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The impact of the low-income housing tax credit on children's health and wellbeing in Georgia

Katie A. Ports[a,*], **Whitney L. Rostad**[a], **Feijun Luo**[b], **Michelle Putnam**[c], and **Elizabeth Zurick**[d]

[a]Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA, USA

[b]Division of Analysis, Research, and Practice Integration, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA, USA

[c]Division of Unintentional Injury Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA, USA

[d]Office of the Director, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, Atlanta, GA, USA

Abstract

Housing instability is a risk factor for child abuse and neglect (CAN). Thus, policies that increase availability of affordable housing may reduce CAN rates. The Low Income Housing Tax Credit (LIHTC) program is the largest affordable housing policy initiative in the country. This study used fixed-effects models to estimate the relationship between LIHTC units and county-level CAN reports in Georgia from 2005 to 2015, controlling for county demographic characteristics. One-way fixed-effects models (including only county fixed-effects) demonstrated significant negative associations between number of LIHTC units and substantiated cases of CAN and total reports of sexual abuse. In two-way fixed-effects models (including county and year fixed-effects), LIHTC units were not associated with any of the outcomes. The findings are subject to limitations, including voluntary provision of CAN data, suppressed data for counties with < 10 CAN cases, and no assessment of the quality of LIHTC neighborhood. LIHTC may be a promising prevention strategy, but more research is needed.

1. Introduction

Child abuse and neglect (CAN) is a serious public health problem that affects hundreds of millions of children around the world (Hillis, Mercy, Amobi, & Kress, 2016; Pinheiro, 2006). CAN includes any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat

*Corresponding author at: Division of Violence Prevention, Centers for Disease Control and Prevention, 4770 Buford Highway, Mail stop F-63, Atlanta, GA 30341, USA. kports@cdc.gov (K.A. Ports).

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of harm to a child (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). Exposure to CAN has far-reaching impacts beyond a single person, time-period, or generation.

CAN is often associated with short-term health consequences, such as broken bones, bruises, and mental health concerns. However, the science of childhood adversity and toxic stress demonstrates strong associations between CAN and long-term health consequences, including changes in the physiological development of the nervous, endocrine, and immune systems, physical and mental health problems, engaging in unhealthy and unsafe behaviors, and limited life opportunities (e.g. education and poverty) (Felitti et al., 1998; Font & Maguire-Jack, 2016; Gilbert et al., 2015; Merrick et al., 2017; Metzler, Merrick, Klevens, Ports, & Ford, 2017). While addressing and treating exposure to CAN is important to prevent its associated negative health and life outcomes, it is imperative to prevent such violence from happening in the first place.

CAN affects children and families of all races, ethnicities, socioeconomic statuses (SES), and geographic boundaries, but some are at greater risk. Preventing CAN requires understanding why some children and families are at greater risk for exposure, as well as addressing risk and protective factors for abuse and neglect across all levels of the social ecology (i.e., individual, relational, community, and societal). For example, children living in families with a low SES have rates of child abuse and neglect that are five times higher than those of children living in families with a higher SES (Sedlak et al., 2010). Children in families with lower SES may experience additional risks for CAN because of their exposure to structural and social conditions that may be unsupportive of safe, stable, and nurturing relationships and environments – the essentials for healthy families and children (Centers for Disease Control and Prevention, 2014).

An important aspect of children's physical environment is their home, and accordingly, safe, stable, and high quality housing is critical to helping families and children thrive. For children, stable housing may be particularly important for reducing their risk of abuse and neglect. Indeed, researchers have demonstrated associations between housing instability (i.e., variably defined as having difficulty paying rent, spending > 50% of household income on housing, frequent moves, overcrowding [Kushel, Gupta, Gee, & Hass, 2006]) and involvement in the child welfare system (Dworsky, 2014) and risk for exposure to child maltreatment (Patwardhan, Hurley, Thompson, Mason, & Ringle, 2017). Further, national estimates indicate that 16% of intact families involved with child welfare are at risk of out-of-home placement because of inadequate housing (Fowler et al., 2013).

