# Making MTO Health Results More Relevant to Current Housing Policy: Next Steps

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## Abstract

*This article examines the Moving to Opportunity (MTO) for Fair Housing demonstration and concludes that it has limited relevance for understanding the effects of the federal Section 8 Housing Choice Voucher Program (Section 8 Program) for four reasons. First, MTO focused on a group of people who lived in public housing at the outset of the study, and this subpopulation represents a small fraction of the recipients of the Section 8 Program. Second, MTO improves neighborhood quality more, on average, than the Section 8 Program does. Third, MTO fails to activate a mechanism that often improves health and is central to the Section 8 Program. Fourth, the U.S. Department of Housing and Urban Development could probably not bring MTO's major treatment condition to scale because of the relative shortage of affordable rental units in affluent neighborhoods. Because MTO had its clearest effects in the health domain, this article briefly outlines a study of the health effects of the Section 8 Program.*

## Introduction

The Moving to Opportunity (MTO) for Fair Housing demonstration was designed about 20 years ago. It involved randomly assigning a sample of families living in very poor public housing neighborhoods to one of three groups: (1) a control group that initially remained in public housing, (2) a Section 8 group that initially received traditional housing vouchers to help pay rent on any private-market dwelling unit that met U.S. Department of Housing and Urban Development (HUD) qualifications, and (3) an experimental group that initially received vouchers that the families could use only if they moved to a qualified unit in a neighborhood with a poverty rate of less than 10 percent. Comparing outcomes across the three different groups 10 to 15 years after random assignment

informs us about the long-term effects of public housing residents leaving a high-poverty neighborhood in a research project that did not involve the usual selection process for housing vouchers, which is heavily oversubscribed nationally. In MTO, new vouchers were set aside for participants; they were not obtained via a local lottery from existing voucher stocks.

MTO was designed in response to social science theories suggesting that people living in concentrated poverty are cut off from legitimate work opportunities and middle-class behavioral norms and that this social isolation is responsible for generating a host of negative social outcomes (Wilson, 1987). Wilson's theory is about the consequences of living among many poor families in an underresourced setting; by contrast, MTO is about the effects of moving from such a setting into a more affluent one. MTO is relevant to public policy, however, because, over the past 20 years, housing vouchers have increasingly replaced public housing as the main source of government housing support for low-income families, and such vouchers are supposed to promote mobility into better housing units in better neighborhoods. This national goal makes it important to learn whether voucher-induced moves to neighborhoods with fewer poor families can, within a single generation, overcome the individual and familial damage caused by the high-poverty neighborhoods in which public housing families formerly lived.

MTO is not the first study to take advantage of a lottery that randomly assigns some families to a housing voucher treatment group and others to a control group. Whereas other voucher experiments have compared voucher-based subsidies with no subsidies, however, MTO is unique in contrasting voucher receipt with living in subsidized public housing. All past voucher lottery studies have emphasized outcomes in the domains of labor force participation, welfare use, criminal behavior, and child and adult education. None of these studies observed consistent effects in these domains, and MTO is no exception to this disappointing picture. As MTO progressed, however, it became more health-focused than its predecessor studies thanks to its interim survey findings (Orr et al., 2003), which suggested that MTO reduced depression and anxiety among female heads of family and female youth (Kling, Liebman, and Katz, 2007). These interim findings led MTO researchers to increase the number of health assessments they made in the long-term followup survey, when the results (Ludwig et al., 2011; Sanbonmatsu et al., 2011) showed that, among adult women, upgrading neighborhood quality (1) maintained the superior mental health status previously noted, (2) reduced extreme obesity and diabetes, and (3) improved glycosylated hemoglobin levels (HbA1c). This last is a biomarker of likely future cardiovascular complications also associated with diabetes and obesity. These conceptually consistent MTO health results suggest that all past voucher studies may have looked for effects under the light of the wrong lamppost. It is now clear that, because of how MTO evolved and what it discovered, health outcomes deserve a higher profile in research on housing in general and on housing vouchers in particular.

