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Is Public Housing the Cause of Poor Health or a Safety Net for the Unhealthy Poor?

Erin Ruel, Deirdre Oakley, G. Elton Wilson,
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ABSTRACT *Research has shown that public housing residents have the worst health of any population in the USA. However, it is unclear what the cause of that poor health is among this population. The purpose of this paper is to investigate the association between public housing and health conditions: specifically, we ask if residents entered public housing already ill or if public housing may cause the poor health of its residents. The data used for this study come from the GSU Urban Health Initiative, which is a prospective, mixed-methods study of seven public housing communities earmarked for demolition and relocation (N=385). We used the pre-relocation, baseline survey. We found that, while health was not the main reason residents gave for entering public housing, the majority of public housing residents entered public housing already ill. Substandard housing conditions, long tenure in public housing, and having had a worse living situation prior to public housing were not associated with an increased risk of a health condition diagnosed after entry into public housing. Our findings suggest that public housing may have provided a safety net for the very unhealthy poor.*

KEYWORDS *Public housing, Health selection, Chronic diseases, Health disparities, Substandard housing*

A recent study declared that health is a bigger problem for public housing residents than is lack of employment.¹ This assertion is based on findings from the HOPE VI panel study which examined the relocation of public housing residents from projects with the worst poverty concentration in five US cities. The HOPE VI panel study found that public housing residents are more than twice as likely to be diagnosed with an array of chronic conditions compared with a nationally representative sample of African-American women.¹ A similar study compared the health of Boston's public housing residents to other Boston residents and found much higher rates of hypertension, high cholesterol, asthma, diabetes, obesity, and depression in the public housing sample net of individual-level characteristics.² Public housing residents are mainly minority females; thus, they are the group that is most likely driving existing racial health disparities in the USA.

This poor health may be due to living in substandard housing for extended periods of time. Substandard housing creates a variety of health risks as well, including an increased risk of chronic disease, injury, poor nutrition, and poor mental health.^{3,6} The mechanisms linking substandard housing to poor health are poor heat, bad ventilation, and growth of mold and fungus due to dampness, all of which can lead to both respiratory infections and chronic conditions.¹¹⁻¹³ Pest infestation also is associated with greater chronic conditions.³⁻⁵

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It is not only substandard housing that may be problematic. Substandard housing tends to be located in higher-poverty neighborhoods. The large, spatially concentrated public housing developments were cited as one of the key causes of concentrated urban poverty.⁷ High-poverty neighborhoods have been associated with cardiovascular disease and all-cause mortality.^{8–10} Concentrated poverty also has been associated with myriad social and physical ills, from high unemployment rates, high school dropout rates, single female-headed households, crime, to physical and mental health.^{11–15}

Determining if public housing itself contributes to the social and physical ills found among those living in extreme poverty is beyond the scope of a single paper; therefore, we limit ourselves to addressing a single issue in this paper: that of public housing residents' health.

Surprisingly, there is little research on the effect of the actual physical structure of public housing on the health of residents. The HOPE VI panel study found that the quality of public housing was decidedly worse than that of other poor people and other assisted living nationally. In fact, Howell, Harris, and Popkin found that public housing residents have worse health than comparable persons in assisted housing nationally and other poor people, but they could not directly tie housing quality to health outcomes.¹⁶

Another study included a control for the age of the public housing structure as a proxy for the distress and deterioration of the structures and tested whether or not public housing has any beneficial or protective health features for its residents.¹⁷ Fertig and Reingold argue that public housing ought to improve health because money saved on rent and utilities may be available to improve nutrition or access to health care. Using data from the Fragile Families and Child Wellbeing Study, they found that public housing residents do spend considerably less on their housing than do other poor families; however, they found little improvement in health for public housing residents attributable to public housing.¹⁷

The 1992 HOPE VI policy to deconcentrate poverty by demolishing public housing and relocating residents into private market housing was designed to improve the living conditions of public housing residents.^{18,19} The implication is that, once removed from the concentrated poverty environment of public housing, the lives of former residents would improve. Yet, the majority of research on relocations, even relocations into low-poverty neighborhoods, has shown little evidence that health improves 4–5 years after relocation.^{1,16,20–26} However, it should be noted that one Moving to Opportunity Study (MTO) in New York found declines in distress,²⁷ and another found declines in obesity²⁰ for adults moving into low-poverty neighborhoods. Nevertheless, because relocating residents into low-poverty neighborhoods is expensive and is not a requirement of HOPE VI policy, it is unlikely that the improvements found in MTO will be replicated.