Directly, homelessness and lower quality housing conditions pose a risk to the health and safety of children and thus, child protective services (CPS) may pay greater attention to families experiencing housing instability (Cohen, Mulroy, Tull, White, & Crowley, 2004). Indirectly, stress associated with housing instability can exacerbate harsh parenting practices, increasing the risk for exposure to physical abuse, as well as limit parents' ability to provide for their children's needs, increasing the risk for exposure to neglect (Conger et al., 2002; Cowal, Shinn, Weitzman, Stojanovic, & Labay, 2002; Park, Ostler, & Fertig, 2015). Housing instability can also increase other household challenges, including mental health issues and substance abuse, known risk factors for CAN (Brook & McDonald, 2009;

Fortson, Klevens, Merrick, Gilbert, & Alexander, 2016; Marsh, Ryan, Choi, & Testa, 2006). Finally, housing instability among low income children has been linked to increased attention problems, as well as internalizing and externalizing problems (Ziol-Guest & McKenna, 2014), which are also risk factors for abuse and neglect.

Child welfare agencies increasingly acknowledge the importance of housing stability for child wellbeing and have incorporated housing policies and programs into their interventions for families exposed to CAN (Cunningham & Pergamit, 2017). In addition, researchers have outlined the positive impact of policies and programs that provide greater housing security for families at risk of CAN (Fowler & Farrell, 2017; Samuels, 2017), and have demonstrated that providing permanent housing can result in marginal declines in CAN rates (Fowler & Schoeny, 2017). Indeed, a growing body of research has demonstrated that providing housing services to high risk families, in addition to other needed services, can reduce involvement with the child welfare system (Swann-Jackson, Tapper, & Fields, 2010), reduce risk of out-of-home placement (Fowler & Chavira, 2014), and promote the reunification of children (Rog, Hendrson, & Greer, 2015).

The Family Unification Project (FUP), sponsored by the U.S. Department of Housing and Urban Development, is a program for families involved with the child welfare system and at risk of child placement because of inadequate housing (Fowler & Schoeny, 2015). In a randomized controlled trial of FUP in Chicago, half of FUP-eligible families (i.e., identified by child welfare caseworkers for inadequate housing) were assigned to housing case management services as usual, while the other half were assigned to receive permanent housing vouchers (i.e., FUP). Among families assigned to FUP, more stimulating home environments, less overcrowding, and greater housing stability were observed. This small, but growing, body of research highlights the potential impact of housing policies and programs on child abuse and neglect. However, the impact of housing policies as a primary prevention strategy for child abuse and neglect is unknown and remains a notable gap in the literature.

1.1. Low-income housing

Created by the Tax Reform Act of 1986 to address the shortage of affordable housing in the United States, the Low Income Housing Tax Credit (LIHTC) Program is the largest federal affordable housing production and preservation program in the country. LIHTCs are available in all 50 states, Washington DC, and Puerto Rico. Between 1987 and 2015, 2.97 million housing units were placed in service using the LIHTC program (U.S. Department of Housing and Urban Development, 2017a,b). LIHTCs are allocated to owners of qualified rental properties who reserve all or a portion of their units to low-income tenants. Typically, outside investors provide developers with initial funds in exchange for the tax credit. The tax credit covers either 30 or 70% of the present value of qualified costs incurred for developing or rehabilitating low-income units in rental housing developments. The 30% tax credit is given to projects that use tax-free bond financing or acquire existing buildings, while the 70% tax credit is provided for new construction or projects with no other subsidies (McClure, 1990). The credit is typically allocated over a 10-year period, which results in an annual LIHTC of either 4% (for 30% projects) or 9% (for 70% projects) for investors

(McClure, 1990). Investors cannot claim the credit unless the development meets LIHTC requirements. To qualify for the LIHTC, at least 20% of the units must be occupied by individuals with income of 50% or less of the area median income, adjusted by family size, or 40% of the units must be occupied by individuals with income of 60% or less of the area median income, adjusted for family size (26 U.S. Code § 42) (Keightley, 2017). A "gross rents test" must also be met to qualify, which ensures that rents do not exceed 30% of the elected 50% or 60% of area median gross income, depending on which income test option the project elected (26 U.S. Code § 42) (Keightley, 2017). Given that the "gross rents test" considers only the area's gross median income, rather than controlling for the share of income spent on rent, the LIHTC may not benefit all families in need, particularly those that are poor or very poor.

