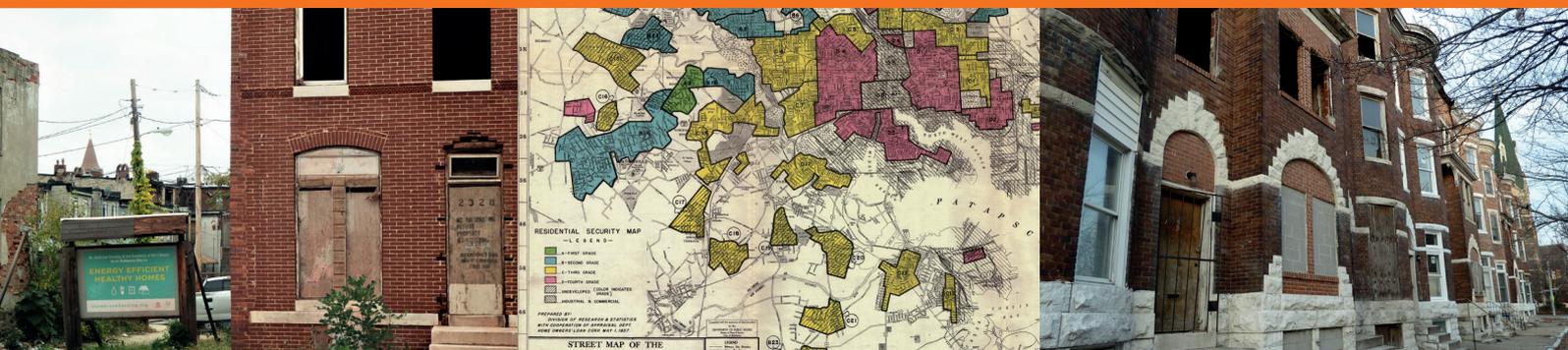


November 2017

# SEGREGATION, RESIDENTIAL MOBILITY PROGRAMS AND IMPACT ON HEALTH AND ITS DETERMINANTS IN THE UNITED STATES OF AMERICA



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November 2017

The late publication, in November 2017, of a work that ended in February 2016 is due to contextual factors, independent from the work itself.

## Author

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# SUMMARY

## Context & Objectives

In the United States, Black low-income households are mostly living in highly segregated neighborhoods with detrimental living conditions, and are locked in their neighborhoods by being denied residence elsewhere. If we focus on health, evidence shows “racial” and economic disparities in the distribution of environmental hazards, health care services, access to affordable and healthy food, etc. This leads to the highest disease burden in some places that accumulate these conditions, but also the worst social indicators, known to be strongly linked with health. In the last four decades a lot of public policies have been seeking to reverse centuries of segregation. A large part of those policies is focused on housing and ways to “deconstruct” residential segregation. Some mobility programs were built with the goal to promote, encourage and assist families to move from distressed neighborhoods to better places, in order to get (more) opportunities for education, employment, health, safety, etc.

The main objective of this paper, initiated during a three-month fellowship at the Johns Hopkins Institute for Health and Social Policy, is to better understand what are the mobility programs and what can we learn from them on the impacts of neighborhoods on health and on its social determinants.

## Method

The study is based on a review of literature on housing segregation and residential mobility, on interviews conducted with professionals involved in mobility programs, as researchers or actors in the field of public policies, and also on informal discussions and information collected during meetings and conferences on housing and mobility.

## Results

The results of mobility programs show improvements for participants in terms of housing conditions and neighborhood characteristics. But the magnitude of these improvements and their type differ a lot between programs, depending on their design, especially the target population, the criteria for using housing vouchers and the support services.

Compared to the number of health outcomes tested, the overall results of mobility programs on health are modest and quite disappointing. But for one of the programs (called Moving to Opportunity), significant health improvements among adults were noticed for severe obesity and for diabetes, others programs also showed interesting results for mental health.

The results of mobility programs clearly show that improving housing conditions (in the neighborhood and/or in the housing unit) is not a sufficient precondition to improve health outcomes or some of the social determinants of health. It is rather the combination of different conditions that produces what is called “neighborhood effects”. And, among all conditions, the question of education or employment seems essential. Therefore, encouraging families to relocate to neighborhoods with strong educational characteristics is necessary to increase children’s school performance, but also to improve health outcomes.

## Conclusion

After all these programs and years of evaluation, it is still difficult to conceptualize the mechanism that link individuals to neighborhoods and to identify what neighborhood characteristics affect individuals. Not a lot is known about the decision-making process of mobility and what drives the choice of a housing unit and/or a neighborhood. In fact, a lot of the processes subject to the measuring of the impact of mobility programs are still undocumented and unknown.

## LIST OF ACRONYMS

ACLU	American Civil Liberties Union
BMI	Body Mass Index
CFCM	the Chicago Family Case Management Demonstration
CHA	Chicago Housing Authority
CNI	Choice Neighborhoods Initiative
HCP	Housing Choice Partners
HCV	Federal Housing Choice Voucher
HOPE VI	Housing Opportunities for People Everywhere
HOST	Housing Opportunities and Services Together
HPSA	Health Professional Shortage Area
HQS	Housing Quality Standard
HUD	U.S. Department of Housing and Urban Development
LIHTC	Low-income Housing Tax Credits
MTO	Moving to Opportunity for Fair Housing Demonstration
MUA	Medically Underserved Area
MUP	Medically Underserved Population
PHA	Public Housing Agency
PHDCN	Project on Human Development in Chicago Neighborhoods
PTSD	Post-Traumatic Stress Disorder
TANF	Temporary Assistance for Needy Families
TOT	Treatment-On-Treated
WtWV	Welfare to Work Voucher

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# INTRODUCTION

Reducing social and territorial health inequalities is one of the eight principles defined by the Regional Health Agency of the Paris Region (ARS) to guide its action, through the 2011-2017 Regional Health Strategic Plan. The project of the regional Council of the Paris Region also emphasizes its ambition to reduce “the inequalities between the richest and the poorest citizens of the Paris Region, between the richest and the poorest territories”.

Thus, the measurement and understanding of health inequalities are key elements to enable the actors of public policies to conduct more efficient policies and reduce inequalities, which are particularly high in the Paris Region, and which tend to increase. But, unfortunately, the understanding of the processes leading to health, social and/or territorial inequalities is still unclear in many ways.

Over the last fifteen years, some epidemiological studies in France have used an approach, mainly developed in the United States of America and Canada that seeks to identify, in addition to individual characteristics, contextual factors that could have an impact on health. In social epidemiology, these contextual factors are mainly the social environment characteristics of the place of residence. These contextual approaches, based on multilevel models, hypothesize that the environment of the place of residence, regardless of individual characteristics, has effects on health, called neighborhood effects.

It was in this context that the Regional Health Observatory (Observatoire régional de santé Île-de-France), one of the departments of the Paris Region Planning and Development Agency, IAU Île-de-France (Institut d'aménagement et d'urbanisme de la région Île-de-France) started to reflect on the links between the social environment and health<sup>1</sup>. One of the first works initiated was based on data collected in the Paris region from the SIRS cohort, a French acronym for “Health, Inequalities and Social Ruptures” (SIRS-INSERM<sup>2</sup>), using multilevel analyses to understand links between the social environment and health and differences by gender.

The second part of the work, that makes up this paper, was conducted during a three-month fellowship at the Johns Hopkins Institute for Health and Social Policy, Bloomberg School of Public Health<sup>3</sup>, through a partnership between the IAU Île-de-France and the International Fellows in Urban Studies Program directed by Professor Sandra J. Newman from Johns Hopkins University. The aim of the fellowship was to provide a more operational view compared to the French analyses. The U.S. have indeed conducted for several decades both research on neighborhood effects and programs on housing mobility with follow-ups that allow measuring neighborhood effects “in real life”. In other words, the objective was to investigate the way knowledge of neighborhood effects on health built up over years has impacted public policies, especially public health policies, in the U.S. and conversely, the way experimental demonstrations or programs called some research into question.

**The measurement and understanding of health inequalities are key elements to enable the actors of public policies to conduct more efficient policies and reduce inequalities**

**The U.S. have indeed conducted for several decades both research on neighborhood effects and programs on housing mobility with follow-ups that allow measuring neighborhood effects “in real life”**

1 They are both understood in their broadest sense. Different variables can measure the social environment, such as poverty rate, unemployment rate, educational attainment, social interaction between neighbors, etc. Different scales can also be used for the “environment”, such as the neighborhood, the zip code, etc. As for health, it is understood as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”, according to the definition of health in the Preamble to the Constitution of the World Health Organization signed in 1946.

2 <http://www.programme-sirs.org/> (Viewed February, 24, 2016).

3 From September to December 2014. <http://www.jhsph.edu/research/centers-and-institutes/institute-for-health-and-social-policy/> (Viewed February, 24, 2016).

This study provides more specific answers to three questions:

- What kind of “tools” are used in mobility programs to undo housing segregation in the U.S.?
- What have we learned about individual impacts on health and the social determinants of health of residential mobility programs conducted over the last three decades?
- Are housing mobility programs effective on a collective level?

This paper is a presentation of the work conducted during the fellowship. It focuses on the situation in the United States of America, especially in Baltimore, Maryland and Chicago, Illinois. These two cities were chosen because they are among the most “racially” segregated in the U.S. and because Chicago and, to a lesser extent, Baltimore were pioneers in housing mobility programs. At this stage, the objective of the paper is not to question whether the results and U.S. experiences can be applied to the French situation, but to understand what was done on the other side of the Atlantic and what the results were. The study is based on a review of literature on housing segregation and residential mobility, on interviews conducted with professionals involved in mobility programs, as researchers or actors in the field of public policies, and also on informal discussions and information collected during meetings and conferences on housing and mobility.

The paper is divided into three parts:

- the first part contextualizes “racial” and economic segregation in the U.S. and the links with health;
- the second part focuses on housing desegregation and mobility programs underlining their target, design, evaluation and limits;
- the last part emphasizes the impact of mobility programs regarding mobility, health and some important social determinants of health, such as educational attainment, employment, social interaction and networking.

Finally, we will use quotation marks when talking about “race” to express reservations about a “concept” based on skin color<sup>4</sup> that tends to essentialize individuals and has no scientific legitimacy. In the U.S. most of the statistics are produced by “race”. The racial categories are often the following five: White, Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander<sup>5</sup>. To refine these categories and separate populations, the concept of “ethnicity”, understood in the census as being “Hispanic or Latino”<sup>6</sup> or not, is also used, combined with “race”, in order to distinguish “White non-Hispanics” from “White Hispanics”. And from the 1980 to 2000 censuses, a question on “ancestry or ethnic origin” was added with “two write-in lines in which respondents can report ancestry or ancestries with which they identify”<sup>7</sup>. The racial classification used in the U.S. evolved from the first Census in 1790, with only two categories (free White and Slaves) to the 2000 Census with race, ethnicity and ancestry

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4 Until the 1970 Census, the “race” item was labeled “color or race” (Cohn D., 2010).

5 Since the 2000 Census, individuals can choose “Two or more races”. <https://www.census.gov/topics/population/race/about.html>. (Viewed February, 24, 2016).

6 or Spanish origin in the 2010 census.

7 Examples are written under the question “For example: Italian, Jamaican, African Am., Cambodian, Cape Verdean, Norwegian, Dominican, French Canadian, Haitian, Korean, Lebanese, Polish, Nigerian, Mexican, Taiwanese, Ukrainian, and so on”. United Census Bureau. About the Ancestry Question. <https://www.census.gov/topics/population/ancestry/about.html>. (Viewed February, 24, 2016).

**This paper focuses on the situation in the United States of America, especially in Baltimore and Chicago, two cities chosen because among the most “racially” segregated**

**We will use quotation marks when talking about “race” to express reservations about a “concept” based on skin color that tends to essentialize individuals and has no scientific legitimacy**

combinations<sup>8</sup>, including the 1930 Census with the "one-drop rule"<sup>9,10</sup>. The classification also changed from a race assigned by the enumerators to a self-identification race initiated in the 1960 Census and fully in place for the 1970 Census and later censuses. The U.S. Census Bureau is currently experimenting different forms for the 2020 Census with a new way of asking about identity origin without using the word "race" (Cohn D., 2015). All these changes in definition and identification/assignment show that the "concept of race" is a social and a political construction that has been used mainly as a domination tool. To quote C. Hickman: "Over the generations, this rule [one-drop rule] has not only shaped countless lives, it has created the African-American race as we know it today, and it has defined not just the history of this race but a large part of the history of America" (Hickman C., 1997).

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8 The last Census form in 2010 was changed and the two questions included were "Hispanic, Latino, or Spanish origin" (with a mention that "Hispanic origins are not races") and "the person's race" that included "Ancestry". [http://www.census.gov/schools/pdf/2010form\\_info.pdf](http://www.census.gov/schools/pdf/2010form_info.pdf). (Viewed February, 24, 2016).

9 The rule means that "anyone with a known Black ancestor is considered Black", Hickman C., 1997.

10 For a complete analysis of Census in the U.S. and racial categories, see Schor P., 2009.



# 1 | RESIDENTIAL SEGREGATION AND HEALTH: WHAT ARE THE LINKS?

## 1.1 Social inequalities and residential segregation

Social inequalities and poverty in the United States of America remain at a high level. According to the Census Bureau (2015), almost one sixth (14.8%) of the population in the U.S. in 2014 - 46.7 million individuals - is living in poverty (according to the official poverty rate<sup>11</sup>). The poverty rate varies a lot within different groups of the population. Females are more likely to live in poverty than males (16.1% vs. 13.4%), people under 18 than those aged 65 and older (21.1% vs. 10.0%), non-U.S. citizens than their native-born counterparts (24.2% vs. 14.2%), etc. One of the most relevant features to measure the poverty gap between groups is “race”<sup>12</sup> - though the U.S. Census Bureau (2015) did not publish the information by educational attainment or socio-economic status, which should also be very relevant -. According to the Census in 2014, 10.1% of Whites (non-Hispanics) living in the U.S. are below the poverty line, while it is the case for nearly three times as many Blacks (26.2%). And if we consider income, the median is \$60,256 for a White householder versus \$35,398 for a Black one (U.S. Census Bureau, 2015).

**Social inequalities and poverty in the United States of America remain at a high level**

In the United States, the Gini index, which measures income inequalities<sup>13</sup> was 0.480 in 2014 (U.S. Census Bureau, 2015), a number close to those found in most African and South American countries<sup>14</sup> where inequalities are major. Furthermore, since 1993, the Gini index rose 5.9 percent in the U.S., which points to an increase in social disparities in the country.

**Racial segregation is a critical component of what founded the United States**

These social inequalities are not evenly spread out over the territory: depending mainly on income and/or “race”, the places where people live differ. In a society organized –or formerly organized– with a strong social hierarchy (mainly based on economic and “racial” status), space is –still– deeply segregated by class and “race”. For example, in Baltimore, the City Health Department has divided the city into 55 Community Statistical Areas. One of them, the Greater Govans (10,680 inhabitants in 2010 out of a total of 616,802 in the city), is composed of 91.5% Black people (Baltimore City Health Department, 2011a), while the adjacent area, North Baltimore/Guilford/Homeland (17,472 inhabitants), is composed of 77.2% Whites (Baltimore City Health Department, 2011b). In the first area, the median household income is \$37,047, while in the second it is twice as high (\$75,248). The percentage of residents 25 years and older with a bachelor’s degree or more is 2.5% in the first area vs. 14.2% in the second one (see Appendices A1 to A4).

A lot of factors –historic and current– can explain this residential segregation. Since the colonization by Europeans in the beginning of the 17th century until the end of the Civil

11 The official poverty rate has been widely criticized, mostly because the methodology was established in the mid-1960s and has not changed since. Following the Office of Management and Budget’s (OMB) Statistical Policy Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. The alternative measures, that have been created, are either higher or lower the official rate, depending on the methodology, but are quite close and follow the same years trends than the official rate. See for example <https://www.census.gov/hhes/povmeas/>. (Viewed February, 24, 2016).

12 See p. 8

13 Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 1 implies perfect inequality.

14 World Bank data. <http://data.worldbank.org/indicator/SI.POV.GINI>. (Viewed February, 24, 2016).

War in 1865, the country was built by African slaves, with no rights, under the command of Whites. Racial segregation is a critical component of what founded the country.

**When slavery was abolished, a lot of public policies were implemented to maintain the power - and wealth - of Whites which would explain the current segregation, especially in housing**

When slavery was abolished, a lot of public policies were implemented to maintain the power - and wealth - of Whites which would explain the current segregation, especially in housing. The most significant policy is the “racial” segregation policy based on the doctrine “separate but equal” that was conducted legally in the U.S. for nearly a century (1876-1964). In Baltimore, for example, a segregation residential ordinance - the first one in the U.S. - was signed in 1911 “for the use of separate blocks by white and colored people for residences, churches and schools” for “preventing conflict and ill feeling between the white and colored races in Baltimore city”<sup>15</sup>. If discrimination based on “race” and color was declared illegal by the Civil Rights Act in 1964, and reiterated by the Fair Housing Act in 1968, discriminatory practices and institutional racism have persisted. Some of these practices still exist de facto, though judicial proceedings are now possible.

**Exclusionary zoning is a municipal government’s use of land-use controls or zoning ordinances made to exclude people of low or moderate income**

Another contributing factor of residential segregation is the implementation of “exclusionary zoning policies” which were enforced from the end of the 19th century until the 1960s. With different kinds of regulatory rules, these policies mainly consisted of excluding certain types of individuals from certain types of areas, generally low-income families/non-Whites in middle or high-income/White areas. Exclusionary zoning is a municipal government’s use of land-use controls or zoning ordinances in such a way that it tends to exclude people of low or moderate income (inherently racial minorities at a disproportionate rate) from the municipality. Municipalities accomplish this exclusion through the land-use zoning ordinances that limit the supply of housing, increasing its desirability and ultimately raising the price of residential access to the affected area (Van Baaren N., 2013).

**In Chicago, 80% of public housing built between 1950 and 1965 were located in neighborhoods where Black people constituted more than 75% of the population**

Furthermore, the location of public housing or, more generally, federal and local housing and urban policy can explain to a large extent residential segregation in the U.S., what S. Popkin and colleagues call, with reference to the Chicago Housing Authority (CHA) “decades of managerial dysfunction and some outright malfeasance” (Popkin S. et al., 2013a). Established to provide rental housing for low-income families, “racial” segregation in public housing “was the norm and reflected the larger patterns of residential segregation in the U.S” (Stoloff, J. 2004). It was perpetuated by site selection strategies made by the Public Housing Agencies (PHAs), but also by the veto that the local authorities could use when the PHAs were proposing sites (Newman et al., 1997). In the city of Chicago, for example, 80% of public housing built between 1950 and 1965 were located in neighborhoods where Black people constituted more than 75% of the population (Newman et al., 1997). As by R. Rothstein (2015) points out, public housing was “explicitly racially segregated, both by federal and local governments. [...] Some projects were ‘integrated’ with separate buildings designated for whites or for blacks. Later, as white families left the projects for the suburbs, public housing became overwhelmingly black and in most cities was placed only in black neighborhoods, explicitly so”. This policy was formalized during President Roosevelt’s administration when the “neighborhood composition rule” was established which required that the tenants of a housing development be of the same “race” as the people of the area in which the housing was located. Residents of public housing developments must be in line with the “prevailing composition of the surrounding neighborhood” that existed before any redevelopment took place (Hunt B.D., 2010). This rule was applied during the 1930s and the 1940s and stayed in effect until 1949.

From the 1950s to the 1970s, urban renewal under the Truman administration reinforced spatial segregation, especially by building highways directly through the poorest urban neighborhoods, destroying many of them and creating neighborhoods that would be more isolated from all resources. Many low-income/Black households had to move out.

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15 Baltimore, Md., Ordinance 692, May 15, 1911, cited in Power G., 1983.

This situation was summed up in James Baldwin's well known catchphrase "Urban renewal is Negro removal".

In 1996, in a report called "Public Housing that Works. The Transformation of America's Public Housing", the U.S. Department of Housing and Urban Development (HUD), fully recognized its responsibilities for "racial" housing segregation: "The politics of project location has led to the physical, social, and racial isolation of public housing in many cities, cutting off residents from jobs, basic services, and a wide range of social contacts. [...] In many cases, insensitive design, inhuman scale, and inferior construction have compounded the misery and alienation of these developments". In 1997, S. Newman et al. emphasized the fact that "rather than foster economic and racial integration, public housing appears to encourage segregation".

More recently, attention to this issue has been paid by the HUD with the "Site and Neighborhood Standards" (2004) set to avoid segregation in Public Housing. According to these standards, rehabilitation programs must "avoid undue concentration of assisted persons in areas containing a high proportion of low-income persons"<sup>16</sup>. For new constructions, "the site must not be located in an area of minority concentration [...] and must not be located in a racially mixed area if the project will cause a significant increase in the proportion of minority to non-minority residents in the area"<sup>17</sup>. But the Site and Neighborhood Standards "include broad exceptions that permit such housing to be developed", especially for rehabilitations, and could "increase racial segregation and concentration" (Tegeler P., 2005).

All these policies and the legacy of slavery have led to the "racial" geography of American cities and have made other discriminatory practices, based on location, possible. One of them, called "red-lining", began with the National Housing Act of 1934 and was adopted by the Federal Housing Administration using a discriminatory rating system established by the Home Owners' Loan Corporation (HOLC) in 239 U.S. cities. This rating has been used to create "residential security maps" to evaluate the risks associated with loans made to borrowers in specific urban neighborhoods (Seitles M., 1998) (see Appendix B for the Baltimore security map prepared in 1937). According to the Fair Housing Center of Greater Boston<sup>18</sup>, "Redlining is the practice of denying or limiting financial services to certain neighborhoods based on racial or ethnic composition without regard to the residents' qualifications or creditworthiness. The term 'redlining' refers to the practice of using a red line on a map to delineate the area where financial institutions would not invest"<sup>19</sup>. In other words, redlining is imposing discrimination in services – banking, insurance, healthcare, employment, stores, etc. – to individuals living in particular areas. Discrimination can go from denying access to services to making services more expensive than for people living in another area. Redlining has strengthened segregation by giving no opportunity to the residents of these redlined areas to move, and has locked them into their ghetto.

Moreover, the numbers don't seem headed in the right direction. There are more poverty concentrated neighborhoods now in the U.S. than twenty years ago (U.S. Census Bureau, 2014). Between 2000 and 2010, the percentage of people living in poverty areas<sup>20</sup> grew from 18% to 26%, breaking the slight downward trend that was observed between 1990 and 2000 (respectively 20% and 18%). Additionally, the percentage of people in poverty<sup>21</sup>

**Urban renewal under the Truman administration was summed up in James Baldwin's well known catchphrase "Urban renewal is Negro removal"**

**The "Site and Neighborhood Standards" were created in 2004 to avoid segregation in Public Housing**

**"Redlining is the practice of denying or limiting financial services to certain neighborhoods based on racial or ethnic composition (...)"**

**There are more poverty concentrated neighborhoods now in the U.S. than twenty years ago**

16 Code of Federal Regulations. Title 24 - Housing and Urban Development. Section 983.6 - Site and neighborhood standards. A (3).

17 Code of Federal Regulations. Title 24 - Housing and Urban Development. Section 983.6 - Site and neighborhood standards. B (3)(i).

18 <http://www.bostonfairhousing.org/>. (Viewed February, 24, 2016).

19 See maps for example Redlining in Richmond, Virginia. <http://dsl.richmond.edu/holc/>. (Viewed February, 24, 2016).

20 According to the U.S. Census Bureau, poverty areas are census tracts or block numbering areas (BNA's) where at least 20 percent of residents were below the poverty level. <https://www.census.gov/hhes/www/poverty/methods/definitions.html>. (Viewed February, 24, 2016).

21 See note 11.

living in poverty areas also increased from 44% in 2000 to 54% in 2010. Furthermore, this trend can be observed whatever the people’s personal characteristics (educational attainment, employment status, “race”, marital status, etc.). But at the same time, “racial” segregation (White/Black) has declined (U.S. Department of HUD, 2013a) – although it is still very high in too many places in the U.S. –. Two main reasons explain this observation. Firstly, immigration has been an opportunity to bring diversity into neighborhoods. Secondly, nowadays more Blacks are moving to “White neighborhoods” and more Whites are moving to “Black neighborhoods” (gentrification<sup>22</sup> is one form of this mobility).

**A lot of data shows that people living in the poorest neighborhoods are more likely to live in a deleterious environment, both in their neighborhood and in their housing unit**

## 1.2 Neighborhood features

In the field, the social and “racial” disparities that mark the composition of neighborhoods are exemplified by a huge gap between neighborhoods in terms of environmental characteristics.

The Great Recession of 2007-2009 certainly widened this gap, by affecting more low-income families and, as a consequence, the poorest neighborhoods.

A lot of data shows that people living in the poorest neighborhoods are more likely to live in a deleterious environment, both in their neighborhood and in their housing unit. This deleterious environment is especially linked with poor access to education, to services such as health care, to employment, to a healthy physical environment and healthy food.

**Schools in poor neighborhoods get less funding and, while the children from these poor areas probably face more obstacles in the learning process, they have fewer resources for education**

- Education: in the U.S., public schools are assigned to children depending on their residence and they are mostly funded by local property taxes. Consequently, schools in poor neighborhoods get less funding and, while the children from these poor areas probably face more obstacles in the learning process, they have fewer resources for education. As a result, the proportion of students, for example, who are proficient in reading, is much lower in schools located in poor neighborhoods. In Baltimore’s two areas mentioned above, the percentage of 3<sup>rd</sup> Graders (8-9 years old) at “Proficient or Advanced” reading level<sup>23</sup> in Greater Govans is 78.4% while it is almost twenty points more (95.6%) in the adjacent one, composed mostly of Whites (see Appendix A2).

**Neighborhoods mostly populated by low-income families are often located in Health Professional Shortage Areas (HPSAs) or Medically Underserved Areas or Populations (MUA/Ps), which provide less access to health care to the residents**

- Services: public health care, security, transportation, street maintenance and lighting, garbage collection, etc. are underestimated, due in part to inequalities in resource distribution as well as to inequalities in needs. For example, neighborhoods mostly populated by low-income families are often located in Health Professional Shortage Areas (HPSAs) or Medically Underserved Areas or Populations (MUA/Ps)<sup>24</sup>, which provide less access to health care to the residents.

22 The definition of “gentrification” has been under debate since the term appeared in 1964 coined by sociologist Ruth Glass to describe changes in London. The Merriam-Webster dictionary defines it in quite a simplistic and narrow way as “the process of renewal and rebuilding accompanying the influx of middle-class or affluent people into deteriorating areas that often displaces poorer residents”. The geographer Neil Smith emphasized the concept of gentrification as a multifaceted process: “The crucial point about gentrification is that it involves not only a social change but also, at the neighborhood scale, a physical change in the housing stock and an economic change in the land and housing markets. It is this combination of social, physical, and economic change that distinguishes gentrification as an identifiable process...”. (Smith N., 1987).

23 School year 2008-2009. (Baltimore City Health Department. 2011a, 2011b).

24 HPSA and MUA designations, established under the U.S. Public Health Service Act, are federal designations of a geographic area (usually a county or a number of townships or census tracts). HPSA is used to identify areas and population groups that are experiencing a shortage of health professionals within three categories: primary medical, dental and mental health. The number of health professionals relative to the population is used. To be considered as having a shortage of providers, an area must have a population-to-provider ratio of a certain threshold. For primary medical

The poorest neighborhoods also frequently face a high rate of criminality, especially violence, drug trafficking, addictions, incarceration etc. (Ludwig J. et al., 2000; Popkin S. et al., 2010 & 2013b; Clampet-Lundquist S., 2011; Burdick-Will et al., 2011; Keene D. et al., 2011; DeLuca et al., 2011) and residents' exposure to "criminogenic neighborhood conditions" (Zimmerman G.M. et al., 2013) (see Appendix A3). Urban blight, abandoned houses and buildings, industrial wastelands provide numerous sites for criminal activities in neighborhoods where security services are lacking. This situation subjects residents to stressful day-to-day lives, and exposes the individuals who are engaged in this criminality to risky behaviors and incarceration.