Of course, no single study can do everything. MTO has several features that make it look like an evaluation of the Section 8 Housing Choice Voucher Program (Section 8 Program), the current budget of which is about $16 billion per year. These features include the use of housing vouchers in both treatment groups, one of which was called the Section 8 group because group members could use their voucher just like any family exiting public housing with a voucher. Nonetheless, we argue that MTO has limited relevance as an evaluation of the Section 8 Program writ large because of its restriction to families who were living in public housing at baseline. Of course, MTO did not

set out to be an evaluation of the Section 8 Program. Rather, it sought to describe how an enriched neighborhood alternative affects many different adult and youth outcomes, including health, relative to living in public housing. It is not, therefore, the fault of the MTO research design that so few new voucher holders come from public rather than private housing or that some important program requirements that might affect outcomes differ between these two groups. We use the MTO demonstration not to cavil about how the study was framed, designed, or analyzed, but rather to describe some possible next research steps in the study of housing voucher effects on health.

The argument we make is along four main lines. First, MTO's population does not represent the Section 8 Program population. MTO sought to maximize differences in neighborhood poverty concentration by studying public housing residents whose neighborhoods had some of the highest poverty rates in the United States and by requiring the principal treatment group of residents to use vouchers to move to neighborhoods with very low poverty rates. This dual strategy created the theoretically desired large neighborhood poverty contrast but, in so doing, led to a side effect that reduced MTO's relevance to the Section 8 Program writ large. In the Section 8 Program, most families applying for a voucher are already in the private housing market and so are not receiving a public housing subsidy. They also tend to be better off, less frequently members of racial or ethnic minorities, less female-headed, and almost certainly healthier—given the usual gradient linking health to socioeconomic status (Adler and Stewart, 2010)—than public housing families. These differences mean that the Section 8 Program involves a less vulnerable population than the public housing families in MTO, leading us to ask: Would MTO's health effects on public housing residents be replicated for the larger, more heterogeneous, and less vulnerable population of Section 8 Program voucher holders?

Second, the treatment contrasts achieved in MTO are greater than the mobility changes most Section 8 Program voucher holders spontaneously experience. Before their move, the average family in the Section 8 Program tends to live in less densely poor settings than public housing residents; when the family moves, it is probably to neighborhoods less affluent than those into which the MTO low-poverty housing voucher families were constrained to move, thus entailing a larger mobility difference in MTO than in the Section 8 Program. As we describe in the following sections, the MTO experimental group families moved from neighborhoods with about 50-percent poverty rates to those with about 10-percent poverty rates. Few families in the Section 8 Program make such dramatic neighborhood mobility changes. Of course, MTO also included a Section 8 group with no constraints on the poverty levels of the new neighborhoods. As we again describe in the following sections, however, the Section 8 group's initial 50-percent neighborhood poverty rate exceeds that of the average participants in the Section 8 Program, who are already in the more affluent private housing market when they get a voucher. Therefore, the mobility treatment contrast is probably even greater in the MTO Section 8 group than in the Section 8 Program, in which former public housing residents are rare.

Third, MTO probably involved causal mechanisms different from those found in the Section 8 Program. Public housing residents can use their housing vouchers only to change neighborhood and residence. By contrast, most Section 8 Program families already in private housing can use some of their voucher's monetary value to increase disposable income. More specifically, families already spending more than 30 percent of their adjusted income on rent in the private market—the vast

majority of voucher holders—can reduce out-of-pocket spending on rent by using their new voucher to pay a portion of the rent they used to pay and pocketing the difference. Section 8 Program rules place limits on how much substitution is possible, with the total amount depending on a family's income, their new and old rent payments, and local Fair Market Rent (FMR) values. The more a family wants to pay in rent after receiving a voucher compared with their prevoucher spending, the greater the gain in housing quality. By contrast, when families opt for a lesser difference between premove and postmove rent, the implicit income supplement is greater. The difference between MTO and the Section 8 Program is that MTO families could use their vouchers only to move to better housing, and most new voucher holders in the Section 8 Program are free to choose how they trade off between increasing their housing quality and supplementing their disposable income. Section 8 Program rules—and Chicago data we present in the following section—indicate that neighborhood upgrades are therefore greater but income supplements are therefore less for MTO families. MTO activates one mechanism to a greater degree than the Section 8 Program, but the Section 8 Program can activate two mechanisms—better housing and more disposable income.