Each state's Housing Finance Agency (HFA) typically carries out the administration of the tax credit program. States distribute LIHTC funds through Qualified Allocation Plans (QAPs). The QAPs set out the state's eligibility priorities and criteria for awarding federal tax credits to housing properties. State QAPS involve a competitive process that prioritize projects that will serve the lowest income families and remain affordable for the longest period of time (Ellen, Horn, Kuai, Pazuniak, & Williams, 2015). Through the QAP process, prioritized units must remain affordable for 30 years and have pre-determined rent ceilings and rental units; however, some have noted that transitions are possible at year 15 (Abt Associates Inc et al., 2012).

The LIHTC program is intended to serve disadvantaged populations, and thus LIHTC developments may lead to an influx of low- and moderate-income residents into neighborhoods, which may contribute to changes in neighborhood characteristics. Neighbors may be concerned with the concentration of low-income households and perceived negative changes, such as social disorder (e.g., graffiti, loitering), reduced property values, and increased crime. However, LIHTC developments may also be an important resource for improving neighborhood conditions, including restoring dilapidated buildings, building on empty lots, upgrading the housing stock, and neighborhood revitalization. Moreover, LIHTC developments may increase access to affordable, stable, and quality housing for families, which may ultimately help children reach their full potential. We discuss the research that examines the associations between LIHTC and outcomes at the neighborhood level below.

1.2. Impact of LIHTC

Various studies have been conducted to examine the impact of LIHTC on a wide range of outcomes, including economic wellbeing, housing stability, and crime and violence, though findings have been mixed. For example, in Miami, LIHTC developments in high-poverty neighborhoods generated the most positive impacts on neighborhood economic wellbeing, while LIHTC developments in middle-class neighborhoods were less likely to demonstrate positive effects (Deng, 2011b). Despite popular opinion that "public housing" results in decay of surrounding communities, LIHTC developments have been found to positively influence property upkeep in nearby communities (Edmiston, 2015). Other work has demonstrated that affordable housing could be developed in an affluent community without increasing social disorganization, crime and taxes, and without decreasing property values

(Albright, Derickson, & Massey, 2013). In New York City, significant and sustained positive spillover effects of subsidized housing have been observed (e.g., increased property values, increased tax revenue, and reduced blight) (Schwartz, Ellen, Voicu, & Schill, 2006). Conversely, some studies have demonstrated that LIHTC developments may destabilize neighborhoods by increasing turnover of owner-occupied households and depressing local median household income, especially in higher-income areas (Baum-Snow & Marion, 2009; Woo, Jon, & Van Zandt, 2014). However, housing prices in declining and stable neighborhoods or areas with high racial/ethnic minority populations have been found to appreciate with the addition of LIHTC developments (Baum-Snow & Marion, 2009; Diamond & McQuade, 2016).

The impact of the LIHTC program has been extended to other indicators of wellbeing. For instance, in Texas, rehabilitated LIHTC units positively influenced school performance in lower income areas (Di & Murdoch, 2013). Additionally, poverty rates have been found to decline in high-poverty neighborhoods after the completion of LIHTC developments, and in general, there is little evidence that the LIHTC program contributes to poverty concentration or residential segregation (Ellen, Horn, & O'Regan, 2016; Freedman & McGavock, 2015; Horn & O'Regan, 2011). There are mixed findings regarding the impact of affordable housing on the stability of the surrounding community, but generally, associations between subsidized housing developments and neighborhood crime are weak or insignificant, suggesting that some concerns about affordable housing may be misguided (Albright et al., 2013; Ellen, Lens, & O'Regan, 2012; Freedman & Owens, 2011; Lens, 2014). In fact, one study demonstrated that LIHTC developments built in the poorest neighborhoods resulted in significant reductions in violent crime, but not property crime (Freedman & Owens, 2011).

No research to our knowledge has examined the impact of the LIHTC program on rates of child abuse and neglect or child wellbeing in general. There are a couple theoretical explanations as to why LIHTC may affect family risk for child abuse and neglect. Unsafe homes pose a significant risk for children, particularly for children four years and younger who are at greatest risk of death due to unintentional injuries (e.g., drowning, poisoning, choking, safety hazards) that occur in the home (Nagaraja et al., 2005; Phelan, Khoury, Kalkwarf, & Lanphear, 2005). Researchers have long highlighted the shared risk and protective factors between CAN and unintentional injuries among young children, and have supported the consideration of unintentional injuries in CAN reports (Nelson, 1979; Saldana & Peterson, 1998). In addition, increasing the affordability of housing may increase housing stability, which in turn, may reduce parental stress, a well-known risk factor for child abuse and neglect (Stith et al., 2009). Thus, improving the housing conditions for low-income families, including access to high quality housing through affordable rents, may significantly improve the wellbeing of children and their families.