- **Work:** with a low level of formally educated population, a lack of public transportation, no economic development in the poorest neighborhoods due to the absence of private and public investment, opportunities for employment are limited. The unemployment rate is much higher in the poorest neighborhoods. Using the same example in Baltimore, the unemployment rate<sup>25</sup> in Greater Govans is 14.9% while it is three times lower in the adjacent White area (5.0%) (Appendix A2).
- **Physical environment:** poor neighborhoods face more environmental hazards than others<sup>26</sup>. Usually, in deindustrialized cities, most industrial wastelands are located in these communities, with soil and/or water pollution from non-recycled toxic materials, illegal dumping, etc. Highways often cross these neighborhoods, exposing residents to permanent noise and air pollution. Moreover, people live in a damaged environment with growing numbers of vacant or abandoned houses and a shortage of sidewalks, playgrounds and green spaces. At the same time, people are also frequently exposed to environmental hazards inside their home, such as carbon monoxide, lead, mold, pests, due to poorly maintained houses. Going back to the example in Baltimore, the lead paint violations rate is ten times higher in Greater Govans than in the adjacent area (12.6 per 10,000 households vs 1.9<sup>27</sup>) and the vacant building density is almost twenty-five times higher (281 per 10,000 housing units vs 11<sup>28</sup>) (see Appendix A4).
- **Nutrition:** eating a variety of food, especially fresh vegetables and fruits, low-fat and low-carb food is a healthy behavior. In a lot of low-income neighborhoods, access to healthy food is quite challenging. In Baltimore, the City Health Department indicates that "in many Baltimore communities, especially in the City's food desert areas<sup>29</sup>, the existing

**The unemployment rate is much higher in the poorest neighborhoods**

**Poor neighborhoods face more environmental hazards than others**

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care, the population to provider ratio must be at least 3,500 to 1 (3,000 to 1 if there are unusually high needs in the community). MUA designations consider physicians within the rational service area along with infant mortality, population over age 65 and poverty rate. Designations usually are geographic areas, but may apply to population groups and facilities. Source: Bureau of Health Professions of the Health Resources and Services Administration.

25 Population 16 years of age and older that are unemployed in the civilian labor force (i.e. not serving in the military and are not institutionalized). (Baltimore City Health Department. 2011a, 2011b).

26 This dimension of unequal exposure to environmental hazards is frequently called "environmental (in) justice".

27 Number of lead paint violations per year, per 10,000 households (2000-2008). (Baltimore City Health Department. 2011a, 2011b).

28 Number of vacant buildings per 10,000 housing units (2009). (Baltimore City Health Department. 2011a, 2011b).

29 A Food Desert is "an area where the distance to a supermarket or supermarket alternative is more than 1/4 mile, the median household income is at or below 185% of the Federal Poverty Level, over 30% of households have no vehicle available, and the average Healthy Food Availability Index score for all food stores is low". (Buczynski A. et al. 2015).

**Using the 2010 Census, one in five people in Baltimore live in a food desert, including 26% of Baltimore's Black population but "only" 7% of the White one**

food options make eating healthy difficult—there are very few or no healthy, affordable, fresh options, but many unhealthy options”<sup>30</sup> (Baltimore City Health Department, 2011a, 2011b). And according to the Baltimore City Department of Planning, using the 2010 Census, one in five people in Baltimore live in a food desert, including 26% of Baltimore’s Black population but “only” 7% of the White one (Baltimore Food Policy Initiative, 2012 (see Appendix C). Moreover, a study (Franco M. et al., 2008) conducted in Baltimore has shown that the density of each type of store (super-markets, convenience stores, grocery stores, behind-glass stores) is unequal, depending on the neighborhood. But also that “there was a variation in the availability of healthy foods<sup>31</sup> within similar types of stores, depending on the location. [...] several stores coded as grocery stores in predominantly white neighborhoods had a higher availability of healthy food than did supermarkets in predominantly Black neighborhoods”. Similar results were found in a study made in selected census tracts in North Carolina, Maryland and New York. In this multi-site study, it was also found that liquor stores were more common in poorer areas than in richer ones (Moore L V. et al., 2006).

### 1.3 Impact of neighborhood features on health outcomes

**The accumulation and persistence of these conditions has indeed detrimental effects on adults' and children's health**

Food and/or health care deserts or underserved areas, lower performing schools, multiple exposure to social and/or environmental hazards in the neighborhood and in the home, lack of locations that allow physical activity, lack of jobs, etc.: with this depiction of life in a poor neighborhood, one can hypothesize that the accumulation and persistence of these conditions has indeed detrimental effects on adults’ and children’s health. In Baltimore, for example, life expectancy in 2013 differed by more than 20 years (66.0 to 85.3 years) between people living in neighborhoods mostly composed of public and subsidized housing, as opposed to people living in “White neighborhoods” in the North of Baltimore (Baltimore City Health Department, 2013) (see Appendix A3).

**The question is: is there a causal link between neighborhood characteristics and state of health?**

It is well documented, since Louis René Villermé’s first work on mortality in France in the beginning of the 19<sup>th</sup> century (Villermé L.R, 1828), that there is a social gradient in health: low socioeconomic status (SES) is associated with poor health outcomes, and because some neighborhoods are mostly composed of low SES individuals, health outcomes in these places are very low (what is called composition effects). But, since the end of the 1990s in the U.S., a lot of studies have been done in epidemiology and public health in order to understand the determinants of social inequalities in health, using not only individual level characteristics as was done until then, but also residential environment characteristics (usually the neighborhood), often using multilevel models. The question is: taking into account the composition effects, are there specific neighborhood effects? In other words, is there a causal link between neighborhood characteristics and state of health independently of individual characteristics?

30 Unhealthy food options are mainly fast-food, drive-in restaurants and corner/convenience stores. The corner/convenience stores are mostly selling junk food (snack foods, candies, soft drinks, etc.) tobacco products and sometimes beer, wine and liquor, depending on the state's legislation. Usually, no fresh products are sold in these stores and the prices are higher than in a supermarket or a grocery store, because of the wide opening hours range (often 24/7 service).

31 Food groups are: nonfat/low-fat milk, fresh fruit and vegetables, ground beef, chicken, frozen foods, low-sodium, 100% whole wheat bread, low-sugar cereals.

These studies, based on individual-level surveys and mostly residential-level census data, have documented and measured the relationship between individuals, neighborhoods and health.

By reading these works, it is obvious that, after adjusting for socio-economic individual characteristics, correlations between social environment and health appear to be very challenging to demonstrate. For some outcomes, a disadvantaged neighborhood environment (social and/or built) is associated with detrimental health outcomes, after taking into account individual-level characteristics. But for others, no consistent association can be demonstrated between health and place, after controlling for individuals' characteristics. Or sometimes, associations point in unexpected or different directions, depending on the studies.

**Correlations between social environment and health appear to be very challenging to demonstrate**

We may take the example of overweight and obesity, one of the main challenges for public health in the U.S., with 69% of adults aged 20 years or more overweight or obese (including 35% obese) and 32% of young 2–19 years (including 17% obese)<sup>32</sup>. Despite the number of studies on this topic, associations between food environment (density of fast-food restaurants for example) and/or “walkability” within the neighborhood (density of green spaces for example) and overweight or obesity are still unclear. In a study based on the data from the Healthy Aging in Neighborhoods of Diversity across the Life-Span (HANDLS) study in Baltimore, the association between highly walkable neighborhoods and lower prevalence of obesity was found among individuals living in “White neighborhoods” but not for individuals living in “Black neighborhoods” (Casagrande S. et al, 2011a). In the same study, a positive association was unexpectedly found between availability of healthy food and higher Body Mass Index<sup>33</sup> among individuals living in “White neighborhoods”, while it was the opposite association (lower BMI mean in high healthy food availability neighborhoods) among individuals living in “Black neighborhoods” (Casagrande S. et al, 2011b). In a recent systematic review of the influence of the retail food environment around schools on obesity-related outcomes (Williams J. et al. 2014), the authors come to the conclusion that “This review found very little evidence for an effect of the retail food environment surrounding schools on food purchases and consumption, but some evidence of an effect on body weight”, which does not give too many keys to understanding in order to guide policies. Another article (Lucan S.C. 2015) related to food environment and obesity studies underlines the fact that there are many articles that show an association between food environment and obesity-related outcomes but also that many “studies demonstrate no consistent relationship between access to fast-food restaurants or small stores on the one hand and dietary intake or body weight on the other; or between supermarket access and produce consumption on one hand and diet quality on the other”.

**Associations between food environment overweight or obesity are still unclear**

This conflicting evidence can be explained by methodological differences and limitations: the type of data collected (measured data or self-rated data), indicators taken for measuring geographic or social environments (Burdick-Will J. et al., 2011), multilevel models for measuring the “neighborhood effects”<sup>34</sup>, spatial measure of the residential neighborhood (for example, self-defined neighborhoods vs. census tracts or zip codes)<sup>35</sup>, variations of the effects across cities in the U.S., etc. Moreover, even though causality cannot be statistically established with multilevel models, discussions based on these analyses are implicitly assuming that the neighborhood environment impacts health outcomes (See for example Harding D.J., 2003, Jackson N. et al., 2014, Thomas J.C. et al., 2010). However, some studies have shown that residential mobility from poor

32 CDC, 2011-2012. [www.cdc.gov/nchs/fastats/obesity-overweight.htm](http://www.cdc.gov/nchs/fastats/obesity-overweight.htm) (Viewed February, 25, 2016).

33 Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women.

34 Some criticisms have been made on analyses made with multilevel models. See for example Oakes J. M., 2004.

35 See for example Crawford T.W. et al. 2014.

**People who are unhealthy are more likely to remain in poor neighborhoods**

neighborhoods to areas that are less so is lower for unhealthy individuals compared to their healthy counterparts (See for example Jokela M., 2014). Thus, this selection bias could also explain a part of the association between neighborhoods and health: people who are unhealthy are more likely to remain in poor neighborhoods. In addition, unhealthy individuals can be forced to move to poor neighborhoods, because these places are the most affordable. This can be another selection bias: poor neighborhoods could be more likely to include unhealthy individuals.

**“A child’s zip code should never determine her destiny”**

It is obvious that answers are still unclear to the question: how does the residential environment impact health? But despite that:

- available data clearly shows that people living in disadvantaged neighborhoods undeniably have poor health outcomes;
- for health outcomes directly linked to residential environmental hazards (carbon monoxide, lead, mold, pests, air pollution, etc.), the evidence that environment impacts health has been accumulated for years and shows detrimental effects;
- the vast literature about the impact of environmental factors on children, using social sciences and sometimes neuroscience research, also shows quite converging results that deleterious social and geographic environments affect both children’s school performance and educational achievement (See for example Duncan G.J. et al., 2011, Sard B. et al., 2014).

**Deleterious social and geographic environments affect both children’s school performance and educational achievement**

**Housing policy and particularly mobility programs, can be used as instruments of public health policy**

Considering at least these three elements, housing policy and particularly mobility programs, can thus be used as instruments of public health policy. As described by Professor M. Goodman at a symposium at the Harvard School of Public Health (Goodman M. 2014) “Your zip code is a better predictor of your health than your genetic code”. If there is little to no way of changing genetic code, policies can indeed work on changing individuals’ “zip code” or on reducing environmental inequalities between zip codes. The message seems to be getting through: on the White House Website related to “Sparking Community Revitalization”, it is written that “A child’s zip code should never determine her destiny; but today, the neighborhood she grows up in impacts her odds of graduating high school, her health outcomes, and her lifetime economic opportunities. The President is committed to partnering with local leaders to give them tools to rebuild their communities and put people back to work. It will take a collaborative effort [...] to build the good schools, safe streets, and healthy homes that every family needs”<sup>36</sup>.

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36 The White House President Barack Obama. <https://www.whitehouse.gov/issues/urban-and-economic-mobility/community-revitalization>. (Viewed February, 25, 2016).

## 2 | HOUSING DESEGREGATION POLICIES AND PROGRAMS: TARGET, DESIGN AND LIMITS

In the last four decades in the United States a lot of public policies have been seeking to reverse centuries of segregation. A large part of those policies is focused on housing and ways to “deconstruct” residential segregation and its detrimental effects. To better understand these policies, and their impact, especially on health, three kinds of programs can be distinguished: housing authority programs, public housing-desegregation cases and interventional studies/demonstrations on residential mobility. (See Appendix E for a summary of some of the programs mentioned in this chapter).

### 2.1 Housing Authority Programs

The goal of the federally assisted housing programs is to provide to low-income households “decent”, “safe”, “sanitary” housing at an “affordable” cost (U.S. Department of HUD. 2001). Because demand is much higher than supply and because the amount of federal funding allocated to these programs is limited, the assisted housing programs are not entitlement programs, unlike, for example, the Supplemental Nutrition Assistance Program (formerly Food Stamp Program). This means that even if a household is eligible for housing assistance (based on its income, for example), it will not receive assistance automatically.

#### 2.1.1 The Housing Choice Vouchers, one of the two parts of the assisted housing programs

The assisted housing programs are divided into two categories of assistance: Project-Based Assistance or Tenant-Based Assistance.

- Project-Based Assistance: the assistance is based on a particular location, i.e. a unit in a specific public housing complex. Most of the public housing built until the 1970s consists of concentrated blocks of buildings in highly segregated neighborhoods, with a concentration of all the neighborhood characteristics mentioned above. In an effort to avoid poverty concentration, public housing programs have tried since the 1970s to include public housing in mixed-income housing buildings and/or in mixed-income neighborhoods by implementing different kinds of policies and regulations (involvement of private developers, public housing authorities’ projects, zoning policies, density bonuses, tax credit abatement, etc.).
- Tenant-Based Assistance: the assistance is based on the tenant and not on the location of the unit. The most important Tenant-Based Assistance program in the United States is the Federal Housing Choice Voucher (HCV) program (tenant-based vouchers<sup>37</sup>) or Section 8 Voucher program, created in the 1970s.

**A large part of public policies is focused on housing and ways to “deconstruct” residential segregation and its detrimental effects**

**The goal of the federally assisted housing programs is to provide to low-income households “decent”, “safe”, “sanitary” housing at an “affordable” cost**

**Most of the public housing built until the 1970s consists of concentrated blocks of buildings in highly segregated neighborhoods**

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37 There are also some project-based vouchers that are a component of the housing choice voucher program. A Public Housing Agency “can attach up to 20 percent of its voucher assistance to specific housing units if the owner agrees to either rehabilitate or construct the units, or the owner agrees to set-aside a portion of the units in an existing development”. [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/programs/hcv/project](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/hcv/project). (Viewed February, 25, 2016).

**In 2009, it was estimated that, nationally, the number of vouchers provided was equivalent to only 25% of households eligible for the voucher program**

In 2014, 2,112,519 families used a HCV in the U.S. (Center on Budget and Policy Priorities, 2015a). Eligibility for voucher assistance is mostly limited to very low-income<sup>38</sup> families<sup>39</sup>, low-income families who have previously lived in public housing, persons with disabilities or the elderly. The goal of the HCV program is “to afford decent, safe, and sanitary housing in the private market”<sup>40</sup>, meaning it “provides rental subsidies for tenants who choose units in the private market [...]. The family selects a unit of its choice. If the family moves out of the unit, the contract with the owner ends and the family can move with continued assistance to another unit. The subsidy amount is based on a payment standard set by the PHA [Public Housing Agency] at between 90 percent and 110 percent of the fair market rent. [...] A family must not pay more than 40 percent of adjusted monthly income for rent” (U.S. Department of HUD, 2013b). The unit selected by the family must meet mandatory minimum standards of health and safety, as determined by the PHA with reference to the Housing Quality Standards (HQS) (U.S. Department of HUD, 2001). It is the responsibility of the PHA to conduct inspections of units to determine compliance with HQS that consists of the following thirteen performance requirements: sanitary facilities, food preparation and refuse disposal, space and security, thermal environment, illumination and electricity, structure and materials, interior air quality, water supply, lead-based paint, access, site and neighborhood, sanitary condition and smoke detectors. Unlike the Site and Neighborhood Standards for Public housing (see p. 13), there is no standard regarding the location for housing vouchers, meaning that the unit chosen by the family can be located in any place in the city or the county.

The number of vouchers provided by the U.S. HUD to each state is limited and set in advance by Congress. In 2009, it was estimated that, nationally, the number of vouchers provided was equivalent to only 25% of households eligible for the voucher program (Lindberg R.A. et al., 2010).

A family who is eligible must first apply to be put on a waiting list: the family will first have to wait until the waiting list is open and then get a chance to be selected by lottery to be added to the waiting list. If the family is selected to be put on the waiting list, it will then have to wait to get a voucher. In 2014, in the city of Baltimore, for example, the number of authorized vouchers was 19,223 (based on a total of 52,771 in Maryland and 2,394,368 in the U.S.) and 14,385 families used vouchers, i.e. 74.8% authorized vouchers in use (81.5% in Maryland and 88.2% in the national average, Center on Budget and Policy Priorities, 2015a). As written by the Center on Budget and Policy Priorities: “There are many possible causes of low voucher utilization. While some, such as inadequate funding, are outside a local agency’s control, the effectiveness of agency management also can play a role. Poorly managed agencies may build up large reserves of unspent funds even if the waiting list for assistance remains long. When an agency has a low voucher utilization rate, particularly in comparison to other agencies or the national average, this may signal that it could be using its funds more effectively to serve additional families” (Center on Budget and Policy Priorities, 2015b).

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38 Eligibility for a housing voucher is based on total annual gross income and family size. In general, a family’s income must not exceed 50 percent of the median income for the particular county or metropolitan area. Program participants must also be U.S. citizens or non US citizens with eligible immigration status. Persons evicted from public housing or any Section 8 program because of drug-related criminal activity are not eligible for the HCV Program for at least three years after the conviction.

39 A family is either a single person or a group of persons according to the definition of the HUD guidelines. The Housing Choice Voucher Handbook. Chapter 5. Definition of Family. [http://portal.hud.gov/hudportal/documents/huddoc?id=DOC\\_11749.pdf](http://portal.hud.gov/hudportal/documents/huddoc?id=DOC_11749.pdf). (Viewed February, 25, 2016).

40 U.S. Department of Housing and Urban Development. On line. [http://portal.hud.gov/hudportal/HUD?src=/topics/housing\\_choice\\_voucher\\_program\\_section\\_8](http://portal.hud.gov/hudportal/HUD?src=/topics/housing_choice_voucher_program_section_8). (Viewed February, 25, 2016).

A new waiting list opened in Baltimore from October, 22<sup>nd</sup> to October 30<sup>th</sup> 2014, the first new one in Baltimore since 2003. The Housing Authority of Baltimore received more than 60,000 applications during these nine days but, according to the Housing Authority, only 25,000 will be chosen in 2015 to be put on the waiting list, and then only 6,000 to 9,000 will actually receive a voucher, which amounts to between 10% and 15% of the applications. Furthermore, according to the Baltimore County Housing Office, the average wait to reach the top of the waiting list is approximately nine years<sup>41</sup>. And once the voucher is issued, the family only has a very short amount of time, 60 days, to find a rental unit, otherwise the voucher is void.

The waiting list lottery can be organized by the Housing Authority giving certain families priority over others, in compliance with the law. For example, for the last lottery in Baltimore, the applications were divided into four groups: families with children, elderly, disabled individuals and other families. For each group, the rank on the waiting list is allocated randomly proportionately to the number of applicants submitted in each group.

The Housing Voucher is an incentive program for mobility from public housing to decent, safe, and sanitary housing in the private housing market. The unit can be located in any place but the vouchers were made to encourage mobility from segregated - Black/poor - neighborhoods to “racially” and economically mixed neighborhoods or to places with less Black/poor families.

While programs such as housing vouchers are used to fight against segregation, observations have been collected for years on the mechanisms that tend to reproduce it. And it is obvious that the factors that are driving “racial” and economic segregation are so deeply embedded in all spheres of U.S. society that without supplemental tools and ambitious programs, improvements to undo segregation are quite limited and will take decades.

### 2.1.2 Mobility counseling programs and “opportunity areas”

In this context, and after the lessons of the Public housing desegregation cases and the interventional research studies (see next parts), some mobility counseling programs were built on housing vouchers in different cities in the U.S. The goal is to promote, encourage and assist families with vouchers to move to places that can offer greater “opportunity” especially for education, employment, safety and health. These places are called “opportunity areas” or more recently “non-impacted areas”. The definition of what is an opportunity area is still debatable<sup>42</sup> and remains one of the challenges of mobility programs. This definition varies a lot depending on the mobility program itself. For example, for the Baltimore Mobility Program (Baltimore Regional Housing Mobility Program<sup>43</sup>) an opportunity area is an area with 10% or less poverty rate, populated by 30% or less of African-Americans and with 5% or less public housing. For the Chicago Housing Authority (Housing Choice Partners<sup>44</sup>), the poverty rate must be 20% or less and the area must have 5% or less of subsidized housing. A place that is on an upward trend can also be an “opportunity area” even if the indicators are moderate. More criteria are included in the mobility program in Dallas (Inclusive Communities Project<sup>45</sup>) where a “High Opportunity Area” must have a 10% or lower poverty rate, the Black population must be lower than 25.7% (i.e. lower than the average rate of the Black population of Dallas City), no public housing must be in the census tract, the median family income must be equal to at least 80% of the area median family income and the public schools - for vouchers families with children - must be “high-performing”<sup>46</sup>. Some other mobility programs use

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41 <http://www.baltimorecountymd.gov/Agencies/housing/dsssec8.html>. (Viewed February, 25, 2016).

42 See in particular McClure K., 2011.

43 <http://www.baltimoreregionalhousing.org/bhmp/>. (Viewed February, 25, 2016).

44 <http://www.hcp-chicago.org/>. (Viewed February, 25, 2016).

45 <http://inclusivecommunities.net/>. (Viewed February, 25, 2016).

46 Measure of school performance is also another debate.

**The Housing Voucher is an incentive program for mobility from public housing to decent, safe, and sanitary housing in the private housing market**

**The factors that are driving “racial” and economic segregation are deeply embedded in all spheres of U.S. society**

**Some mobility counseling programs were built on housing vouchers in different cities in the U.S. The goal is to promote, encourage and assist families to move to places that can offer greater “opportunity” especially for education**

**It is unclear what features of a neighborhood improve individuals' features**

even more sophisticated definitions. One is based on the HUD index that combines five indices: school proficiency, poverty, labor market, housing stability and job access. Another one, the Opportunity Mapping Advisory Panel Composite Opportunity Index combines ninety-two indicators in six categories: education, housing and neighborhood quality, social capital, public health and safety, employment and workforce, transportation and mobility (Liu C., 2014) (see, for example, the map of Baltimore Region Opportunity Index appendix D). As we have seen, despite the significant number of studies on “neighborhood effects”, identifying exactly what features of a neighborhood improve individuals' features is still unclear. As a result, it remains challenging to create an indicator of “opportunity area”. And as suggested in a study of the Baltimore Mobility program (Darrah J. et al., 2014) “one policy lesson [...] is that it matters how opportunity neighborhoods are defined”.

**Promoting mobility from distressed neighborhoods and assisting families with vouchers with strong support is a single “piece of the puzzle” in undoing residential segregation in the U.S. Improving distressed neighborhoods, for families who are not moving, and who represent the vast majority, is one of the other pieces**

But even if the definition of “opportunity” areas varies among mobility programs, they tend to provide families with voucher assistance services that are quite comparable: workshops to promote the idea of “opportunity areas”<sup>47</sup>, weekly contacts with a mobility counselor, bus tours in opportunity areas to make families become less unfamiliar with places they would typically never go to, help locating housing by providing families with listings of available units, outreach to landlords to explain the program and facilitate the process, help with security deposits, assistance with moving expenses, support to families who suspect discrimination from a landlord, etc. Some adjustments to the usual HCV program rules can also be applied, such as having a thirty-day extension when the voucher is issued (ninety days in total to find the unit instead of sixty) and/or getting an increased payment standard that can be 130% of the fair market rent (instead of 90% to 110%).

### 2.1.3 Rehabilitation and revitalization programs to improve the living environment for residents of distressed neighborhoods who are not moving

Promoting mobility from distressed neighborhoods and assisting families with vouchers with strong support is a single “piece of the puzzle” in undoing residential segregation in the U.S. Improving distressed neighborhoods, for families who are not moving, and who represent the vast majority, is one of the other pieces.

**Two large-scale federal rehabilitation and revitalization programs called Housing Opportunities for People Everywhere (HOPE VI) and the Choice Neighborhoods Initiative (CNI)**

To avoid poverty concentration, especially with public housing programs, two large-scale federal rehabilitation and revitalization programs called Housing Opportunities for People Everywhere (HOPE VI) and the Choice Neighborhoods Initiative (CNI) program were undertaken in the past two decades in the U.S. The first one began in 1992 and ended in 2009, while the second one began in 2010 under Obama's administration. HOPE VI and CNI programs' main objectives are to provide funds to public housing authorities in order to demolish the most distressed buildings and replace them with new mixed-income housing. The main goals of the HOPE VI program were “improving the living environment for residents of severely distressed public housing”, “providing housing that will avoid or decrease the concentration of very poor families” and in fine improving residents' life in other ways, particularly in becoming self-sufficient (Popkin S., 2007). The results of the HOPE VI program in regards to these main goals are mixed and have been particularly criticized for two reasons. The first one is that HOPE VI did not require a “one-for-one” replacement of the old unit<sup>48</sup>. Thus, as described in the fiscal year 2010 budget of the U.S. Department of Housing and Urban Development<sup>49</sup>, “Over the past 15 years, HOPE VI has

47 The Orientation Book of the Mobility Program of Chicago describes the opportunity area as a place with “safe streets, low poverty, good schools, employment opportunities, accessible transportation, and community resources (such as child care providers, medical facilities, grocery store and other shopping)”. HCP of Illinois. Mobility Counseling Program. Orientation book. Chapter1. What do you want in your Community?

48 This principle has been re-established in the Choice Neighborhoods program.

49 U.S. Department of Housing and Urban Development. FY 2010 Budget. Road Map for Transformation.

invested \$6.1 billion of federal funding for 235 projects, to demolish 96,200 public housing units and produce 107,800 new or renovated housing units, 56,800 of which will be affordable to the lowest-income households". As a consequence, almost half of the housing units available for the poorest at the beginning of HOPE VI were non-existent at the end of the program. Even if vouchers were given to compensate for the loss of units, the question remains (Turner M.A. et al., 2004) whether vouchers, in addition to the low-income household units that were built, fully compensate for the demolished units.

The second main point of criticism is the gentrification process: "In most redeveloped HOPE VI sites, income-mixing criteria and other restrictions exclude the vast majority of original tenants, who are relocated to other public housing developments or to private-market rental units that are often subsidized with a Housing Choice Voucher"(Keene D. et al., 2011). Moreover, in some cities, the HOPE VI sites selection process was criticized because it favored the gentrifying market rather than the most distressed public housing communities. Thus, the exclusion of most original residents from their own neighborhood (which can be estimated by the rate of return of original residents) or the exclusion of the places which had the greatest need for renovation or replacement, for the benefit of gentrifying sites, can reinforce social segregation and yield the opposite effects to the program's intended effects.