Fourth, how MTO's health results would scale up to the national level is unclear because the Section 8 Program disproportionately comprises families leaving private-sector housing. These much greater numbers give rise to concerns about the limited supply of affordable rental units in neighborhoods with a poverty rate of 10 percent or less. Also, many poorer families are doubtlessly reluctant to relocate spontaneously in neighborhoods that are socially very different from those they know. MTO results we present in the following sections suggest this reluctance exists. By contrast, families already in private housing do not have to make such dramatic changes to move into neighborhoods that are 10 percent poor, and they are less likely to be racial or ethnic minority families reluctant to move into predominantly White settings. Therefore, scaling up MTO's findings would probably be problematic in the larger Section 8 Program, in which public housing families are quite rare in housing lotteries.

For all four reasons, we argue that the MTO demonstration's exciting health consequences cannot yet be responsibly extrapolated to the Section 8 Program. We call for a new voucher lottery study: a study in which (1) the population is all new Section 8 Program-eligible households, not just those currently living in subsidized public housing; (2) the variation in neighborhood poverty rate is one that spontaneously occurs rather than one that is experimentally imposed; (3) study families are free to use their vouchers not just for better housing but also to increase their disposable income; and (4) the major outcomes are a wide array of health and biological statuses assessed, not just on adult females and youth as in MTO, but on young children as well.

## The MTO Population Is Different From the Current Voucher Population

The MTO participants were families living in public housing units in census tracts where at least 40 percent of the household incomes fell below the federal poverty line. In fact, the average tract poverty of the initial sample was 53 percent, emphasizing that concentrated poverty is especially prevalent in the public housing population. These facts make it plausible to assume that the MTO study population lived in worse housing and neighborhood conditions than current eligible

voucher holders in the Section 8 Program. Indeed, Jacob and Ludwig (2012) examined an expansion of the Section 8 Program in Chicago in the late 1990s. More than 80,000 people applied for a new voucher. About 90 percent were living in unsubsidized private housing when they applied, suggesting that any voucher evaluation results limited to public housing residents will not necessarily apply to the average voucher holder nationally.

In the same Chicago study, the average voucher applicant lived in a neighborhood with a poverty rate of about 29 percent. By contrast, the Chicago MTO sample's average baseline neighborhood poverty rate was about 50 percent across MTO's three groups. It seems likely, therefore, that the MTO study population is poorer than the overall voucher-eligible population and lives in poorer quality housing and worse neighborhoods. If so, these poverty rate differences are also likely to be associated with worse initial health status (Adler and Stewart, 2010), including the extreme obesity, diabetes, and HbA1c obtained in MTO. Were the families receiving vouchers through MTO initially less healthy in the aggregate than Section 8 Program voucher holders? If so, would MTO's health findings be replicated with the relatively more healthy (and more economically advantaged) national population of Section 8 Program voucher holders?

## The Average Size of MTO's Treatment Contrast in Neighborhood Poverty Exceeds What We Would Expect in the Section 8 Program

HUD designed MTO to maximize differences in neighborhood poverty concentration, so it chose a public housing population whose pretreatment poverty rate averaged 53 percent. Some families were then assigned to the MTO experimental group. After 1 year, those so assigned who actually moved were living in neighborhood tracts averaging 11 percent poor. This 42-percent difference in neighborhood poverty is very large and totally commendable from MTO's theory-testing perspective. The size of this contrast decreased over time. Ten to 15 years later, the control group had moved, on average, from 53 to 31 percent poor tracts, whereas the experimental group movers had gone from 53 to 21 percent poor tracts. Movers among the Section 8 group had gone from 54 to 24 percent poor tracts. Thus, by the end of the study, a contrast of about 10 percentage points characterized how the control group differed from both the experimental and Section 8 groups. In the following sections, we examine some reasons for this temporal decrease in contrast size. For now, however, we point out that the health differences between the control and experimental groups was always statistically significant and large enough over time to obtain health effects in intention-to-treat analyses with only modest compliance rates (Ludwig et al., 2011)—a considerable achievement.

From the perspective of evaluating the Section 8 Program, however, the pertinent question is, "How big of a neighborhood poverty contrast would we expect when members of the broader Section 8 Program population move?" It is impossible to know exactly, but consider the following. Members of MTO's "traditional voucher group" were randomly assigned a Section 8 voucher and were free to move wherever they wanted. They initially moved to tracts with 29 percent poor, on average, appreciably better than the neighborhoods they left but not as affluent as the tracts, with an average 11 percent poor, to which the experimental group moved. The traditional housing voucher group, however, moved into neighborhoods with as many poor families (29 percent) as characterized the

*premove* Chicago voucher applicants in Jacob and Ludwig (2012), a stark contrast to the neighborhoods with 53 percent poor when MTO began. It is therefore impossible for the Chicago group, beginning at 29 percent, to experience the MTO low-poverty voucher group's poverty reduction of 42 percentage points. It would also be next to impossible to achieve the 24-percent reduction obtained in MTO's Section 8 group.

