Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Ludwig J, Sanbonmatsu L, Gennetian L, et al. Neighborhoods, obesity, and diabetes — a randomized social experiment. N Engl J Med 2011;365:1509-19.

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Contents

Outstanding assistance with the data preparation and analysis was provided by Joe Amick, Ryan Gillette, Ijun Lai, Jordan Marvakov, Matt Sciandra, Fanghua Yang, Sabrina Yusuf, and Michael Zabek at the National Bureau of Economic Research, each of whom was an employee of our research team for this study. The survey data collection effort was led by Nancy Gebler of the University of Michigan's Survey Research Center under subcontract to our research team. Helpful comments were provided by Todd Richardson and Mark Shroder of HUD, and Kathleen Cagney, Elbert Huang, and Harold Pollack of the University of Chicago.

Discussion of Analytic Methods

This section discusses our analytic strategy for first estimating the impacts of the MTO mobility intervention on outcomes (intention to treat and treatment on the treated), and then discusses our quasi-experimental approach for estimating dose-response relationships between neighborhood disadvantage and health outcomes.

A. Intention to treat

We begin with simple comparisons of the average outcomes (diabetes, obesity, or neighborhood conditions) of adults assigned to different MTO groups, known as the intention to treat (ITT). Let Y_i be some outcome of interest for program participant (i). We estimate a model using pooled data from all three MTO groups with Z consisting of two separate indicators for assignment to the low-poverty voucher and traditional voucher groups. We calculate the ITT effects as the two elements of π_{11} in equation (1) using ordinary least squares for continuous dependent variables and logistic regression for dichotomous dependent variables, conditioning on a set of (pre-random assignment) baseline characteristics (X), including dichotomous site indicators.[a] For our logit models we present average marginal effects, which, as we demonstrate below, are quite similar from the marginal effects we obtain from using linear probability models for dichotomous dependent variables as a sensitivity analysis. All estimates in this paper are computed using sample weights.[b]

(1) $Y_i = Z_i\pi_{11} + X_i\pi_{12} + e_{1i}$

B. Treatment on the treated

Our methodology for estimating the effects of treatment on the treated (TOT) comes from Angrist, Imbens and Rubin[2] (hereafter AIR). Medical readers may be more familiar with the term

[a] These include (besides site) survey measures of the socio-demographic characteristics of household members, and survey reports about youth experiences in school such as expulsions or enrollment in gifted and talented classes. In models where the outcome of interest comes from official arrest data, we also condition on a set of indicators for the number of pre-program arrests for violent, property, drug or other offenses. Because the distribution of pre-program characteristics should be balanced across treatment groups with random assignment, conditioning on these variables serves mainly to improve the precision of the treatment effect estimates.

[b] The weights we use to analyze survey-reported outcomes have three components, described in detail in Orr[1], Appendix B. The survey procedure attempted to contact a subsample of difficult-to-locate cases. Sub-sample members receive greater weight since, in addition to themselves, they represent individuals whom we did not attempt to contact during the sub-sampling phase. Survey youth from large families receive greater weight since we randomly sampled two children per household so these youth represent a larger fraction of the study population. Weights are also used since the ratio of individuals randomly assigned to treatment groups was changed during the course of the demonstration to adjust in response to differences between projected and actual use of offered vouchers, and weighting avoids potential confounding of treatment group with calendar time effects. Individuals within treatment groups are weighted by their inverse probability of assignment to the group to account for changes in the random assignment ratios. Models for official arrest outcomes use only this last weighting component.

"complier average causal effect" (CACE) (see, for example, Jo[3], Becque and White[4], King et al.[5], McNamee[6]). Estimates for both the TOT and CACE require the assumption that assignment to either of the MTO treatment groups does not have any effect on the health outcomes of those families that do not actually move with a MTO voucher, which is known in the statistics literature as the "exclusion restriction." This assumption may not be literally true, since the counseling services and search assistance offered to treatment families may influence later mobility patterns or other youth behaviors even among families that do not relocate through MTO. The disappointment of searching but failing to find an apartment may also affect non-movers in the treatment groups. If the effects of treatment-group assignment are substantially smaller for those who do not move through MTO compared to those who do (although not exactly zero as assumed in TOT estimation), our TOT estimates will approximate the effects of MTO moves on those who move through the MTO program. Readers should keep this assumption in mind when interpreting the TOT estimates presented in our tables.