The current Federal Choice Neighborhoods Initiative program is focused on three core goals<sup>50</sup>: on housing "Replace distressed public and assisted housing with high-quality mixed-income housing", on people "Improve educational outcomes and intergenerational mobility for youth" and on neighborhoods "Create the conditions necessary for public and private reinvestment in distressed neighborhoods".

Based on the lessons drawn from HOPE VI, and because only approximately 10 to 15% of displaced residents returned to the redeveloped housing with HOPE VI (Galvez M., 2013), the CNI program reinforced the "right to return" commitment to residents as well as a strict "one-for-one hard unit replacement policy".

But the complexities of the CNI program, and the differences between the implementation sites, make an assessment difficult. In the interim report called an "Early Look at Choice Neighborhoods Sites" (U.S. Department of HUD, 2013c), the HUD summarizes that "the report's authors note that Choice Neighborhoods does not directly provide the level of assistance needed to change neighborhood trajectories and achieve its ambitious goal of transforming high-poverty neighborhoods into mixed-income neighborhoods of opportunity. Instead, the program is designed to catalyze other investments and local actions to achieve change"<sup>51</sup>.

#### 2.1.4 Low-income Housing Tax Credits Program to encourage investments in affordable rental housing and promote social diversity

Another "tool" used to finance the development of affordable rental housing for low-income households in the private market is the Low-income Housing Tax Credits (LIHTC) Program. The aim of the LIHTC is to give an incentive to the private market to encourage investments in affordable rental housing (new or rehabilitated).

The project must meet either of the following conditions<sup>52</sup>:

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50 [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/public\\_indian\\_housing/programs/ph/cn](http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/programs/ph/cn). (Viewed February, 25, 2016).

51 [https://www.huduser.gov/portal/pdredge/pdr\\_edge\\_research\\_110413.html](https://www.huduser.gov/portal/pdredge/pdr_edge_research_110413.html). (Viewed February, 25, 2016).

52 U. S. Department of Housing and Urban. Development Summary of Low-Income Housing Tax Credit. <https://www.huduser.gov/portal/datasets/qct/qct99home.html>. (Viewed February, 26, 2016).

**The Choice Neighborhoods Initiative (CNI) program reinforced the "right to return" commitment to residents as well as a strict "one-for-one hard unit replacement policy"**

**The aim of the Low-income Housing Tax Credits (LIHTC) is to give an incentive to the private market to encourage investments in affordable rental housing**

- At least 20% of the units must be rent-restricted and occupied by households with incomes at or below 50% of the area median income (adjusted for household size).
- At least 40% of the units must be rent-restricted and occupied by households with incomes at or below 60% of the determined area median income (adjusted for household size).

Low-income tenants can be charged a maximum rent of 30% of the maximum eligible income, which is 60% of the area's median income adjusted for household size as determined by HUD. There are no limits on the rents that can be charged to tenants who are not low-income but live in the same housing unit.

Most of the affordable housing built these last years in the U.S. has been as a result of the LIHTC program. The conditions that these programs must meet can help in promoting “racial” and economic diversity. However, the conditions are incompatible with most definitions of “opportunity area” as used by mobility programs, and therefore these housing units cannot be used by families with vouchers and engaged in a mobility program.

## 2.2 Court-ordered public housing desegregation cases

Discrimination based on “race” and color was declared illegal in the U.S. in 1964 under the Civil Rights Act. But, as mentioned above, discriminatory practices based on “racial” bias still prevail in many socio-economic spheres. Public housing desegregation lawsuits have shown that, since 1964, these practices have been part of some local housing authority’s policy with the support of the U.S. Department of Housing and Urban Development (HUD) and in violation of the U.S. Constitution and the Civil Rights Act.

### 2.2.1 The first public housing desegregation lawsuit known as the “Gautreaux program”

By collecting evidence of these discriminatory practices in Chicago (Illinois), Dorothy Gautreaux and three other residents, together with the American Civil Liberties Union (ACLU), initiated a class action suit in 1966 against the Chicago Housing Authority (CHA) and the HUD<sup>53</sup>. The ACLU charged the CHA and the HUD with engaging in “racial” discrimination by having deliberately built more than 10,000 public housing units in isolated African-American neighborhoods (i.e. all public housing units exclusively in these areas) to “avoid the placement of Negro families in white neighborhoods”<sup>54</sup>. Thus, this policy contributed to denying opportunities for Blacks to live in areas other than the most distressed neighborhoods in Chicago.

After a decade-long lawsuit known under the name of *Gautreaux v. Chicago Housing Authority* and HUD, and then *Hills<sup>55</sup> v. Gautreaux*, the U.S. Supreme Court confirmed in 1976 that the CHA and the HUD were guilty of discriminatory housing practices by having “violated the Fifth Amendment and the Civil Rights Act of 1964 in connection with the selection of sites for public housing in the city of Chicago”<sup>56</sup>.

The Supreme Court’s settlement ordered a “remedial plan” in Chicago, also called the “Gautreaux Assisted Housing Program” or Gautreaux Program. This desegregation program was divided into two kinds of solutions:

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53 See for example Polikoff A., 2006, written by the lawyer that led the ACLU team who initiated the class action in 1966.

54 U.S. Supreme Court Decision. *Hills v. Gautreaux*, 425 U.S. 284 (1976). No. 74-1047. Argued January 20, 1976. Decided April 20, 1976.

55 Carla Anderson Hills was the U.S. Secretary of Housing and Urban Development.

56 U.S. Supreme Court Decision, 1976. Op. cit.

**Discriminatory practices have been part of some local housing authority’s policy with the support of the Department of Housing and Urban Development (HUD) in violation of the U.S. Constitution and the Civil Rights Act**

- Offering 7,100 families<sup>57</sup> (residents of CHA public housing and families who were on the waiting list) the opportunity to find housing units in the Chicago metropolitan area where no more than 30% of the census tract population were Black (i.e. mostly White middle-class neighborhoods). In the final ruling in 1981 (Keels M. et al. 2005), a provision allowed up to one third of the participants to move to census tracts with more than 30% Black residents as long as the council could demonstrate that they were "revitalizing communities"<sup>58</sup>. The Gautreaux program was run by a private non-profit fair housing organization, the Leadership Council for Metropolitan Open Communities. The Program (1976-1998) helped more than 25,000 participants to move to 115 suburbs throughout the six surrounding counties, mostly to integrated suburbs and neighborhoods in Chicago (Rosenbaum J. et al., 2002);
- Building scattered-site housing on a small scale around the city for public housing residents who were living in public housing in concentrated poor areas. After ten years of negotiations with the CHA, the court concluded that an independent receiver should be appointed to conduct the program to make it possible. The program began in 1987 and almost 2,000 scattered-site public housing units were constructed or rehabilitated in more than 57 Chicago areas. This part of the Gautreaux program ended in 2010<sup>59</sup>.

The "Gautreaux Case" was the first public housing desegregation lawsuit and the first major housing mobility program in the U.S. Between 1976 and 1998, 7,100 families from the city of Chicago<sup>60</sup> moved from public housing to private-market housing in mostly "white suburbs" around Chicago or within the city. Families were required to stay in their new housing unit for at least one year. Following that time, they could move to any location, in accordance with Section 8 standard guidelines.

## 2.2.2 From housing desegregation lawsuits to integration of desegregation into Federal housing policy

After Chicago, lawsuits were conducted in others cities in the U.S. against housing authorities that had promoted residential segregation through their policies. The following are the most well-known cases: *Young v. Pierce* in East Texas (1995), *Hollman v. Cisneros* in Minneapolis (1995), *Thompson v. HUD* in Baltimore (1996), *Walker v. HUD* in Dallas (1997), *United States v. City of Yonkers* (2007). Settlements usually included a remedial plan, based on a mobility program operated by a nonprofit organization such as the Baltimore Regional Housing Campaign, Inclusive Communities Project in Dallas, etc. Residents of public housing received a Housing Choice Voucher, counseling and support to move to non-segregated -Black/poor- neighborhood (meaning geographically targeted vouchers). The criteria, the target, the duration of the program and the support services differed from one remedial program to another, but the "spirit of the treatment" was for the most part that of the Gautreaux case.

These programs that originated as settlements and using housing vouchers were what are now called housing mobility programs based on the idea of using vouchers in "opportunity/non-impacted areas"<sup>61</sup>. After having been court-ordered cases, these mobility programs became an integral part of Federal housing policy in the U.S. The Gautreaux

**The Gautreaux program helped more than 25,000 participants to move to 115 suburbs throughout the six surrounding counties, mostly to integrated suburbs and neighborhoods in Chicago**

**The "Gautreaux Case" was the first public housing desegregation lawsuit and the first major housing mobility program in the U.S.**

**After having been court-ordered cases, these mobility programs became an integral part of Federal housing policy in the U.S.**

57 In the form of Section 8 certificate-subsidies.

58 i.e. enough development activity under way or planned so that economic integration was likely in the short run and racial integration might follow in the long run.

59 Data come from <http://www.bpichicago.org/>. (Viewed February, 26, 2016).

60 To increase the chance of making the moving successful, the program avoided enrolling families with more than four children, large debts or whose house had property damage. It has been evaluated that all three criteria reduced the eligible pool by less than 30%. (Rosenbaum J. et al., 2002).

61 See previous part on vouchers and mobility programs.

program led the development of housing mobility programs by U.S. housing authorities, using geographically targeted vouchers.

### 2.2.3 Tracking the “Gautreaux families” to understand mobility and its impacts

The Gautreaux program also promoted the development of experimental demonstrations on mobility and neighborhood effects. Numerous studies were conducted, especially by James Rosenbaum and colleagues (Rosenbaum J.E. et al., 2008) on the “Gautreaux families” (the families who moved with the Gautreaux desegregation program). Because Gautreaux was not a research study (and did not have an experimental design) but a program designed after a settlement, studies conducted on the program are mostly based on the comparison of indicators between different groups of families involved in the program, since families were randomly selected to move to one location or another. The 1979 evaluation of the first participating families relocated from 1976 compared Gautreaux families with regular Section 8 movers (distinguishing where they were coming from: public housing, waiting list or general public) (Peroff K. et al, 1979). Most of the studies on the Gautreaux program are a comparison between families that moved to Chicago White suburbs and those that moved to Chicago city neighborhoods (for example, DeLuca S. et al., 2003). It can also be a comparison between families that moved to neighborhoods with few Black residents and moderate to high neighborhood resources and families who moved to neighborhoods with higher concentrations of Blacks and a low level of resources (Mendenhall R. et al., 2006). Comparison was also made between public housing families that moved with the Gautreaux program and public housing families that did not move (used as a kind of control-group) (Keels M. et al., 2005). Because of the lack of housing that was meeting all criteria (including the rate of the rent), about a quarter of the families were relocated to highly segregated neighborhoods (more than 60% of Blacks). Some studies compared the impact of relocation between families who were located in low, medium or highly segregated neighborhoods (Mendenhall R et al., 2006). Some were also able to track “now-adult Gautreaux children” with data collected eight to twenty-two years after first relocation (Keels M., 2008).

**Most of the studies on the Gautreaux program are a comparison between families that moved to Chicago White suburbs and those that moved to Chicago city neighborhoods**

These studies have produced cogent results by being able to track the Gautreaux families fifteen to twenty-two years after relocation with the program, and to collect information on their lives (employment, education, criminality, health, mortality, etc.) and their residential mobility.

All these results have hardly been discussed and some of them were controversial. The main criticisms were the lack of a control group, the lack of data collected on Gautreaux families before they moved, that could make it possible to compare outcomes before and after moving. Moreover, families engaged in the Gautreaux program were volunteers and not randomly selected. Three selection criteria were even used to exclude families with more than four children, a heavy debt load or “unacceptable housekeeping” (i.e. around 30% of the eligible pool) (DeLuca, S. et al., 2010a). Even if the families were almost<sup>62</sup> randomly selected to move to suburban or to inner-city Chicago<sup>63</sup>, a study showed that the suburban movers (i.e. families that moved to suburban areas) and the city movers (i.e. families that moved to inner-city Chicago) were not alike. The families that were relocated in the suburbs came from neighborhoods that had more favorable socioeconomic and social characteristics than the ones that were relocated in the city, with respect to income, employment, and education (Keels M. et al., 2005). Another study<sup>64</sup> showed that the Gautreaux families differed from a sample of welfare families<sup>65</sup> with

62 In the early years of the program, families without car were more likely to be located within the city or in the inner suburbs (Keels M. et al., 2005).

63 Families could refuse the offer but most of them (95%) accepted the first unit offered, especially because they were uncertain that they could get another one. (Keels M. et al., 2005).

64 Popkin S., 1988, cited by DeLuca, S. et al., 2010a.

65 Aid to Families with Dependent Children.

respect to education and age (Gautreaux families were more educated and older). Therefore, because of the risk of self-selection bias, the observed differences between groups may have reflected differences between participants rather than the effects of various residential locations. Moreover, results could not be generalized to all residents of public housing (even to those in Chicago).

## 2.3 Interventional studies/demonstrations of the impacts of residential mobility

Since the 1990s, discussions and controversies around the Gautreaux program's results have led the Housing and Urban Development (HUD) to fund different interventional demonstrations of residential mobility. The objectives were to identify precisely the effects of moving from the poorest neighborhoods to lower-poverty neighborhoods on individuals' lives (employment, income, education, health, criminality, etc.), to better understand the causal effects of neighborhoods on individuals and thus, to improve public policy efficiency. Three main demonstrations/evaluations have been launched in the last fifteen years.

### 2.3.1 Moving to Opportunity for Fair Housing Demonstration Program (1994)

The first and one of the most important studies on the impacts of residential mobility (if not the most important in terms of implications for policy and research) is a housing mobility experiment called the Moving to Opportunity for Fair Housing Demonstration Program (MTO) (Sanbonmatsu L et al., 2011). This experiment gave to some families the opportunity to receive a housing voucher and assistance in moving. The program was launched by HUD in 1994 in five cities in the U.S. (including the three most populated ones): Baltimore, MD, Boston, MA, Chicago, IL, Los Angeles, CA and New York City, NY.

The eligibility for MTO was limited to families with children under 18 years old and to families with very low-incomes<sup>66</sup> who were living in public housing or project-based assisted housing in high-poverty areas (more than 40% of the population living in poverty, according to the 1990 Census).

A total of 4,604 households (volunteers) were enrolled in MTO between 1994 and 1998 in the five selected cities, representing around one-fourth of the eligible households in public housing or project-based assisted housing. In the baseline survey, the households were 91% single mother families, 61% Blacks and 31% Hispanics and 72% of adults were not working.

**The Gautreaux program's results have led the Housing and Urban Development (HUD) to fund different interventional demonstrations of residential mobility to better understand the causal effects of neighborhoods on individuals**

**The Moving to Opportunity for Fair Housing Demonstration Program (MTO) gave to some families the opportunity to receive a housing voucher and assistance in moving**

**The eligibility was limited to families with children under 18 years old and to families with very low-incomes who were living in public housing or project-based assisted housing in high-poverty areas**

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66 About three-fourths of the sample members were receiving "Aid to Families with Dependent Children" (AFDC is now called Temporary Assistance for Needy Families, TANF, see note 69) and four out of five were receiving Food Stamps. Only a quarter were working at the time they were randomly assigned. (Sanbonmatsu L. et al., 2011).

The households selected were randomly assigned to one of the three following groups:

- An “experimental” group (1,819 households): households received Section 8 rental assistance certificates or vouchers<sup>67</sup> that they could use only in areas with a poverty rate below 10%. A nonprofit organization provided mobility counseling to help households locate to housing in low-poverty areas. After one year, households could use their vouchers to relocate without any constraints on their move. If they moved before one year, they did not receive a new voucher. Unlike the Gautreaux Program, the vouchers could be used in neighborhoods without “race” requirement target;
- A “Section 8 only” group (1,346 households): households received Section 8 rental assistance certificates or vouchers that they could use anywhere without mobility counseling;
- A “control” group (1,439 households): households did not receive certificates or vouchers or any mobility counseling when they were enrolled in MTO but could continue to be eligible - like any other households in the U.S. - for regular assistance and social programs or services that they could use without any geographic restriction.

**The final Impacts Evaluation of the MTO Demonstration Program was published at the end of 2011, seventeen years after the beginning of the experiment**

After a baseline survey on the characteristics of the adults and youth upon enrollment, two evaluations were made, the first one 4 to 7 years after random assignment (MTO interim evaluation) and the second one, 10 to 15 years after the baseline survey (MTO final evaluation). Both included qualitative and quantitative studies based on interviews with the families, surveys, administrative data on families, and observations of neighborhoods. In the long-term evaluation, some biometric data for adults was also collected (height, weight, waist measurement, blood pressure and blood). The final Impacts Evaluation of the MTO Demonstration Program was published at the end of 2011, seventeen years after the beginning of the experiment (Sanbonmatsu L et al., 2011).

**Some of the families in the “experimental” group moved again on their own after the first MTO relocation; in some cases went back to higher-poverty neighborhoods just after one or two years spent in lower poverty neighborhoods**

Despite a sophisticated design, the data from MTO are quite challenging to understand and it is not unusual for researchers to talk about MTO data as a “black box “ or a “puzzle” that has to be solved (for example: Popkin S., 2014a, Edin K. et al., 2012). One of the main challenges is to take into account the fact that families in the “experimental” group were not “exposed” to neighborhoods with a poverty rate below 10% during the same period of time, and some were not “exposed” at all. Indeed, only 47% of the families in the “experimental” group relocated using a MTO voucher, while it was the case for 63% of the families in the “Section 8 only” group. This result is due to the fact that, even without mobility counseling, the “Section 8 only” group could use their voucher without any geographic restriction. Additionally, considerable variations between cities were found: in the “experimental” group, the percentage of families who relocated varied from 33% in the Chicago MTO site to 60% in Los Angeles and in the “Section 8 only” group from 47% in New York City to 77% in Baltimore and Los Angeles.

Moreover, some of the families in the “experimental” group moved again on their own (sometimes two or three times) after the first MTO relocation and in some cases went back to higher-poverty neighborhoods just after one or two years spent in lower poverty neighborhoods. Sometimes, families in the “experimental” group did not move again after relocation but the poverty level of the neighborhood increased and became higher than the required rate of 10%. Finally, if some families in the “experimental” group did not move or moved but were no longer living in a low-poverty neighborhood at the time of the MTO long-term evaluation, many of the families in the “control” group relocated by receiving

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67 See part. 2.1.1

housing vouchers or assistance in moving through the HOPE VI program<sup>68</sup> which was running at the same time as the MTO experiment. Therefore, the “control” group experienced a benefit that was not expected, and could no longer be defined as a real control group.

For example, in Baltimore, S. DeLuca and colleagues emphasized that “Many of the MTO families were originally living in one of the five projects that were demolished during the time between baseline and interim follow-up, so the high rate of mobility among the control group is not surprising. Although there was considerable movement from original neighborhoods, almost all the control-group families relocated to highly segregated, poor areas (although collectively, they did experience a reduction in neighborhood poverty rate of a little over 10%)” (DeLuca S. et al., 2010b).

Furthermore, for example, some families moved to a low-poverty neighborhood but close to their former neighborhood and chose to send their children to the schools they used to attend or to schools in the same district. This was made possible because the MTO program allowed “School choice” even for people who moved to a new place. Interviews conducted with families showed that stability in their children’s schools was preferred to school mobility, especially because not much information was given to families about the issue of attending lower or higher performing schools (DeLuca S. et al., 2010b). In total, only 30% of the MTO children changed school districts (Rosenbaum J.E. et al., 2010) which, in the long-term evaluation, means that changing neighborhoods did not imply changing schools or social network, and could not necessarily mean increasing educational attainment.

These simultaneous phenomena tend to blur the results and to make it difficult to easily answer the MTO program’s key question: what are the long-term effects of a housing mobility program intervention on participating families and their children? In other words: because of random assignment, the control group’s experience should show, on average, what would have happened to the families in the “experimental” group if they had not been offered the opportunity to live in a low-poverty neighborhood. But the diversity in mobility patterns among families, including those from one same random group, does not allow too global an approach, as integrating the outcomes of opposite patterns to the study could mask or cancel out relevant results. And to the main question “what are the long-term effects of a housing mobility program?” the results of the MTO Final Evaluation were very disappointing compared to the Gautreaux families’ results, with, for example no employment gains in the MTO “experimental” group beyond those experienced by the “control” group. Polikoff A., one of the main lawyers that worked on the Gautreaux lawsuit and currently the co-director of BPI’s Public Housing program, recently wrote about what he calls these “non-results” that “MTO was not just a bump in the road; it was a dagger pointed at the heart of housing mobility. Why undertake the challenges of helping families escape severely distressed neighborhoods if moving to better neighborhoods doesn’t matter?” (Polikoff A., 2015).

Some new analyses were published after the Final Evaluation Report, trying to include a kind of dose effect relationship to measure the potential effects of the neighborhood, depending on the “exposition”, like one recent research on children’s long-term outcomes (especially education) (Chetty R. et al., 2015). Additionally, some research was done on sub-populations, which are more homogeneous in terms of mobility, for example, on families who lived longer in “High-Opportunity Neighborhoods” (i.e. high work, income, education, job density neighborhoods and predominantly “White”) (Turner M.A. et al., 2012), in an effort to “disentangle” the effects of time spent in different kinds of neighborhoods.

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68 See part 2.1.2.

**Some families moved to a low-poverty neighborhood but close to their former neighborhood and chose to send their children to the schools they used to attend or to schools in the same district**

**The results of the MTO Final Evaluation were very disappointing compared to the Gautreaux families’ results**

**Some new analyses were published after the Final Evaluation Report, trying to include a kind of dose effect relationship to measure the potential effects of the neighborhood, depending on the “exposition”**

**Other demonstration programs were created that “corrected” some of the weaknesses of the MTO Demonstration**

A lot of studies were produced from the Moving to Opportunity Demonstration, generating much debate and controversy among scientists (see for example Clampet-Lundquist S. and al., 2008; Ludwig J. et al., 2008). Because some disappointing results (or “non-results”) may be caused by the experimental and evaluative design limitations, other demonstration programs were created that “corrected” some of the weaknesses of the MTO Demonstration.

### 2.3.2 Effects of Housing Choice Vouchers on Welfare Families Experimental evaluation (2000)

In Fiscal Year 1999, Congress funded 50,000 Welfare to Work Vouchers (WtWV) to “help families for whom the lack of stable, affordable housing [was] a barrier to employment” (Sard B. et al., 2003). The WtWV program is a housing assistance program combined with job training and other services to ease the transition from welfare to economic independence. To qualify, families must meet eligibility requirements for the regular Housing Choice Voucher program and must be eligible to receive Temporary Assistance for Needy Families (TANF assistance<sup>69</sup>), being currently receiving TANF or having received TANF within the past two years.

**The Welfare to Work Vouchers program is a housing assistance program combined with job training and other services to ease the transition from welfare to economic independence**

The U.S. Department of Housing and Urban Development sponsored a study to evaluate the WtWV program under the name of “Effects of Housing Choice Vouchers on Welfare Families” (Mills G. et al., 2006). The goal of the study was to “measure the effects of voucher assistance on the housing mobility of low-income families; the characteristics of their neighborhoods; the composition of their households; their housing stability; their employment, earnings, and participation in employment and training; their receipt of public assistance; their poverty and material hardship; and the well-being of their children” (Wood M. et al., 2008).

The evaluation was conducted from 2000 to 2005 at six sites: Atlanta and Augusta, GA, Fresno and Los Angeles, CA, Houston, TX, and Spokane, WA.

The sample in the baseline survey was composed of 8,573 individuals<sup>70</sup> and was designed with a random assignment to two groups:

- A “treatment” group: households received a housing voucher that they could use without any geographic restriction. The “treatment” was the same as what it would have been through a regular voucher;
- A “control” group: households did not receive vouchers at the time of random assignment but remained on the Public Housing Authorities’ waiting list for regular assistance and could receive a voucher over time.

To measure the effects of vouchers on welfare families, the sources of data were: a baseline survey, a follow-up survey after 42 to 48 months (around 4 years) for all sites after random assignment collected for a total of 2,481 sample individuals, administrative data on families (unemployment insurance wage records, receipt of TANF, receipt of housing assistance (vouchers and public housing programs), data to measure the quality of neighborhoods (census, housing and employment data), in-depth interviews with individuals from both groups.

**In the baselines sample, 92% of individuals were female, 50% Blacks and 21% Hispanics, 54% were not working and were looking for work**

In the baselines sample (N=8,573), 92% of individuals were female, 50% Blacks and 21% Hispanics, 54% were not working and were looking for work, 90% were responsible

69 TANF is one of the U.S. federal assistance programs created in 1996 under President Clinton’s administration. It provides cash assistance to low/no-income families with children age 18 and younger.

70 It is unclear how those individuals were selected among all those eligible.

for children at home, 80% were receiving TANF and 86% Food stamps. Nearly 13% were receiving housing assistance (7% public housing and 6% assisted housing) and 2% were living in homeless shelters or transitional housing.

At the time of the follow-up survey, 50.6% of households in the “treatment” group were receiving vouchers (Welfare-to-Work Voucher or Housing Choice Voucher) versus 37.2% of those in the “control” group. This small difference between “treatment” and “control” group at the time of the follow-up survey can be explained by the lag between the two groups. Some individuals in the “treatment” group who leased-up at the beginning of the program left the voucher program before the follow-up survey<sup>71</sup>. Some individuals in the “control” group, who remained on the waiting list for regular vouchers, and could finally get vouchers, began leasing-up with vouchers later than the “treatment” group and were still following the voucher program at the time of the follow-up. The effects of vouchers are estimated on “treatment-on-treated” (TOT), i.e. taking into account that some treatment group participants did not use their vouchers, and some control group participants that were on the waiting list, for example, received a voucher and did use it.

**Some treatment group participants did not use their vouchers, and some control group participants that were on the waiting list, for example, received a voucher and did use it**

The major difference between MTO demonstration and Effects of Housing Choice Vouchers on Welfare Families evaluation is the characteristic of participants. All the MTO participants were public housing residents when they enrolled in the demonstration, whereas it was the case of a very small part of the participants (7%) in the other sample.

Furthermore, the “treatment” group in the Effects of Housing Choice Vouchers on Welfare Families evaluation was not designed like the MTO “experimental” group but in a way similar to the “Section 8 only” group of the MTO demonstration (i.e. no geographic restrictions and no mobility counseling). The “control” groups in both studies were similar.

Finally, the follow-up survey is much briefer in the Welfare Families evaluation (around 4 years) than in MTO (10-15 years) and closer to the MTO Interim evaluation (4 to 7 years).

If MTO was an ambitious social experimentation (effects of mobility in low-poverty areas, using vouchers and counseling), the Welfare Families study is akin to a classic evaluation of an existing program (effects of housing assistance linked to employment-related services, using vouchers).

### 2.3.3 Chicago Family Case Management Demonstration (2007)

In 2000, the Chicago Housing Authority (CHA) launched a 10-year Plan for Transformation, with the objective to “ensure that quality housing is integrated into the fabric of the city for all residents, provide CHA residents with connections to opportunity, and spur revitalization in communities that were long dominated by massive CHA high-rise developments” (Chicago Housing Authority, 2011). The voucher program grew from little over 25,000 vouchers in 1999 to almost 38,000 in 2011 (Popkin S.J. et al., 2013a).