Over 10 to 15 years, MTO's treatment contrast shrank to 10 percent. We have no responsible way of knowing whether voucher holders in the Section 8 Program would achieve such a reduction across the same period. In Chicago, for instance, to achieve MTO's long-term, 10-percent absolute contrast in poverty rates would entail families starting in neighborhoods that are about 29 percent poor and eventually living in neighborhoods that are 19 percent poor. This 10-percent decrease is possible in the national program but does not reflect that families in the Section 8 Program start off in neighborhoods less disadvantaged than MTO's initial tract with 53 percent poor. It is almost impossible, therefore, for Section 8 Program families to experience a temporal pattern of neighborhood improvement as great as that in MTO. Because the treatment contrast in housing and neighborhood quality will be less in the Section 8 Program than in MTO, we must ask, "Would MTO's health effects be replicated in the Section 8 Program, in which the neighborhood quality contrast is almost certainly smaller than in the MTO low-poverty treatment group and likely to be even smaller than in the MTO traditional voucher treatment group?

## MTO Varied Housing and Neighborhood Quality, Whereas the Section 8 Program Also Varies Disposable Income

For families living in public housing, obtaining a voucher replaces their public housing subsidy. They can use their new voucher to purchase better housing and a better neighborhood in the private housing market, but that is all. On the other hand, families who are already in the private market can also use a new voucher to increase disposable income and pay for things such as clothes, car repairs, food, and phone service. The voucher works this way for them because families already in the private housing market can use their voucher to substitute for the rent they used to pay before getting the voucher. The size of this substitution depends on their income, rent, and local FMR values. In practice, most Section 8 Program families probably apportion their voucher's monetary value between upgrading their housing and increasing their disposable income. Thus, Jacob and Ludwig (2012) estimated that a voucher enabled the average Chicago Section 8 Program household to spend about $3,840 more per year for housing and add $4,425 to its disposable income. Because public housing residents pay their new rent with a voucher and get nothing else, even if their rent is less than the voucher's full value, it is highly likely that voucher holders coming from private-market housing experience smaller neighborhood (and housing unit) upgrades but larger cash transfers than those MTO produced.

How will the Section 8 Program affect health if most of its participants come from private housing, and so its neighborhood contrast is smaller than MTO's but its disposable income supplement is larger? The additional income a family receives could reduce its members' psychosocial stress, or it could purchase more health services. Either or both of these mechanisms could then improve disease-related biological processes and physical and mental health in both adults and children.

Numerous correlational studies imply a link among income, biology, and health, as do some laboratory analog studies described in Adler and Stewart (2010), as do well-identified causal analyses of the health effects of both food stamps (Almond, Hoynes, and Schanzenbach, 2011) and the Earned Income Tax Credit (Hoynes, Miller, and Simon, 2011). Still unknown, however, is how the total effect of combining the larger income supplement and the smaller neighborhood upgrade in the Section 8 Program writ large compares with MTO's total health effect. Future research to examine this issue should also probe causal mechanisms. Is the average income supplement from vouchers substantial enough by itself to affect health to a degree that is meaningful for policy? Is the reduced neighborhood contrast relative to MTO nonetheless large enough to affect health to a meaningful extent? Perhaps especially important are questions about how income supplements and neighborhood improvements combine and interact to jointly influence health.

## Housing Supply and Demand Would Probably Be Different in the Section 8 Program Than in MTO

Imagine a policymaker who wants to use the MTO health results to justify redesigning the Section 8 Program so that its recipients can use vouchers only to move to neighborhoods with less than 10 percent poor households. Such a policy supposes two things that are very likely wrong. The first is that the supply of affordable rental units in these affluent settings can meet the increased demand from new voucher holders. Affluent communities tend to be characterized by a greater fraction of individually owned homes as opposed to rental units, and many rental units in these communities are more expensive than voucher-eligible families can afford, even with a voucher. Also, a national program restricting voucher use to affluent neighborhoods would surely bid up rents in those places. Offering incentives to construct more rental units would, of course, offset such an increase. In affluent neighborhoods, however, we anticipate considerable reluctance to authorize the construction of more rental units at prices affordable for voucher-eligible families. Such resistance would probably be weaker for subsidized construction for elderly people and would probably be especially strong if the construction were for families with children, especially teenagers. In many affluent locations, it would be very difficult to achieve the number of affordable units needed to meet the increased demand that would follow from a Section 8 Program mandate to use vouchers only in affluent neighborhoods.