1.3. The current study

The current study examines the impact of the LIHTC program on rates of child abuse and neglect in the state of Georgia, and unintentional injuries in children younger than four years, the leading cause of death among young children (CDC, 2016). Because of variability across the United States in LIHTC allocation, this preliminary study focused on the state of

Georgia where the Department of Community Affairs (DCA) is responsible for allocating the LIHTC. Georgia DCA has intentionally incorporated positive neighborhood amenities into their QAP (Georgia DCA, 2017), which may be particularly relevant to the outcomes of this study. To examine the impact of the Georgia LIHTC program on rates of child abuse and neglect, we used administrative data to examine the relationship between the number of existing low-income rental units established through the LIHTC in each county in Georgia, US and corresponding rates of child abuse and neglect and unintentional injuries per 1000 children between 2005 and 2015.

2. Method

2.1. Data sources

2.1.1. Department of Housing and Urban Development (HUD)—HUD maintains a database for all developments that receive tax credits through the LIHTC program (U.S. Department of Housing and Urban Development, 2017a, 2017b). For most LIHTC projects, HUD has data pertaining to location of the project, the year the project was placed in service, total number of units, total of low-income units, type of project (e.g., new construction, rehabilitation), target demographic (e.g., families, elderly), and other details of the project. For the purpose of this study, the number of low-income units were aggregated at the county level in Georgia to provide an estimate of available units per 10,000 residents per county from 2005 to 2015.

2.1.2. National Child Abuse and Neglect Data System—Data from the National Child Abuse and Neglect Data System (NCANDS) Child Files from 2005 through 2015 (National Data Archive on Child Abuse and Neglect, 2007–2017) were used to estimate the prevalence of child abuse and neglect among children 0–18 years across Georgia's counties by year. Some data used within this analysis were derived from National Data Archive on Child Abuse and Neglect (NDACAN) restricted data. These data were accessible through contractual arrangements with NDACAN, and are solely available through the Cornell Restricted Access Data Center. NCANDs data is voluntarily reported by Child Protective Services (CPS), and subsequently housed by the National Data Archive on Child Abuse and Neglect at Cornell University, with support from the Children's Bureau, an agency of the US Department of Health and Human Services. The NCANDS Child Files are composed of case-level data for each report of maltreatment by CPS in the United States. Alleged incidents of maltreatment are received and screened-in or out by CPS to determine if an investigation is needed. After the CPS investigation, a case may or may not be confirmed as maltreatment. Confirmed cases of maltreatment are considered substantiated. Some states identify cases as indicated, which means that they could not substantiate the case, but there was reason to suspect maltreatment or risk of maltreatment. In the present study, any report that was substantiated or indicated was considered a confirmed case of maltreatment. Total reported cases (i.e., all referrals that were screened-in for CPS investigation), total reported cases for each child maltreatment type (i.e., physical, emotional, and sexual abuse, and neglect), and confirmed cases per 1000 population were aggregated at the county level for each year.

2.1.3. Online Analytical Statistical Information System (OASIS)—Data regarding unintentional injuries for children aged 0–4 years were obtained from Georgia's Department of Public Health's Data Warehouse, OASIS (Georgia Department of Public Health, 2003). Specifically, emergency room visits for external causes (i.e., accidental shooting, falls, drowning, poisoning) for children aged 0–4 years per 1000 from 2005 to 2015 were aggregated at the county level. In addition, data for the following covariates were obtained from OASIS: percentages of the county population under 18 and over 65 years, percent of the county male population, and percentages of the county Non-Hispanic Black population and Hispanic population.

2.1.4. U.S. Census Bureau—US Census Bureau data (U.S. Census Bureau, 2017) was used to obtain information about county-level economic variables. Specifically, county median household income.

