findings suggest that there was little to no difference in attitudes of non-smokers toward smoke-free policy implementation when compared to current and previous smokers. However, more never smokers felt that their neighbors were supportive of the policy than the current or former smokers. Resident concerns and opinions about the policy adoption fell into two categories: resident concerns about policy implementation and general opinions toward smoke-free policy impact. Resident concerns about policy implementation were: concerns about the enforcement process, offering programing to help smokers quit, and security. General opinions about the smoke-free policy impact were: the reduction or stopping of smoking habits in current smokers, breathing easier, and not modeling smoking in front of children. Resident involvement in implementation included: reasons for smoke-free policy adoption and lease renewal. The reasons residents gave for policy adoption were: health, safety, and cleanliness. The fourth research question asked about the culture of a resident's community and its impact on smoke-free policy implementation. The types of communities ranged from close knit to distant. Regardless in type of culture, residents overwhelmingly felt like their community made a difference in policy enforcement and whether they supported the policy. Lastly, most of the resident responses fell into the CFIR domains of: Inner Setting and Process. In the Inner Setting domain, multiple constructs were represented throughout the themes: Networks & Communications,

Culture, Implementation Climate, Tension for Change, and Learning Climate. In the Process domain, Engaging was seen as a relevant construct.

CHAPTER IV

DISCUSSION

The purpose of this study was to describe the experiences residents of North Carolina and Georgia had toward smoke-free policies implementation in their MUH prior to the new HUD rule.

Findings

This study examined if attitudes toward smoke-free polices vary by smoking status. The study found that majority of residents did not have a problem with the policy, regardless of smoking status. However, previous research has shown that nonsmokers have a more favorable opinion toward smoke-free policies. Hood et al. (2013) found that never-smokers were more likely to support smoke-free MUH than current or former smokers. A different study indicated that the majority (80.6 %) of respondents supported having a smoke-free policy in their building, with support being significantly higher among nonsmokers (Schmidt et al., 2016). The findings of this study were not in agreement with past published literature.

Residents were also asked what their neighbors thought of the policy adoption. A third of the current and former smokers felt as if their neighbors were supportive of the policy, another third felt as if their neighbors were not supportive of the policy, while the rest were not sure how their neighbors felt about the policy. Among the never smokers, about half felt that their neighbors were supportive of the policy. A couple of the never smokers felt that their neighbors were not supportive of the policy, and a few felt like they didn’t know how their neighbors felt about the policy adoption.

Interestingly, this study points out that more current and former smokers felt that their neighbors were against the policy adoption then who were. Most of the residents who were current or former smokers felt that the policy was not a problem however, they believed their neighbors were not supportive of the policy. Unlike personal attitudes toward policy adoption, the findings about neighbors' attitudes are similar to the literature stating that never smokers felt more favorably toward smoke-free policy implementation (Hood et al., 2013).

In a 2014 study, Richmond MUH residents were found to have concerns about: preparation of residents before smoke-free policy implementation, sensitivity to needs of smokers who might wish to quit, enforceability concerns, concerns about marijuana smoke, issues with designated smoking areas, and perceived effectiveness of ordinance (Yerger et al., 2014). This previous study informed the second research question regarding specific resident concerns and opinions related to smoke-free policy implementation and impact.

When residents were asked about their concerns and opinions toward smoke-free policy implementation and impact they answered by providing concerns about the enforcement process, providing smoking cessation programing, and security. Like the study by Yerger and colleges, residents said that they supported the policy but had sensitivity towards the needs of smokers by stating that they wanted some sort of smoking cessation programing (Yerger et al., 2014). Agreeing with a study preformed in Boston, residents in this study stated that they were concerned about the enforcement process (Rockicki et al., 2016).

Lastly, residents who lived in unsafe communities were concerned about the policy because it forced them to smoke off the premises of the property where they felt it was unsafe. These residents wanted management to have more security measures in place if they were going to ask residents to smoke so far off of the property.

Despite these concerns, general opinions residents had toward the smoke-free policy were majority positive. The residents felt the policy was favorable because it aided in the reduction or stopping of smoking in smokers, children not being exposed to smoking as a model at home, and all residents were able to breathe easier inside their homes. Like previous literature by Pizacani and colleges, this study indicated that individuals who lived in homes before and after a smoke-free policy was implemented may be more likely to reduce or stop smoking (Pizacani et al., 2012). The residents in this study indicated that their neighbors or themselves felt inconvenienced by going outside in the cold, rain, or dark to smoke. In turn, they were able to cut down on the number of cigarettes they smoked per day.

The HUD rule urges PHAs to involve residents in the implementation process, this study investigates the need for this recommendation in a qualitative manner (HUD, 2016). Residents stated that they were involved in the implementation of the policy by asking questions and coming up with their own reasons why they should support the policy. Most of the residents stated that they believed the policy was being put into place for multiple reasons such as resident health concerns, cleanliness, and safety. Almost every resident stated that they knew smoking was bad for the body. They knew that it caused health consequences such as cancer and emphysema. They also knew it was bad

for children with asthma and allergies. While all residents stated this knowledge one way or another, not all believed it was the only reason to support the policy adoption.

Two other common reasons for supporting policy adoption were identified as safety and cleanliness. Many residents were concerned with fires. In older communities, responses identified that many of the residents use oxygen tanks and smoking inside the building could have dangerous consequences. Other residents stated that the risk of fires in their community was of major concern. King and colleagues agreed with these residents by estimating that $52.57 million in smoking attributable fire-losses will be saved by prohibiting smoking in subsidized housing (King et al., 2013). One residential community had a history of fires causing major damage to their units and buildings. Cleanliness was also of concern for most of the residents. They believed tobacco smoke stained their walls and furniture and the smell was hard to get out of linens and curtains. They mentioned the financial inconvenience of replacing and cleaning their units of smoking damage. The HUD ruling was consistent with concerns of the residents by stating that the new rule will cut down on maintenance costs, fires, and the smell of cigarette smoke inside of homes (HUD, 2016). Additionally, numerous studies of property managers and owners have shown that vacancy rates, turnover rates, rental fees, management time, and maintenance costs do not increase with the implementation of a smoke-free policy (Cramer et al., 2011).

This study was novel in its inquiry about residential culture and the role it plays in policy implementation. All residents were asked about the culture of their community and their thoughts about its effect on smoke-free policy implementation. Some residents felt as if their community was pretty individualistic and everyone kept to themselves. These

residents felt that, overall, the policy hadn't been very successful due to the lack of communication between residents. One of the residents who lived in this kind of community stated that they'd had problems with people leaving trash and cigarette butts on the ground. They felt that some of the residents who smoked had no respect for the property or community, so they would litter or break the rules and smoke indoors.

Other residents stated that they lived in a close community, but the result of this closeness produced two different policy compliance outcomes. Most of the residents who lived in tight knit communities stated that the culture caused more people to follow the rules and have respect for others in their community. On the other hand, one resident stated that their community was very close and in support of their smoker friends, they did not support the smoke-free policy implementation or compliance.

A couple residents again described their community as unsafe. They felt for the children and smokers in their community because they believed it was not a safe and clean place for them to be outside. These communities were close and felt like the policy was causing their neighbors to be put into unsafe situations, so they did not support the policy due to their safety concerns. Regardless of the community's culture, close or distant, all residents felt that the culture of their community effected policy implementation, enforcement, and support.

The CFIR was used to identify constructs that may be relevant to resident experiences with smoke-free policies. Most of the resident responses fell into the CFIR constructs within the domains of: Inner Setting and Process. In the Inner Setting domain, multiple constructs were represented throughout the themes: Networks &

Communications, Culture, Implementation Climate, and Learning Climate. In the Process domain, Engaging was seen as a relevant construct.

The construct of Culture was explained by the closeness or lack of closeness within a community. As mentioned earlier, the closeness level affected the residents respect for following the rules. The close communities felt that they needed to either all follow the rules or not. The less close communities were more likely to report people who acted out by smoking inside or littering outdoors.