In sum, research has found that public housing residents have extremely poor health. However, there is little evidence to connect public housing conditions either as a contributor to the poor health or as a safeguard against the poor health of residents. Health remains poor even after residents are relocated into lower-poverty neighborhoods. Why is the health of public housing residents so poor and what is causing it? Do unhealthy poor individuals move into public housing because it is all they can afford once they become sick? This suggests that a lifetime of living in marginal circumstances make public housing a last resort safety net for low-income persons with poor health. If health is poor prior to entering public housing, then it follows that eliminating public housing and moving residents to private market

housing will not have positive health effects. Thus, we can think of this as a fundamental cause argument. In other words, the lives of these residents are so disadvantaged along multiple dimensions that fixing anything but the *fundamental cause* of their situation will not change the health outcomes.²⁸ Our goal is to examine thoroughly the associations between public housing and health of its residents using a sample of Atlanta's public housing residents.

Hypotheses:

1. If the poor health of public housing residents is due to a selection effect:
 - (a) Then many residents will cite their health as a reason for entering public housing (Table 2).
 - (b) Or, the majority of residents will be diagnosed with health conditions prior to entry into public housing (Table 3).

2. If public housing causes poor health:
 - (a) Then unhealthy apartment attributes should be associated with increased odds of a health diagnosis after entry into public housing (Table 4).
 - (b) Or, as tenure in public housing increases or prior living conditions are worse than public housing conditions (worse exposure), then odds of a diagnosis after entry into public housing should increase (Table 4).

DATA AND METHODS

In early 2007, the Atlanta Housing Authority announced plans to demolish *all remaining* family public housing projects and two senior citizen/disabled high rises. Qualified residents would be relocated into the private rental market with the use of subsidized vouchers. There are no stipulations on the types of neighborhoods into which residents *cannot* relocate (i.e., low-poverty neighborhoods), nor are replacement low-income units planned. Many in low income housing policy circles consider Atlanta's plan to be a pilot study, and if it is successful, other cities may follow suit.

In summer of 2008, we initiated a prospective longitudinal study of Atlanta's public housing residents at risk of relocation. A sample of 385 public housing residents from seven public housing communities (four family developments and three senior/disability high rises) in Atlanta was collected. A baseline survey was administered using face-to-face computer-assisted interviews. Due to difficulty in building trust with the residents, particularly with regard to assuaging their fears that they would lose their housing voucher if they talked with us, we were not able to collect a completely random sample. The leaseholder, of a random sample of occupied apartments, was sent a recruitment letter to be interviewed face-to-face in the community center of their public housing community. After three attempts to gather the random sample in each community, we opened up the study to residents who wanted to participate. Our final sample, therefore, consists of 225 randomly chosen respondents (50% response rate) and 160 non-randomly chosen respondents. While this is a limitation, we tested for differences between the random and the non-random portions of the sample on all variables included in the study and found no significant differences on any variables. All respondents were age 18 years or older, more than 90% were the leaseholder, and only

one household member was allowed to participate. Sampling weights were created to adjust for the complex sampling design.

The baseline survey covered many aspects of the residents' lives while living in public housing. Many questions were adopted from prior public housing relocation studies for comparison purposes. Health questions come from the Behavioral Risk Factor Surveillance Study (BRFSS).²⁹ We investigated current neighborhood, apartment and fear of crime characteristics, household composition, social support, transportation, demographic, financial strain, and other psycho-social issues.

Constructs

To determine if health is a major reason for residents moving into public housing, we asked residents, "What led to your decision to move into public housing?" The responses were coded independently by two coders with an inter-rater reliability of 78%. Altogether, residents reported eight reasons for why they entered public housing: affordability, change in family (death or divorce), desire for independent living, to improve their living situation (leave homeless shelter or halfway house), a health or disability problem, loss of job, loss of home, and because parents live in public housing (see Table 2). The main reason mentioned was the need for affordability. Unfortunately, saying public housing is affordable does not explain *why* respondents needed affordable housing. Therefore, we introduced new questions halfway through data collection to ask if a health reason for themselves or a loved one was part of the reason they needed affordable housing.