2.1.5. Data analysis—Descriptive statistics were reported on the low-income housing rental units per 10,000 residents, all covariates, and all outcome variables, including county rates of total reports of child maltreatment, physical abuse, emotional abuse, sexual abuse, and neglect, substantiated child maltreatment, and emergency room visits for unintentional injuries for children four years and younger from 2005 to 2015. A one-way fixed-effects model controlling for county effects and a two-way fixed-effects model controlling for both county and time effects were used to determine the associations between the number of low-income rental units and child maltreatment outcomes. In compliance with National Data Archive on Child Abuse and Neglect's data protection plan, data from counties with < 10 CAN cases were suppressed. Analyses were limited to counties with complete data to ensure a balanced panel dataset in each model. Missing data ranged from five counties for total reports to 116 counties for sexual abuse (as reported in the Table 2). All models controlled for the following covariates: median household income; percentages of the county population under 18 and over 65 years, respectively; percent of the county male population; and percentages of the county non-Hispanic black population and Hispanic population. These covariates reflect covariates used in previous evaluations of the LIHTC (see Freedman & Owens, 2011). Standard errors were clustered at the county level. All the analyses were conducted using Stata 14 (StataCorp, 2015).

3. Results

In Georgia, there are 159 counties. On average, there were 57.5 (SD = 43.5) low-income housing rental units per 10,000 residents per county (range: 0–262.7) between 2005 and 2015. There were, on average, 64.7 (SD = 33.9) total reports and 16.3 (SD = 9.8) confirmed cases of child maltreatment per 1000 population under age 18 years per county. The average total reports for specific types of maltreatment was5.1 (SD = 2.7) for physical abuse, 29.0 (SD = 18.1) for neglect, 1.7 (SD = 1.2) for sexual abuse, and 6.0 (SD = 4.5) for psychological abuse per 1000 population under age 18 years per county. The average for emergency room visits per county for unintentional injuries visits for children aged 0–4 years was 407.1 (SD = 764.6) per 1000 under age 18 years per county. For additional descriptive details, see Table 1.

In the one-way fixed-effects model that controlled only for county effects, the number of low-income rental units was negatively associated with substantiated cases of child maltreatment (estimate = −0.051, SE = 0.024, $p < .05$), total reports of physical abuse (estimate = −0.028, SE = 0.012, $p < .05$) and total reports of sexual abuse (estimate = −0.027, SE = 0.008, $p < .001$), but not significantly associated with total reports, neglect, psychological abuse, or emergency room visits for unintentional injuries visits for children aged 0–4 years (see Table 2). When county-invariant time fixed-effects were controlled for in the two-way fixed-effects models, the previous associations no longer existed, suggesting that the number of low-income rental units was not significantly associated with any of the CAN or injury outcomes examined (see Table 2).

4. Discussion

Children and families need safe, affordable, stable, and quality housing to thrive. Indeed, housing instability, or the lack of safe, affordable, stable and quality housing, has been associated with risk of CAN (Conger et al., 2002; Cowal et al., 2002; Park et al., 2015; Patwardhan et al., 2017). Given these associations, the current study explored the potential impact of affordable housing through a tax credit on CAN rates across counties in Georgia. The LIHTC is the longest running, national production and preservation program for affordable housing, and thus has the potential to address housing needs for low-income families and reduce CAN. In the present study, we looked at the associations between the number of LIHTC units and CAN rates by Georgia counties from 2005 to 2015. Unfortunately, we were unable to discern significant associations between the number of low-income rental units and CAN rates after controlling for county-invariant time fixed-effects. Despite null findings, this study is an important contribution to the field of child abuse and neglect prevention as it provides a first step in addressing the intersections between housing and child wellbeing. Throughout the discussion, we outline important opportunities for future research and consideration, which may ultimately improve our understanding and implementation of comprehensive violence prevention strategies.

In our first model, considering only county fixed-effects, we found significant negative associations between the number of low-income rental units and confirmed cases of CAN and total reports of physical and sexual abuse. However, when county-invariant, time fixed-effects were controlled for in the two-way fixed-effects models, the previous associations no longer existed. This suggests that statewide factors (e.g., economic, social, political, and cultural changes) unaccounted for in the first model might have contributed to the associations between LIHTC units and CAN, and thus, the significant findings in the first, less rigorous model are likely a spurious effect. Future research that is more sensitive to nuanced associations between the number of LIHTC units and CAN while being mindful of place and time fixed-effects is needed to understand how and if the LIHTC is a promising CAN prevention strategy.