All residents were asked how often they communicated with others in their community. Most of the residents felt that they communicated often with their neighbors while some felt that they did not socialize much. Residents were also asked about the communication they had with the management and staff of their complex or building. All residents reported they would be able to reach their management by calling or setting up a meeting. A few residents remarked on how they had a wonderful relationship with the staff of their community. These residents felt that the close relationship they had with the staff increased their trust and in turn increased the success of the smoke-free policy implementation. These experiences were related to the CFIR construct of Networks & Communications.

The CFIR construct of Learning Climate was also seen throughout resident answers. Residents were asked how they would report a violation if they knew someone was breaking one of the policy rules. Almost all of the residents stated that they knew of how they could report someone and what the consequences might be. The consequences included fines, warnings, and evictions. The Learning Climate construct focused on the enforcement procedures around the policy. Interestingly, no residents had known anyone

to be evicted due to the smoke-free policy, but some had seen other residents receive fines.

Implementation Climate was seen in the residents' personal opinions and their neighbors' opinions about the policy adoption. As previously stated, majority of residents had no problem with the policy and believed their neighbors felt similarly.

The construct Access to Knowledge & Information was important to many resident experiences. Many residents provided a timeline from when the policy was first discussed to when it was implemented. The residents who were given time to get used to the idea and provide their concerns before total implementation, felt much more favorable toward the policy. Most residents were notified by the use of flyers or handouts. Some were notified at community meetings while a few were given surveys and one was told by a bulletin board post. The residents who filled out surveys had an overall favorable attitude toward policy implementation because they felt more involved in the process.

The CFIR construct of Engaging was used to explore how residents were involved in the implementation process. Residents were involved by asking management to provide reasons why they support the policy implementation. Additionally, they were not involved in the implementation process by being forced to sign a lease renewal or addendum without choice.

Conclusions

This study focused on the implementation and enforcement experiences of residents who had previously had a smoke-free policy implemented in their low-income

community. In previous literature, resident input only involved the feelings and concerns residents had toward the policy itself. The studies measured how many smokers and non-smokers felt favorably toward the policy and how many residents had quit or reduced smoking after a smoke-free policy was implemented. However, no literature has been published exclusively focused on resident experiences during before, during, and after the implementation process.

This study provided a perspective that has been largely neglected in the literature thus far, resident concerns, feelings, and thoughts about the implementation of the smoke-free policy in their community. By asking residents to describe aspects of the implementation process, this study was able to get a better idea about how residents may react to the implementation and enforcement of a smoke-free policy.

This study could help to provide tools for policies to be implemented successfully and with the support of residents. PHAs and MUH communities could use the proper constructs to implement their policies systematically. For example, many residents stated that they wanted time between notification and full implementation. They wanted to be able to think about the idea, ask questions, and voice their concerns before the policy was fully implemented. This step in the process seemed vital to the overall happiness of residents toward the policy itself. If residents did not feel comfortable with the way the policy was implemented, they were less likely to agree to follow the rules or encourage their neighbors to do so. Thus the construct of Access to Knowledge is important for management to take into account when implementing a smoke free policy.

These resident perspectives are important to remember when implementing and enforcing a smoke-free policy. The HUD ruling says that all PHAs must have

implemented the smoke-free rule by July 2018. The ruling provided detailed reasoning and answers to concerns about the adoption and implementation process. This study adds qualitative data from a resident perspective to support the comments and decisions that HUD built into their final ruling.

Strengths and Limitations

This study had many strengths including its use of the CFIR to develop the interview guide and guide analysis. Using theory to guide behavioral research is useful for creating a basis for the study and future studies to work off of. Theory provides a scope for a study to focus within. Another strength was the large number of communities represented by residents. The wide scope provided multiple resident perspectives across differing communities.

This study also had many limitations. First, the analysis was limited by the use of MS Excel to break down the thematic analysis. It would have been best to use a more sophisticated qualitative analysis software such as NVivo or MaxQDA. This would have provided more sophisticated data management and analysis options.

Second, this study was a cross-sectional qualitative review so there cannot be any causal implications made from the study findings. Third, the sample size was 23 residents. In qualitative literature this number is not typically deemed as small. However, there were many questions where saturation was not reached. These questions had very little consensus across responses. The saturation level varied by question. Due to this issue, further research should continue to interview residents until complete saturation is met.

Four of the residents were not interviewed alone. They were interviewed with another resident and, in one case, interviewed with the property manager. These interviews were limited due to the bias of the other resident's answers or the presence of the property manager. These residents may not have been able to fully express their concerns for fear of upsetting other people in the room with them. Additionally, the way the residents were recruited could have introduced bias into the sample. All of the residents interviewed were recommended by the management and staff of the community. Therefore, these residents may have a more favorable outlook on the smoke-free policy implementation and enforcement process then other residents. Additionally, one of the residents also worked for the property. This person had very favorable responses toward the policy implementation. Their responses could have also biased the sample.

The interview guide was not piloted due to limited sample size and the residents were less involved in the implementation process than expected. This created some questions that were difficult for residents to understand resulting in a lot of explaining and probing from the interviewer. The explanations of the interviewer could have biased some of the responses by giving residents ideas of how to answer the questions. The interview questions also changed shape and form as they were used. Some questions were dropped, reworded, or changed locations during to the iterative interview cycle.

Lastly, there was no second analyst to confirm the findings and perform number checking. This step would prevent a biased view by a single analyst (Grieb et al., 2015).

Implications

This study was unique in many ways. It provided residents with a chance to provide feedback and opinions about the implementation and enforcement process they had experienced in their low-income housing community. The inclusion of resident reactions toward implementation of policy has yet to be explored in a qualitative manner. Since the HUD ruling is set to take full effect in July 2018, it is useful for PHAs to know how their communities may respond to the implementation and enforcement of the policies. For example, this study has shown that residents are more likely to respond favorably to policy implementation if they are invited to be a part of the process, given time between notification and enforcement, and the culture of the community is considered. An example of culture being considered is, residents who feel unsafe having to smoke 25-feet away from their building. An investigation into the culture of a community may show that the policy would be more successful by adding street lights, a roof, or a walkway to the area where people are allowed to smoke. This study indicated that residents may be more likely to comply with policies if they feel safe in the area they are designated to smoke in. Exploring resident culture, concerns, and expectations can make a smoke-free policy easier and more supported during and following implementation. The CFIR constructs highlight specific things that PHAs and MUH management should take into account when they implement a policy, such as the construct of engaging. When residents are engaged in conversation about the reasoning behind implementation, they were more likely to support the policy because they believed it could promote cleanliness, positive health outcomes, and reduce fires. Residents that were not engaged with the implementation felt as if they were forced to

sign a new lease without much say. Utilizing the CFIR constructs can provide a systematic way of implementing a smoke-free policy with resident experiences in mind.

This study was also unique in its use of the CFIR in low-income housing to explore smoke-free policy implementation. Despite the popularity of CFIR in the literature, it has never been used for this purpose in this population. Traditionally, the CFIR is used in clinical settings among health practitioners to evaluate implemented health programs. However, this study provides further evidence that the CFIR can be a useful model to explore policy implementation outside of the clinical setting with residents. Most CFIR research comes from the perspective of the health practitioner and not the patient thus the use of CFIR in this population, with the residents in addition to managers or owners, was unique. More research is needed to explore the CFIR's utility in other non-clinical settings with other populations in order to further investigate smoke-free policy implementation.

Further research is needed to create a richer view of resident perspectives toward smoke-free policy implementation. In the future, PHAs and low-income housing owners or managers should ask residents to provide feedback and feelings about the policy implementation before, after, and during the process. This involvement of residents could help the policy to be implemented and enforced with more positive support and reception from the people whom it most effects.