We created two outcomes for each self-reported health condition: (1) a dummy variable for diagnosed with condition (diabetes, asthma, hypertension, heart disease, stroke, and arthritis); and (2) of those diagnosed, we created a dummy variable for being diagnosed prior to entering public housing. Chronic health conditions were based on diagnoses by a doctor of arthritis/rheumatism (yes, no), asthma, diabetes, hypertension, stroke, and heart disease. For those that said yes, we asked if they were currently taking any prescription medication for the condition. Again, if they said yes, they were asked at what age they started taking the medication for said condition in order to assess the severity of the health condition. To determine if residents were diagnosed prior to entry into public housing, we subtracted the length of time in their current public housing situation from the length of time on medication for each health condition. A positive difference means being diagnosed prior to entry into their current public housing apartment.

The housing quality questions we used focus on self-reports of heat, dampness, and pests as these are specifically tied to chronic health conditions.^{3,4} We created an indicator variable for self-reports of cockroaches, mice, or rats in the apartment/building (yes, no). We asked if, within the last 12 months, the respondents had problems with their furnace or heater. We created a dampness indicator of 1 for those who reported having a leaky roof or ceiling or water damage that was not corrected. We then summed these three items into a count of poor housing conditions that ranged from 0 to 3 with an average of 1.05 conditions (see Table 1).

To measure exposure to the housing project and concentrated poverty, we created two variables: how long they had been living in their public housing apartment (tenure in years) and whether or not public housing is an improvement over their previous housing. Residents were asked what their living situation was prior to their current home. Those that said homeless, jail, shelter, or group quarters along with those that said their reason for entering public housing was because it was an improvement over their prior situation were marked as improved (1)

TABLE 1 Means, standard deviations, and ranges of variables included in the models (weighted)

	N	Mean/prop.	SD	Range
Respondent characteristics				
Female	382	0.80	0.40	0–1
Black	382	0.95	0.22	0–1
Married	382	0.05	0.21	0–1
Age	380	48.1	17.4	18–98
Years of education	379	10.9	1.72	0–14
Monthly income	379	\$814	\$487	\$145–\$3,500
Number of persons living in home	381	2.68	2.22	1–11
Tenure (years) in public housing	382	6.41	6.82	0.16–38
Health behaviors				
Smoke	382	0.41	0.49	0–1
Average number of days had a drink / week	377	0.80	1.53	0–7
Obese (BMI>30)	382	0.51	0.50	0–1
Improvement over prior situation	382	0.55	0.50	0–1
Condition of apartment				
Pests: cockroaches, mice, and rats	381	0.64	0.48	0–1
Poor heating	382	0.25	0.43	0–1
Leaky roof or uncorrected water damage	382	0.17	0.37	0–1
Sum of conditions found in apartment	381	1.06	0.87	0–3

compared with those with better or similar prior situations (renting on private market, owning a home, or other public housing=0).

We included controls for the age of the respondent, monthly income, and adverse health behavior; whether or not the respondent is obese, smokes, and number of days in the week the respondent drinks on average. We did not include race or gender because there was little variation on these variables.

Analysis

Basic descriptive statistics were used to address our first hypothesis in Tables 2 and 3. To test hypothesis 2, we conducted logistic regression analyses to determine the specific public housing characteristics that are associated with the probability of being diagnosed with a health condition after entry into public housing on the sample of respondents that did not enter public housing due to a health condition *and* were neither diagnosed prior to entry into public housing or missing on being diagnosed prior to entry. Our model was:

$$\begin{aligned} \text{Log} [P_i/1 - P_i] = & \alpha + \beta_1 \text{ sum of poor housing conditions} + \beta_2 \text{ public housing tenure} \\ & + \beta_3 \text{ Improvement over prior housing} + \beta_4 \text{ age} + \beta_5 \text{ income} + \beta_6 \text{ obesity} + \beta_7 \text{ smoke} \\ & + \beta_8 \text{ drinking alcohol} \end{aligned}$$

Where P_i was the probability a health diagnosis=1 for individual i , α was the intercept, and β_1 – β_7 were raw logit coefficients associated with our covariates and individual controls. The model was estimated using maximum likelihood which has good properties in large samples. These properties were not proven in small samples such as ours, however. Allison cautions against loosening p value restrictions when the sample is small, stating that it is more reasonable to demand smaller p values because the sample approximation to the normal or chi-square distribution may be weak.³⁰ We examined model fit using the global chi-square. A significant global chi-square means we have estimated a model with acceptable fits.