But the CHA faced many obstacles to giving CHA’s residents better opportunities, especially the most disadvantaged ones. As Popkin et al. wrote (2008), “many of the remaining residents in CHA’s traditional developments face numerous, complex challenges that create barriers to their ability to move toward self-sufficiency or even sustain stable housing, including serious physical and mental health problems; weak (or nonexistent) employment histories and limited work skills; very low literacy levels; drug and alcohol abuse; family members’ criminal histories; and serious credit problems”.

**In the mid-2000s, the Chicago Housing Authority (CHA) launched a demonstration, called the Chicago Family Case Management Demonstration**

In the mid-2000s, the CHA launched a demonstration, called the Chicago Family Case Management Demonstration (Popkin S. et al., 2008, Popkin S. et al, 2010, Theodos B. et

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<sup>71</sup> Three quarters of the reasons were having an income too high to qualify for assistance (25%), being no longer eligible for non-income reasons (mostly, non-compliance on the part of the family, 23%) and moving and could not use assistance in the new place (22%). (Mills et al., 2006).

**The demonstration targeted 475 households from the two Chicago Housing Authority developments**

al, 2010a), on these “hard to house” families in order to help the CHA provide more effective case management or relocation counseling. The demonstration ran from 2007 and 2010 and provided residents from two CHA developments, both extremely distressed with drug and gang activities (Dearborn Homes and Madden/Wells in Chicago), intensive case management services, relocation counseling, transitional jobs, financial literacy training, etc. The goal was to help the families “maintain safe and stable housing, whether in traditional CHA public housing, in the private market with a voucher, or potentially, in new, mixed-income developments” (Popkin S. et al., 2008).

CHA’s case managers received new training in change theory models, motivational interviewing, family-focused case management, etc. Because they had half reduced caseloads, they were able to conduct intensive work with the families, such as weekly meetings with the families, outreach for residents who were not engaged with CHA’s services, etc. With the help of Housing Choice Partners (HCP), a private non-profit organization, CHA’s case managers also encouraged participants to move to low-poverty neighborhoods (less than 23.5% poor) or opportunity areas (less than 23.5% poor and less than 30.0% African Americans) with workshops that especially highlighted the benefits of opportunity areas and school choice.

**Residents were 100% Blacks, long-term public housing residents, with low-incomes and had very poor physical and mental health**

In total, the demonstration targeted 475 households from the two CHA developments. Residents were 100% Blacks, long-term public housing residents (28 years, median years living in CHA housing), with low-incomes (71% receiving food stamps in the past year and 70% with income less than \$10,000) and had very poor physical and mental health (71% overweight or obese, 18% with depression evaluated using a scale derived from the CIDI –I2) (Popkin S. et al., 2008). All the residents from remaining buildings of Madden/Wells had to move because the CHA was completing the demolishing of the development in order to replace it with mixed-income housing. Some of them moved under an “emergency move order”. In the other development, CHA rehabilitated Dearborn Homes and nearly all residents had to move from their home during the demonstration.

In 2009, most participants had moved, but the majority (59%) remained in public housing, while 28% moved into the private market with a housing voucher and 13% into a mixed-income community.

The evaluation, made by the Urban Institute, is based on:

**The plan was to compare the outcomes of families after two years in the demonstration to similar families living in other public housing developments, but who were not offered the demonstration**

- A baseline resident survey (n=331) in 2007 with questions related to: housing and neighborhood conditions, services use, mental and physical health, employment and economic hardship, and children’s health and behavior.
- A follow-up survey (n=287) in 2009, using the same outcomes.
- 30 qualitative in-depth interviews (21 adults and 9 adolescents) with participants in 2008.
- Qualitative in-depth interviews with CHA/HCP staff, case managers, administrators and leadership.
- CHA administrative records.
- Secondary data on neighborhood poverty, unemployment, crime, “race”, and other characteristics.
- A process study to assess the cost/efficacy of the Demonstration’s implementation.

To assess the demonstration, the plan was to compare the outcomes of families after two years in the demonstration to similar families living in other public housing developments, but who were not offered the demonstration. However, no comparison group using CHA’s data could be used to measure the program’s impact on participants’ outcomes because of the lack of information in CHAs’ data for most of the outcomes. Finally, the Panel Study, made by the CHA from 2001 to 2011 for a random sample of residents from Madden/Wells development, was used as a benchmark for some similar outcomes. It could not be used

as a real comparison group because most of the residents in the panel relocated before 2007, and thus the Panel study and the Chicago Family Case Management Demonstration had different timeframes.

To make the assessment more relevant, analyses were made using a typology based on head-of-household baseline survey characteristics. Participants were divided into three groups:

- The “strivers” (39%): younger residents who mostly have high school degrees and are connected to the labor force
- The “aging and distressed” (21%): high rates of mental and physical illness, lack of high school degrees and little work experience
- The “high risk” (40%): younger residents already showing high rates of chronic illness and labor force disconnection.

Though the Chicago Family Case Management Demonstration was not a mobility program but an intensive services program including mobility counseling, the Demonstration provided useful information, especially for practices, on the impacts of a wide range of services offered to residents of public housing to help them move to opportunity areas. But one must keep in mind the different limits of the demonstration results.

Unlike the MTO demonstration or the Effects of Housing Choice Vouchers on Welfare Families evaluation, the participants of the Chicago Family Case Management Demonstration were not volunteers for a mobility program but had to relocate (some with an “emergency move order”) because their development was under demolition or rehabilitation. Families had no choice but to move. Thus, the results cannot be generalized to volunteer participants in a mobility program.

In addition, the follow-up survey (2 years after the rollout demonstration) was very short to evaluate changes in some of the outcomes, especially those on mental and physical health.

Finally, the demonstration has a low statistical power because of the number of households involved (less than 300 in the follow-up survey). Some statistically non-significant outcomes can be found because of the low statistical power of the sample.

### 2.3.4 Housing Opportunities and Services Together (HOST) (2010)

Building on the work and the results of the Chicago Family Case Management Demonstration, a new case management program and demonstration was launched in 2010 by the Urban Institute called Housing Opportunities and Services Together (HOST)<sup>72</sup>. The main idea is to target the program on “high-risk families”, and to focus on two-generation approaches by providing services and counseling not only to adults (like in the Chicago Family Case Management Demonstration) but also to children and youth.

Unlike the three other programs described above, encouraging mobility (in lower-poverty neighborhoods, mixed-income communities or in opportunity areas) is not one of the goals of the HOST program. On the contrary, one facet is to “improve the health of the community” and to “treat an entire community (individuals, families, and neighborhoods)” (Popkin S. et al., 2013b). Therefore, the HOST program is not a mobility program but must be seen rather as a place-based program that included two-generation social services.

**The participants of the Chicago Family Case Management Demonstration were not volunteers for a mobility program but had to relocate, some with an “emergency move order”**

**The objective of housing policy is to promote social diversity by encouraging low-income groups and minorities to leave their ghettos and their social environment that have deleterious effects on them**

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<sup>72</sup> The current sites are Gilmor Homes in Baltimore (Maryland), Altgeld Gardens in Chicago (Illinois), Home Forward in Portland (Oregon), Benning Terrace in Washington D.C., and the upcoming one is Brownsville in Brooklyn (New York). Source: <http://www.urban.org/policy-centers/metropolitan-housing-and-communities-policy-center/projects/host-housing-opportunity-and-services-together>. (Viewed February, 26, 2016).

One of the objectives of housing policy is to promote social diversity by encouraging low-income groups and minorities to leave their ghettos and their social environment that have deleterious effects on them. Since the 1970s, different “tools” have been used: regular housing choice vouchers, mobility counseling programs, public housing desegregation cases, rehabilitation and revitalization programs, housing tax credit programs and experimental studies.

What can we learn from the evaluation and studies made on these “tools”? Do they improve the participants’ living conditions, in the broad sense of the term, including housing and environment, health, education, employment, earnings, and social interaction? At the individual level, do these “tools” enable households to escape from poverty and social reproduction?

## 3 | IMPACT OF MOBILITY PROGRAMS

The basic goals of the Housing Vouchers and the mobility programs are to offer families with vouchers better housing in a healthier environment for the unit and for the neighborhood. But other improvements in families' lives (education, health, employment, economic situation, etc.) are expected. In the Housing and Community Development Act of 1974, which authorized the Section 8 program (including Housing Vouchers), Congress declared one of the objectives to be "the elimination of conditions which are detrimental to health, safety, and public welfare" (cited in Kruckenberg K., 2011). In this part, based on the literature and interviews we conducted, we will answer three main questions: Do mobility programs provide real and sustainable mobility? Do mobility programs improve participants' health outcomes? Do mobility programs improve some determinants of participants' health?

**The basic goal of the mobility programs is to offer families with vouchers better housing in a healthier environment**

### 3.1 Do mobility programs provide real and sustainable mobility?

#### 3.1.1 Main barriers to moving with a Housing Choice Voucher to low-poverty neighborhoods

The Housing Voucher is an incentive program for mobility from public housing to private-market housing. Assessments and studies made on the families' housing trajectory with Housing Choice Vouchers show that a lot of them tend to move not so far from where they were living before getting a voucher or in a neighborhood whose social characteristics were quite close to the ones they were living in, though small improvements in neighborhood quality were noticed (see for example Feins J. et al. 2005). In other words, Housing Vouchers do not fully fulfill their role in favor of mobility. A lot of reasons can explain these observations (see for example: DeLuca S, et al., 2013; Rosenblatt P. et al., 2015). The most common ones are that finding a new unit with a voucher by meeting all standards in less than sixty days, without any help, is quite challenging, particularly when the voucher is issued a long and unpredictable time after the application. Families are trying to get the easiest way to find a new unit quickly and usually it is close to where they are living. Another reason is that people are seeking a unit in a neighborhood where they have already some points of reference, instead of trying to go to an unfamiliar neighborhood. Some studies also showed that discriminatory practices are used in order to keep "voucher families" (meaning mostly Black people) away from "White neighborhoods" or to discourage them from getting a unit in these White (segregated) areas (see, for example: Lawyers' Committee for Better Housing, 2002; The Equal Rights Center, 2013), even if voucher anti-discrimination laws were enforced at state, local or federal level (Poverty and Race Research Action Council, 2015). One of the most important barriers to moving to lower poverty areas is the refusal of many landlords in these areas to rent their housing units to "Voucher families", even if the rents charged are within the voucher program limits (Inclusive Communities Project, 2013; Rosenblatt P et al., 2015). Testing (with White and Black testers) also revealed that there was evidence that "Voucher holders" face additional discrimination based on "race" (Lawyers' Committee for Better Housing, 2002).

**One of the most important barriers to moving to lower poverty areas is the refusal of many landlords in these areas to rent their housing units to "Voucher families"**

Another observation was made, for example, in Dallas (Texas), about the fact that "Black voucher holders must pay more for the same quality of housing in non-minority concentrated, non-low-income areas compared to White voucher holders" (Inclusive

Communities Project, 2013). The same observations were made in different other cities<sup>73</sup> from HUD’S Customer Satisfaction Survey in 2011 (Early D. 2011) where “results [...] provide evidence to support the notion that minorities pay more than majority households to live in equally good housing”.

### 3.1.2 Mobility program counseling to help relocate to “opportunity areas”

To make Housing Voucher programs more effective, housing mobility counseling programs are ongoing in many cities across the U.S. They promote mobility from distressed, “racially” and economically segregated neighborhoods to “opportunity areas” and assist housing voucher holders with support and counseling.

Observations have shown that moving into a new environment (new neighborhood, new neighbors, new unit, living in the private-market instead of in public housing, in an area mostly composed of Whites when the former area was mostly composed of Blacks, with mixed-income families instead of mostly lower-income ones, etc.) remains very challenging, even with vouchers and counseling. And it is not unusual for families to move back to segregated - Black/poor - areas after having been in an “opportunity area”(Cunningham M.K. et al., 2005). To avoid these situations, and make voucher mobility more successful, mobility programs also provide post-move support for families with a counselor, “in [the] transition to a new community” (Cunningham M.K. et al., 2005<sup>74</sup>).

**Moving into a new environment remains very challenging, even with vouchers and counseling**

After a year in the mobility program, families with vouchers can move wherever they want and they tend to move frequently because of family preferences, market limitations or other external factors. Second-move counseling offered by mobility programs can help them find a new unit in an opportunity area, because it was observed that “each move raises the potential that a family can be drawn back into a voucher submarket or other high poverty area” (Engdahl L. 2009). And in Baltimore, it was observed by the Baltimore Housing Mobility Program (Engdahl L. 2009) that landlords in “voucher submarkets” were actively seeking voucher holders by putting, for example, advertisements in the daily newspaper the Baltimore Sun and on Craigslist, targeting “Section 8” and “second-year Metropolitan Baltimore Quadel participants”.

**Providing families with vouchers with a wide range of services is effective to help them to move to “opportunity areas” and to stay in such places**

According to data and testimonies from families and counselors, it is clear that providing families with vouchers with a wide range of services is effective to help them to move to “opportunity areas” and to stay in such places. For example, based on the 2012 data from the mobility program in Dallas, after moving, among HCV holders without assistance, 86% were living in areas identified as having some degree of opportunity and 14% in areas of increased opportunity, while among HCV holders who received a single element of assistance (increase payment standard 125% of the fair market rent) it was respectively 63% and 37%, and among those who received three elements of mobility assistance (counseling, 125% of the fair market and move-related financial assistance), it was 43% and 57% (Inclusive Communities Project, 2013). These data show that mobility assistance leads to a lower percentage of families with vouchers in poor neighborhoods, but also that multiple elements of assistance give better results than a single one.

Additionally, a study made on the Baltimore Mobility Program (Darrah J. et al., 2014) also showed that the intervention “has helped to reconfigure the residential choice frameworks of the families who received counseling and used their housing vouchers to move to low-poverty, mixed-race neighborhoods”.

73 Atlanta, Austin, Birmingham, Columbus, Denver-Boulder, Detroit-Ann Arbor, Greensboro-Winston-Salem-High Point, Hill and Richmond-Petersburg, Kileen-Temple, Knoxville, Milwaukee-Racine, Omaha, Philadelphia-Wilmington-Trenton, Portland-Vancouver and Seattle-Tacoma Charlotte-Gastonia-Rock.

74 Chapter 3. Mobility Counseling. Services and Benefits.

Analysis of HUD 2010 administrative nationwide data (Sard B et al., 2014) also show that having a voucher, even without support, has an effect in enabling minorities (i.e. Black or Hispanic) families with children to live in less-poor neighborhoods than similar poor families without a voucher: in 2010, for example, 17% of poor children in Black families that used vouchers were living in low-poverty neighborhoods<sup>75</sup>, while it was 7% for poor children overall (for Hispanic families, respectively 15% and 9%). By contrast, for poor children living in White families, having a voucher gave even less opportunity to live in low-poverty neighborhoods, respectively 24% and 26%<sup>76</sup>. At the same time, vouchers help Black and Hispanic families to avoid extreme-poverty neighborhoods<sup>77</sup>, 23% to 12% for Black families and 21% to 13% for Hispanic ones.

**Having a voucher, even without support, has an effect in enabling minorities families with children to live in less-poor neighborhoods**

### 3.1.3 The Gautreaux families' relocation and "retention of the neighborhood treatment"

The Gautreaux program, which could be defined as the very first housing mobility program based on Housing Vouchers, ran from 1976 to 1998. Around 7,100 families from Chicago public housing moved to mostly "white suburbs" around Chicago or within the city. Over half of them (being randomly assigned) moved to the suburbs of Chicago (Rosenbaum J.E. et al., 2001). On average, "Gautreaux Families" moved to a distance of 25 miles from their former home; only 10% moved less than 10 miles (Rosenbaum J.E. et al., 2001). The percentages of "minority" (that is mostly Blacks) in the new neighborhoods were around 10% on average and the poverty rate at 5.3% (Rosenbaum J.E. et al., 2001). Comparing different residential mobility programs' design characteristics and outcomes, B. Budnick (2011) underlined the fact that in the Gautreaux program families were relocated to neighborhoods quite far from the original ones (what she calls the "spatial distance") and with a high social contrasts (especially "racial" and economic ones) compared to the neighborhood they were coming from, what she calls the "social distance". L. Rubinowitz and J. Rosenbaum described the Gautreaux families relocated in stable and affluent suburban neighborhoods as "strangers in a strange land" (Rubinowitz L. et al., 2000, cited by Budnick B., 2011).

**"Strangers in a strange land"**

These relocations, with spatial and social distances from the former neighborhoods, were possible because the design program included three main interventions that were not provided (or not so intensely) in other mobility programs. Firstly, Gautreaux families could easily find affordable housing without depending on the housing market. As mentioned by B. Budnick, "During the Gautreaux I program, HUD contracted with the Illinois Housing Development Authority to make incentives available for developers who built housing specifically for Gautreaux participants [...]. The Gautreaux program was able to literally create the supply of affordable housing in opportunity areas" (Budnick B., 2011). Secondly, the program was able to exceed the limit of the prices of housing vouchers (up to 20%), which made it easier to find units in "opportunity areas". Thirdly, to avoid refusals by landlords to rent to Gautreaux participants and to avoid participants being themselves "racially" and economically discriminated, the Leadership Council, that administrated the Gautreaux program, negotiated itself with landlords and matched participants with addresses that were already located, negotiated and secured (Polikoff A., 2006, cited by Budnick B., 2011). As a consequence, the families did not have to deal themselves with the vouchers to find units that met all the standards, in areas that were under the line of 30% of Blacks in the census tract population and with landlords that were creating obstacles to rent to Black public housing families. In this regard, the Gautreaux program was more unit-based than tenant/voucher-based. In the later years of the program (in the 1990s), because the rental housing market was stronger, more families were made responsible to find units on their own, but the counselors, who previously negotiated with

**The families did not have to deal themselves with the vouchers to find units that met all the standards**

75 Less than 10% of residents have incomes below the poverty rate.

76 Which mean that even with a voucher a poor Black family has less opportunity to live in low-poor neighborhoods than a poor White family with or without a voucher.

77 40% or more of residents have incomes below the poverty rate (Sard B et al., 2014).

landlords for other families, could help them to negotiate (Polikoff A., 2006, cited by Budnick B., 2011). Because of this, most analyses focused on Gautreaux families that relocated before 1990 on “the assumption that pre-1990 placements were exogenous with respect to family characteristics or neighborhood preferences” (Votruba M. E. et al., 2009) which does not seem to be totally true because in the early years of the program families without car were more likely to be located within the city or in the inner suburbs (Keels M et al., 2005).

**Fifteen years after relocation, two-thirds of the Gautreaux families were still living in neighborhoods that were meeting the Gautreaux program requirements**

Fifteen years after relocation, two-thirds of the Gautreaux families were still living in neighborhoods that were meeting the Gautreaux program requirements (Rosenbaum J.E. et al., 2001). In a study conducted 22 years after relocation (Duncan G.J, et al., 2006), with respect to the “racial” composition of the neighborhoods, before moving, Gautreaux families were living in neighborhoods 83% composed of Black people, after moving, it was on average 28% and in the 22 years follow-up the mothers’ addresses were in neighborhoods 48% composed of Black people and the children’s addresses by 44%. Even if 22 years after the Gautreaux relocations, the places of residence were not meeting the Gautreaux program requirements any more (which was under 30% of Blacks), people were still living in much less Black-concentrated neighborhoods than they used to before the program. The equivalent data for poverty rates for mothers’ addresses are respectively 42%, 17%, 16% (for children’s addresses in the 22 year follow-up, 18%). These results show that the social environment obviously improved for Gautreaux families, relatively to what would have probably happened to these families without the Gautreaux Program.

**The social environment obviously improved for Gautreaux families**

However, many studies on the Gautreaux program (especially by J. Rosenbaum or S. DeLuca and colleagues) show that Gautreaux families initially experienced discrimination when they moved to “White suburbs” and had to comply with new social norms and to face up to “neighborhood resistance” to the movers. Some families also felt isolated from family and friends. But counselors, who were working in the Leadership Council helped to facilitate relationships between “old” residents and Gautreaux families. After a while, Gautreaux families were more likely to voluntarily adopt neighborhood norms, and “old” residents were more likely to help families (in terms of transportation or watching over their children, for example) and include them in the neighborhood. As written by Rosenbaum et al. about Gautreaux families “the new suburban social contexts provided a form of capital that enhanced people’s capabilities. Some mothers reported that they could count on neighbors if their child misbehaved or seemed at risk of getting into trouble, if their child was sick and couldn’t attend school, or if there was some threat to their children, apartments, or themselves. This was not just interpersonal support, it was systemic, and enabled these mothers to take actions and make commitments that otherwise would be difficult or risky” (Rosenbaum J.E. et al., 2001).

**Gautreaux families initially experienced discrimination when they moved to “White suburbs”**

The Gautreaux Program successfully enabled families to move to neighborhoods with low-poverty rates and low-Black density and to enable them to stay in such places. The impact on mobility and retention of the three main interventional studies made after the Gautreaux program on housing mobility provide contrasting and - in some ways - disappointing results.

### 3.1.4 Characteristics of MTO family’ relocations

The results of the Moving to Opportunity for Fair Housing Demonstration (we will use the acronym MTO) related to mobility’s characteristic show that less than half of the families (47.6%) in the “experimental” group (geographically targeted vouchers + counseling) used their housing vouchers to move to a track where the poverty rate was below 10% (i.e. “compliers”) (Sanbonmatsu L. et al., 2011). In comparison, the compliance rate in the “section 8 only” group, that is regular vouchers without counseling, was higher (66.4%), probably because the vouchers could be used anywhere, without any restriction. For families that moved, the poverty rate in the new neighborhood for the initial move was 10.7% in the “experimental” group, almost three times lower than in the “section 8 only” group (28.7%) to respectively 53.0% and 54.0% in the baseline address. But at the MTO long-term evaluation (10 to 15 years after baseline), the difference between the two groups

was very fine: on average, the poverty rate of the tracts where the “experimental” group households were living<sup>78</sup> was 21.0% vs. 24.4% in the “section 8 only” group. In the “control group” (no vouchers given for the demonstration), the poverty rate was 31.3% (to 53.1% in the baseline address), close to the one found for households who did not move from the “experimental” group (33.4%) or the “section 8 only” group (34.5%). So, MTO moves led to improvements in the neighborhood’s economic composition (in the three groups), but especially for the households who had a voucher at the beginning of the experimentation (“experimental” or “section 8 only”). The target on tracts where the poverty rate was below 10% and the counseling offered did not really give sustained improvements compared to non-targeted vouchers.

Moreover, because the target was focused on the economic composition of the neighborhood, and not the “racial” one, as it was in the Gautreaux Program, three-quarters of the MTO participants in the “experimental” group initially moved to neighborhoods composed of more than 30% of Black people<sup>79</sup>, in other words, they moved from “segregated poor” neighborhoods to “segregated non-poor” neighborhoods, compared to mostly Gautreaux families that moved to “integrated non-poor” neighborhoods. According to R. Sampson (2008), this spatial pattern shows a “striking social reproduction of disadvantage among MTO participants, experimental and control members alike. The pattern of neighborhood attainment flows is indistinguishable, suggesting a profound structural constraint”.

Also, another main characteristic of the mobility for MTO “experimental” group is the low spatial distance from the original neighborhood: 84% of the “compliers” in the “experimental” group moved less than 10 miles, and some moved less than one mile. Studies that were made of the MTO families showed that because of the low spatial distance, interactions with neighbors from the former neighborhood were ongoing after relocation. Moreover, 70% of the families that moved in the “experimental” group did not change school districts, and some children stayed in the school they used to attend before relocation. In contrast, because of the high spatial distance for Gautreaux families (25 miles on average), regular connections with the former neighborhood were not possible.

Finally, though families in the “experimental” group had to move to track where the poverty rate was under 10%, observations tend to show that MTO families moved into “micro-neighborhoods” (enclaves, Rosenbaum J.E., 2009) on tract boundaries adjoining higher-poverty tracts (“poor pockets within low-poverty tracts”, Budnick B., 2011).

The characteristics of the MTO relocations for the “experimental” group families (low social and spatial distance, and micro-enclaves) is the result of the experimentation’s design (with restrictions on poverty rate and not “racial” composition of the neighborhood) and the low level of counseling: families had to find a new unit by themselves and were mostly looking in neighborhoods they were familiar with, and not in “opportunity areas” unfamiliar to them. They also had to face “racial”, economic and voucher-holder discrimination from the landlords. So the majority failed to lease up and the ones who did moved where they could. In other words, MTO was not able to overcome all the challenges that are driving segregation in the U.S.

Despite that, MTO housing outcomes show that 10 to 15 years after first relocation, MTO moves in the “experimental” and “Section 8 only” groups had positive impacts, though smaller than expected, compared to the “control” group, in terms of neighborhood

**The target on tracts where the poverty rate was below 10% and the counseling offered did not really give sustained improvements compared to non-targeted vouchers**

**They moved from “segregated poor” neighborhoods to “segregated non-poor” neighborhoods**

**Another main characteristic of the mobility for MTO “experimental” group is the low spatial distance from the original neighborhood: 70% of the families that moved in the “experimental” group did not change school districts**

**MTO was not able to overcome all the challenges that are driving segregation in the U.S.**

78 Among “compliers”.

79 The divided line of 30% has been used by the authors, following the criteria of Gautreaux program (Clampet-Lundquist S. et al., 2008).

composition (less high-poverty tracts than the former ones and less-segregated - though still highly segregated -) and of the quality of the units (Sanbonmatsu L et al., 2011).

### 3.1.5 Characteristics of the WtWV families' relocations

The Effects of Housing Choice Families Experimental evaluation (we will use the acronym WtWV for Welfare to Work Vouchers) was designed with a random assignment to two groups: one (the "treatment" group) with vouchers without any geographical restriction (like a regular voucher or the "section 8 only" MTO group) and the other one a "control" group who did not receive a voucher at the time of the random (equivalent to MTO "control" group). As underlined in the second part, only 7% of the WtWV families were public housing residents when they enrolled in the demonstration, while MTO families were all public housing residents. Forty-two months after enrollment (i.e. at the end of the demonstration), the lease-up rates were 67% for the "treatment" group (equal to the one - 66% - for the "section 8 only" group in MTO Demonstration) vs. 41% for the "control" group. But it is interesting to underline the fact that after 6 months, the lease-up rate was already around 60% in the "treatment" group, while it was less than 5% in the control" group. It became close to the final result (around 40%) 24 months after enrollment.

Two important results related to housing and neighborhoods should be mentioned.

- The first one, based on the follow-up survey 4 years after random assignment, is that homelessness was nearly eliminated within families that used their vouchers. In the "control" group, 45% declared that at some point in the past year they did not have a place of their own to stay, 13% had to live in the streets or in shelters and 31% with friends or relatives. The impact of vouchers reduced the incidence of being without a place by 79%, to live in the streets or in shelters by 74% and to live with friends or relatives by 69%. And the analysis by subgroups showed that the decrease was higher for two of the most vulnerable subgroups: people who said when they enrolled that their eligibility for TANF will expire within six months; households whose head was unemployed.
- The second main result is that using a voucher helped to move to more affluent neighborhoods. Firstly, vouchers increased the impact of moving out of the baseline Census tract by the end of the demonstration and reduced the average of moves, that is, probably increased housing stability. In these cases too, the improvements were higher for the most vulnerable families who were living in stressful housing conditions: public or assisted housing families, less educated families, unemployed, never employed, etc. Secondly, voucher users at the end of the demonstration were more likely than "control" group members to live in neighborhoods where the poverty rates and welfare receipts were lower and the employment rates higher and where the concentration of Blacks was lower as well as the one of single-parent households<sup>80</sup>. The differences were statistically significant, but quite modest. The authors suggested that "voucher assistance alone, without constraints on location or supplemental counseling or search assistance, does not result in substantial improvements in neighborhood characteristics" (Wood M. et al., 2008).