REFERENCES

Abraham, T. H., Lewis, E. T., Drummond, K. L., Timko, C., & Cucciare, M. A. (2017). Providers' perceptions of barriers and facilitators to disclosure of alcohol use by women veterans. Prim Health Care Res Dev, 18(1), 64-72. doi:10.1017/s1463423616000384

Al-Sayed, E. M., & Ibrahim, K. S. (2014). Second-hand tobacco smoke and children. Toxicol Ind Health, 30(7), 635-644. doi:10.1177/0748233712462473

Alberg, A. J., Shopland, D. R., & Cummings, K. M. (2014). The 2014 Surgeon General's report: commemorating the 50th Anniversary of the 1964 Report of the Advisory Committee to the US Surgeon General and updating the evidence on the health consequences of cigarette smoking. Am J Epidemiol, 179(4), 403-412. doi:10.1093/aje/kwt335

Arku, R. E., Adamkiewicz, G., Vallarino, J., Spengler, J. D., & Levy, D. E. (2015). Seasonal variability in environmental tobacco smoke exposure in public housing developments. Indoor Air, 25(1), 13-20. doi:10.1111/ina.12121

Ballor, D. L., Henson, H., & MacGuire, K. (2013). Support for no-smoking policies among residents of public multiunit housing differs by smoking status. J Community Health, 38(6), 1074-1080. doi:10.1007/s10900-013-9716-7

Behan DF, Erikson MP, and Lin Y. (2015). *Economic Effects of Environmental Tobacco Smoke [PDF file]*. Retrieved from https://www.soa.org/research-reports/2000-2006/research-economic-effect/

Bender, A. K. (2016). Using the Consolidated Framework for Implementation Research to Increase Provider Screening for Intimate Partner Violence in Rural Health Clinics. Womens Health Issues, 26(4), 384-392. doi:10.1016/j.whi.2016.05.005

Berg, C. J., Haardorfer, R., Windle, M., Solomon, M., & Kegler, M. C. (2015). Smoke-Free Policies in Multiunit Housing: Smoking Behavior and Reactions to Messaging Strategies in Support or in Opposition. Prev Chronic Dis, 12, E98. doi:10.5888/pcd12.140479

Breimaier, H. E., Heckemann, B., Halfens, R. J., & Lohrmann, C. (2015). The Consolidated Framework for Implementation Research (CFIR): a useful theoretical framework for guiding and evaluating a guideline implementation process in a hospital-based nursing practice. BMC Nurs, 14, 43. doi:10.1186/s12912-015-0088-4

Centers for Disease Control and Prevention. (2017, February 21). Smoking and Tobacco Use Factsheet. Retrieved from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/index.htm

CFIR Guide (n.d.). Retrieved from http://www.cfirguide.org/guide/app/index.html#/

Consolidated Framework for Implementation Research. (2014). Retrieved from http://www.cfirguide.org/index.html

Community Guide, The. (2017, November 15). *Tobacco Use and Secondhand Smoke Exposure: Smoke-Free Policies.* Retrieved from https://www.thecommunityguide.org/findings/tobacco-use-and-secondhand-smoke-exposure-smoke-free-policies

Cook, N. J., Hollar, L., Chavez, S., Quinn, D. L., Phillips, T., DeLucca, M., & Corrales, L. (2014). Support for smoke-free multi-unit housing policies among racially and ethnically diverse, low-income seniors in South Florida. J Cross Cult Gerontol, 29(4), 405-415. doi:10.1007/s10823-014-9247-4

Cramer, M. E., Roberts, S., & Stevens, E. (2011). Landlord attitudes and behaviors regarding smoke-free policies: implications for voluntary policy change. Public Health Nurs, 28(1), 3-12. doi:10.1111/j.1525-1446.2010.00904.x

Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci, 4, 50. doi:10.1186/1748-5908-4-50

Damschroder, L. J., & Hagedorn, H. J. (2011). A guiding framework and approach for implementation research in substance use disorders treatment. Psychol Addict Behav, 25(2), 194-205. doi:10.1037/a0022284

Damschroder, L. J., & Lowery, J. C. (2013). Evaluation of a large-scale weight management program using the consolidated framework for implementation research (CFIR). Implement Sci, 8, 51. doi:10.1186/1748-5908-8-51

Desveaux, L., Saragosa, M., Rogers, J., Bevan, L., Loshak, H., Moser, A., . . . Ivers, N. M. (2017). Improving the appropriateness of antipsychotic prescribing in nursing homes: a mixed-methods process evaluation of an academic detailing intervention. Implement Sci, 12(1), 71. doi:10.1186/s13012-017-0602-z

Editors, The. (2017, Sept. 15). *How Do Multifamily Renters And Single-Family Renters Differ?* Retrieved from http://rentalhousingjournal.com/articles/2017/09/15/how-do-multifamily-renters-and-single-family-renters-differ

Farley, S. M., Waddell, E. N., Coady, M. H., Grimshaw, V., Wright, D. A., Mandel-Ricci, J., & Kansagra, S. M. (2015). Correlates of smoke-free housing policies and interest in implementing policies among multiunit housing owners in New York City. J Urban Health, 92(2), 291-303. doi:10.1007/s11524-014-9934-z

Gan, W. Q., Mannino, D. M., & Jemal, A. (2015). Socioeconomic disparities in secondhand smoke exposure among US never-smoking adults: the National Health and Nutrition Examination Survey 1988-2010. Tob Control, 24(6), 568-573. doi:10.1136/tobaccocontrol-2014-051660

Garrett, B. E., Dube, S. R., Winder, C., & Caraballo, R. S. (2013). Cigarette smoking - United States, 2006-2008 and 2009-2010. MMWR Suppl, 62(3), 81-84.

Glantz, S. A., & Johnson, K. C. (2014). The surgeon general report on smoking and health 50 years later: breast cancer and the cost of increasing caution. Cancer Epidemiol Biomarkers Prev, 23(1), 37-46. doi:10.1158/1055-9965.epi-13-1081

Grieb, S. D., Eder, M. M., Smith, K. C., Calhoun, K., & Tandon, D. (2015). Qualitative Research and Community-Based Participatory Research: Considerations for Effective Dissemination in the Peer-Reviewed Literature. Prog Community Health Partnersh, 9(2), 275-282. doi:10.1353/cpr.2015.0041

Grol, R. P., Bosch, M. C., Hulscher, M. E., Eccles, M. P., & Wensing, M. (2007). Planning and studying improvement in patient care: the use of theoretical perspectives. Milbank Q, 85(1), 93-138. doi:10.1111/j.1468-0009.2007.00478.x

Harvey, J., & Chadi, N. (2016). Preventing smoking in children and adolescents: Recommendations for practice and policy. Paediatr Child Health, 21(4), 209-221.

Hewett, M. J., Ortland, W. H., Brock, B. E., & Heim, C. J. (2012). Secondhand smoke and smokefree policies in owner-occupied multi-unit housing. Am J Prev Med, 43(5 Suppl 3), S187-196. doi:10.1016/j.amepre.2012.07.039

Homa, D. M., Neff, L. J., King, B. A., Caraballo, R. S., Bunnell, R. E., Babb, S. D., . . . Wang, L. (2015). Vital signs: disparities in nonsmokers' exposure to secondhand smoke--United States, 1999-2012. MMWR Morb Mortal Wkly Rep, 64(4), 103-108.

Hood, N. E., Wewers, M. E., Ferketich, A. K., Klein, E. G., & Pirie, P. (2013). Predictors of voluntary home-smoking restrictions and associations with an objective measure of in-home smoking among subsidized housing tenants. Am J Health Promot, 28(2), 97-104. doi:10.4278/ajhp.120816-QUAN-399

HUD.gov / U.S. Department of Housing and Urban Development (HUD). (2016). Retrieved from https://www.hud.gov/

Institute of Medicine Committee on Secondhand Smoke, E., & Acute Coronary, E. (2010) Secondhand Smoke Exposure and Cardiovascular Effects: Making Sense of the Evidence. Washington (DC): National Academies Press (US). Copyright 2010 by the National Academy of Sciences. All rights reserved.