TABLE 2 To what extent is health a reason for entering public housing

Reason for entering public housing, N=369	Proportion	Directly asked if health was a reason for entering public housing (counts)	Own health (counts)	Other's health (counts)	Not a health reason (counts)
Affordable	0.31	55 (66 skipped) ^a	14	1	40
Change in family status	0.11	19 (21 skipped)	3	5	11
Independence	0.14	14 (41 skipped)	5	1	8
Improvement over prior situation	0.16	24 (40 skipped)	12	0	12
Health/disability	0.16	(52 skipped)			
Job loss	0.01	3 (1 skipped)	1	2	0
Home loss	0.07	11 (17 skipped)	0	0	11
Parents lived in public housing	0.04	5 (13 skipped)	0	0	5
Total	1.0	131 (238)	35	9	87

^aSkipped means the participant was not asked the question either because mentioned health in open-ended question or completed survey prior to added direct health question

RESULTS

Table 1 provided weighted descriptive statistics about the sample. The sample was 80% female, 95% Black, and 5% married. The average age was 48 years; respondents had an average of 10.9 years of schooling, and average monthly income was \$814/month. There were 2.68 persons per home on average. Respondents lived in their current homes for an average of 6.41 years. Forty-one percent of the sample were current smokers, and 51% were obese. Average days per week that residents drink alcoholic beverages were 0.80 days. For 55% of our sample, public housing was an improvement over their prior situation. The condition of Atlanta's public housing apartments was adequate. The major problem appeared to be pests and roaches (64%) which are ubiquitous in the South. Another 25% mentioned having problems with their heating, while 17% had uncorrected water damage, which can lead to dampness and mold.

Table 2 presented information on the reasons residents gave for entering public housing. Thirty-one percent said because it was affordable; 11% cited a change in family status (e.g., death or divorce); 14% wanted to live independent of family; 16% moved into public housing because it was an improvement over their prior living situation (e.g., homeless or rehab shelter); and a small percentage lost their home, their job, or lived in public housing because their parents lived in public housing. Sixteen percent cited health as a reason for entering public housing. The majority of these were seniors living in senior/disabled high rises. Sixteen percent was not a large enough group to support hypothesis 1a that health was the cause of entering public housing for the majority of residents. As it was difficult to get many respondents to explain why affordability was important, about halfway through the study period, we added a direct question asking if health was part of the reason they entered public housing. A further proportion of respondents in each of the above category answered directly if health was a reason for entering public housing

TABLE 3 Proportion of sample diagnosed with a health condition and proportion diagnosed prior to entering public housing (weighted)

	NHIS Black women ^a (2005)	HOPE VI ^a (2005)	Atlanta (ATL) sample diagnosed	ATL diagnosed and taking medication ^b	Age began taking medication for condition	Diagnosed prior to entry into public housing	Missing
				Proportion	Mean (SD)	Proportion/count	
N=369							
Health outcomes							
Diabetes	0.07	0.17	0.19	0.16	45.1 (13.5)	0.77 (N=79)	N=2
Asthma	0.11	0.23	0.23	0.17	30.0 (20.3)	0.75 (N=52)	N=2
Hypertension	0.29	0.39	0.53	0.44	47.7 (13.89)	0.65 (N=183)	N=7
Stroke	0.03	0.06	0.09	0.05	49.62 (9.14)	0.45 (N=24)	N=1
Arthritis/rheumatism	0.14	0.29	0.33	0.17	49.74 (11.40)	0.57 (N=78)	N=4
BRFSS (2008) ^c (N=3,267)							
Diabetes				0.19	46.03 (10.16) n.s.	(N=553)	
Asthma				0.19	24.47 (12.05) n.s.	(N=114)	

^aSource: Manjarrez, Carlos A., Susan J. Popkin and Elizabeth Guernsey (2007). "Poor Health: Adding Insult to Injury." *Urban Institute Brief #5*

^bThis differs from results in column 3 because it is conditional on taking medication

^cThe Behavioral Risk Factorial Surveillance System. Statistics presented are for Blacks, living in the USA and in the lowest income category (between \$10,000–\$15,000). Age diagnosed is only asked of asthma and diabetes, and it is only asked in some states. In those states, it is only asked of a small percentage of persons
ns no significant mean difference with the Atlanta sample

(columns 3–6). Approximately one-third of those that gave a non-health reason for entering public housing stated that health was a reason when asked directly. Thus, health was an important reason for entering public housing for a majority of residents, and this supports hypothesis 1a.