**Homelessness was nearly eliminated within families that used their vouchers**

**Using a voucher helped to move to more affluent neighborhoods**

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<sup>80</sup> No impact was found between voucher users and non-users in terms of educational attainment rate in the neighborhood.

### 3.1.6 Impact of Chicago Family Case Management Demonstration (2007-2010)

As underlined in the preceding section, the Chicago Family Case Management Demonstration (we will use the acronym CFCM Demonstration) is not a mobility program but a wide range of services program provided to households who had to move. One of the objectives was to give support and counseling to households to help them relocate into better neighborhoods that offered greater opportunities. Households had three options for relocation: public housing development, private-market with vouchers or mixed-income development. Most households (59%) moved into public housing, only 28% chose vouchers and 13% mixed-income development. For comparison, the results were very different in the Chicago Panel Study where most residents (53%) moved with a voucher and only 12% stayed in public housing (Theodos B. et al., 2010b). As a result, Demonstration participants stayed within Chicago city, in high poverty and segregated neighborhoods: on average, they moved to neighborhoods with 79% of Blacks in the population (the former neighborhoods were on average 86%) and a poverty rate of 28%. In 2009, only 26 families among around 500 moved to a low-poverty area, and just 4 moved to what is called an opportunity area. As suggested by the authors of one of the evaluations, “Many residents were simply not ready to make a move with a voucher at all, let alone a more challenging move to an unfamiliar, low-poverty area” (Popkin S.J. et al., 2008).

**The results were quite disappointing, even though the target group was “hard to house” public housing families**

According to the means and services included in the case management Demonstration to support families, the results were quite disappointing, even though the target group was “hard to house” public housing families.

## 3.2 Do mobility programs improve some determinants of participants' health?

The question of whether moving to an “opportunity area” can provide better health is associated with another one that is whether moving improves the social conditions that will influence determinants of health. Three main fields, known for their links with health, can be examined in the light of research results: education, employment, social interaction and networks. Increasing educational attainment, economic integration and social network diversity can lead to improved behavior relating to health in general.

**The Gautreaux program had dramatic effects on educational outcomes for suburban movers. Very poor to no impacts were found for most of the outcomes related to education**

### 3.2.1 Effects on education

The Gautreaux program had dramatic effects on educational outcomes for suburban movers, unlike the results from the Moving to Opportunity demonstration (MTO), the Effects of Housing Choice Families Experimental evaluation (WtWV) and the Chicago Family Case Management (CFCM) demonstration that were disappointing. Very poor to no impacts were found for most of the outcomes related to education (performance, rate of school failure, of truancy, of graduates, of repeating a year, etc.).

Studies (see for example: Rosenbaum J.E. et al, 2001; Rosenbaum J.E., 1995) of the Gautreaux program found significant and large differences in educational outcomes between suburban children movers and city ones. Children who moved to the suburbs (i.e. with less low-income and minorities) were more likely to complete a high school diploma, to be in the college track in high school, to attend college and to attend a four-year college. And when they were not in college, they were also more likely than within city movers to be employed and to have a job with better pay.

For the MTO demonstration, children in the “experimental” group did not perform better than in the “control” group in reading and mathematics achievement tests, or in terms of suspensions, expulsions, and school engagement. These findings can be explained by the fact that most of the “treatment” group movers (70%) stayed in the same school districts and sometimes it resulted in no change of school (Sanbonmatsu L. et al. 2011; DeLuca S, et al., 2010b). As a consequence, less than 10% of MTO “experimental” groups

attended schools with above-average achievement test scores, compared to 88% for Gautreaux suburban movers (Rosenbaum J.E. 2009).

In the interim evaluation, as well as in the long-term survey, MTO results showed that even younger children, who were preschoolers when they moved, did not improve their school achievement compared to “control” group counterparts. As the authors wrote “The null result on achievement test scores holds even for the subset of children who were less than 6 years old at the time of study enrollment—those who had been hypothesized to benefit the most from moves to lower poverty neighborhoods” (Sanbonmatsu L. et al. 2011).

But new analyses, based on MTO data, have been recently published (Chetty R. et al., 2015) that “revisit the MTO experiment”, in the words of the author, and completely contradict previous results that were so far considered reliable and definitive. The results, based on MTO survey and administrative data from tax returns, show that, for children who were below age 13 when their family moved, relocation to a lower-poverty area improved long-term economic outcomes, such as college attendance, earnings, living in a better neighborhood as adult, not being a single parent for females. By contrast, for children who moved at 13 or after, the impact was negative. For example, “experimental group” children whose families moved to a lower-poverty area when they were below age 13 years had in their mid-twenties an annual income of \$3,477 (31%) higher on average compared to a mean of \$11,270 in the “control” group. By contrast, the same moves had a negative effect on children who were aged 13-18 when their families moved, reducing the annual income by \$967 compared to the mean. One of the Chetty and colleagues’ explanations for the negative impacts at older ages is “a disruption effect: moving to a very different environment, especially as an adolescent, could disrupt social networks and have other adverse effects on child development” (Chetty R. et al., 2015). This explanation seems to be consistent with the observation found on the impact of housing mobility on health outcomes for youth (see previous part).

**For children who were below age 13 when their family moved, relocation to a lower-poverty area improved long-term economic outcomes, by contrast, for children who moved at 13 or after, the impact was negative**

As a consequence, in the previous studies made of MTO, children taken all together, no impact to limited impacts were found because of reverse effects in age groups. In addition, in the previous researches, the MTO younger children were not old enough to be “adults” and to be already in the labor market. Thus, these trends could not be already tracked.

The final WtWV evaluation did not show any difference in terms of educational outcomes for children with vouchers and children without, but the follow-up survey was made only 4-5 years after relocation and the children, at the time of relocation, were not yet adults.

For regular voucher holders, a nationwide study made in 2008 (Ellen I.G. et al., 2012) showed that households with children receiving vouchers were less likely than all poor households with children to live near a better-performing elementary school<sup>81</sup>, more likely to live near a school ranked in the bottom 10% and as likely to live near a school where more than 80% of the children in the school have incomes low enough to qualify for free or reduced-price school meals. Major differences were found between “racial” groups (White voucher families were far more likely to live near a high-performing school than non-White ones) but differences in school performance levels between voucher holders of a given “race” and poor non-voucher holders of the same “race” were narrow. This unexpected result shows that residential segregation stops families with vouchers from moving to neighborhoods with better schools, probably because, with all the restrictions on vouchers, they cannot find any affordable housing in neighborhoods with high-performing schools. Mobility programs can thus be a tool to help families with vouchers to find housing in neighborhoods with high-performing schools. And it is well known that the link between education and health is strong: improving educational attainment among young is a real challenge for improving their health.

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81 Ranked in top 50<sup>th</sup> percentile.

**The impact of mobility in an “opportunity area” on employment and earnings depends a lot on the design of the mobility programs, but also on the outcomes selected to track the changes**

### 3.2.2 Effects on employment and earnings

The impact of mobility in an “opportunity area” on employment and earnings depends a lot on the design of the mobility programs, but also on the outcomes selected to track the changes. Thus, the answer to the question of whether mobility programs increase employment and earnings cannot be unequivocal.

The earlier research on the Gautreaux program found improvements in employment rates among households (mostly women single-parents) who moved to suburban areas, compared to those who moved to Chicago city, especially women who were unemployed at the time of relocation (Rosenbaum J.E. et al., 2001).

But studies made 15 to 22 years after the Gautreaux program relocation found that families placed in suburban neighborhoods were on welfare (AFDC) as often as families placed within Chicago. This means that employment rates and thus economic independence were at the same level in both placement locations (Duncan G.J. et al., 2006; DeLuca S. et al., 2010a). More detailed analyses found that the effects on employment did not depend on whether placement was in the suburb or in the city of Chicago but on the combination of the economic and “racial” characteristics of the neighborhood where families were initially placed. Being in a neighborhood mostly composed of people with low resources and highly Black segregated areas did not give any opportunity for work. As a result (DeLuca S. et al., 2010a; Mendenhall R. et al., 2006), women who were initially placed in a neighborhood with 10% or less of Blacks in the population and moderate to high level resources<sup>82</sup> neighborhoods were more likely to have been employed more often than women who were placed in highly Black segregated neighborhoods (more than 60% of Blacks) with low levels of resources. Women also spent 7% less time on welfare. As underlined by R. Mendenhall and colleagues “city or suburban placement is not as important for employment outcomes as avoiding neighborhoods with a high degree of racial segregation and few resources”.

The MTO demonstration found that families from the “experimental” group were not more likely to be employed, did not earn more and were not less on welfare than “control” group families (Sanbonmatsu L. et al., 2011; Duncan G.J. et al., 2006). The main explanation for these disappointing results was that because of the short distance of relocation from the former neighborhood, the labor market was quite similar to the one they left. The labor market of some “experimental” group neighborhoods was even worse than the former ones, especially because, at the same time, the former ones were under Welfare to Work programs and the labor market was on an upward trend. Thus, some families moved to poor labor market neighborhoods from neighborhoods that became high labor markets. In these cases, gains on employment outcomes were higher for the “control” group than for the “experimental” one (Rosenbaum J.E., 2009).

The Effects of Housing Choice Families Experimental evaluation (WtWV) also gave disappointing results (Wood M et al., 2008) with no impact on employment and earnings for “treatment” (i.e. housing vouchers) group families. Families with vouchers worked no more or less than “control” group families. Some of the major barriers to finding a job were structural: lack of adequate child care, lack of public transportation to/from work or for people that were working in evening or night shifts. Other problems were linked to the fact that almost all families were single-parent (women), meaning that the adult had to be available for children (to pick them up at school or in case of illness), and these issues limited their capacity for employment.

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<sup>82</sup> The resources of a neighborhood is understood as assets like education, income, safety and jobs that may facilitate work and decrease Federal assistance. For the research on Gautreaux program, the resources index was created by measures of crime level, unemployment, family income, individuals with a college degree or more. (Mendenhall R. et al., 2006)

**The effects on employment did not depend on whether placement was in the suburb or in the city of Chicago but on the combination of the economic and “racial” characteristics of the neighborhood**

**Some families moved to poor labor market neighborhoods from neighborhoods that became high labor markets**

**Vouchers do not appear to discourage employment over the long-term**

If the Experimentation did not increase the employment rate among voucher families, it did not decrease it either, and this last point can be seen as an interesting result (if not positive). As underlined by the authors (Wood M et al., 2008) “despite providing a rental subsidy that is determined by household income, vouchers do not appear to discourage employment over the long-term. The hypothesized reductions in work effort based on economic theory were not borne out by this study”.

In the Chicago Family Case Management Demonstration, data based on the first two years of surveys showed that employment outcomes were significantly better in 2009 than in 2007, despite the Great Recession of 2007-2009. For example, the percentage of adults that were currently working for pay went from 49% to 60%. But from 2009 to 2011, no improvement was found (60% to 55%).

**It was found a strong association between poor health and low employment rates in the 10-year tracking HOPE VI Panel residents**

Among families that relocated to rehabilitated public housing, employment rates increased 18 percentage points from 2007 to 2011 (33% to 51%) and 70% reported being employed in the last year, a 25 percentage point increase from 2007. As suggested by the authors (Popkin S. et al., 2013c), this result could be explained because the families relocated in public housing were subject to the “CHA’s work requirement, which requires all able-bodied public housing residents to work or be engaged in employment-related activities for 20 hours a week”. Also, the increases in employment could be linked to improvement in physical and mental health, especially among families who relocated to public housing, as the authors found a strong association between poor health and low employment rates in the 10-year tracking HOPE VI Panel residents as well as in the Demonstration 2009 Survey (Popkin S. et al., 2013c).

### 3.2.3 Effects on social interaction and networks

One of the hypotheses about mobility is that moving to low-poverty/less segregated neighborhoods will offer the opportunity to have social interaction with positive and various new peers that can have other influences.

Studies made on the Gautreaux program and on the MTO demonstration provide information on changes in the social interaction and networking after relocation.

**Movers had difficulties getting used to their new neighborhood and to the social environment**

The effect of moving into a new neighborhood on social networking leads to major differences for MTO and for Gautreaux families, mainly because of the spatial and social distances on relocation between the two programs. Nevertheless, one constant can be found for both programs: movers had difficulties getting used to their new neighborhood and to the social environment.

In the MTO demonstration, for example, relocation was difficult for male youth, especially when they were older at the time of relocation. For the older ones, social links with the former neighborhood were difficult to break. It was expected that the families relocated would break the links with the former neighborhood as they would integrated into the new one. This is one of the hypotheses of the negative impact of relocation on educational outcomes for the MTO teenagers that moved when they were more than 12 years old (Chetty R et al., 2015). That is also one of the hypotheses for the negative impact of relocation on risky and criminal behavior: MTO male youth engaged in more problem behavior than “control” group youth and had more difficulties fitting in with the norms of the new neighborhood (Clampet-Lundquist S. et al., 2011), probably because of continuing connections with the former neighborhood. In a qualitative study made on MTO families, more than half of the movers (“experimental” and “Section 8 only” groups) described strong continuing connections to their public housing neighborhoods. “A few respondents said they spent most of their free time in the public housing development, and many spoke of older children who either remained in the development or spent most of their time visiting friends or relatives there. Many of the children we interviewed reported visiting their former developments on a regular basis to see relatives or friends. [...] In one instance, a girl in Chicago told the interviewer that her brother returns to their former public housing development for weeks at a time to sell drugs” (Popkin S. et al., 2002b). In another qualitative study made on MTO, it was found that male youth from the “experimental” group

were less selective in forging friendships and more likely to interact with delinquent peers. Evidence was found that it influenced their own delinquent behavior (Clampet-Lundquist S., 2011).

Because most of the Gautreaux families moved to suburbs that were far from the former neighborhoods, it was difficult to maintain strong interaction with them. Contacts with friends, relatives or the church community from the former neighborhood were limited to occasional visits and most of the time teenagers were accompanied by their parents when they were going to the former neighborhood (for example, for church activities, family meals, etc.).

For adults (mainly women) who moved to suburban areas and left neighborhoods “that were over 90 percent Black and entered areas that averaged 96 percent white” (Rubinowitz L. et al., 2000), the interaction, support and friendship with neighbors was not easy and they felt quite isolated at the beginning. Even if Gautreaux suburban movers had more interaction with neighbors (like visiting, talking on the phone, sharing babysitting, etc.) than city movers, and had also friendship relationships with more neighbors than the city movers, they had to experience many negative incidents. These incidents were harassment, “racial” insults, exclusion and race-based social rejection and hostility. In their daily activities, for example in a grocery, Gautreaux women felt uncomfortable because people were staring at them, or they were ignored by store employees or the opposite, placed under constant surveillance because suspected of stealing. Some white parents prevented their children from playing with Black children, etc. Six months after moving, the suburban movers were twice as likely as the city movers to report negative incidents (36% vs. 15%). But six to twelve months after relocation, Gautreaux families experienced fewer incidents, prejudice against them declined, general acceptance increased, “suburban movers received enough acceptance from their new communities to feel socially integrated” and some movers found “a sense of community” that they could not find in the former neighborhood. As underlined by L. Rubinowitz and J. Rosenbaum (2000), “the reports of social exclusion provided a catalyst for change”. For example, the collecting of signatures for a petition to evict a Black family from a building led to positive reactions against this offensive action, like getting friendlier with the new neighbors, in addition to refusals to sign. And a follow-up survey found that children suburban movers were as likely to interact with neighbors as city movers, but interacted more with White children while city movers interacted mostly with Black children (Rosenbaum J.E. et al., 2001).

**Children suburban movers were as likely to interact with neighbors as city movers, but interacted more with White children while city movers interacted mostly with Black children**

The Gautreaux program seems to have been effective at creating interaction between Gautreaux families and their new neighbors, and at allowing links between low-income Black families and middle-class White families that probably would not have been possible without the program.

### 3.3 Does housing mobility improve participants’ health outcomes?

If improvements in health are expected in housing mobility from highly-poor/segregated neighborhoods and distressed housing to lower-poor/segregated neighborhoods and better housing conditions, the baseline and follow-up surveys in most of the demonstrations/evaluations are quite poor for tracking health outcomes (unlike employment outcomes and education attainment). This can be explained by the fact that most of the evaluations/demonstrations do not include public health experts. And even if some health outcomes are included in the surveys, the design and/or the health outcomes usually do not meet<sup>83</sup> all the “standards” in epidemiology (usually multi-site randomized

**The impact on health differs a lot depending on whether relocations are voluntary or involuntary**

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83 Small samples, control groups that are not really “control” group, like for MTO (see pp. 27-30), poor health outcomes, etc.

controlled trials). Nevertheless, the accumulation of evidence goes in the same directions, even if the outcomes/design of the demonstrations are not strictly equivalent, thus giving some useful information.

The lessons learned from housing mobility show firstly that the impact on health differs a lot depending on whether relocations are voluntary or involuntary. The studies made of HOPE VI's involuntary relocations have yielded interesting observations.

### 3.3.1 Impact of involuntary HOPE VI relocations on residents' health

Analyses of the impact of HOPE VI<sup>84</sup> relocations on residents' health were made with the national study of outcomes for HOPE VI, called HOPE VI Panel Study<sup>85</sup>. According to the study, most residents who were relocated had not moved back and were living in substantially better housing and in neighborhoods that were much safer and had a healthier environment. But, depending on the kind of relocation (private-market housing with assistance<sup>86</sup> or public housing), the impact of moving on children was the opposite: while children who moved to the private-market were doing better, those whose families moved to public housing were still facing a lot of problems at school as well as in delinquent behaviors. Nevertheless, even though residents who moved to private-market housing were in a better situation than the others, they were facing more financial difficulties. For example, at the 2005 follow-up, they were significantly more likely than public housing residents to report financial difficulties in providing adequate food for their family (62% vs. 47%). Moreover, in the baseline survey in 2001 like in the 2005 follow-up survey, HOPE VI residents self-reported extremely poor health, even worse than reported by a national sample of Black women, a group with higher rates of poor health. For example, in 2005, at age 18-44, 26% of HOPE VI residents reported fair or poor health. It was the case of 10% of U.S. Black women and 6% of the total U.S. national sample (at age 45-64, percentages were respectively 58%, 28% and 15%) (Manjarrez C. et al., 2007).

And the health outcomes (especially the presence of chronic illness needing regular ongoing care) made with the follow-up survey in 2005 findings showed that this problem intensified over time (Manjarrez C. et al., 2007; Popkin, S. et al., 2002a; Howell E. et al., 2005). In 2005, nearly three-quarters of HOPE VI residents declared that their doctor told them that they had at least one of the illnesses; almost half reported two or more and nearly a quarter three or more. No change in reporting multiple problems was found between 2003 and 2005, but the number of respondents who declared that their health condition needed regular ongoing care increased. A total of 45% in 2005 declared a need for ongoing care, to 40% in 2003 and 36% in 2001<sup>87</sup>. And for residents who moved to private-market housing - and experienced an improvement in living conditions - the worst result is that no evidence was found that these changes affected their health. There was also no evidence that the type of housing they were living in affected their self-reported health: private-market renters were as likely to report poor health as those living in public housing. In addition, the mortality rates, tracked for the HOPE VI residents, were at a very high level: in 2005, at age 55-64 for example, deaths per 1,000 people were 25 for HOPE VI women, 7 for all women in a sample of the National Health Interview Survey and 12 for Black women in the same sample of the National survey (Manjarrez C. et al., 2007): being twice as low as for HOPE VI women. As suggested by the investigators of the HOPE VI Panel Study (Manjarrez C. et al., 2007): "respondents' health might already have been so

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84 As a reminder, the rehabilitation and revitalization program called HOPE VI began in 1992 and ended in 2009. See pp. 22-23.

85 The Urban Institute's HOPE VI Panel Study has been tracking a sample of 887 residents from five distressed public housing developments that were slated for redevelopment in 1999 and 2000. The residents were surveyed before relocation in 2001, and again in 2003 and 2005. See all reports and articles <http://www.urban.org>. (Viewed February, 26, 2016).

86 i.e. vouchers. See above the part on Tenant-Based Assistance.

87 arthritis, asthma, obesity, depression, diabetes, hypertension, stroke. (Manjarrez C. et al., 2007).

**For residents who moved to private-market housing - and experienced an improvement in living conditions - the worst result is that no evidence was found that these changes affected their health**

**The reduction of crime rates was found in all HOPE VI sites**

poor by the time they relocated that even a dramatic improvement in their living environment may not have been sufficient to produce detectable improvements”.

Analyses of the impact of HOPE VI on neighborhood conditions differ a lot, depending on the HOPE VI sites, the studies and/or the kind of conditions that were tracked. Some sites<sup>88</sup>, and surrounding neighborhoods, have made improvements in community infrastructures (police stations, medical centers, job training centers, schools), some others have shown an increase in the average income of HOPE VI residents' neighborhoods, a decrease of unemployment rate and rate of households with low-income<sup>89</sup>. The reduction of crime rates was also found in all HOPE VI sites in the Cross-site Interim Assessment of the HOPE VI Program. Though the causality between the decrease in crime rate and the revitalization program is impossible to demonstrate, the authors of the assessment show that the decrease in the crime rate was faster in some HOPE VI sites (Boston, Milwaukee, Charlotte, for example) than in other areas of the same cities at the same period, while it was similar or less in others (Baltimore for example) (Holin M.J. et al., 2003).

Other studies of HOPE VI residents, and more generally of involuntary relocations, pointed out the deleterious effects (Popkin S., 2014b) of “Serial Forced Displacement” in the words of Mindy Fullilove and colleagues (2011): stress, intense instability, loss of social support and supportive services, target of violence in the new neighborhoods (Hailey, C. et al., 2013), psychological trauma associated with “community dispossession and uprooting” (Keene D. et al., 2011), etc. Adolescents seemed to suffer the most from these forced relocations (Adams, G. et al., 2014), losing friends and social status and having conflicts with kids in their new neighborhoods. Finally, the effects of “forced relocations” due to rehabilitation and demolition could largely reduce, even cancel, the benefits of living in decent housing and healthier neighborhoods.

**People were reporting less stress and that they felt safer and less worried about crime**

Most of the information on the impact of voluntary housing mobility on physical and mental health comes from the MTO demonstration and the WtWV demonstration. A few elements can also be taken from some of the ongoing mobility programs that were made after public housing desegregation lawsuits, especially in Baltimore and Chicago, where health interventions were included in the mobility program services (Kruckenberg K et al. 2009). Taking the example of the Baltimore Housing Mobility Program that started in 2003, which originated as a partial settlement of *Thompson v. HUD* (1995-2003), results (Engdahl L. 2009) show that families moved to dramatically different neighborhoods, and most of them were satisfied with their new units and neighborhoods. In a survey made in 2008, a large part of the families that moved to opportunity areas said that their quality of life had improved since they moved, that they felt safer and more motivated and that the neighborhood was offering a better environment for children. Families also reported health gains. Survey respondents reported that they felt healthier and their children's health was much better than it used to be before moving. A reduction in their children's asthma attacks after moving to a suburban area with more open space and better air quality was also frequently cited during the interviews made with families. In the 2008 survey, responses were describing improvements to quality of life and probably to what could be called mental health outcomes. People were reporting less stress and that they felt safer and less worried about crime. The safer environment where they were living was the opposite of what they had experienced, trying to protect their children from the violence and negative peer influences in their former neighborhoods.

Unfortunately, no health data were collected about Gautreaux families, except a study on the mortality of “Gautreaux black male youth” (Votruba M. E. et al., 2009).

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<sup>88</sup> like in Seattle, Saint Louis and Atlanta (Popkin S.J. et al., 2004).

<sup>89</sup> Atlanta, Boston, Charlotte, Denver, El Paso, Milwaukee, Philadelphia and Seattle. (Popkin S.J. et al., 2004).

### 3.3.2 Strong reduction in mortality among male youth engaged in the Gautreaux program

**A strong reduction in mortality, especially due to homicides**

Votruba's research showed a strong reduction in mortality, especially due to homicides. Based on data on the families participating in Gautreaux, census tracts level data and data from the National Death Index, the results show that relocating to more-advantaged neighborhoods had a substantial impact on the mortality risks of Black male youth, especially for those relocated in more highly educated neighborhoods. These findings were consistent with others results (DeLuca, S. et al., 2010a) on the Gautreaux program that showed that relocation to low-poverty or suburban neighborhoods was associated for young males with a reduction in criminal arrests and convictions (primarily for drug offenses). These observations could thus explain the reduction in homicide mortality. According to the authors of the research made on mortality, "the percentage of residents with a college education stood out as the most powerful independent predictor of reduced mortality [...] while neighborhood poverty rates, racial composition and female headship rates demonstrated substantially weaker associations". The authors suggest different assumptions to explain it: in more highly educated neighborhoods, social norms could exist that discourage activities (such as violence, drug use and sale, etc.) associated with youth mortality risks. The amount of public safety resources might also be higher in highly educated areas. Finally, more highly educated people could also be more attracted to safer neighborhoods.

**The percentage of residents with a college education stood out as the most powerful independent predictor of reduced mortality**

Because of the lack of a control group, the 2005 data on mortality for HOPE VI residents do not allow us to determine whether relocation to better housing and neighborhoods had an impact on mortality. But, it is obvious that the mortality of the people who lived in distressed public housing was very high: the mortality rates for HOPE VI women were three times higher than all women in a national sample and twice as higher as only Black women from the national sample (Manjarrez C. et al., 2007).

### 3.3.3 The MTO's health outcomes for adults at the time of the long-term evaluation

**Some biometric data were also collected for adults and youth**

The final and general (i.e. all sites taken together) results of the MTO Demonstration (Sanbonmatsu L. et al., 2011) on health are based on the follow-up survey made ten to fifteen years after random assignment (and after the baseline survey). The final evaluation is a double comparison between long-term outcomes firstly in the "experimental" group vs. "control" group, secondly in the "section 8 only" group vs. "control" group. Given our interest, we looked at the health effect on households who actually leased up and moved through MTO, that is what the authors called "treatment on the treated" (TOT) results.

Originally, the MTO Demonstration was not designed with a central focus on health. But because the interim survey gave some interesting results on health outcomes, in addition to self-reported health for adults and youth, some biometric data were also collected for adults and youth as well as more mental health outcomes in the follow-up survey.

Altogether, around 50 physical health outcome measures were collected based on:

- Self-reported questions on self-rated health, diabetes, asthma, health limitations, chronic pain, chronic health problems, smoking and drinking, dental health, exercise and sedentary behavior, diet and healthcare access;
- Physical biomarkers collected by the interviewers on height, weight, waist circumference and blood pressure;

- Blood samples<sup>90</sup> based on dried blood spot assays for diabetes with HbA1c level and a measure of high-sensitivity C-reactive protein (hs-CRP), a biomarker of inflammation, that emerged in the mid-2000s as an important predictor of cardiovascular disease.

If the baseline survey did not include mental health questions, the interim and, even more, the follow-up survey, included a lot of questions based on national scales, scores and diagnostic interviews:

- Measures of psychological distress (K6 score), a strengths and difficulties questionnaire, a measure of severity of substance dependence;
- Prevalence of disorders, such as depression, bipolar disorder, anxiety, panic disorder, Post-Traumatic Stress Disorder (PTSD) and intermittent-explosive disorder;
- Measures of mental health or substance abuse services use.

Among the 53 physical health outcomes that were tested for adults (i.e. 106 tests for all comparisons), only 11 were statistically significant at 5% (16 at 10%)<sup>91</sup>. If we sum-up the kinds of health outcomes that were different for “treatment” groups, in the broad sense of the word (“experimental” and “section 8” groups), vs. “control” group, only two fields were statistically significant: overweight/obesity and diabetes.