Kegler, M., Lea, J., Lebow-Selley, E., Diggs, P., Herndon, S., Lefebre, A., Patel, S., Haardörfer, R. (2017, March). Processes, Facilitators, and Barriers to Adoption and Implementation of Smoke-free Policies in Subsidized Housing. National Conference on Tobacco Or Health, Austin, TX

Kim, J., Lee, K., & Kim, K. (2017). Factors associated with secondhand smoke incursion into the homes of non-smoking residents in a multi-unit housing complex: a cross-sectional study in Seoul, Korea. BMC Public Health, 17(1), 739. doi:10.1186/s12889-017-4774-x

King, B. A., Babb, S. D., Tynan, M. A., & Gerzoff, R. B. (2013). National and state estimates of secondhand smoke infiltration among U.S. multiunit housing residents. Nicotine Tob Res, 15(7), 1316-1321. doi:10.1093/ntr/nts254

King, B. A., Peck, R. M., & Babb, S. D. (2013). Cost savings associated with prohibiting smoking in U.S. subsidized housing. Am J Prev Med, 44(6), 631-634. doi:10.1016/j.amepre.2013.01.024

King, B. A., Travers, M. J., Cummings, K. M., Mahoney, M. C., & Hyland, A. J. (2010). Prevalence and predictors of smoke-free policy implementation and support among owners and managers of multiunit housing. Nicotine Tob Res, 12(2), 159-163. doi:10.1093/ntr/ntp175

Kingsbury, J. H., & Reckinger, D. (2016). Clearing the Air: Smoke-Free Housing Policies, Smoking, and Secondhand Smoke Exposure Among Affordable Housing Residents in Minnesota, 2014-2015. Prev Chronic Dis, 13, E111. doi:10.5888/pcd13.160195

Klein, E. G., Liu, S. T., & Conrey, E. J. (2014). Comprehensive smoke-free policies: a tool for improving preconception health? Matern Child Health J, 18(1), 146-152. doi:10.1007/s10995-013-1247-4

Levy, D. E., Adamkiewicz, G., Rigotti, N. A., Fang, S. C., & Winickoff, J. P. (2015). Changes in Tobacco Smoke Exposure following the Institution of a Smoke-Free

Policy in the Boston Housing Authority. PLoS One, 10(9), e0137740. doi:10.1371/journal.pone.0137740

Liang, S., Kegler, M. C., Cotter, M., Emily, P., Beasley, D., Hermstad, A., . . . Riehman, K. (2016). Integrating evidence-based practices for increasing cancer screenings in safety net health systems: a multiple case study using the Consolidated Framework for Implementation Research. Implement Sci, 11, 109. doi:10.1186/s13012-016-0477-4

Lotzar, C., & Lotzar With, C. (2016, November 24). What is the Difference Between Public Housing vs. Affordable Housing? Retrieved from http://lotzar.com/difference-public-housing-vs-affordable-housing/

Low income housing. (n.d.). Retrieved from https://www.lowincomehousing.us/art/faqs

Marsh, L., Ajmal, A., McGee, R., Robertson, L., Cameron, C., & Doscher, C. (2016). Tobacco retail outlet density and risk of youth smoking in New Zealand. Tob Control, 25(e2), e71-e74. doi:10.1136/tobaccocontrol-2015-052512

Mason, J., Wheeler, W., & Brown, M. J. (2015). The economic burden of exposure to secondhand smoke for child and adult never smokers residing in U.S. public housing. Public Health Rep, 130(3), 230-244. doi:10.1177/003335491513000310

MMWR. (2008). *Smoking-attributable mortality, years of potential life lost, and productivity losses--United States, 2000-2004.* MMWR Morb Mortal Wkly Rep, 57(45), 1226-1228.

MMWR. (2010). *Vital signs: nonsmokers' exposure to secondhand smoke --- United States, 1999-2008.* MMWR Morb Mortal Wkly Rep, 59(35), 1141-1146.

Navarro. M. (2016, Nov. 30) U.S. Will Ban Smoking in Public Housing Nationwide. *The New York Times,* Retrieved from https://www.nytimes.com/2016/11/30/nyregion/us-will-ban-smoking-in-public-housing-nationwide.html

Nguyen, K. H., Gomez, Y., Homa, D. M., & King, B. A. (2016). Tobacco Use, Secondhand Smoke, and Smoke-Free Home Rules in Multiunit Housing. Am J Prev Med, 51(5), 682-692. doi:10.1016/j.amepre.2016.05.009

Nolan, M. B., & Warner, D. O. (2017). Perioperative tobacco use treatments: putting them into practice. Bmj, 358, j3340. doi:10.1136/bmj.j3340

Oberg, M., Jaakkola, M. S., Woodward, A., Peruga, A., & Pruss-Ustun, A. (2011). Worldwide burden of disease from exposure to second-hand smoke: a retrospective analysis of data from 192 countries. Lancet, 377(9760), 139-146. doi:10.1016/s0140-6736(10)61388-8

Office on, S., & Health. (2006). Publications and Reports of the Surgeon General The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. Atlanta (GA): Centers for Disease Control and Prevention (US).

Peter, E. (2015). The ethics in qualitative health research: special considerations. Cien Saude Colet, 20(9), 2625-2630. doi:10.1590/1413-81232015209.06762015

Pizacani, B. A., Maher, J. E., Rohde, K., Drach, L., & Stark, M. J. (2012). Implementation of a smoke-free policy in subsidized multiunit housing: effects on smoking cessation and secondhand smoke exposure. Nicotine Tob Res, 14(9), 1027-1034. doi:10.1093/ntr/ntr334

Rokicki, S., Adamkiewicz, G., Fang, S. C., Rigotti, N. A., Winickoff, J. P., & Levy, D. E. (2016). Assessment of Residents' Attitudes and Satisfaction Before and After

Implementation of a Smoke-Free Policy in Boston Multiunit Housing. Nicotine Tob Res, 18(5), 1282-1289. doi:10.1093/ntr/ntv239

Rostron, B. L., Chang, C. M., & Pechacek, T. F. (2014). Estimation of cigarette smoking-attributable morbidity in the United States. JAMA Intern Med, 174(12), 1922-1928. doi:10.1001/jamainternmed.2014.5219

Schmidt, L. M., Reidmohr, A. A., Helgerson, S. D., & Harwell, T. S. (2016). Secondhand Smoke Exposure and Smoke-Free Policy Support Among Public Housing Authority Residents in Rural and Tribal Settings. J Community Health, 41(6), 1116-1121. doi:10.1007/s10900-016-0204-8

Snyder, K., Vick, J. H., & King, B. A. (2016). Smoke-free multiunit housing: a review of the scientific literature. Tob Control, 25(1), 9-20. doi:10.1136/tobaccocontrol-2014-051849

Stein, A., Suttie, J., Baker, L., Agans, R., Xue, W., & Bowling, J. M. (2015). Predictors of smoke-free policies in affordable multiunit housing, North Carolina, 2013. Prev Chronic Dis, 12, E73. doi:10.5888/pcd12.140506

Stein, A. H., Baker, L. E., Agans, R. P., Xue, W., Collins, N. M., & Suttie, J. L. (2016). The Experience With Smoke-Free Policies in Affordable Multiunit Housing in North Carolina: A Statewide Survey. Am J Health Promot, 30(5), 382-389. doi:10.1177/0890117116646346

Stevenson, L., Campbell, S., Bohanna, I., Gould, G. S., Robertson, J., & Clough, A. R. (2017). Establishing Smoke-Free Homes in the Indigenous Populations of Australia, New Zealand, Canada and the United States: A Systematic Literature Review. Int J Environ Res Public Health, 14(11). doi:10.3390/ijerph14111382

Thompson, T., Kreuter, M. W., Caito, N., Williams, R. S., Escoffery, C., Fernandez, M. E., & Kegler, M. C. (2017). Implementing an Evidence-based Tobacco Control Program at Five 2-1-1 Call Centers: An Evaluation Using the Consolidated Framework for Implementation Research. Nicotine Tob Res. doi:10.1093/ntr/ntx232

Tobacco Control Legal Consortium. (2015). *HUD's Proposed Rule to Restrict Smoking in Public Housing: Talking Points [PDF file].* Retrieved from http://www.publichealthlawcenter.org/sites/default/files/resources/tclc-fs-hud-talking-points-2015.pdf.