It is important to realize, however, that many voucher-eligible families might not want to live in affluent settings. Of families in the MTO experimental group, 53 percent did not use their voucher at all, one (of many) possible reason being that they did not want to live in places so different from the neighborhoods they were used to. Moreover, some of the families who moved initially did so again over the ensuing study years, after the requirement to live for 1 year in a neighborhood that was 10 percent poor lapsed. Most subsequent moves were to less affluent neighborhoods; that is, to settings more like those they initially left than like those into which they originally moved. Many reasons might explain this systematic mobility pattern, but one is surely that families from public housing preferred settings more sociologically like those they already knew. This predicament is most acute for racial or ethnic minority families who are fearful that affluent neighborhoods will tend to be majority White and replete with overt or covert racial prejudice. The MTO data suggest this

possibility, because almost all of MTO's voucher holders from racial or ethnic minority groups moved into nearby affluent minority neighborhoods and not into nearby affluent White neighborhoods.

MTO families randomly offered a traditional Section 8 voucher, despite coming from public housing, probably provide the closest approximation to the behavior of the typical private-market housing family in the Section 8 Program. Families in the MTO Section 8 group were more likely to lease up (62 percent) than families in the experimental group (47 percent). Also, their spontaneous moves were to neighborhoods with fewer nonpoor families (71 percent nonpoor) than those of the low-poverty voucher group (89 percent nonpoor). Again, we can invoke many reasons for such data, but one possibility is that the Section 8 group families voted with their feet in ways that reveal a preference for neighborhoods less affluent than those that MTO's low-poverty voucher required.

What about families in the Section 8 Program who are relatively more affluent and more likely to be White? Will they be as inclined to avoid neighborhoods with poverty rates as little as 10 percent? We do not know, but consider that they started in 2007 in Chicago from a base rate of 29 percent, not 53 percent, poor. Many of those families would therefore live in areas close to 10 percent poor, and for the others, the transition from 29 to 10 percent is less than from 53 to 10 percent. Our speculation is that fewer families in the Section 8 Program than in MTO would want to avoid neighborhoods that are 10 percent poor. This speculation means that scaling up the main MTO finding in the experimental group may be more difficult for most Section 8 Program voucher recipients, who are not as poor or as likely to be racial or ethnic minorities as are those in the MTO population. They might be more likely to want to move into affluent neighborhoods, thus swelling the demand for units in areas where the supply is already limited. Scale-up would be less problematic, of course, if federal authorities issued many fewer new vouchers, or if they somehow managed to impose real constraints on local private housing markets to implement a policy with teeth that encouraged moves into affluent neighborhoods. Currently, neither policy seems likely. It is hard to see, therefore, how MTO's main treatment arm could be scaled up within the Section 8 Program to capture MTO's health results.

## Beyond MTO's Biological and Health Measures

HUD did not originally design MTO with a central health focus. That focus emerged as primary halfway through MTO, when it became clear that the anticipated socioeconomic and educational effects were not occurring but that positive mental health effects were. Height and weight measures therefore gained new salience, and researchers added some health and biological measures to the final data collection wave. They obtained positive results for extreme obesity, diabetes, and HbA1c, suggesting a causal pathway between improved glucose regulation and reduced cardiovascular disease. The theoretical link among the three health outcomes, and from there to cardiovascular disease, makes the MTO health findings so credible, as does the fact that each is assessed in a quite different way—by the physical measurement of height and weight, self-report, and dried blood, respectively. Also adding credibility to MTO's health findings is the consistency of the positive mental health findings obtained at both the study's middle and end points, and for females in both their adult and youth years.