**An effect was found in both groups for severe obesity (BMI<sub>≥</sub>35)**

- For both “experimental” and “section 8” group, compared to “control” group, no effect was found on waist circumference, on overweight but not obesity ( $25 \leq \text{BMI} < 30$ ) or on current obesity ( $\text{BMI} \geq 30$ ). But an effect was found in both groups for severe obesity ( $\text{BMI} \geq 35$ ): on average, adults in both “treatment” groups were less likely to have severe obesity. On average, 35.1% of adults in the “control” group had a  $\text{BMI} \geq 35$ . The estimated effect (statistically significant at 5%) on the likelihood of having severe obesity in the “experimental” group was 9.5 percentage points less likely than in the “control” group (an effect that is equal to about 27% of the “control” group’s prevalence). For the “section 8 only” group, the estimated effect was 8.6 percentage points less (about 25% of the “control” group’s prevalence). Only for the “experimental” group, a statistically significant effect of -7.1% was also found for morbid obesity ( $\text{BMI} \geq 40$ ), which was around 40% of the “control” group’s prevalence of morbid obesity that was of 17.5%.
- The “control” group’s diabetes prevalence based on a self-reported question<sup>92</sup> was 19.3%. Effect for diabetes was found in both “treatment” groups: households in “treatment” groups were less likely to declare diabetes, with an estimated effect in the “experimental” group of 5.6 percentage points less likely than the “control” group (statistically significant at 10%) and in the “section 8 only” group of 9.1 percentage points (statistically significant at 5%). in the “experimental” group, the effect on diabetes prevalence was also statistically significant at 5% for test-detected diabetes in blood samples ( $\text{HbA1c} \geq 6.5\%$ ): the “experimental” group was 10.8 percentage points less likely than in the “control” group to have diabetes, which was around 50% of the “control” group’s prevalence of detected diabetes that was of 20.4%. These results are consistent with the predictor of cardiovascular disease outcome protein (hs-CRP): the “experimental” group was 8.7 percentage points less likely (statistically significant at 10%) than the “control” group to have  $\text{Hs-CRP} > 3 \text{ mg/L}$ .

**Effect for diabetes was found in both “treatment” groups**

90 The consent rate to collect blood was over 90% among MTO adults with an additional \$25 incentive. Participants who indicate having hemophilia, taking anticoagulants or blood thinners were excluded from the blood spot collection. (Sanbonmatsu L. et al., 2011). These exclusions could have contributed to underestimate especially cardiovascular disease prevalence among participants.

91 Sanbonmatsu L. et al., 2011: Exhibit 3.2 p. 90-92., Supplemental Exhibit 3.2, p. 107 and Supplemental Exhibit 3.4, p. 110

92 ever told by a doctor that they had diabetes or high blood sugar.

No effect was found for the other physical health outcomes: self-rated health, hypertension, asthma, chronic pain and health problems (such as arthritis or rheumatism, severe or frequent headaches, back or neck pain, number of days of injury/illness that kept adults in bed more than half day), exercise and inactivity, nutrition, sleep and health care access.

**Among the 35 mental health outcomes, the results are unclear and sometimes contradictory or unexpected**

Among the 35 mental health outcomes that were tested for adults (i.e. 70 tests for all comparisons), only 4 were statistically significant at 5% (7 at 10%)<sup>93</sup>. The results are unclear and sometimes contradictory or unexpected. If we consider psychological distress in the past 30 days measured with the Kessler 6 score -K6-, the K6-score is on average lower (and the difference is statistically significant at 5%) in the “experimental” group than in the “control” group. It indicates that the “experimental” group was in a better situation. But at the same time, the prevalence of serious mental illness, also measured by K6-score ( $K6 \geq 13$ ) was similar for both groups. Moreover, there was no statistically difference between “section 8 only” group and “control” group, for K6-score (on average as well as for prevalence of  $K6 \geq 13$ ). Nevertheless, the prevalence of major depression in lifetime was lower for both “treatment” groups compared to “control” group (but similar in both groups for the past year). For the “experimental” group, the estimated effect (statistically significant at 10%) on the likelihood of having major depression in lifetime was 6.6 percentage points less likely than in the “control” group where the group’s prevalence was 20.3%. In the “Section 8 only” group, it was 7.7 percentage points less likely (statistically significant at 5%). Finally, the prevalence of dependence on drugs or alcohol was higher in the “experimental” group than in the “control” group (+ 6 points on the control’s group’s prevalence of 5.5% with statistically significant at 5%). The score of Severity of dependence scale was also on average higher in the “experimental” group ( $p < 0.05$ ), meaning more drugs and alcohol dependence problems in the “experimental” group. As written by the authors’ Final Impact Evaluation (Sanbonmatsu L. et al., 2011) to explain these results, “it is possible that moves could have adverse effects by leaving MTO family members socially or culturally isolated in their new neighborhoods”.

**Compared to the number of health outcomes tested, the overall results are quite modest and disappointing**

For both “treatment” groups compared to “control” group, there was no difference in lifetime and/or in the past year for mental calm, bipolar, generalized anxiety disorder, panic disorder, panic attacks, post-traumatic stress disorder (PTSD), intermittent-explosive disorder, anxiety disorder, mood disorder, any number of disorders, mental health index and mental health services use.

**The amplitude of MTO effects on diabetes is similar to the one found in the Diabetes Prevention Program**

Compared to the number of health outcomes tested, the overall results of moving from public housing in a poor neighborhood to a private unit in a low-poor neighborhood seem quite modest and disappointing in terms of adults’ health. But significant effects are related to some of the main challenges for public health among U.S. adults, obesity (with a prevalence of 34.9% among U.S. adults in 2011-2012<sup>94</sup>) and diabetes (12.3% in 2012<sup>95</sup>). Moreover, as underlined by the MTO team (Sanbonmatsu L. et al., 2012), the effect on diabetes (-10.8 percentage points than the “control” group) is very large if one thinks that MTO is not a public health intervention, and unexpected. The amplitude of MTO effects on diabetes is similar to the one found in the Diabetes Prevention Program that was made in clinical centers across the U.S., with a reduction of incidence of around 34% over a 10 year-period, like the one estimated for MTO, based on baseline and final control prevalence (Sanbonmatsu L. et al., 2012).

93 Sanbonmatsu L. et al., 2011: Exhibit 4.2 p. 115, Exhibit 4.3 p. 121-122, Supplemental Exhibit 4.1, p. 134.

94 CDC, 2011-2012. <http://www.cdc.gov/obesity/data/adult.html>. (Viewed February, 29, 2016).

95 National Center for Chronic Disease Prevention and Health Promotion. Division of Diabetes Translation. National Diabetes Statistics Report, 2014.

<http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>. (Viewed February, 29, 2016).

The results of the MTO Demonstration published in the “Final Impacts Evaluation” are presented for adults as a whole, that is, all participants taken together, in each of the three groups (control, experimental and section 8 only). Implicitly, it means that the effects are considered as if they should be similar for all participants in each subgroup. But, it is well known that social characteristics can impact health. So depending on these characteristics (age, education, employment, “race”, city of residence, etc.), effects could be different. And, in the case of MTO, one can easily hypothesize that the effects on health would be unequal, depending also on the characteristics of the mobility (distance from former neighborhood, poverty and segregation rates in the new neighborhood, number of years in a low-poverty neighborhood since assignment, etc.). So, MTO data analyzed for adults as a whole can cover differences in some subgroups or cancel differences that are going in opposite directions

Few detailed analyses made by subgroups have been published since the “Final Impacts Evaluation”. One of them (Moulton S. et al., 2014) is a new estimate of MTO’s impacts for the participants who spent more than half of their time since assignment in a neighborhood with a poverty rate below 20%, what the authors call “high-dosage participants”, for participants who experienced greater dosage of the MTO “high-quality” treatment. The new estimate of MTO’s impacts showed that “high-dosage participants” from the experimental group had a better mental health. The “MTO demonstration decreased adult psychological distress, adult depressive symptoms, adult anxiousness and increased calm and peacefulness”. But, at the same time, no effect was found on physical health outcomes (asthma, obesity, health limitations or self-rated health), unlike the “low-dosage subgroup” where positive effects were found for self-rated health, asthma and obesity, as well as psychological distress. But, in this research, unfortunately, the new estimates are based on MTO interim data and not the long-term follow-up survey data, because long-term data were not yet publicly available when the analysis was done. And MTO outcomes (analyzed as a whole) were different at the interim survey and the follow-up one. For example, obesity ( $BMI \geq 30$ ) was lower in the “experimental” group in the interim evaluation but not anymore in the long-term evaluation, where it was severe ( $BMI \geq 35$ ) or morbid ( $BMI \geq 40$ ) obesity that was lower.

**MTO data, analyzed for adults as a whole, can cover differences in some subgroups**

Despite all publications and debates, MTO results for adult health outcomes are still unclear, depending on the way outcomes are calculated, on the population considered (as a whole or in subgroups), on the follow-up time chosen (4-7 years or 10-15 years), on the demonstration sites, etc. Moreover, most of the mechanisms under the associations remain not understood and the MTO “puzzle” or “black box” is still unsolved in many ways.

### 3.3.4 The MTO’s health outcomes for youth at the time of the long-term evaluation

Physical and mental health outcomes for MTO youth (ages 10 to 20 for physical and 13 to 20 for mental health) are based on self-reported data, parent-reported data and biometric data (height, weight and waist circumference).

**MTO results for adult health outcomes are still unclear**

In the Long-term evaluation, outcomes tested<sup>96</sup> were collected on:

- Physical health: self-rated health, asthma, health limitations, overweight and obesity, accidents and injuries, chronic pain and serious illness (diabetes, high blood sugar, serious stomach problem, etc.), dental health, exercise and sedentary behavior, nutrition, sleep, health care access;
- Mental health: measures of psychological distress (K6 score), strengths and difficulties questionnaire, calm and peacefulness, prevalence of disorders (such

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 96 Sanbonmatsu L. et al., 2011: Exhibit 3.4 p. 95-97., Exhibit 3.7, p. 100, Supplemental Exhibit 3.1, p. 104-106, Supplemental Exhibit 3.3, p. 108-109, and Supplemental Exhibit 3.4, p. 111.

as depression, bipolar disorder, anxiety, panic disorder, panic attacks, intermittent-explosive disorder, oppositional-defiant disorder, PTSD).

Among the 11 physical health outcomes that were tested for youths aged 10 to 20 (overall or by gender, i.e. 44 outcomes for “experimental” group and “section 8 only” group), no statistical effect at 5% was found on any of the outcomes: self-rated general health, asthma, overweight, obesity, accidents in the past year, dental health and chronic pain and illness among 13-20 years old youths<sup>97</sup>. One statistically significant effect (at 10%) was found for males, but in the opposite direction of the one expected: the prevalence of non-sport accidents or injuries was higher in the “experimental” group than in the control group.

**Among the 11 physical health outcomes, no statistical effect at 5% was found on any of the outcomes.**

The same health outcomes, when limited to youth aged 15 to 20, confirmed the higher prevalence of accidents<sup>98</sup> for males in both “treatment” groups: in the “experimental” one, the statistically significant effect at 10% was 9.7 percentage points higher than the male control group’s average 17.5% and in the “section 8 only” group 9.4 percentage points higher with a significant effect at 5%. No effect was found on females.

Another unexpected result was a statistically significant effect at 5% for females aged 10-20 in health care use: in the “experimental” group, females were less likely to have “had a routine physical exam in the past year” (-12.9 percentage points) than the female control group’s average of 79.5. No effect was found on females in the “section 8 only” group or for both groups’ males. These results could be linked to the availability of healthcare in the neighborhoods.

**These results could be linked to the availability of healthcare in the neighborhoods**

Females in both “treatment” groups were less likely (with a significant effect at 10%) to declare that they had “ever had serious illnesses like diabetes, high blood sugar, and serious stomach problems”: in the “experimental” group, the effect was 5.4 percentage points lower than the female control group’s average of 6.6% and in the “section 8 only” group 4.7. No effect was found on males.

The other results that were statistically significant at 10% were quite disparate (only for one of the two treatment groups, for males or for females) and do not seem to be very consistent.

As underlined by the authors of the final evaluation “Among youth, moving to a lower-poverty neighborhood had little to no measured effect on the [physical] health outcomes measured” (Sanbonmatsu L. et al., 2011).

**The mental health outcomes for youth show that MTO experimentation had strong and consistent effects on females’ mental health**

On the other hand, the mental health outcomes for youth show that MTO experimentation had strong and consistent effects on females’ mental health. Females aged 13-20 in the “experimental” group were more likely to have better mental health outcomes than the ones in the “control group”, with respect to:

- Psychological distress, measured by the K6 score (-0.241,  $p < 0.05$  – female control group’s score: 0.115);
- Serious mental illness (-5.3,  $p < 0.10$  – female control group’s average: 8.5%);
- Strengths and difficulties (-0.351,  $p < 0.10$  – female control group’s score: 3.245);
- Serious behavioral or emotional problems (-6.8,  $p < 0.05$  – female control group’s average: 12.7%);
- Major depression during lifetime (-6.5,  $p < 0.10$  – female control group’s average: 12.8%);

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<sup>97</sup> Chronic pain and serious illness are only among 13-20 years old youth.  
<sup>98</sup> “had accident in the past year requiring medical attention”

- Major depression in the past year (-4.9,  $p < 0.10$  – female control group's average: 4.9%);
- Panic attacks in the past year (-5.9,  $p < 0.05$  – female control group's average: 6.0%);
- Oppositional-defiant disorder in the past year (-4.6,  $p < 0.05$  – female control group's average: 6.7%).

Conversely, no effect for females in the “section 8 only” group was found for any of the mental health outcomes.

For males, among 23 mental health outcomes, the only significant effect (including effects at 10%) was an increase in the prevalence of PTSD in the “section 8 only” group versus “control” group: +4.3 ( $p < 0.05$ ) on the male control group's average of 4.1%.

In the research (Moulton S. et al, 2014) comparing the “high-dosage” subgroup of participants who experienced greater dosage of the MTO “high-quality” treatment, “high-dosage” children (aged 5-11) were more likely (+10 points,  $p < 0.01$ ) than the “control” group to be in “very good” or “excellent” health (parent-reported). Asthma attacks in the past year were also less likely to be reported by parents' children aged 5-11 (-6 points,  $p < 0.10$ ) or by self-reported youth aged 12-19 (-8%,  $p < 0.01$ ).

Overall, the final results of MTO on youth health were disappointing, especially for physical health.

The results on mental health gave gender differences: girls in the “experimental” group were more likely to have better mental health. No difference was found among boys in the “experimental” group, if not something worse. The “no result” and the gender differences were mostly explained because of the low spatial distance that could allow ongoing interactions with the social network from the former neighborhood. Another explanation was that regular connections with negative peers were mainly maintained for boys, and could have fed the “cycle of violence”<sup>99</sup>. This explanation could be more relevant for the older ones, who are more autonomous and engaged in relationships than the children. In the Yonkers mobility project, for example, a study (Fauth R.C, et al., 2005) found that children aged 8-9 years who moved from high-poverty neighborhoods to low-poverty ones declared less delinquency than their counterparts who did not move. Unlike the older youth (aged 16-18), who experienced more problems compared to the ones who did not move.

**No difference was found among boys in the “experimental” group, if not something worse**

### 3.3.5 The effects on health of the WtWV program

The baseline and follow-up surveys of the Effects of housing Vouchers on Welfare Families Evaluation are quite poor in the field of health or even in the field of well-being (Mills G. et al., 2006). The evaluation was clearly focused on mobility, education and employment. Nevertheless, some outcomes can provide interesting information if we think about health in a broad sense.

Because of the financial help provided by the vouchers, the WtWV participants with vouchers spent on average \$211 less per month on rent than the “control” group. The evaluation showed that they reported part of this as due to food spending. As a result, having a voucher increased the average food expenditure per person in the month by \$13, an increase of 59% (statistically significant at  $p < 0.01$ ) compared to the “control” group's food spending. The interviews made during the evaluation indicated that the increase depended on the kind of housing at the time of getting the voucher and the housing choice made after getting the voucher. For families who were living in a private

**Having a voucher increased the average food expenditure per person in the month by \$13, an increase of 59%**

99 The cycle of violence theory has been used in a study conducted with data from the Project on Human Development in Chicago Neighborhoods (PHDCN), suggesting that the cycle of violence may be “contextualized by neighborhood structural and cultural conditions”. (Wright E.M. et al., 2013)

unit, without a voucher, and who stayed in place with the voucher, the financial impact was positive and immediate. But for families that were living in public housing, the financial change was little after getting the voucher.

Despite more food spending, none of the questions that measured the “food security scale”<sup>100</sup> was significantly different for “voucher” group and “control” group, which is quite counterintuitive.

**No significant impact of vouchers was found for health care access**

In addition, based on answers to five questions on health in the five-year follow-up survey, no impact of the vouchers on any health outcomes was found about self-rated health, time spent to sleep, smoking behavior, mental health in the past year, self-rated mental health compared to what it would be for people on average in the same situation. No significant impact of vouchers was found for health care access, such as having health coverage insurance, or not being able to afford needed medical care and/or dental care in the past year.

**Some impacts on health were found, especially for the most vulnerable households**

In analyses made for subgroups, and not in the “vouchers” group considered as a whole, some impacts on health were found, especially for the most vulnerable households (those without jobs, education, on welfare, etc.). For example, for TANF recipients who were aware that their assistance would expire within six months of the baseline interview, the effect on food security was large and significant: with vouchers, the percentage of “insecure” households went from 55% to 33%. The impact of vouchers on not being able to afford needed dental care in the past year was also significant.

**The “non-effect” results for the 36 outcomes could be explained by the short-time of tracking (4 to 5 years)**

The child well-being effects were tested for 36 outcomes, based on parent-reported answers in the follow-up survey to questions about school attainment, behavior problems, activities and supervision after school, number of close friends and involvement in clubs and extracurricular activities. The effects were estimated for children as a whole, by gender and by three age categories that is 252 outcomes overall. As mentioned by the authors in an article related to the demonstration (Wood M. et al., 2008), “this study offers no clear evidence to support any particular pattern of effects of voucher assistance on child well-being, with a small number of significant estimates divided nearly equally between favorable and unfavorable effects”. Nevertheless, interviews with voucher households conducted at the time of the follow-up suggested that improvements were made for children: better schooling with vouchers, more positive feelings about the effect of vouchers on children’s education, less stress for both children and parents, more spending on school supplies and clothes in order that children felt more confident, more time for parents shared with children, etc. The “non-effect” results for the 36 outcomes (contradicting the interviews) could be explained by the short-time of tracking (4 to 5 years) to measure real effects, by the fact that the effects were still too small at the time of the follow-up to be statistically significant, by the kind of outcomes that was chosen, or by a “real” non-impact of vouchers on child well-being.

### 3.3.6 The effects on health of the Chicago Family Case Management (CFCM) Demonstration

The Chicago Family Case Management Demonstration tracked from 2007 to 2011 residents’ relocation from the most distressed and segregated public housing, with multiple physical and social hazards both in the housing unit and in the neighborhood, to

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<sup>100</sup> Survey respondents were asked different questions about food. The answers were translated into a food security scale and households with high scores on this scale were determined to be insecure. Respondents indicating if “household members had ever gone without food for at least one day in the last month”, or if “the food that household members bought ever just didn’t last, and they didn’t have money to get more”, or if “household members ever couldn’t afford to eat balanced meals” or if “they had ever cut the size of meals or skipped meals because there wasn’t enough money for food”, or if “they had ever eaten less than they felt they should because there wasn’t enough money to buy food” or if “they had ever been hungry but didn’t eat because they couldn’t afford enough food”. (Mills G. et al., 2006).

better housing in less poor neighborhoods but still highly segregated. The Demonstration targeted “the hard to house residents” of the two CHA developments, i.e. residents who did not qualify to move with a voucher or a mixed-income community. The residents’ outcomes were tracked by a baseline survey (2007), as well as interim (2009) and follow-up surveys (2011). Results were compared with the same outcomes provided by the Chicago Panel Study made among CHA’s residents in 2001, 2009 and 2011, who were relocated on HOPE VI.

The CFCM demonstration found only small long-term increases in employment (see next part), but found substantial and significant health improvements from 2007 to 2011:

- In 2011, residents were less likely to declare having “poor or fair” health than in 2007 (38% vs. 53%);
- They were less likely to report symptoms of depression (11% vs. 17%);
- They were less likely to report “elevated worry” (22% vs. 46%);
- They were less likely to report symptoms of anxiety (25% vs. 32%).

By contrast, the mental health of the Chicago Panel Study residents declined a lot at the same time. For example, in 2001, 14% of the residents declared “elevated worry”, in 2009, the percentage was 16% and in 2011, 29% (for the CFCM demonstration, respectively 46%, 33% and 22%). Residents were also more likely to report symptoms of depression (11% in 2001 vs. 16% in 2011) or “poor or fair” health (36% vs. 48%).

These important gains for mental health among CFCM residents can be explained, at least in part, by the fact that the demonstration was designed to target mental health. The intensive services included regular contacts with “case managers” (once or twice a week) with “wellness counselors” who were able to provide clinical mental health services, substance abuse counseling and a psychiatrist’s consultation. Improvement in housing and neighborhood conditions could also explain a part of the gains for mental health, but the opposite trends for the HOPE VI relocated residents (The panel study) show that being relocated in a better environment (housing and/or neighborhood) is not enough to improve mental health. It can even contribute to deteriorating it (cf. p. 46).

In addition, if mental health improved of lot, no effects to negative effects were found on physical health in the CFCM Demonstration as well as in the Panel study.

Even if participants’ mental health was better, compared to the general population, or even compared to the poorest adults of the general population, the outcomes in the CFCM Demonstration were still worse. For example, residents were still three times more likely than the general population to report poor or fair health. The poorest adults were 28% in this case in 2010, vs. 38% in the CFCM Demonstration in 2011.

And the outcomes for physical health were at a critical level. For example, 50% of the CFCM adults were regular smokers. According to the CDC data in 2012, it was 19% for the national average, 21% on average for Blacks and 29% for adults living below the poverty level. The mortality rate was also twice as high as the rate of the general population, according to the 2005 National Vital Statistics Reports (6% between 2007 and 2011 vs. 3%) and 50% higher than the mortality rate of Black women in general (4%).

Moreover, access to regular health care was very limited among CFCM Demonstration residents. Among those who had regular access to received care, only 28% in 2011 used it to see a doctor. The national average is 76% and the average for low-income adults 58%.

Finally, the worst results were found for CFCM Demonstration youth and children. They were not in a better situation than the ones from the Panel Study whose parents did not receive services, and for some outcomes they were even in a worse situation. For example, they were worse for outcomes like problem behaviors of children aged 0-12, or delinquent behaviors of teenagers aged 13-17, or delinquent problems of young adults with higher rates than those having been in trouble with the police, having been arrested

**The Chicago Family Case Management demonstration found only small long-term increases in employment, but found substantial and significant health improvements from 2007 to 2011**

**No effects to negative effects were found on physical health in the CFCM Demonstration as well as in the Panel study**

**Youth and children were not in a better situation than the ones from the Panel Study whose parents did not receive services**

or having been incarcerated. And the rate of CFCM Demonstration teenagers that had been in trouble with the police increased a lot, from 4% in 2009 to 19% in 2011, even if, at the same time, the percentage of parents who reported that their teenagers had more positive behaviors increased dramatically, from 28% in 2009 to 54% in 2011.

# CONCLUSION

What can we learn from housing mobility programs and their impacts on health and on some social determinants of health? What are the main lessons from the research conducted in the U.S. in the last four decades on the links between the social environment of the place of residence and individuals' health?

## Deconstruct racial and economic segregation, using housing policy

In the U.S., "race" and socio-economic status are strongly correlated: Blacks are over-represented among poor households, and Whites are over-represented among wealthy households. And places where people live depend mainly on their "race" and income. In other words, Black low-income households are mostly living in highly segregated neighborhoods with detrimental living conditions, and are locked in their neighborhoods by being denied residence elsewhere. This situation has been going on for decades (if not centuries), with the support of public policies, discriminatory practices or institutional racism. And one can hypothesize that this process, which began with slavery, had deep and strong effects on individuals, including interiorizing being an outsider in your own country.

If we focus on health, evidence shows racial and economic disparities in the distribution of environmental hazards, health care services, access to affordable and healthy food options, etc. This leads to the highest disease burden in some places in the U.S. that accumulate these conditions, but also the worst social indicators - especially education, income, adequate housing - known to be linked with health behaviors.

Most of the answers to change this situation were (and still are) to improve the living environment (place-based) in the most distressed and segregated neighborhoods, with rehabilitation and revitalization programs or by using the Low-income Housing Tax Credits Programs to promote social diversity. Mobility programs, using geographically targeted vouchers, are another option, to desegregate space in the U.S. in addition to neighborhood improvement strategies. Mobility programs are based on the idea of giving opportunities at the individual level to low-income households (people-based) to leave their ghettos and to settle in neighborhoods with lower concentrations of poverty and "minorities". Mobility programs are what the economist A. Downs would call the "dispersal" strategy, one of the ways, according to him in the 1970s, to deconstruct Black American ghettos (Downs A. 1975).

The place-based and people-based strategies complement one another, but a few conditions have to be defined in order not to be in conflict. Rehabilitation and revitalization programs in segregated neighborhoods can improve social conditions and opportunities for residents and enable some of them to constitute a new middle-class in the neighborhood. These programs can also attract middle-class households, what A. Downs would call "recapturing the middle class". But the challenge is to be able to keep the "new middle class" in the neighborhood, and to promote and stabilize the new "elite" of the neighborhood within it, a process called "enrichment without movement". In other words, mobility programs should be able to target the poorest households to help them move away from the most segregated neighborhoods, while at the same time trying to "keep" the new middle-class in these neighborhoods to create social diversity.

**Black low-income households are locked in their neighborhoods by being denied residence elsewhere, including interiorizing being an outsider in their own country**

**Highest disease burden in some places in the U.S.**

**The main answers to change the situation were to improve the living environment in the most distressed and segregated neighborhoods, with rehabilitation**

**Mobility programs is another option to desegregate space in the U.S.**

**The challenge is to be able to keep the "new middle class" in the neighborhood**

Some limitations to both place- and people-based strategies should be mentioned:

- The unwillingness of many Whites to move into racially diverse neighborhoods or to accept that Blacks relocate to their White neighborhoods;
- Connections with the neighborhood, especially the social support of the community (relatives, friends, neighbors, etc.), is one of the reasons that explain households' resistance to residential mobility (Venkatesh S. et al., 2004). And this anchoring in the neighborhood is all the more important as the social and economic situation of the household is difficult, and the social support vital, especially in a country based on the idea of communities and with low support from public policy. Thus, poor households cannot relocate as easily as middle-class households can;
- Mobility programs (and more generally housing vouchers) are based on an individual approach to social diversity. The voucher holder has to find himself a housing unit in the private market that meets all the criteria and has to face up to the refusal of many landlords to rent their units to "voucher families" and to other discriminatory practices. Housing desegregation relies on each voucher holder, instead of being based on a policy decision to build public housing in neighborhoods without any (or with too few) public housing units;
- Mobility programs are based on the idea that moving from distressed neighborhoods to better places can give (more) opportunities for education, employment, health, safety, etc. But the definition of these places, called "opportunity areas", is still debatable and varies a lot depending on the mobility program itself, which makes comparisons and evaluations difficult. Identifying what characteristics of a neighborhood improve individuals' lives is still unclear, despite the significant number of studies on "neighborhood effects".