VanDevanter, N., Kumar, P., Nguyen, N., Nguyen, L., Nguyen, T., Stillman, F., . . . Shelley, D. (2017). Application of the Consolidated Framework for Implementation Research to assess factors that may influence implementation of tobacco use treatment guidelines in the Viet Nam public health care delivery system. Implement Sci, 12(1), 27. doi:10.1186/s13012-017-0558-z

Varsi, C., Ekstedt, M., Gammon, D., & Ruland, C. M. (2015). Using the Consolidated Framework for Implementation Research to Identify Barriers and Facilitators for the Implementation of an Internet-Based Patient-Provider Communication Service in Five Settings: A Qualitative Study. J Med Internet Res, 17(11), e262. doi:10.2196/jmir.5091

Wang, Z., May, S. M., Charoenlap, S., Pyle, R., Ott, N. L., Mohammed, K., & Joshi, A. Y. (2015). Effects of secondhand smoke exposure on asthma morbidity and health care utilization in children: a systematic review and meta-analysis. Ann Allergy Asthma Immunol, 115(5), 396-401.e392. doi:10.1016/j.anai.2015.08.005

Wijga, A. H., Schipper, M., Brunekreef, B., Koppelman, G. H., & Gehring, U. (2017). Asthma diagnosis in a child and cessation of smoking in the child's home: the PIAMA birth cohort. J Expo Sci Environ Epidemiol, 27(5), 521-525. doi:10.1038/jes.2016.75

Wilbur, R. E., Stein, A. H., Pinzon, E. M., Ahmed, O. S., McNair, O. S., & Ribisl, K. M. (2015). Smoke-Free Multiunit Housing Policy: Caretakers' Perspectives on Economic and Personal Impacts. Int J Environ Res Public Health, 12(7), 8092-8102. doi:10.3390/ijerph120708092

Wilson, K. M., Torok, M. R., McMillen, R. C., Klein, J. D., Levy, D. E., & Winickoff, J. P. (2017). Tobacco-Smoke Incursions and Satisfaction Among Residents With Children in Multiunit Housing, United States, 2013. Public Health Rep, 132(6), 637-645. doi:10.1177/0033354917732767

Yerger, V. B., Battle, R. S., & Moore, R. S. (2014). Evaluating the implementation process of a citywide smoke-free multiunit housing ordinance: insights from community stakeholders. Am J Public Health, 104(10), 1889-1891. doi:10.2105/ajph.2014.302075

Young, W., Karp, S., Bialick, P., Liverance, C., Seder, A., Berg, E., & Karp, L. (2016). Health, Secondhand Smoke Exposure, and Smoking Behavior Impacts of No-Smoking Policies in Public Housing, Colorado, 2014-2015. Prev Chronic Dis, 13, E148. doi:10.5888/pcd13.160008

Zandi, K. (2017). *FAQ: U.S. - How are single-family and multi-family buildings defined?* Retrieved from https://www.economy.com/support/blog/buffet.aspx?did=8015A9FA-79EF-4EE6-BF79-C84EC932B331

APPENDICES

APPENDIX A: Recruitment Script

Appendix A: Recruitment Script

Promoting Smoke-Free Policies in Public versus Affordable Housing: Understanding Similarities and Differences in North Carolina and Georgia

Recruitment Call Script
-
Residents

When someone answers phone:
Good morning/afternoon/evening. My name is [interviewer's name] and I am calling from the [North Carolina Division of Public Health/Emory Prevention Research Center]. May I speak with _____, please?
If must/able to leave a message:
Hello, my name is [interviewer's name] and I am calling from the North Carolina Division of Public Health/Emory Prevention Research Center. You were referred to us by your [property manager/ owner/public housing authority] as [a member of the local Resident Council/someone who had a role in their smoke-free policy/other].
I am calling to follow-up with you about that. We are interviewing 15-20 apartment residents like yourself in North Carolina and Georgia to better understand their thoughts about smoke-free policies in apartment communities. The interviews take about 45-60 minutes and you will receive a $40 gift card after you complete the interview.
Please give me a call back at _____ at your earliest convenience to schedule your interview. Your input is highly appreciated and valued for future efforts.

When speaking with resident:
Hello, my name is [interviewer's name] and I am calling from the [North Carolina Division of Public Health/Emory Prevention Research Center]. You were referred to us by your [property manager/ owner/public housing authority] as [a member of the local Resident Council/someone who had a role in their smoke-free policy/other]. We are interviewing 15-20 apartment residents like yourself in North Carolina and Georgia to better understand their thoughts about smoke-free policies in apartment communities.
The interviews take about 45-60 minutes and you will receive a $40 gift card after you complete the interview. It is focused on adopting and implementing smoke-free policies in apartment communities. Would you be interested in talking to us about the smoke-free policy at your apartment complex and completing an interview?

If Yes and public housing resident: We'd like to schedule a time to come to your Public Housing Authority office to conduct the interview. We are speaking with [PHA representative] on [date and time of PHA representative interview]. Would you have time to meet that day? [If no, ask when would be a good time]
Confirm: Date, time, and location of interview _____
Great, as I mentioned we will be providing a $40 gift card at the time of your interview. Which is more convenient for you: Amazon, Target, or Walmart? *(circle one)*

If Yes and affordable housing resident: We can do the interview over the phone now or at another time. Would now be a good time?
If No: When would be a good time to call you back?
Confirm: date, time, and phone number _____

If No. Thank you for taking the time to speak with me today. Can you think of anyone else who might be interested in speaking with us about the smoke-free policy at your apartment complex?
Note any contact information given:

APPENDIX B: Institutional Review Board Exemption

Appendix B: Institutional Review Board Exemption

EMORY UNIVERSITY | Institutional Review Board

Michelle Kegler, PhD
Principal Investigator
*SPH: Behavrl Sciences & Health

RE: **Exemption of Human Subjects Research**
IRB00084446
Promoting Smoke-Free Policies in Public versus Affordable Housing: Understanding Similarities and Differences in North Carolina and Georgia

Dear Principal Investigator:

Thank you for submitting an application to the Emory IRB for the above-referenced project. Based on the information you have provided, we have determined on 11/18/2015 that although it is human subjects research, it is exempt from further IRB review and approval.

This determination is good indefinitely unless substantive revisions to the study design (e.g., population or type of data to be obtained) occur which alter our analysis. Please consult the Emory IRB for clarification in case of such a change. Exempt projects do not require continuing renewal applications.

This project meets the criteria for exemption under 45 CFR 46.101(b)(2). Specifically, you will conduct interviews with PHA representatives, property managers, and residents regarding smoke-free policies in multi-unit apartment communities. The following documents are approved for use or otherwise acknowledged:

- Study Protocol, version date 10/6/2015
- Interview Guides:
  - Property Managers/Owners, version date 9/30/2015
  - PHA Representatives, version date 10/7/2015
  - Resident Opinion Leaders, version date 10/7/2015
- Consent documents:
  - Oral Consent script, version date 9/23/2015
  - Information Sheet, undated
- Recruitment Materials dated 9/21/2015:
  - Call script for Residents
  - Call script for Property Managers/Owners/PHA

Please note that the Belmont Report principles apply to this research: respect for persons, beneficence, and justice. You should use the informed consent materials reviewed by the IRB unless a waiver of consent was granted. Similarly, if HIPAA applies to this project, you

should use the HIPAA patient authorization and revocation materials reviewed by the IRB unless a waiver was granted. CITI certification is required of all personnel conducting this research.

Unanticipated problems involving risk to subjects or others or violations of the HIPAA Privacy Rule must be reported promptly to the Emory IRB and the sponsoring agency (if any).

In future correspondence about this matter, please refer to the study ID shown above. Thank you.

Sincerely,

Sam Roberts, CIP
Research Protocol Analyst, Sr.
This letter has been digitally signed

CC: Lebow-Skelley Erin *SPH: Behavrl Sciences & Health
Haardoerfer Regine *SPH: Behavrl Sciences & Health

Emory University
1599 Clifton Road, 5th Floor - Atlanta, Georgia 30322
Tel: 404.712.0720 - Fax: 404.727.1358 - Email: irb@emory.edu - Web: http://www.irb.emory.edu/

APPENDIX C: Interview Guide

Appendix C: Interview Guide

Investigating progressive MUH smoke-free policy attitudes and implementation in North Carolina and Georgia

2015

3) Interview Guide with Resident Opinion Leaders

Interview Overview

Length of Interviews: 45-60 minutes

Guide 3: Resident Opinion Leaders

Aims:

1. Identify resident perspectives on barriers and facilitators to adoption, implementation and enforcement of smoke-free policies.
2. Examine equity issues and the role of resident councils (when applicable).