Many senior members of the medical research and policy establishments tend not to take social science findings seriously, especially if only self-reported or simple anthropometric assessments are available. They prefer biological measures that are part of well-established medical theories that manifestly predict subsequent serious diseases and are collected from, say, blood, sputum, or urine. They also prefer clinical assessments and cutoff values that are normative among health researchers and policy analysts. Like other scientists, they also seem to take more seriously findings that have a broad rather than a narrow reach. Justifying any housing policy because of its health consequences requires housing researchers to provide knowledge that the medical research and medical policy communities can freely embrace because the knowledge fits within their professional frames of reference. Thus, the concern in housing research on health is to use general clinical diagnoses, demonstrate biological mechanisms, assess clinical disease end points, and be applicable to large populations of individuals.

MTO went a considerable distance along this path, but probably not as far as it would have had it been initially framed as a study of housing and health. Its findings are from a smaller (but on average needier) population than the national population of Section 8 Program voucher holders. Positive findings emerged for a category labeled "extremely obese" but did not statistically replicate for the larger and more commonly used "clinically obese" group, with its lower cutoff value. MTO examined asthma by self-report, but these reports did not vary by treatment group. Although MTO obtained a positive result for health outcomes and the HbA1c biomarker, indicative of improved glucose regulation, much past interest in how physical and social settings affect health has concentrated on immunological pathways that lessen resistance to pathogens and thus promote many kinds of disease, including cardiovascular disease (Adler and Stewart, 2010). Other biomarkers, such as Interleukin 6, C-reactive protein (CRP), and Epstein-Barr 18 Virus, therefore, also require careful examination. CRP was assessed in MTO, and it was marginally related to the low-poverty treatment, raising at least some hope that housing will affect pathways to disease based on regulating immunological and glucose functioning. We need a study of housing mobility that is initially and explicitly focused around causal links from housing to health.

## What About Child Health?

The final measurement wave of MTO included not only adults but also youth. These youth were children when MTO began, but few health measures were taken from them as children, so MTO reports only youth results. There was a positive mental health effect for female (but not male) youth and no positive results for either gender for any physical health measure, so MTO's preadult health story is a mixed bag.

There are good reasons, however, for expecting positive health consequences before adulthood. Regular Section 8 Program voucher holders can move to better homes or neighborhoods, increase their discretionary income, or combine both. Each of these options should separately reduce psychosocial stress in the family, and reduced stress is a well-established mediator of improved biology and health in adults and even small children (Adler and Stewart, 2010). It is not, however, the only relevant causal mediator. Also relevant is that the discretionary income a voucher provides in the Section 8 Program can be used to access more and better health services. In addition, after moving, a family might also increase its members' exposure to information and social models relevant to

leading a healthier lifestyle. All three mechanisms—reduced stress, more access to health services, and exposure to healthier lifestyles—should complement each other and promote better biology and health in general, including in children.

Examining child outcomes is especially important because young children are particularly susceptible to many biological changes and illnesses associated with environmental exposures of all kinds. Moreover, if prevented or detected early, some such illnesses can be cured or managed in ways that are beneficial to the child, the family, and the national health dollar. The key here is that young children's biology and health are susceptible to the socioeconomic circumstances of their families (Adler and Stewart, 2010). Using a housing voucher to upgrade housing and increase family disposable income are two forms of socioeconomic upgrading, each of which occurs for most families in the Section 8 Program because they live in private housing when they get their voucher.

## Conclusions

MTO is a very important study and was well designed and analyzed for its own primary purpose—to test the consequences of a dramatic shift in the density of neighborhood poverty. The designers of the study never intended it to be an evaluation of the health consequences of the Section 8 Program, the conceptual framework we adopted in this article. Our remarks are not, therefore, critical of the MTO research. Rather, they are intended for all those who might be tempted to take MTO's positive health results and extrapolate them to the Section 8 Program to declare it an empirical success. The MTO team never attempted such an extrapolation, and this article merely cautions those who might want to do so by outlining how the MTO demonstration differs from the Section 8 Program in (1) study population, (2) the size of the neighborhood affluence contrast, (3) the role of supplemental household income as a possible causal mediating mechanism, and (4) the limited supply of affordable rental housing in neighborhoods as affluent as those to which families in the main MTO treatment group moved.

The article also briefly outlines a different study for testing voucher effects in the Section 8 Program writ large. It particularly emphasizes the need for (1) including samples from the national population of Section 8 Program-eligible families; (2) including treatment contrasts that reflect the range of neighborhood and housing unit quality changes the Section 8 Program typically achieves; (3) measuring and analyzing how much discretionary income flows to voucher holders who are already paying private-market rent before entering the Section 8 Program; (4) assessing the supply of, and demand for, affordable housing in the Section 8 Program; (5) measuring more biological and health outcomes than MTO did; and (6) examining biological and health changes in people of all ages, especially children.