**The social support of the community is one of the reasons that explain households' resistance to residential mobility**

**Mobility programs, and more generally housing vouchers, are based on an individual approach to social diversity**

**Identifying what characteristics of a neighborhood improve individuals' lives is still unclear**

## Measuring the effects of mobility programs

The implicit idea of the mobility programs is to "extract" households from neighborhoods that are considered as reducing their chances of success in life. Thus, the goals of the housing vouchers and the mobility programs are to offer to families with vouchers better housing in a healthier environment of the unit and of the neighborhood. But other improvements to families' lives (education, health, employment, economic situation, etc.) and "the elimination of conditions that are detrimental to health, safety, and public welfare" are expected, as underlined by the Housing and Community Development Act of 1974 (cited in Kruckenberg K., 2011).

Since the 1970s a lot of mobility programs with different aims, designs and targets have been implemented in the U.S., based on housing choice vouchers and counseling, remedial desegregation plans ordered by the Supreme Court's settlements or interventional demonstrations. The assessments of these programs are various and more or less sophisticated. But the first observation that can be made is that these evaluations are all focused on the individual impact of mobility programs (does moving to a new place improve the recipient's life?) and not on the collective impact (does moving households from a segregated neighborhood to a non-segregated neighborhood reduce segregation in the U.S.? And does it impact both communities – in the former or in the new neighborhood? If so, how?). A few studies, especially by M. Fullilove on HOPE VI relocations, which are mostly massive and involuntary relocations due to demolition, show that the dispersal strategy could have deleterious effects, not only for each household relocated but for the whole community of origin that was sometimes politically and socially organized in response to oppression. In these cases, relocations may destroy community cohesion. Moreover, mobility programs are not designed to improve the conditions in the most distressed neighborhoods but to "extract" some households from these neighborhoods, considered to be unsafe, hazardous to health with critically disadvantageous effects, especially for education and employment opportunities. Thus, if no revitalization program is carried out at the same time in these high poverty neighborhoods to improve the quality of the environment, in a broader sense, the

**The evaluations are all focused on the individual impact of mobility programs and not on the collective impact**

**Massive and involuntary relocations due to demolition may destroy community cohesion**

**The "extraction" process of the most motivated households tends to increase the concentrations of the disadvantaged and to reinforce segregation**

“extraction” process of the most motivated households tends to increase the concentrations of the disadvantaged and to reinforce segregation, instead of reducing it.

Another thing is the selection bias for these programs and the cautions to the generalizability of the findings. The families involved in mobility programs are, firstly, families who choose to move, and secondly, families who choose to do it from highly segregated neighborhoods to low-segregated neighborhoods. In other words, the families are selected on a voluntary basis and probably are the most motivated to move to another neighborhood and have psycho-social skills to decide to enroll. Moreover, some mobility programs exclude families (with more than four children, a heavy debt load or “unacceptable housekeeping” in the Gautreaux Program, for example) who are expected to be unsuccessful regarding mobility. Still, with all this “creaming off” of households supposed to be motivated enough or to have the will to succeed, the percentage of those accepted in mobility programs who are able to lease an apartment is quite low. In the MTO Demonstration, for example, less than half of the families in the “experimental” group (geographically targeted vouchers + counseling) could use their housing voucher to move to a new neighborhood and get an apartment. Many questions remain about this selection bias: we do not know a lot about the decision-making process of mobility and what drives the choice of a housing unit and/or a neighborhood. We also do not know a lot about the kind of families that are more likely to move to opportunity areas. And we do not know a lot about families that are more likely to stay in such areas. In fact, a lot of the processes subject to the measuring of the impact of mobility programs are still undocumented and unknown. And one can easily hypothesize that families that volunteer to move to an opportunity area have some different characteristics than families that do not want to participate.

The findings from the different mobility programs are quite heterogeneous and indicate the importance of the programs’ design features, of households’ characteristics and the context in which the programs are completed, especially voluntary vs. involuntary or geographically targeted vs. non-targeted programs. After all these programs and years of evaluation, it is still difficult to conceptualize the mechanism that link individuals to neighborhoods and to identify what neighborhood characteristics affect individuals. And according to some conflicting results, for example between female and male, youth and adults, the links and processes may differ a lot across subgroups of the population, which has still not been theorized.

## Effects of mobility programs on health and on some social determinants of health

Although the findings are heterogeneous, a lot of lessons can be learned from mobility programs and their impacts in terms of sustainable mobility, health outcomes or social determinants of health.

The results of these programs show improvements for participants in terms of housing conditions and neighborhood characteristics. However, the magnitude of these improvements and their type differ a lot between programs, depending on their design, especially the target population, the criteria for using vouchers and the support services. Having a housing voucher without support has an effect in enabling families with children in minority communities to live in less-poor neighborhoods than similar poor families without vouchers and in terms of increasing housing stability. But giving vouchers is not enough to help households relocate to less segregated neighborhoods. Mobility assistance, with multiple elements of assistance, is effective to help households move to “opportunity areas” and to stay in such places. And the comparison between the Gautreaux program and the MTO demonstration on relocation and retention shows that, to some extent, the disappointing results of the MTO Demonstration can be partially attributed to the lack of assistance/intervention in the design program to allow a spatial and a social distance from the former neighborhood and the inadequate criteria of the neighborhood target to reduce segregation significantly. The Effects of housing Choice Families Experimental evaluation confirmed this result by showing that voucher assistance

**Not much is known about the decision-making process of mobility and what drives the choice of a housing unit and/or a neighborhood**

**It is still difficult to conceptualize the mechanism that link individuals to neighborhoods and to identify what neighborhood characteristics affect individuals**

without constraints on location and without counseling or assistance does not give substantial improvements in terms of neighborhood characteristics. In other words, providing more (pre and post move) services and support gives better and concrete results, as it was found with the Gautreaux program and some mobility programs, compared to programs implemented with no or lower services. But one constant can be observed: the great difficulty of deconstructing economic and “racial” residential segregation, even when using vouchers with target criteria (poverty rates, minority rates, etc.) and/or a wide range of support services and counseling. Moreover, one must keep in mind that the general context in which these programs were implemented also probably played a key role, although it is difficult to take into account this element in the results, especially the legal framework against “racial” discrimination, the acceptance of Blacks in “White neighborhoods”, the acceptance of voucher holders in middle-class neighborhoods, the wish of Black households to live in “White neighborhoods” and the real estate market and availability of affordable housing units.

**Providing more pre and post move services and support gives better and concrete results**

Disadvantaged neighborhoods are strongly associated with detrimental health outcomes. The question is whether a voluntary change of neighborhood (in terms of quality of physical and social environment) could lead to significant health improvements for individuals affected by a new environment. And thus, a second question is whether voluntary housing mobility could be used as a public health intervention? Most of the data on health comes from the Moving to Opportunity (MTO) Demonstration, and, to a lesser extent, from the Effects of housing Choice Families Experimental (WtWV) Evaluation and the Chicago Family Case Management (CFCM) Demonstration. No health data were directly collected from the Gautreaux program, but a study based on the National Death Index and data from “Gautreaux families” showed a strong reduction in mortality risk among Black male youth who were relocated to more advantaged neighborhoods.

Compared to the number of health outcomes tested, the overall results of MTO are modest and disappointing. However, significant health improvements among adults were noticed for severe obesity (but not obesity or overweight) and for diabetes, which is quite substantial as these pathologies are two of the main public health challenges in the U.S. For diabetes, a major effect was observed (a reduction in incidence of around a third over a 10-year period), similar to the one found in the U.S. Diabetes Prevention Program. It means that housing mobility can give the same results in terms of some health outcomes as public health programs. If the MTO overall results are unclear for mental health outcomes for adults, analyses made on subgroups show that “high-dosage” experimental group participants, i.e. who spent more than half of their time since assignment in a neighborhood with a poverty rate below 20%, had better mental health. Nevertheless, no impact on physical health was found for youth, but major and converging mental health effects for females aged 13 to 20 (in terms of psychological distress, mental illness, emotional problems, major depression, panic attacks, etc.). The effects on health of the CFCM demonstration were also very important for mental health outcomes (depression, worries, anxiety), which can be explained by the intensive services included in the design of the demonstration. By contrast, the overall effects on health of the WtWV program (voucher assistance) for adults or children are very weak to non-existent, despite an increase in the average food expenditure that could have led to better food security and health outcomes. The short time of tracking (4-5 years) could explain the “non-effect”. But some interesting findings regarding subgroups show impacts on health (especially for food security or dental care) for the most vulnerable households (without jobs, on welfare, with low education, etc.). Thus, housing mobility could be a contextually based public health intervention strategy to reduce health inequalities by using population targets as well as geographic targets.

**Significant health improvements among adults were noticed for severe obesity and for diabetes with the MTO program**

Does moving to a better neighborhood with a housing voucher improve social and economic conditions, known to be related to health, like education and employment? If the Gautreaux program had dramatic effects on educational outcomes, the overall effects were quite poor and - once again - disappointing regarding the MTO Demonstration. New analyses published in 2015 with MTO data show reverse effects in age groups that lead to no effects on education when the children are taken all together in the previous

analyses. The new findings show positive effects of relocation on education when children moved before 13 years of age, and negative effects when they moved at 13 or after, probably because relocation to a very different environment among adolescents disrupted their social networks. Despite the new analyses on MTO, the other programs (the WtWV and CFCM Demonstrations) showed no to very little effects on education. And the results from a nationwide study revealed that school performance levels were quite the same between voucher families' children of a given "race" and poor non-voucher families' children of the same "race". These observations probably emphasize the difficulty for voucher holders to get a housing unit in a neighborhood with high-performing schools because of the restrictions on rental prices. If we consider employment and earnings, the effects of mobility programs depend a lot on the design of the programs. Overall, the effects on employment are all the more disappointing as the neighborhoods where households were relocated had low resources for employment and were "racially" segregated. In the MTO demonstration, some families were relocated to neighborhoods even worse than the former ones, in terms of the labor market (i.e. opportunity for work) and some of the families in the "control group" stayed in neighborhoods under Welfare to Work programs with a labor market which was on an upward trend.

It is therefore difficult to draw conclusions based on the initial design of the MTO Demonstration (experimental group vs. control group). As a matter of fact, in the final evaluation, households in the "experimental" group were not more likely than the "control group" to be employed or to earn more. The effects of WtWV are also very disappointing, especially for a program focused on work, with no impact on employment and earnings for the "treatment" group.

## Understanding the links between health and neighborhoods

Different lessons can be drawn from the results of housing mobility programs, especially on the links between neighborhood and health.

- First of all, the findings from the different kinds of evaluations of mobility programs show that data should be analyzed relating to subpopulations rather than to the population as a whole, because the environmental effects differ among populations: male or female, youth or adults, suburban movers or not, high-dosage in the new environment or low-dosage, young or older at relocation, far or not from the previous neighborhood, etc. The effects can be more or less important, or even go in contradictory directions or cover different health spheres. Understanding the effects among each population could lead to a better comprehension of the processes that link individuals to their environment. The links between neighborhood and health may also differ depending on neighborhoods' characteristics or on local dynamics (especially based on social, economic, demographic or institutional forces) that may be different from one city/neighborhood to another. Thus, a program that does not produce effects in a city or in a neighborhood can give some effects in another, because other dynamics exist or because the context, history and processes of segregation or housing may also be different. The use of neighborhood typology systems including all these elements could help comprehension.
- Secondly, the results of residential mobility programs clearly show that improving housing conditions (in the neighborhood and/or in the housing unit) is not a sufficient precondition to improve health outcomes or some of the social determinants of health, such as education and employment in the short or medium term. It is rather the combination of different conditions that produces what is called "neighborhood effects". And, among all conditions, the question of education or employment seems essential. As for education, encouraging families to relocate to neighborhoods with strong educational characteristics is necessary to increase children's school performance, but also to improve health outcomes, including reducing the mortality rate. It means that educational

**These observations probably emphasize the difficulty for voucher holders to get a housing unit in a neighborhood with high-performing schools because of the restrictions on rental prices**

**Understanding the effects among each population could lead to a better comprehension of the processes that link individuals to their environment. The use of neighborhood typology systems including all these elements could help comprehension**

**It is rather the combination of different conditions that produces what is called "neighborhood effects"**

**Counseling and assistance relocating should include school quality and provide information about schools**

characteristics should be included in the definition of what is an “opportunity area”, but also that counseling and assistance for voucher holders in the decision-making process for relocating should include school quality and provide information about schools in the neighborhood. As for employment, the findings from the different programs show that moving to a low-poverty and not-segregated neighborhood does not produce effects on social inclusion (employment, earnings) and health, especially on mental health, if the neighborhood does not offer (enough) resources for employment.

**Priority must be given to the most vulnerable households and also to the households with young children**

- Thirdly, we know that the number of vouchers provided by the U.S. HUD to each state is limited and set in advance by Congress and is equivalent to only a quarter of households eligible for the voucher program. It means that priority must be given, not to chance in a lottery process, but to the most vulnerable households and also to the households that will get the greatest gains from relocation. Different findings from mobility programs and the recent ones from the MTO Demonstration about the duration of exposure also reinforce the idea that moving to a “better environment” during childhood is a key determinant of an individual’s long-term outcomes. Thus, households with young children should be one of the targets of mobility programs, as a real commitment to the future.

**Encouraging people to leave these neighborhoods to get more “opportunities” in life is a way to get around the problem of segregation**

Mobility programs provide mixed results in terms of individuals’ health and of some of the main determinants of health. However, it is clear that moving from a segregated neighborhood with low resources to an “opportunity area” does improve the quality of the environment, in a broader sense, in terms of both the housing unit and the neighborhood. It also gives the opportunity (or the right) for minority groups to live in non-minority concentrated neighborhoods. But the number of recipients is very small compared to the number of households eligible, and the question of housing mobility and its impact highlights a problem which is beyond the scope of mobility. A lot of people, especially Black people, in the U.S. are trapped in neighborhoods of concentrated poverty with very poor resources in terms of education, employment, health, safety, food, etc. and no possibility of social advancement. Encouraging people to leave these neighborhoods to get more “opportunities” in life is a way to get around the problem of segregation, racism and inequalities and to legitimize the lack of spatial justice and equity in the U.S. It is also a way to place the responsibility of the problem on individuals (households) and not on the community. Individuals have to decide to move away from the “poverty trap” they are living in, to try to get a housing voucher provided by a lottery, to wait for years until possibly getting one, to leave their local support networks, to face up to the refusal of many landlords to rent their housing units to “voucher families”, to experience discrimination when they move to “White suburbs”, etc. Individually, they are facing structural problems and have to overcome all the challenges that have been driving segregation patterns in the U.S. for centuries.

Apart from the political will, sufficient budgetary resources are also needed to switch from small-scale programs to larger ones, but also to include spatial justice in all policies in order to dramatically solve the segregation problem in the U.S.

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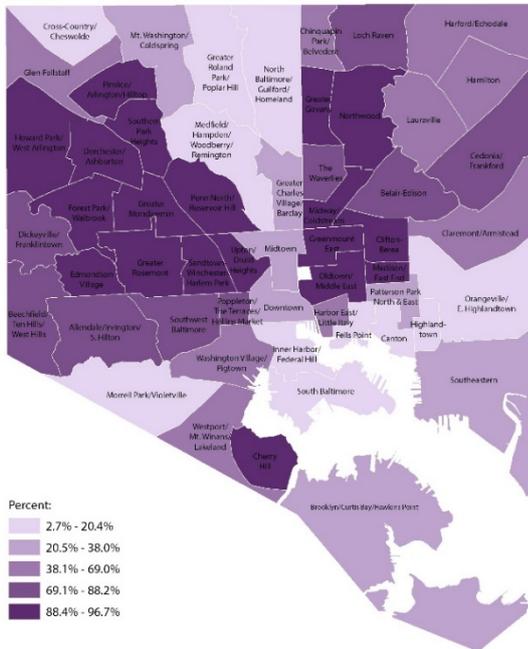
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# Appendix

## Appendix A1: Census Demographics Indicators Baltimore City

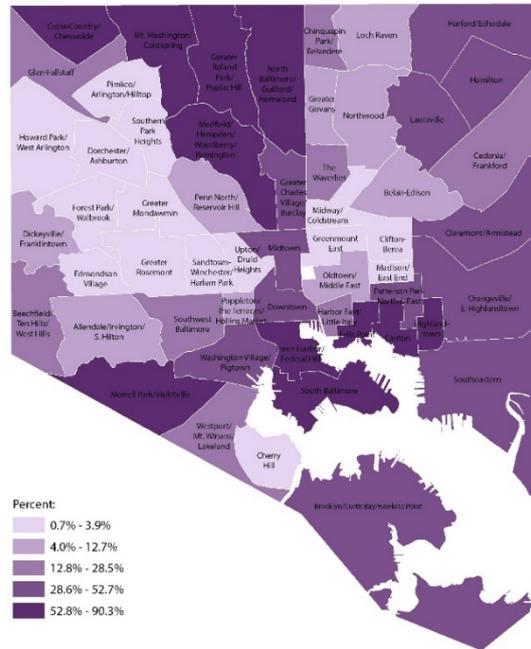
**Percent of the Population that is Black/African-American, 2010**



Map created by BNA-JFI, 2015

Source: United States Census Bureau

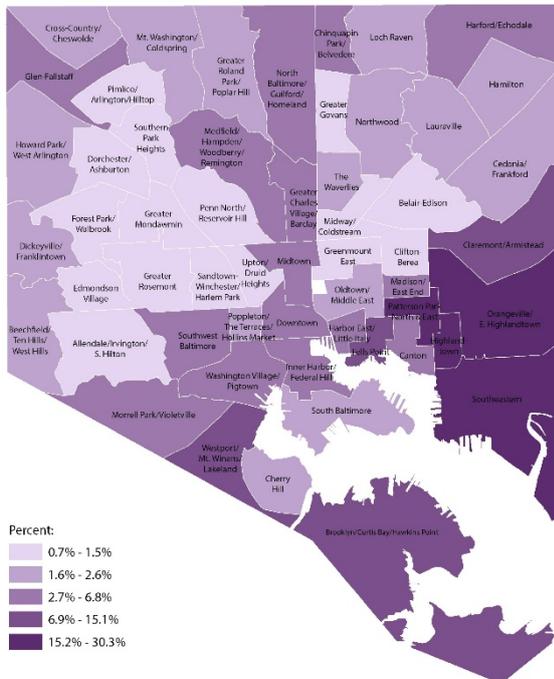
**Percent of the Population that is White, 2010**



Map created by BNA-JFI, 2015

Source: United States Census Bureau

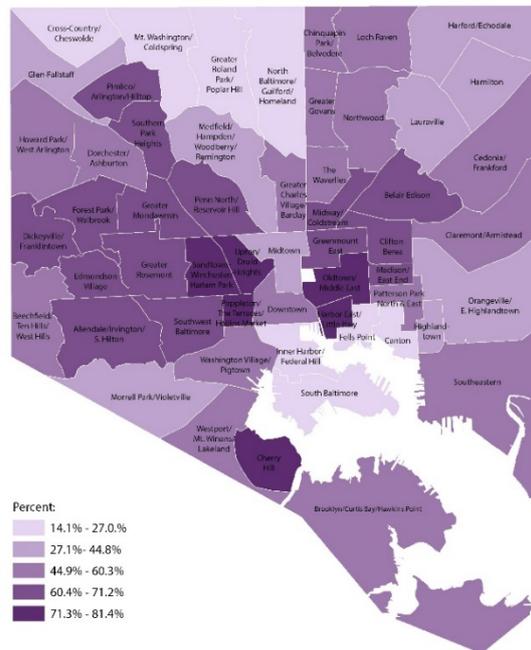
**Percent of the Population that is Hispanic, 2010**



Map created by BNA-JFI, 2015

Source: United States Census Bureau

**Percent of Female-Headed Households with Children Under 18, 2010**



Map created by BNA-JFI, 2015

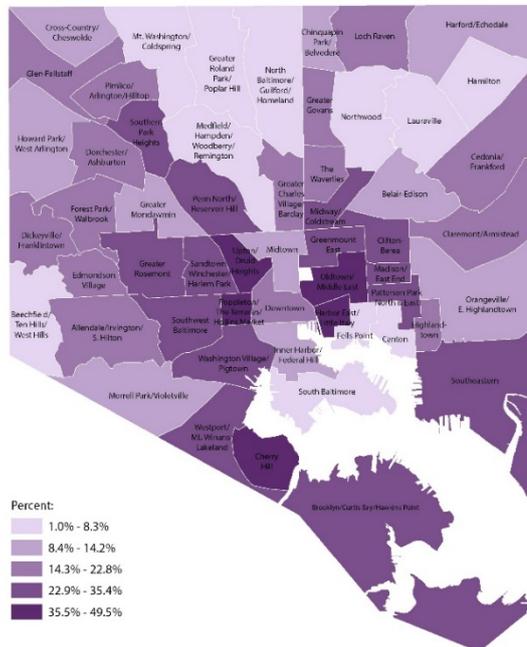
Source: United States Census Bureau

Source: The Baltimore Neighborhood Indicators Alliance-Jacob France Institute at the University of Baltimore

## Appendix A2: Social and Economic Indicators - Baltimore City

By Community Statistical Area.

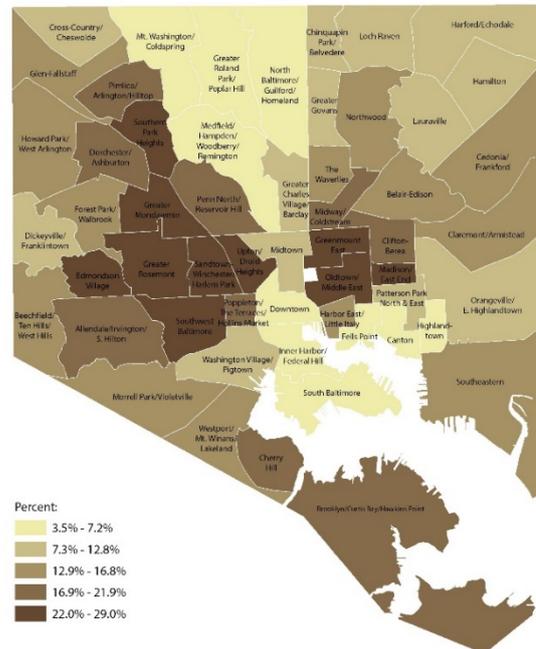
**Percent of Households Living Below the Poverty Line, 2009-2013**



Map created by BNA-JFI, 2015

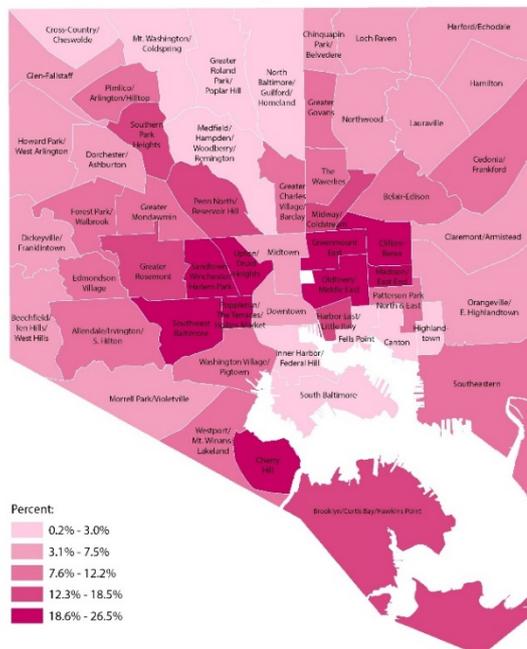
Source: United States Census Bureau. Map created by BNA-JFI, 2015

**Unemployment Rate, 2009-2013**



Source: American Community Survey

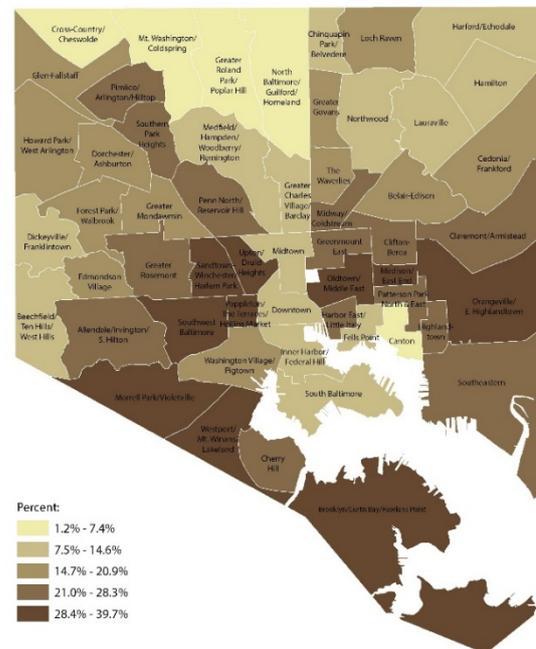
**Percent of Families Receiving Temporary Assistance for Needy Families (TANF), 2013**



Map created by BNA-JFI, 2015

Source: Baltimore City Department of Human Resource. Map created by BNA-JFI, 2015

**Percent of the Population Over 25 with Less than a High School Diploma, 2009-2013**



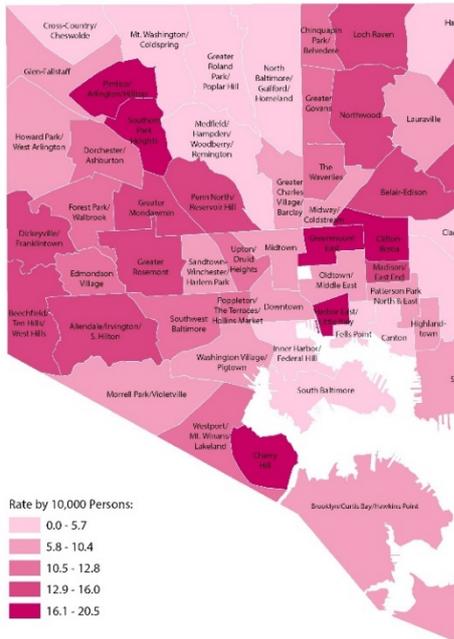
Source: American Community Survey

Source: The Baltimore Neighborhood Indicators Alliance-Jacob France Institute at the University of Baltimore

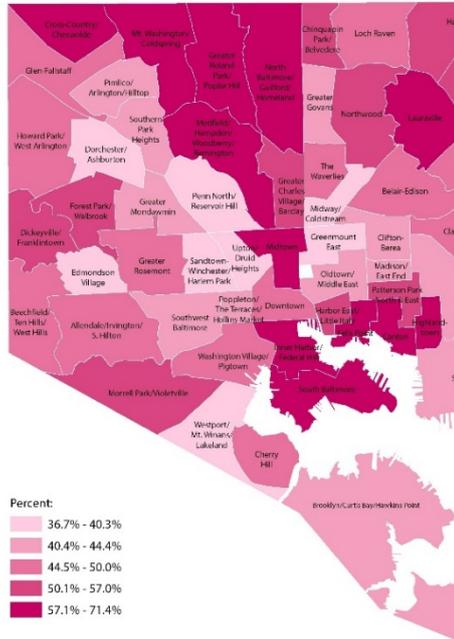
## Appendix A3: Health Indicators - Baltimore City

By Community Statistical Area.