Sample: Resident Opinion Leaders who

1. Live in affordable or public multi-unit housing with a smoke-free policy in North Carolina or Georgia.

Interview Content

1. Instructions for Interviewer
2. Introduction
3. Interview
    - Ice-breaker
    - Section A. Decision Making Process
    - Section B: Implementation & Enforcement Process
    - Section C: Impact of the Smoke-free Policy
    - Section D: Organizational Context
    - Section E: Community Context
    - Section F: Intervention messages and channels
    - Section G: Demographics
    - Ending the interview

Notes to interviewer

1. Bolded and bracketed text contains instructions that should **not** be read aloud.
    a. For example: **"[response from PMO C14-16]"** tells you to refer to the related answers in their property owner or manager's survey.

2. A slash indicates text that you need to tailor. Do not read both words.
    a. For example: "Would/do you…"

3. When the guide says "PHA", say "Public Housing Agency" - or – "Public Housing Authority" – or whichever term the local PHA uses.

4. Probes include information that we want to capture, but that the respondent may include in his/her answer to the primary question. Ask these follow-up questions only if the respondent does not address them. Related to probes, text in parentheses is additional information you can provide if the respondent is having trouble answering the question,
    a. For example: "Do you feel you have sufficient resources to implement the policy? (Resources could include material resources, financial resources, staff time, etc.)"

5. Text in italics is additional information for the interviewer (such as section headings) that is not to be read aloud.

6. It is possible that a respondent may address multiple questions when responding to one. Keep track of what has already been discussed and do not ask a question that was previously discussed.

Preparation

Refer to the interview response notes page from the resident's PM/O or PHA interview:

1. Smoke-free policy details:
    - Coverage areas:

2. Implementation & Enforcement:
    - Implementation process (leases):
    - Steps for enforcement:

Interview Guide 3:
Resident Opinion Leaders

Introduction

Thank you so much for taking the time to speak/meet with me today. Before we get started I'm going to tell you a bit about the study and get your permission to participate.

[Complete informed consent]

Great, we are going to get started then. I am going to write down your responses as we are talking. But, as mentioned, I would also like to record our interview. That way I can go back after we finish and fill in anything I might have missed. May I have your permission to start recording?

Ice-breaker

A. To start off, how long have you lived in your apartment community? **7 years**

- What is the property like (size, layout, etc.)? **Three floors, about 20 units per floor**
- What is it like to live at this community? **It's really nice, everyone is very friendly and we all know each other**
- What are your neighbors like? **They are all similar, older, they are friends**

[For Resident Council Members:]

B. How long have you been a member of the Resident Council? Can you tell me a bit about your role with the council? **Secretary, was on it for two years but the council is not active currently**

C. We are talking to owners, managers, public housing representatives, and residents of apartment communities with smoke-free policies.

- Can you describe the smoke-free policy at your community?

  i. Probe: What does it include? **[if resident's response does not match PMO's response, do NOT correct resident]**

  Cannot smoke inside anywhere, can smoke anywhere outside, only covered area outside is a gazebo

  ii. [If resident is unfamiliar with policy] When we spoke with your property owner/manager/PHA representative, they told us **[insert PHA/PMO responses to Section B].**

- What was your involvement with the smoke-free policy at your apartment community?

  Clarifying Probes:

  - Were you involved in making the decision to have a smoke-free policy? **[If yes]:** Can you tell me more about that? **no**

  - Were you involved in putting the policy into action? **[If yes]:** Can you tell me more about that? **no**

  - Are you involved with enforcing the policy? **[If yes]:** Can you tell me more about that? **no**

D. We understand that the Department of Housing and Urban Development (HUD) is now mandating a smoke-free rule in all public housing. What do you think about the HUD rule?

[If participant is not aware of the HUD proposed rule]: The proposed rule mandates that lit tobacco be prohibited in all indoor spaces at public housing properties and public housing administrative offices. The proposed rule also mandates that smoking be prohibited in all areas within a 25 foot buffer zone around all buildings, including patios and balconies. There was a 60 day open comment period that closed January 19. Comments are being considered and a final rule will be published in the coming months. Once the rule is finalized, there will be an 18 month implementation period. What do you think about this rule?

I think it's okay to have these kinds of policies but they shouldn't be sprung onto people and people living in the place should have some kind of say in the process.

Section A. Decision Making Process

This first set of questions is about the decision making process when your apartment owners or managers first decided to adopt a smoke-free policy.

1. How did your apartment owners or managers/PHA involve residents in this decision?

   a. Probe: Did they send surveys? **No**

   b. Probe: Did they hold meetings? **Held meetings after the decision was made**

   c. What do you think motivated the policy? **Managers said it was for health of the residents**

[If member of a Resident Council:]

2. How was the Resident Council involved in the decision to adopt a smoke-free policy?

   The resident council has not been active for two years so they were not involved. After the last president died/left (unclear what happened to them) no one else wanted to be president so the resident council has been inactive since then.

3. What did residents think about the decision to adopt a smoke-free policy?

a. Probe: Did different residents respond differently? How so?

i. Probe: Did any residents push for the policy? What were their reasons? How did they push for it? **A few people were for the policy. "*I think non-smoking is a good idea because my husband died of lung cancer so I know how bad it can be. But, I don't think they should have done it the way they did and they should have talked to us before doing something like this.*"**

ii. Probe: Did any residents fight against the policy? What were their reasons? How did they fight it? **A lot of the people in the community were against it because they are a tight knit group of people and they did not think that their friends who smoke had to go outside to smoke, especially in the winter. They understood that it was for the good of everyone, but they don't think it's fair for their friends and so they were unhappy about it. They think all of the residents should have been consulted before making a decision like this.**

4. What did you think about the decision to adopt a smoke-free policy?

a. What kind of information did you have about smoke-free policies before your apartment community adopted one?

b. What benefits did you see to adopting a smoke-free policy?

c. What concerns did you have about the smoke-free policy? For example, was there any type of resident that you were worried would be more affected by the policy?

[If member of the resident council]: Can you tell me about any differences there might have been between your thoughts about the decision to adopt a smoke-free policy and the resident council's thoughts?

5. Is there anything else you'd like to add about the decision making process at your apartment community?

a. Probe: Is there anything you wish your apartment PHA/owners or managers had done differently?

b. Probe: Is there anything your PHA/apartment owners or managers did well during the decision-making process?

Section B: Implementation & Enforcement Process

The next set of questions ask about how your apartment community implemented and enforces their current smoke-free policy.

6. After the decision to adopt a smoke-free policy was made, what steps did your PHA/apartment owner or managers take to actually implement the policy?

a. Probe: How did they notify residents?

b. Probe: What kind of information did they provide to residents? Did they provide any resources?

c. Did your lease change? How so? **[refer to response from PMO/PHA]**

d. **[If Resident Council]**

Probe: How was the resident council involved in putting the policy into place?

7. Once the policy was put into place, how did residents respond? **[Resident may have answered about response to implementation when answering question 3. If so, do not repeat these questions]**

a. Probe: Did different groups of residents react differently?

b. Probe: Generally speaking, who were the most vocal critics?

c. Probe: Generally speaking, who were the most supportive residents?

d. Probe: Did current and new residents respond differently?

e. Probe: How do residents give their feedback about the policy?

8. What kind of system or process does your apartment community have for reporting violations?

9. Have you seen or heard of any problems with compliance with the policy? i.e. Do you know of anyone breaking the rules restricting smoking?

[If yes]

a. What kinds of problems have you seen or heard?

b. How do you think this problem/s could be addressed?

c. What does your property manager (or PHA) do when they find someone breaking the smoke-free rule?

d. How do you think this is going?

[If no]

e. What do you think has helped encourage people to follow the policy?

10. Is there anything else you'd like to add about how your PHA/apartment owners or managers have implemented and enforced the smoke-free policy?

a. What could they have done differently?

b. What did they do well?

Section C: Impact of the Smoke-free Policy

These next set of questions ask about the impact of the smoke-free policy at your apartment community.

11. How do you think the policy is going?

- Why do you say that?

12. What benefits have you seen since your apartment community adopted a smoke-free policy? **[Do not list examples of benefits]**

13. How has the policy impacted residents?

Probe: Have some groups of residents been impacted more than others? Tell me more about that.