Table 3 addressed hypothesis 1b that respondents entered public housing after being diagnosed with their health conditions. First, however, Table 3 presents data from a HOPE VI study¹⁰ that was updated with information from our Atlanta public housing sample in order to assess the quality of our data. Comparisons of diagnosed chronic conditions between US Black women from the National Health Interview Survey (NHIS) found in column 1, the HOPE VI panel study found in column 2, and the Atlanta public housing sample in columns 3 and 4. Residents of public housing showed higher percentages of all chronic conditions on average compared to US Black women from the NHIS. The Atlanta sample and the HOPE VI sample were very similar on almost all conditions except hypertension, especially if you compare those taking medication for the condition compared with the HOPE VI sample. HOPE VI focused exclusively on family projects across five cities; thus, the sample was younger on average and more diverse than the Atlanta sample. Based on these comparisons, we are reassured that the Atlanta sample was fairly consistent with HOPE VI on health measures despite being a local sample that included senior housing.

To test hypothesis 1b, we examined the fourth column which shows the percent of the Atlanta sample that were taking medication for a given diagnosed condition. The fifth column provided the age at which respondents began taking medicine or when the diagnosis became a serious condition. For comparison purposes, we presented average age diagnosed with diabetes and asthma from the BRFSS (2008), which were the only two conditions for which age was asked. Age of diagnosis was not significantly different between the BRFSS and Atlanta sample. Thus, Atlanta public housing residents were not diagnosed earlier than Americans on average. The sixth column confirmed hypothesis 1b that respondents, on average, were diagnosed prior to entry into public housing. For diabetes and asthma, 77% and 75% of those with a diagnosis were diagnosed prior to entry into their current home. About 57% of those with arthritis/rheumatism and 65% with hypertension were diagnosed prior to entry. A diagnosis of stroke was the only health condition for which respondents were more likely to be diagnosed after entering public housing (45% diagnosed prior to entry). The last column showed the count of individuals who had missing data on either being diagnosed or age when diagnosed. The numbers of persons with missing data on these items were very small; so if we were conservative and claimed they were all diagnosed after entry into public housing, the results would not change. Respondents, on average, entered public housing already sick. This does not mean, however, that public housing cannot cause those people who entered public housing for reasons besides health to become sick.

Table 4 presented odds ratios and confidence intervals from logistic regressions on the subset of the sample that did not enter public housing for a health reason, were not diagnosed prior to entry, and who did not have any missing data on the health condition. We continue to use the chronic conditions that earlier public housing and health studies have used. Across the five health conditions, we found no evidence that housing problems were associated with the probability of a health diagnosis after entry into public housing. Thus, we reject hypothesis 2a, that in Atlanta, the public housing physical structure was associated with being diagnosed with five health conditions. We examined exposure to disadvantaged circumstances prior to entering public housing as two variables; (1) tenure in current public

TABLE 4 Estimated odds ratios (and confidence intervals) from logistic regression analyses of health conditions diagnosed after entry into public housing

^a	Diabetes	Asthma	Hypertension	Arthritis
Count of housing problems	1.03 (0.49–2.17)	1.03 (0.51–2.07)	0.68 (0.42–1.02)	1.31 (0.70–2.45)
Tenure in current public housing home	1.04 (0.96–1.12)	1.04 (0.97–1.12)	1.00 (0.95–1.05)	0.97 (0.90–1.04)
Current home is an improvement over last	1.40 (0.36–5.47)	0.88 (0.22–3.54)	1.29 (0.56–2.96)	1.97 (0.65–5.97)
Age of respondent	1.03 (1.0–1.07)	0.98 (0.94–1.02)	1.08* (1.05–1.12)	1.10* (1.06–1.14)
Monthly income/100	1.08 (0.97–1.21)	0.92 (0.78–1.08)	1.04 (0.96–1.13)	1.02 (0.90–1.15)
Obesity	3.61 (0.89–14.71)	0.49 (0.13–1.84)	2.25 (0.99–5.11)	1.82 (0.65–5.11)
Smoke	2.47 (0.62–9.90)	0.76 (0.20–2.91)	1.64 (0.71–3.75)	2.70 (0.89–8.23)
Average no. days drink/week	0.68 (0.32–1.46)	1.07 (0.77–1.50)	0.98 (0.75–1.27)	0.76 (0.45–1.27)
<i>N</i>	274	278	217	277
Likelihood ratio	10.66 <i>P</i> =0.2216	5.41 <i>P</i> =0.7127	57.19 <i>P</i> =0.0001	39.48 <i>P</i> =0.0001