The LIHTC was not initially designed to reduce CAN rates, but other studies have shown that policies that improve housing conditions, such as LIHTC and other inclusionary housing policies, remain promising strategies to reduce violence and injury risk (Albright et al., 2013; Freedman & Owens, 2011). While we did not find a significant association

between the number of LIHTC units and CAN, it is possible that the LIHTC has a more nuanced, indirect effect on CAN not measured in the present study. The LIHTC is the largest affordable housing program in the US, and thus, where LIHTC developments are placed has the potential to shape family and neighborhood conditions, security, and other factors related to CAN. Access to quality schools and child care, healthcare, green spaces, grocery stores, and public transportation, for example, may have a greater impact on how low-income housing affects children's exposure to violence than simply the number of available units. Greater consideration of the way LIHTC is implemented and the context in which the low-income developments are placed is needed before the field fully understands the potential of housing policies as a promising CAN prevention strategy. For example, future research could explore how neighborhood attributes contribute to outcomes for children, families, and neighborhoods, which could improve our understanding of how the placement of LIHTC developments can maximize positive effects, while minimizing negative ones.

In Georgia, the QAP prioritizes projects placed in high-resourced areas and awards points for applications that propose projects close to desirable neighborhood amenities, such as schools, grocery stores, green spaces, hospitals, and public transit (Georgia DCA, 2017). Points are also awarded for projects that include a community revitalization plan; bonus points are awarded if the development will be placed in a qualified census tract (QCT) in which at least 50% of households have incomes below 60% of the area median gross income (Georgia DCA, 2017). The two types of LIHTC, either 4% (for 30% projects) or 9% (for 70% projects), are awarded through different processes. While there are numerous 4% LIHTC available and awarded to projects that meet the requirements of the QAP, the number of 9% LIHTC are limited and awarded on a more competitive basis (Georgia DCA, 2017). Future evaluation of these important facets of policy implementation outlined in states' QAPs may help to increase understanding of the direct and indirect influence that housing policies may have on CAN.

Another important consideration when examining the impact of affordable housing on CAN outcomes at the county level is whether the program is actually meeting the needs of families who seek safe and stable housing in a community. Waiting lists for low-income housing can be long, and a shortage of housing can lead to household overcrowding, which may contribute to risk for CAN. Thus, if a large number of families who are most in need of affordable housing do not have access to safe and stable housing in a county, it is not reasonable to expect the LIHTC to impact county rates of CAN, or for there to be any impact on other health indicators. Researchers could also consider information on the affordability of LIHTC units, such as the percentage of family income allocated to rent. Households are considered affordable if a family spends no > 30% of their income on rent. Because LIHTC unit rents are based on area medium income, it is possible that families pay > 30% of their income on rent despite the label of low-income housing. Subsequently, LIHTC may not improve housing affordability and stability for the families at greatest need. In sum, the LIHTC, alone, may not be enough to prevent CAN, especially if it is not as affordable as it is intended to be, or if it is in a neighborhood where other risks (e.g., violence, crime, concentrated poverty) still exist. Future research could better elucidate these associations.

Future studies may also wish to consider additional credits and subsidies available for low-income housing. In their analysis of 18 states, O'Regan and Horn (2013) found that > 40% of LIHTC units were rented to extremely low-income households, and that > 70% of these households were also receiving some form of additional rental assistance. These findings highlight the importance of the LIHTC program in providing housing to those with the greatest need for affordable housing, but that additional rental assistance is a part of the eq. (O'Regan and Horn, 2013). Furthermore, LIHTCs do not always cover the total cost of many projects, and as a result, developers and owners seek additional financial resources, including conventional mortgage loans provided by private lenders, alternative financing and grants from public or private sources, and state tax credits modeled after the federal provision. The combination of LIHTC, other financial resources, and rental assistance subsidies means that the costs and benefits of the LIHTC program are harder to isolate. As such, future studies are needed to understand the ways in which affordable housing developments draw upon multiple subsidies from different programs, which may influence housing location and affordability, as well as when and how LIHTC impacts CAN.