Section D: Organizational Context

These next set of questions ask more broadly about your apartment community (and your Resident Council)

[For Resident Council members:]

14. Tell me about your Resident Council's structure (for example, how often do they meet? How are decisions made?)

a. Probe: How does the Resident Council communicate and work with PHA or managers at the property?

b. Probe: How does the Resident council communicate and work with other residents?

15. Could you describe the activities or initiatives that (appear to) have highest priority for the resident council?

a. What kinds of decisions does the council make?

Section E: Community Context

16. The last set of questions is about your community and suggestions for promoting smoke-free policies in apartment communities. In general, how do residents typically communicate with [owners and managers of your apartment community/the PHA]?

17. When you (or the Resident Council) need to get something done or solve a problem, who are your "go-to" people? Can you describe a recent example?

18. You mentioned that the culture of your community is **[refer to Ice Breaker question A].** How do you think this has affected the smoke-free policy?

[If a public housing resident]: What about the culture of the PHA?

19. How much do you interact with other residents at your apartment community?
    a. Where does this happen?
    b. What do you talk about?
    c. What seems to be most important to you and the other residents?
        i. **[If answer does not relate to housing]:** What about specifically related to your housing?

20. **[If Resident Council]:** How much do you interact with residents of other public housing apartment communities?
    a. Where does that happen?
    b. What do you talk about?

Section F: Intervention messages and channels

21. If your apartment owner or manager/public housing agency were to offer help for people who want to quit, what kind of support do you think would be useful?

    - In what ways could they promote such services?

22. We are considering developing a smoke-free certification process, in which, for example, apartment communities choose to become certified as smoke-free properties.

- What are your thoughts on a smoke-free certification?

    - Would you seek out a certified smoke-free apartment?

23. We are almost done here, is there anything else you would like to share regarding smoke-free policies in housing in general?

Section G: Demographics

Finally, I would like to ask you some general questions about yourself before we conclude the interview. These questions will help us better understand who is participating.

F1. What is your age? |_____| years

F2. What is your gender? **[ASK ONLY WHEN IN DOUBT]**

MALE	1
FEMALE	2
REFUSED	-7
DON'T KNOW	-8

F3. Would you say that you are Hispanic or Latino?

YES	1
NO	2
REFUSED	-7
DON'T KNOW	-8

F4. What race and/or ethnicity do you consider yourself to be?

WHITE	1
AFRICAN AMERICAN OF BLACK	2
ASIAN/PACIFIC ISLANDER/NATIVE HAWAIIAN	3
AMERICAN INDIAN OR ALASKA NATIVE	4
MULTI-RACIAL/MIXED	5
OTHER	6
REFUSED	-7

F5. What is the highest level of school you completed or highest degree you received?

8TH GRADE OR LESS,	1
GRADES 9-12,	2
HIGH SCHOOL GRADUATE/GED,	3
SOME COLLEGE/TRADE SCHOOL/ASSOCIATES DEGREE,	4
COLLEGE GRADUATE, OR	5
POST-GRADUATE DEGREE?	6
REFUSED	-7
DON'T KNOW	-8

F7. Have you smoked at least 100 cigarettes in your entire life?

YES	1
NO	2
REFUSED	-7
DON'T KNOW	-8

F8. During the past 30 days, on how many days did you smoke cigarettes?

I___I___I number of days

I'm going to ask about your use of electronic cigarettes, or, e-cigs. E-cigs and other electronic "vaping" products include electronic hookahs (e-hookahs), vape pens, e-cigars, and others. These products are battery powered and usually contain nicotine and flavors such as fruit, mint, or candy.

F9. Have you ever used an e-cigarette or other electronic "vaping" product, even just one time, in your entire life?

YES	1
NO	2
REFUSED	-7
DON'T KNOW	-8

F10. Do you now use e-cigarettes or other electronic "vaping" products every day, some days, or not at all?

EVERY DAY	1
SOME DAYS	2
NOT AT ALL	3
REFUSED	-7
DON'T KNOW	-8

Ending the interview

That concludes our interview today. Thank you so much for your time and input. Did you have any questions for me?

Do you have an email address so that we can email you your gift card?

[If not, collect mailing address and preference of Walmart or Target]

You should receive it in the following week.

Email or physical address: _____

APPENDIX D: Informed Consent Form

Appendix D: Informed Consent Form

Emory University
Oral Consent to be a Research Subject - Residents

Title: Promoting Smoke-Free Policies in Public versus Affordable Housing: Understanding Similarities and Differences in North Carolina and Georgia

Principal Investigator: Michelle C. Kegler, DrPH, MPH, Behavioral Sciences and Health Education, Rollins School of Public Health
Co-Investigator: Regine Haardörfer, PhD, Behavioral Sciences and Health Education, Rollins School of Public Health; Sally Herndon, MPH, Tobacco Prevention and Control Branch, N.C. Department of Health and Human Services

Funding Source: National Cancer Institute of the National Institute of Health

Introduction
You are being asked to participate in a phone interview about smoke-free policies because you were referred by a Property Manager or Owner or a Public Housing Agency representative in North Carolina or Georgia. This form is designed to tell you everything you need to think about before you decide to consent (agree) to participate in the survey or not. **It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw. You can skip any questions that you do not wish to answer.**

Before making your decision, please ask questions about anything that is not clear. By giving consent to participate you will not give up any legal rights. We can also mail a copy of this consent form to you if you request it.

Project Overview
The purpose of the interview is to investigate residents' experiences with smoke-free policies in apartment communities. We will recruit up to 40 apartment residents in North Carolina and Georgia to complete the interview.

Procedures
We will be conducting a 45-60 minute phone interview with you. During the interview, you will be asked a variety of questions concerning the characteristics of your apartment community, your attitudes and experiences regarding smoke-free policies, and personal demographic information. We also would like to audio record this interview with your permission. Upon completion of the interview, you will be compensated with a $40 Amazon gift card via email. This project only requires one-time participation.

Risks and Discomforts
The risks of participating in this study are very minimal**.** We will not discuss any sensitive topics and we do not expect the questions to cause you any distress. Participation in this interview is voluntary. You may skip any questions that you do not wish to answer and you have the right to withdraw at any time. The risk of breach of confidentiality is minimal. The project team will keep all research records confidential by using a study number instead of your names on any study records wherever possible. Your name and other facts that might point to you will not appear in any report or publication from this project.

Benefits ***By taking part in this project, you may benefit from learning more about smoke-free policies in apartment communities. Knowledge gained from this study will be used to assess viable approaches for advancing smoke-free apartment policies in states with weak clean indoor legislation.***

Compensation
This interview is being done at no cost to you. You will be compensated with a $40 Amazon gift card upon completion of the interview.

Confidentiality

Certain offices and people other than the researchers may look at study records. Government agencies and Emory employees overseeing proper study conduct may look at your study records. These offices include the Office for Human Research Protections, the funder(s), the Emory Institutional Review Board, the Emory Office of Research Compliance and the Office for Clinical Research. Study funders may also look at your study records. Emory will keep any research records we create private to the extent we are required to do so by law. A study number rather than your name will be used on study records wherever possible. Your name and other facts that might point to you will not appear when we present this study or publish its results. Study records can be opened by court order. They may also be produced in response to a subpoena or a request for production of documents.

Voluntary Participation and Withdrawal from the Study

You have the right to leave a study at any time without penalty. You may refuse to do any procedures you do not feel comfortable with, or answer any questions that you do not wish to answer. If you choose to withdraw from this study, you may request that the information you already provided not be used.

Contact Information

Contact Dr. Michelle Kegler, who is overseeing this project, at 404-712-9957 or Erin Lebow-Skelley, the Project Coordinator, at 404-727-7093 if:

- if you have any questions about this study or your part in it,
- if you have questions, concerns or complaints about the research

Contact the Emory Institutional Review Board at 404-712-0720 or 877-503-9797 or irb@emory.edu:

- if you have questions about your rights as a research participant.
- if you have questions, concerns or complaints about the research.
- You may also let the IRB know about your experience as a research participant through our Research Participant Survey at http://www.surveymonkey.com/s/6ZDMW75.

Consent

Do you have any questions about anything I just said? Were there any parts that seemed unclear?

Do you agree to take part in the study?