^aAnalyses are weighted. There were no significant associations with stroke, so it is not included. The sample is restricted to those who did not give a health reason for entering public housing and those who were not diagnosed with the specific condition prior to entry into public housing

**P*<0.05

housing and (2) a dummy variable for public housing being an improvement over prior circumstances. Net of age, tenure in public housing was positively associated with increased odds of experiencing a health condition (except for arthritis), but it never reached significance. The dummy variable for public housing being an improvement also did not reach significance for any health condition. Thus, we reject hypothesis 2b that it is exposure to the poor physical structure and neighborhood disadvantage that leads to poor health.

DISCUSSION

In this paper, we extended prior research concerning health and public housing by examining the prevalence and timing of poor health and how factors such as substandard housing and tenure were associated with poor health. We asked if public housing was responsible for the poor health of its residents or if persons with chronic health conditions resorted to public housing because they were sick. Our analysis used prospective, pre-relocation baseline data from seven Atlanta public housing communities. We demonstrated that the Atlanta sample was similar to a more generalizable relocating public housing sample, the HOPE VI panel study. Specifically, like the HOPE VI study, ours found public housing residents to be in extremely poor health compared with the general population. We found that the majority of public housing residents had poor health prior to entry. Thus, public housing functions more as a safety net than a cause of poor health. Likewise, we found little association between housing problems and tenure in public housing with the odds of a chronic health condition.

This last finding needs to be re-addressed using a broader representation of public housing as well as a larger sample size due to the limits of the Atlanta sample. As Smith and colleagues³² argue, housing and poor health have a nonrecursive relationship. In their study of health and home ownership versus renting behavior, they explore the mechanisms through which poor health leads to worse housing and, in turn, how poor housing adds to health concerns.³² While issues of ownership

are beyond the means of most public housing residents, their finding that the stress of maintaining a healthy home environment over and above dealing with health issues adds stress and can further damage health, is applicable to public housing residents.

Like all observational studies, our examination was limited by selection effects. Thus, it is possible that our lack of findings in the logistic regression models is due to little variation among the respondents. All have lived in disadvantaged circumstances for a portion of their lives and for most, it may be that all of their lives have been spent in marginal conditions. Thus, we cannot discount that long time exposure to disadvantaged neighborhoods could be a cause of poor health.

Methodological limitations existed as well. While we found no differences between the random and non-random samples, this still limits our ability to generalize. Also, an important question was added to the survey halfway through, and it would have been better to ask it of the full sample. The housing condition items were measured by self-reports, but since we did not find an effect of tenure in public housing, it is unlikely that we missed any effects of hazardous housing conditions. Lastly, data from this sample came exclusively from Atlanta, which lies in the subtropics, where cold was less of a problem, but pests were ubiquitous. The public housing stock was not as bad as that of Chicago and perhaps other cities, which raises another point. Public housing is not uniformly deteriorated in all cities.

The MTO and HOPE VI studies found little or no health improvements in adults after relocation despite improvements in level of neighborhood poverty 4 to 5 years post-relocation. Furthermore, the HOPE VI study found excess deaths among relocated residents.¹ Other studies have demonstrated that these relocations disrupt established social networks and supports, needed public transportation, access to services, and employment opportunities.^{23,31} There is no real evidence that these relocations have improved the health of these residents.

In Atlanta, both family and senior housing projects are being demolished. Given the variety of reasons that people enter public housing in the first place and the lack of improvement after undergoing the stressful ordeal of relocation, this policy ought to be rethought especially for the seniors. Likewise, residents with very large families, with health concerns or disabilities, or with a poor financial record or a criminal record become “hard-to-house” in the private market.³³ In addition, the needs of residents of family housing may be very different than the needs of senior and disabled high rise housing.

This paper limited its analysis of public housing characteristics and concentrated poverty to health alone. The poor health of public housing residents may be caused by a confluence of factors more to do with a lifetime of living in fundamentally disadvantaged circumstances than public housing. Indeed, our findings demonstrated that public housing acts more as a safety net for the unhealthy poor than a cause of that poor health.

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