This study has several limitations that could be addressed to improve understanding of when and how LIHTC is effective in improving the conditions for children and families. In addition to the aforementioned considerations, this study was limited to counties in the state of Georgia, and subsequently, the findings reflect Georgia's LIHTC developments, which may not be reflective of other states' LIHTC programs. Comparisons across states or the US might provide additional detail about important policy implementation considerations. A significant limitation of the current study was the lack of outcome data at a more granular, census tract level. Outcome data aggregated at the county level may mask the true associations and limit the sensitivity of such analyses. Given that LIHTC developments are placed at the census tract level, future research with outcomes measured at the census tract may help clarify the potential relationship between affordable housing policies, such as the LIHTC, and health and wellbeing. Further, NCANDS data is voluntary to report and counties with less than ten cases were suppressed to protect the identities of individuals, and thus, some counties had missing data contributing to limitations with general-izability.

The magnitude and burden of CAN warrants additional exploration of policies and practices that promote the primary prevention of CAN, which may include housing policies, as part of a comprehensive strategy to reduce and eliminate CAN and its deleterious effects on the health and prosperity of people and communities. Prevention efforts that target individual behavior change, such as positive parenting strategies, are necessary, but policies implemented across communities or society have the potential to improve the conditions that families live, learn, work and play in, and have the potential for population-level impacts on health and wellbeing. The LIHTC is a long-standing national policy that has implications for families across the United States. Despite null findings, the lessons learned and shared from the current study provide opportunities to build the research that explores issues the cut across sectors (e.g., public health, justice, housing), as well as prevention strategies that create a context that is supportive of children and families. Importantly, one policy strategy alone is not enough to make significant reductions in CAN. Coordinated, multilevel strategies would be best to address the social and economic conditions that place children and families at risk for violence, and ultimately prevent violence (Fortson et al., 2016).

Future analyses that build from our preliminary study may uncover important aspects of the policy's implementation that can elucidate the LIHTC's impact on children's exposure to violence, which could guide and shape how states and communities decide to implement the policy and promote health and wellbeing for everyone.

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Table 1

Descriptive details for variable of interest, Georgia 2005–2015.

Variable	N	Mean	SD	Min	Max
Low-Income Rental Housing Units per 10,000 residents	1749	57.5	43.5	0.0	262.7
Percent of Male	1749	49.6	2.9	42.6	68.4
Percent of Non-Hispanic Black	1749	27.7	17.2	0.3	75.6
Percent of Hispanic	1749	5.7	5.2	0.7	33.9
Percent of People under 18	1749	24.4	3.0	14.3	30.8
Percent of People over 65	1749	13.9	3.9	2.6	33.4
Median Income (in thousand $)	1749	39.8	11.0	23.5	97.9
Number of Total Reports *	1694	64.7	33.9	4.5	203.4
Number of Substantiated Cases *	1463	16.3	9.8	1.5	70.2
Number of Physical Abuse Reports *	935	5.1	2.7	0.4	19.8
Number of Neglect Reports *	1551	29.0	18.1	1.3	120.8
Number of Sexual Abuse Reports *	473	1.7	1.2	0.2	7.3
Number of Psychological Abuse Reports *	704	6.0	4.5	0.3	36.5
Number of ER Visits (≤ 4 Years) **	1738	407.1	764.6	2	5966

* Per 1000 children aged 0–18 years.

** Per 1000 children aged 0–4 years.

Table 2

Outcomes from fixed effects models predicting child abuse and neglect incidence in Georgia, 2005–2015.

Variables	Outcomes						
	Total Reports	**Substantiated Cases**	**Physical Abuse**	**Neglect**	**Sexual Abuse**	**Psychological Abuse**	**ER Visits (≤ 4 years)**
One-way Fixed Effect Model							
Low-Income Rental Housing Units	−0.139 (0.093)	−0.069 * (0.025)	−0.028 * (0.012)	−0.078 (0.056)	−0.030***** (0.007)	−0.023 (0.022)	0.154 (0.188)
Two-way Fixed Effect Model							
Low-Income Rental Housing Units	0.046 (0.062)	0.007 (0.021)	−0.000 (0.009)	0.035 (0.036)	−0.016 (0.010)	0.002 (0.025)	0.254 (0.176)
No. of Counties	154	133	85	141	43	64	15S
No. of Years	11	11	11	11	11	11	11
No. of Observations	1694	1463	935	1551	473	704	1738

Note. All models controlled for median income, the percentages of male population, non-Hispanic black population, Hispanic population, persons aged 18 and below, and persons aged 65 and above. Standard errors (in parenthesis) were clustered at the county level.

*** $p \leq .001$.

** $p \leq .01$.

* $p \leq .05$.