Ironically, the evaluation emphasis in this article is somewhat at odds with our own view of social experiments (Shadish, Cook, and Leviton, 1991). MTO sought to be a bold enterprise that transcended the policy concerns of the era when it began, about 20 years ago. That is, it would create a treatment so bold that it could not exist in the world as it is currently socially conceived. Campbell (1969) has championed this conception of bold social experiments and has cautioned against using scarce and expensive experimental resources to test options that are already considered to be policy relevant. After all, good science need not have immediate payoffs, and what is deemed

unreasonable at any one moment in time may be considered feasible later. As we have shown here, a study to assess the effects of the Section 8 Program would involve a neighborhood improvement contrast smaller than what MTO achieved and, in some interpretations at least, this contrast would confound neighborhood change with an increase in disposable income. MTO was bolder and tested a theoretical policy alternative that reached beyond what was then considered a feasible alternative to public housing: locating families in settings considerably more affluent than the somewhat more safe and somewhat less poor, but otherwise not very different, neighborhoods into which they would otherwise have spontaneously moved. There has to be a place for such bold studies in our armamentarium of social experiments, and it is important to us that the present argument not be construed as an advocacy of doing only those social experiments that evaluate current policies like the Section 8 Program. At the national level, we need a both/and strategy: social experiments to examine both bold innovations and current policies. MTO is a great start and has successfully shone the light on health as an outcome of social mobility programs. Now is the time to enrich our understanding of the causal links between housing and health by conducting an evaluation of the less adventurous, but more immediately relevant, Section 8 Program.

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## References

Adler, Nancy E., and Judith Stewart. 2010. "The Biology of Disadvantage: Socio-Economic Status and Health," *Annals of the New York Academy of Sciences* 1186: 1–275.

Almond, Douglas, Hilary W. Hoynes, and Diane Whitmore Schanzenbach. 2011. "Inside the War on Poverty: The Impact of Food Stamps on Birth Outcomes," *The Review of Economics and Statistics* 93 (2): 387–403.

Campbell, Donald T. 1969. "Reforms as Experiments," *American Psychologist* 24 (4): 409–429.

Hoynes, Hilary W., Douglas L. Miller, and David Simon. 2011. "Income, the Earned Income Tax Credit, and Infant Health." Available at http://poverty.ucdavis.edu/research-paper/income-earned-income-tax-credit-and-infant-health.

Jacob, Brian A., and Jens Ludwig. 2012. "The Effects of Housing Assistance on Labor Supply: Evidence From a Voucher Lottery," *American Economic Review* 102 (1): 272–304.

Kling, Jeffrey R., Jeffrey B. Liebman, and Lawrence F. Katz. 2007. "Experimental Analysis of Neighborhood Effects," *Econometrica* 75 (1): 83–119.

Ludwig, Jens, Lisa Sanbonmatsu, Lisa Gennetian, Emma Adam, Greg J. Duncan, Lawrence F. Katz, Ronald C. Kessler, Jeffrey R. Kling, Robert C. Whitaker, and Thomas McDade. 2011. "Neighborhoods, Obesity, and Diabetes—A Randomized Social Experiment," *The New England Journal of Medicine* 365 (16): 1509–1519.

Orr, Larry, Judith D. Feins, Robin Jacob, Erik Beecroft, Lisa Sanbonmatsu, Lawrence F. Katz, Jeffrey B. Liebman, and Jeffrey R. Kling. 2003. *Moving to Opportunity for Fair Housing Demonstration Program: Interim Impacts Evaluation*. Report prepared by Abt Associates Inc. and the National Bureau of Economic Research for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Sanbonmatsu, Lisa, Jens Ludwig, Larry F. Katz, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma Adam, Thomas W. McDade, and Stacy Tessler Lindau. 2011. *Moving to Opportunity for Fair Housing Demonstration Program: Final Impacts Evaluation*. Report prepared by the National Bureau of Economic Research for the U.S. Department of Housing and Urban Development, Office of Policy Development and Research. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Shadish, William R., Thomas D. Cook, and Laura C. Leviton. 1991. *The Foundations of Program Evaluation: Theories of Practice*. Beverly Hills, CA: SAGE Publications.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago: University of Chicago Press.