Participant agrees to participate: Yes No

If Yes:

_____

Name of Participant

_____ _____

Signature of Person Conducting Informed Consent Discussion Date/Time

APPENDIX E: Cross-Walk

Appendix E: Cross-Walk

CFIR Construct Crosswalk: 2015-2016 North Carolina/Georgia Resident Questionnaire		
CFIR Construct		**2015-2016 North Carolina/Georgia Resident Questionnaire**
I. INTERVENTION CHARACTERISTICS		
A	Intervention Source	**Section A, 1:** What do you think motivated the policy? **Section A, 2:** How was the Resident Council involved in the decision to adopt a smoke-free policy?
B	Evidence Strength & Quality	
C	Relative Advantage	**Section A, 4:** What benefits did you see to adopting a smoke-free policy?
D	Adaptability	
E	Trialability	
F	Complexity	
G	Design Quality & Packaging	
H	Cost	
II. OUTER SETTING		
A	Patient Needs & Resources	**Section A, 4:** What concerns did you/the Resident Council have about the smoke-free policy? For example, was there any type of resident that you were worried would be more affected by the policy?
B	Cosmopolitanism	**Section E, 21:** To what extent do you interact with residents of other public housing apartment complexes? Where does that happen? What kind of information do you share with each other?
C	Peer Pressure	
D	External Policy & Incentives	**Icebreaker, D:** We understand that the Department of Housing and Urban Development (HUD) is now mandating a smoke-free rule in all public housing. What do you think about the HUD rule? **Section F, 23:** We are considering developing a smoke-free certification process, in which, for example, apartment complexes choose to become certified as smoke-free properties. What are your thoughts on a smoke-free certification? Would you seek out a certified smoke-free apartment? What strategies could we use to promote it? What do you think would be essential to include? Anything we should not include?
III. INNER SETTING		
A	Structural Characteristics	**Icebreaker, A:** To start off, how long have you lived in your apartment complex? What is it like (size, layout, etc .)? **Section D, 14:** Tell me about your Resident Council's structure (for example, how often do they meet? How are decisions made? **Section D, 15**: What kinds of decisions does the council make?
B	Networks & Communications	**Section D, 14:** How does the Resident Council communicate and work with the apartment managers? How does the Resident Council communicate and work with other residents? **Section D, 16:** How do residents typically communicate with owners and managers of your apartment complex/the PHA? **Section D, 17:** When you (or the Resident Council) need to get something done or solve a problem, who are your "go-to" people? Can you describe a recent example? **Section E, 20:** To what extent do you interact with other residents at your apartment complex? Where does this happen? What kind of information do you share with each other?

C	Culture	**Section D, 18:** How do you think your apartment complex's (or the PHA's) culture (general beliefs, values, assumptions that people embrace) has affected the implementation of the smoke-free policy? Can you describe an example that highlights this? **Section D, 19:** What are other high priorities for you and the other residents of your apartment complex? (in other words, what other things are very important to you and other residents?) **Section E, 20:** To what extent do you interact with other residents at your apartment complex? Where does this happen? What kind of information do you share with each other?
D	Implementation Climate	**Section A, 3:** What did residents think about the decision to adopt a smoke-free policy? Did any residents push for the policy? What were their reasons? How did they push for it? Did any residents fight against the policy? What were their reasons? How did they fight it? **Section B, 7:** Once the policy was implemented, how did residents respond? Did different groups of residents react differently? Generally speaking, who were the most vocal critics? Generally speaking, who were the most supportive residents? Did current and new residents respond differently?
1	Tension for Change	**Section A, 3:** What did residents think about the decision to adopt a smoke-free policy? Did any residents push for the policy? What were their reasons? How did they push for it? Did any residents fight against the policy? What were their reasons? How did they fight it?
2	Compatibility	**Section A, 4:** What concerns did you/the Resident Council have about the smoke-free policy? For example, was there any type of resident that you were worried would be more affected by the policy?
3	Relative Priority	**Section D, 15:** Could you describe the activities or initiatives that (appear to) have highest priority for you and the resident council? **Section D, 19:** What are other high priorities for you and the other residents of your apartment complex? (in other words, what other things are very important to you and other residents?)
4	Organizational Incentives & Rewards	
5	Goals and Feedback	
6	Learning Climate	**Section B, 7:** How was resident feedback obtained? **Section C, 8:** What kind of system or process does your apartment complex have for reporting violations?
E	Readiness for Implementation	
1	Leadership Engagement	**Section A, 2:** How was the Resident Council involved in the decision to adopt a smoke-free policy? **Section A, 5:** Is there anything you wish your apartment owners or managers had done differently? Is there anything your apartment owners of managers did well during the decision-making process? **Section B, 6:** How was the resident council involved in implementation or enforcement?
2	Available Resources	**Section B, 6:** What kind of information did owners/managers provide to residents? Did they provide any resources?
3	Access to Knowledge & Information	**Section A, 4:** What kind of information did you/the Resident Council have about smoke-free policies before your apartment adopted one? **Section B, 6:** What kind of information did owners/managers provide to residents? Did they provide any resources? **Section F, 22:** If your apartment owner or manager/public housing agency were to offer help for people who want to quit, what kind of support do you think would be useful? In what ways could they promote those services?

IV. CHARACTERISTICS OF INDIVIDUALS		
A	Knowledge & Beliefs about the Intervention	**Icebreaker, C:** Can you describe the smoke-free policy at your complex? What does it include? **Icebreaker, D:** We understand that the Department of Housing and Urban Development (HUD) is now mandating a smoke-free rule in all public housing. What do you think about the HUD rule? **Section A, 4:** What did you/the Resident Council think about the decision to adopt a smoke-free policy? **Section C, 11:** How do you think the policy is going? Why do you say that? Are people generally obeying it? **Section C, 12:** What benefits have you seen since your apartment complex adopted a smoke-free policy?
B	Self-efficacy	
C	Individual Stage of Change	
D	Individual Identification with Organization	**Icebreaker, A:** To start off, how long have you lived in your apartment complex? What is it like (size, layout, etc.)? **Icebreaker, B [Resident Council only]:** How long have you been a member of the Resident Council? Can you tell me a bit about your role with the council? **Icebreaker C:** What was your involvement with the smoke-free policy at your apartment complex?
E	Other Personal Attributes	
V. PROCESS		
A	Planning	
B	Engaging	**Section A, 1:** How did your apartment owners or managers/PHA involve residents in this decision? Did they send surveys, hold meetings, etc.? **Section A, 2:** How was the Resident Council involved in the decision to adopt a smoke-free policy? **Section A, 3:** Did any residents fight against the policy? What were their reasons? How did they fight it? **Section B, 6:** How did owners/managers notify residents?
1	Opinion Leaders	**Section A, 2:** How was the Resident Council involved in the decision to adopt a smoke-free policy? **Section A, 3:** Did any residents push for the policy? What were their reasons? How did they push for it? **Section B, 6 [if Resident Council]** Probe: How was the resident council involved in implementation or enforcement?
2	Formally Appointed Internal Implementation Leaders	**Section B, 6 [if Resident Council]** Probe: How was the resident council involved in implementation or enforcement?
3	Champions	**Section A, 3:** Did any residents push for the policy? What were their reasons? How did they push for it?
4	External Change Agents	**Section F, 23:** We are considering developing a smoke-free certification process, in which, for example, apartment complexes choose to become certified as smoke-free properties. What are your thoughts on a smoke-free certification? Would you seek out a certified smoke-free apartment? What strategies could we use to promote it? What do you think would be essential to include? Anything we should not include?
C	Executing	**Section B, 6:** After the decision to adopt a smoke-free policy was made, what steps did your apartment owner or managers take to actually implement the policy? **Section B, 6:** How was the resident council involved in implementation or enforcement? **Section B, 8:** What kind of system or process does your apartment complex have for reporting violations? **Section B, 9:** Have you seen or heard of any problems with compliance or enforcement of the policy? What kinds of problems

		have you seen or heard? How do you think this problem(s) could be addressed? **Section B, 10:** Is there anything else you'd like to add about how your apartment owners or managers/PHA have implemented and enforced the smoke-free policy? What could they have done differently? What did they do well?
D	Reflecting & Evaluating	**Section B, 7:** How was resident feedback obtained? **Section C, 8:** What kind of system or process does your apartment complex have for reporting violations?