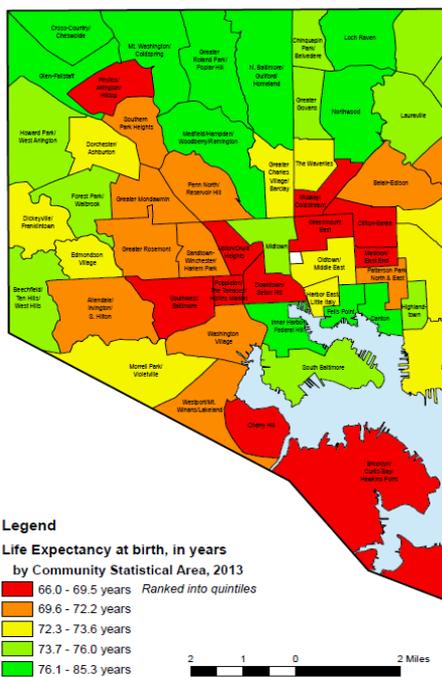
### Mortality by Age (Less than 1 Year Old), 2



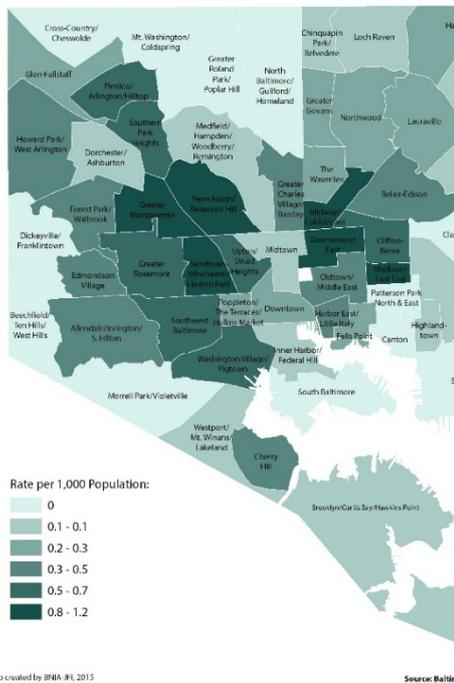
### Percent of Births Where the Mother Received Early Prenatal Care (First Trimester)



### Life Expectancy at birth, 2013



### Rate of Gun-Related Homicides, 2013

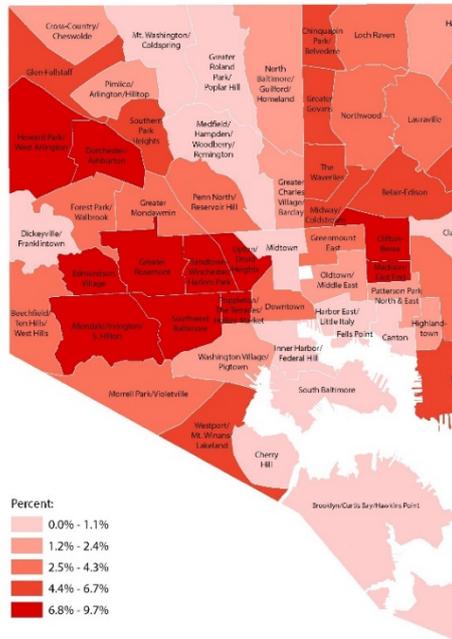


Source: The Baltimore Neighborhood Indicators Alliance; Baltimore City Health Department

## Appendix A4: Housing and transportation Indicators - Baltimore City

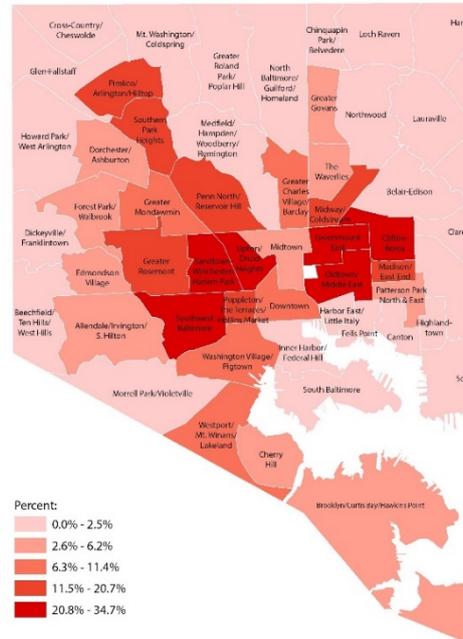
By Community Statistical Area.

**Percent of Home Sales in Foreclosure (REO),**



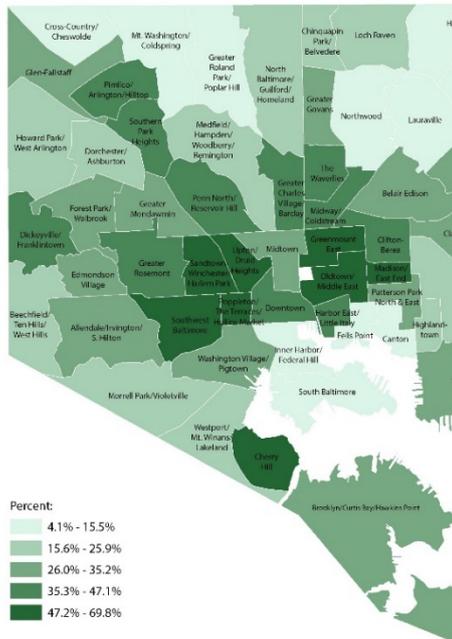
Map created by BNA-JR, 2015

**Percent of Properties that are Vacant and Abandoned, 2013**



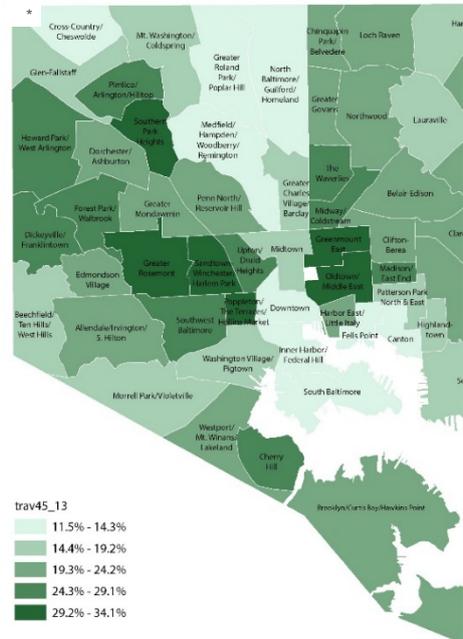
Map created by BNA-JR, 2015

**Percent of Households with No Vehicles Available, 2009-2013**



Map created by BNA-JR, 2015

**Percent of the Population that Travels More than 45 Minutes to Work, 2009-20**

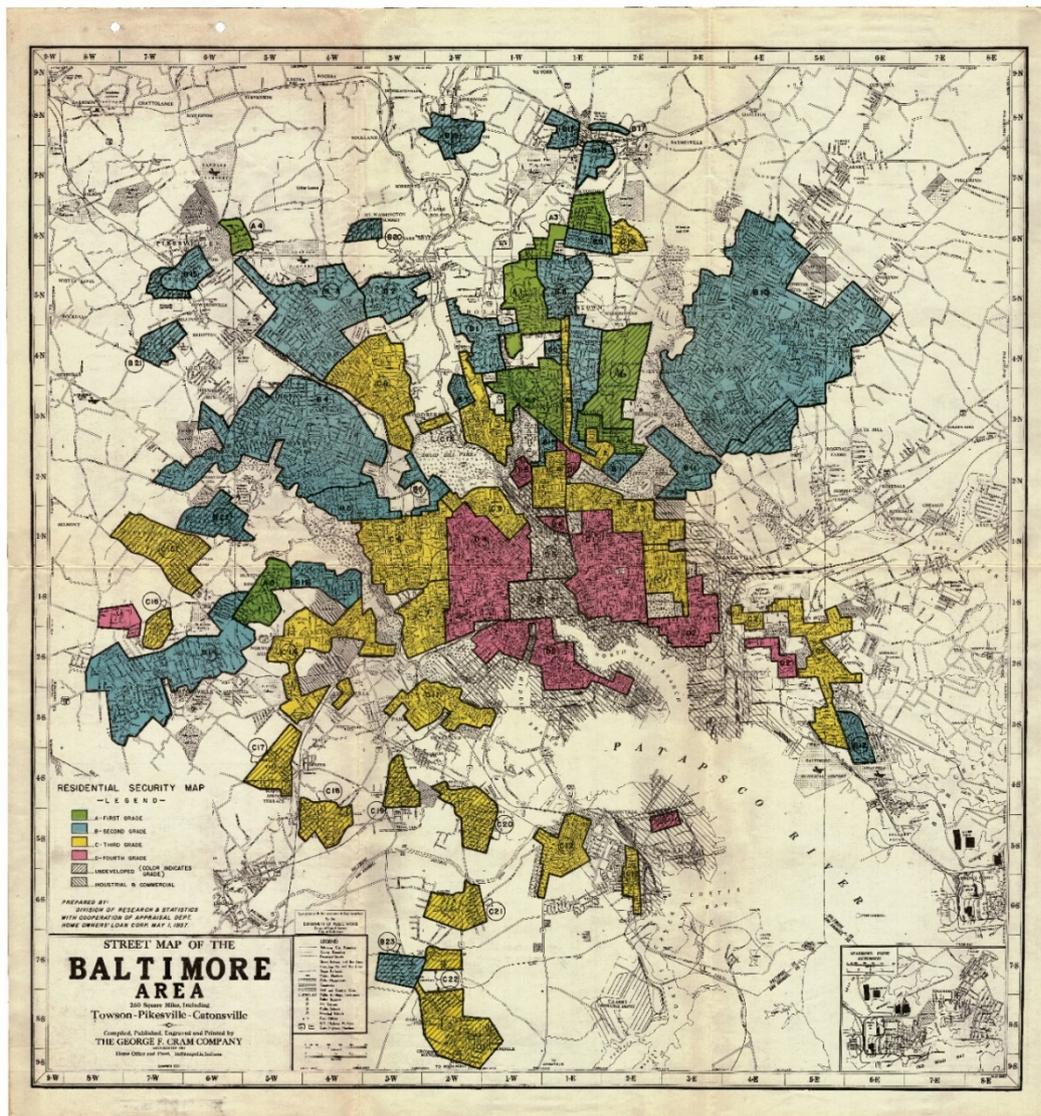


Source: A4 Map created by BNA-JR, 2015

Source: A4

Source: The Baltimore Neighborhood Indicators Alliance-Jacob France Institute at the University of Baltimore

## Appendix B: Residential Security Map of Baltimore, Home Owner's Loan Corporation, 1937



“The First grade or A areas are ‘hot spots’; they are not fully built up. In nearly all instances they are the new well planned sections of the city, and almost synonymous with the area where good mortgage lenders with available funds are willing to make their maximum loans to be amortized over 10-15 year period – perhaps up to 75-80% of the appraisal. [...]

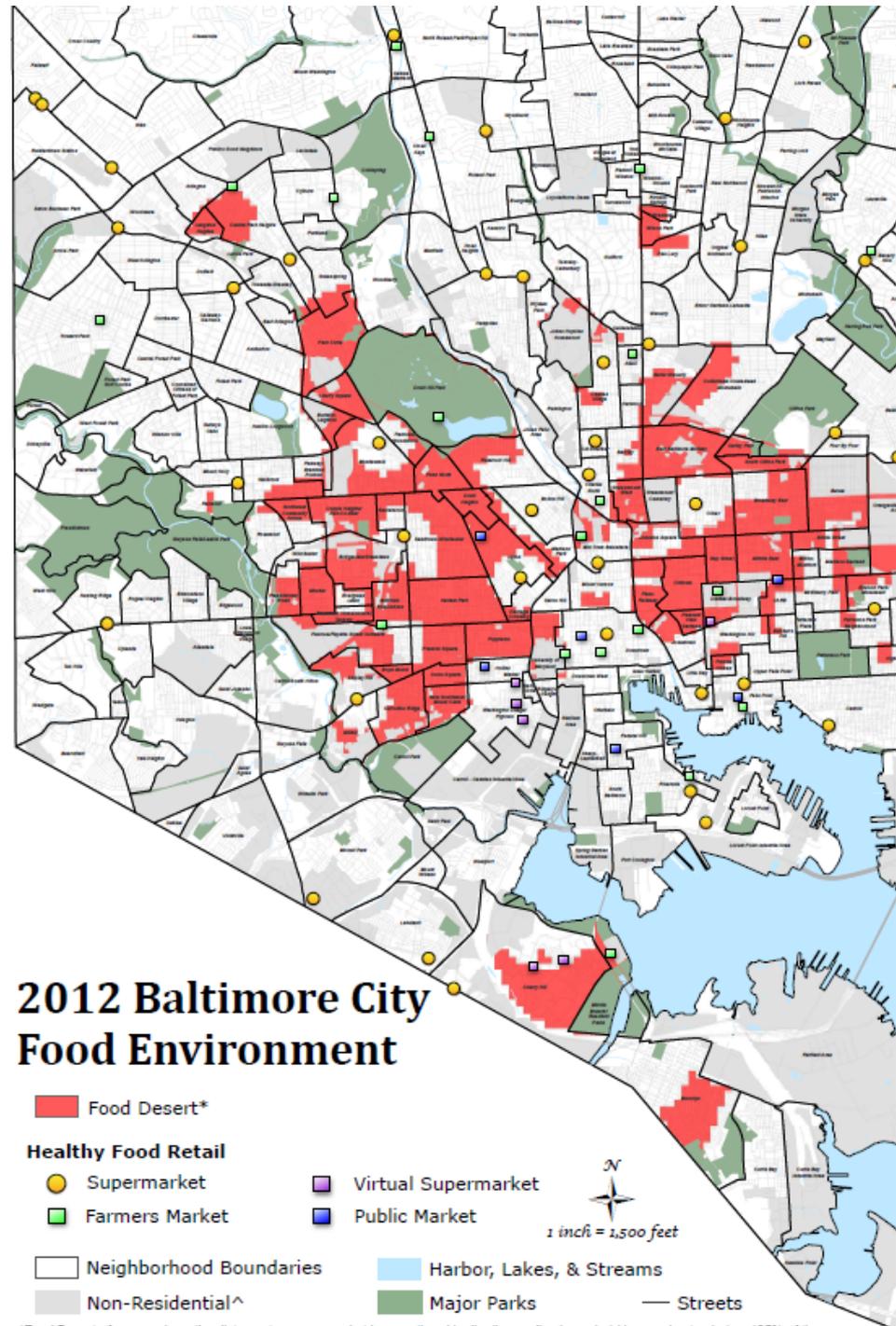
The Second grade or B areas are completely developed. [...] They are neighborhoods where good mortgage lenders will have a tendency to hold loan commitments 10-15% under the limit.

The Third grade or C areas are characterized by age, obsolescence, and change of style; expiring restrictions or lack of them; infiltration of a lower grade population; the presence of influences with increase sales resistance such as inadequate transportation, insufficient utilities, perhaps heavy tax burdens, poor maintenance of homes etc. [...]

The fourth grade or D areas represent those neighborhoods in which the things that are now taking place in the C neighborhoods, have already happened. They are characterized by detrimental influences in a pronounced degree, undesirable population of an infiltration of it. Low percentage of home ownership, very poor maintenance and often vandalism prevail. Unstable incomes of the people and difficult collections are usually prevalent. The areas are broader than the co-called slum districts. Some mortgage lenders may refuse to make loans in these neighborhoods and others will lend only on a conservative basis”.

Source: <https://scholarship.library.jhu.edu/handle/1774.2/32621>. (Viewed February, 29, 2016).

## Appendix C: Baltimore City Food Environment, 2012



\*Food Desert: An area where the distance to a supermarket is more than ¼ mile, the median household income is at or below 185% of the Federal Poverty Level, over 40% of households have no vehicle available, and the average Healthy Food Availability Index score for supermarkets, convenience and corner stores is low (measured using the Nutrition Environment Measurement Survey).

^ Not included in study. Non-residential areas include Colleges and Universities, Hospitals, Industrial Areas, Stadiums, and Cemeteries.



**Stephanie Rawlings-Blake**  
Mayor  
Thomas J. Stosur  
Director of Planning

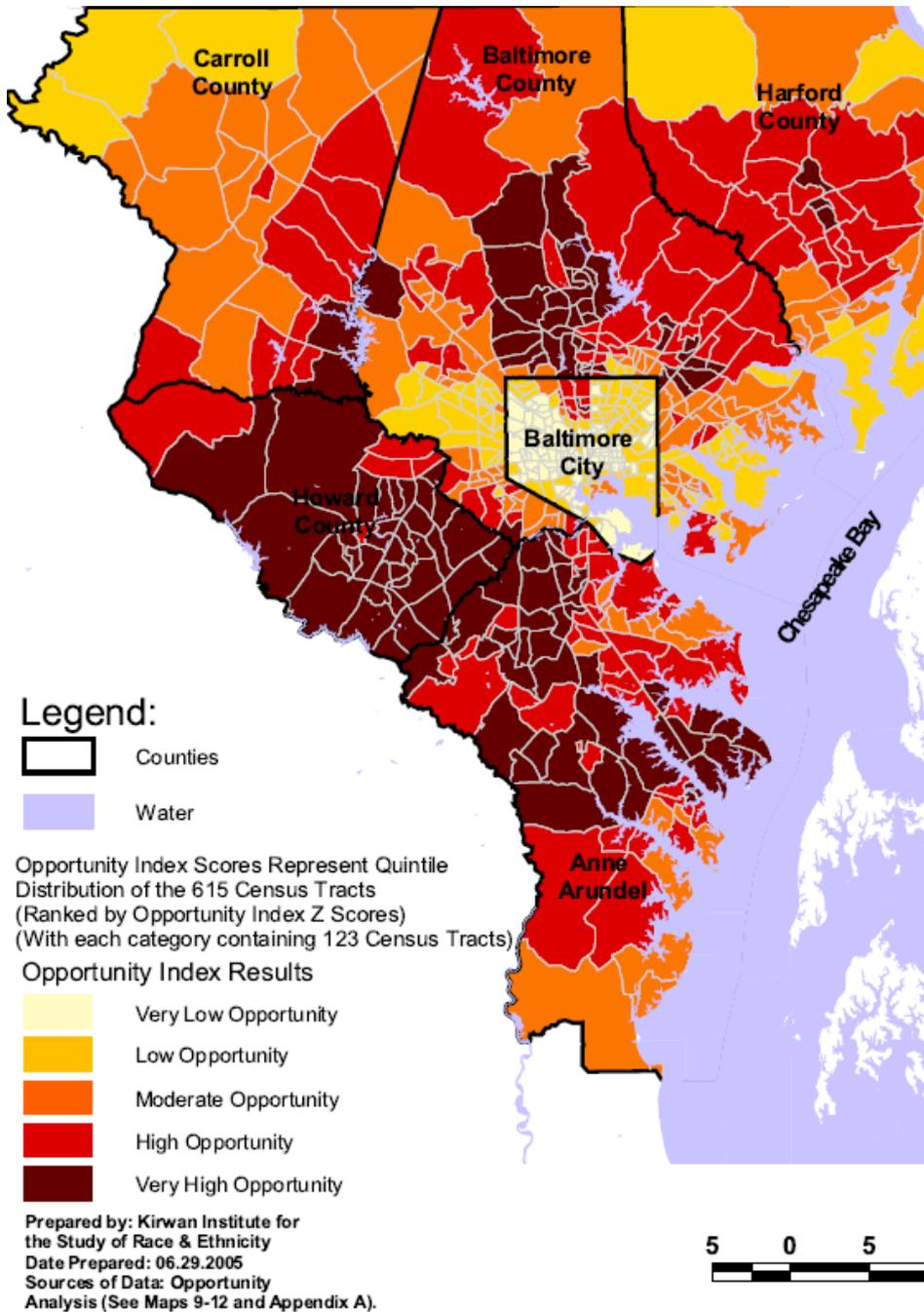


**JOHNS HOPKINS**  
**BLOOMBERG**  
SCHOOL OF PUBLIC HEALTH



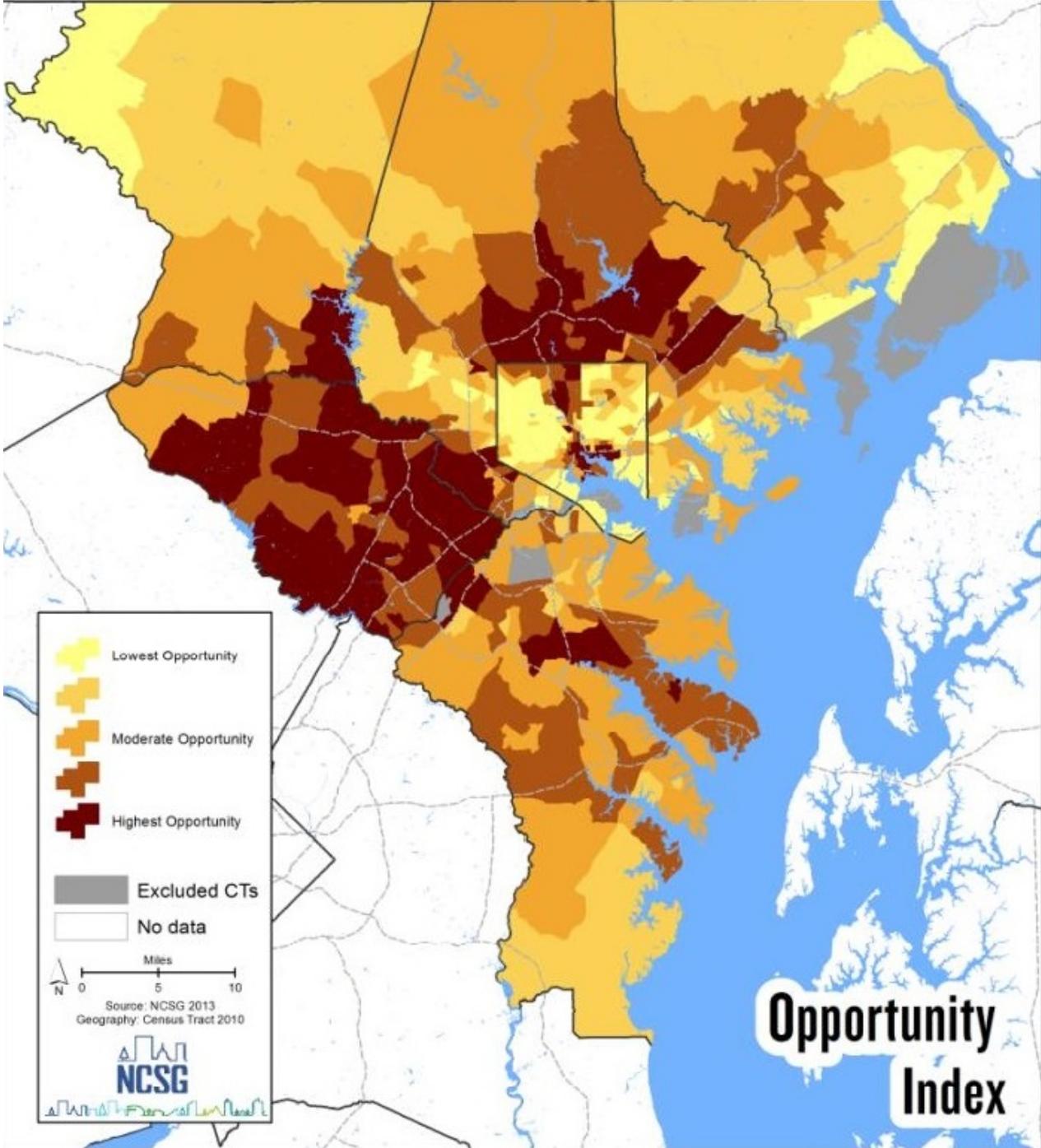
## Appendix D: Opportunity areas in Baltimore

Md. John Powell's Comprehensive Opportunity Index for the Baltimore Region, 2005



The opportunity index takes various sets of data: economic opportunity and mobility, neighborhood health, educational opportunity. (Liu C. et al., 2014).

NCSG Composite Index Map for the Baltimore Region, 2013



This index includes six categories: education, housing and neighborhood quality, social capital, public health and safety, employment and workforce, and transportation and mobility and reviewed over 100 key indicators. (Liu C. et al., 2014)

## Appendix E: Summary of some of the programs' design

	Section 8 - Housing Choice Voucher (HCV)	Gautreaux Assisted Housing Program	Moving to Opportunity for Fair Housing Demonstration Program (MTO)	Effects of Housing Choice Vouchers on Welfare Families - Welfare to Work Vouchers (WtWV)	Chicago Family Case Management Demonstration (CFCM)
<b>Kinds of Program</b>	Federal Housing Authority Program	Public housing desegregation lawsuit	Interventional demonstration	Interventional demonstration of Welfare to Work Vouchers	Interventional demonstration
<b>Target</b>	Eligibility for voucher assistance is mostly limited to very low-income families, low-income families who were previously living in public housing, persons with disabilities or elderly. Eligibility for a housing voucher is based on total annual gross income and family size. In general, a family's income must not exceed 50 percent of the median income of the location. Program participants must also be U.S. citizens or noncitizens with eligible immigration status. Persons evicted from public housing or any Section 8 program because of drug-related criminal activity are not eligible for the HCV Program for at least three years after the conviction.	Residents of the Chicago Housing Authority (CHA) public housing and families who were on the waiting list	Families had to live in public housing or private assisted housing in areas of the central cities with very high poverty rates (40 percent or more), have very low incomes, and have children under 18 years old	To be eligible to receive a WtW voucher, families had to meet the standard HCV eligibility requirements and be current or former Temporary Assistance for Needy Families (TANF) recipients or be eligible for TANF benefits. Only 7% of the WtWV participants were living in public housing or assisted housing when enrolled (vs. 100% in MTO).	Residents from two CHA developments, both extremely distressed with drug and gang activities ("hard to house" families)
<b>Design</b>	The goal of the HCV program is "to afford decent, safe, and sanitary housing in the private market". The subsidy amount is based on a payment standard set by the PHA between 90% and 110% of the fair market rent. [...] A family must not pay more than 40% of adjusted monthly income for rent". The unit selected by the family must meet minimum standards of health and safety, as determined by the PHA. There is no standards about the location for housing vouchers. After the voucher is issued, the family has a period of 60 days to find a unit to rent, otherwise the voucher is lost.	Find housing units with a HCV in the Chicago metropolitan area where no more than 30% of the census tract population were Black + Strong support services and counselling to help families find and stay in the unit.	Random assignment of eligible program applicants to 3 groups: 1- the "experimental group" was offered HCV that could only be used in low-poverty neighborhoods (i.e. < 10% of the population was poor). Local counseling agencies helped the experimental group members to find and lease units in qualifying neighborhoods. 2- the "Section 8 group" was offered HCV according to the regular rules and services of the Section 8 program at that time, with no geographical restriction and no special assistance. 3- the "control group" members were not offered HCV but continued to live in public housing or receive other housing assistance.	Random assignment of eligible program applicants to: 1- a treatment group that received a HCV that they could use without any geographical restriction (like regular vouchers) 2- a control group that initially did not receive a HCV but could be on the waiting list for vouchers.	Intensive case management services, relocation counseling, etc. Comparisons with the Panel Study made by the CHA from 2001-2009 from a random sample of residents.
<b>Size</b>	2,112,519 families in 2014	7,100 families	4,608 families	8,731 families	475 families
<b>Sites</b>	Nationwide	Chicago metropolitan area	Baltimore, Boston, Chicago, Los Angeles, and New York City	Atlanta, Augusta, Fresno, Houston, Los Angeles, Spokane	Chicago
<b>Starting date</b>	1970'	1976-1998	1994-1998	2000-2002	2007
<b>Follow-up</b>		Through 22 years	4-7 years / 10-15 years	42-48 months (4 years)	2 years







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