In the MTO application, the TOT and CACE should equal one another assuming the exclusion restriction is met. This can be illustrated using the framework from AIR, who define the study population into four groups on the basis of what Rubin[7,8] calls "potential outcomes." These four groups are as follows (from Table 1 of AIR p. 448):

> Compliers = those who would receive the "treatment" (in this application, move through MTO) if randomly assigned to one of the MTO treatment groups (the low-poverty voucher group or the traditional voucher group), but would not receive the treatment if assigned to the control group condition instead.
>
> Never-takers = people who would never receive the treatment (move through MTO) regardless of whether they are assigned to the treatment groups or to the control group.
>
> Defier = people who would receive the treatment if they are assigned to the control group, but not if they are assigned to the treatment group. Since our "treatment" is defined as "use of a MTO voucher," and only families assigned to the treatment groups had access to MTO vouchers, there are no defiers in MTO given the study's design.
>
> Always-takers = people who would receive the treatment regardless of whether they are assigned to the treatment groups or to the control group. Since MTO vouchers are only made available to those assigned to the treatment groups, there are no always-takers in MTO given the study's design.

The never-takers, defiers and always-takers together constitute the group of "non-compliers." Since there cannot be any defiers or always-takers in MTO given the way the experiment was designed, the non-compliers are equal to the never-takers. The TOT effect – or the effect of actually moving with a MTO voucher – is defined under the AIR framework as the difference in average outcomes that the compliers would experience if they are assigned to the treatment group versus the average outcomes the compliers would experience if they are assigned to the control group (see AIR, p. 449). This is also the definition of the CACE.

Estimating the TOT effect on the compliers is complicated in practice by the fact that we can observe who is a complier versus never-taker within the treatment group, but we cannot tell which specific individuals are compliers within the control group (that is, would have used an MTO voucher if they had been assigned to the treatment group instead). By virtue of random assignment, we know that the share of people who are compliers (P_C) and never-takers (P_N) should be the same across randomly-assigned groups. This means that we can estimate the share of people who would be compliers in the control group from looking at the share of actual compliers in the treatment group. Note also that because there are no defiers or always-takers in MTO given the experiment's design, it is then the case that $P_C+P_N=1$. The ITT effect is a weighted average of the effect on the compliers (T_C) and never-takers (T_N), or:

(2) $ITT = P_C*T_C + P_N*T_N$

If we are willing to assume that random assignment to the treatment group has no effect on the never-takers, then $T_N=0$, and the ITT effect is then:

(3) $ITT = P_C*T_C + P_N*0$
$= P_C*T_C$

Rearranging terms in the equation above yields:

(4) $T_C = ITT / P_C$

In words, the effect of the MTO intervention on the compliers (the TOT effect) is equal to the ITT effect divided by the share of the study sample that consists of compliers. A different way to think of the TOT calculation comes from noting that the denominator in equation (4) is basically the ITT effect of MTO treatment group assignment on the likelihood of moving through MTO, so that the TOT estimate is the ratio of two fully-experimental ITT estimates (the ITT for the health outcome of interest divided by the ITT effect on treatment rates). This TOT calculation does not compare compliers with non-compliers, since compliance status is not randomized. Indeed in Table 5 in this Supplementary Appendix below we show that observable baseline characteristics are systematically different for compliers and non-compliers within each of the two MTO treatment groups, which raises the possibility that unmeasured individual attributes that influence health may also differ systematically between compliers and non-compliers as well. Equation (4) is the standard formula for calculating the TOT effect in a randomized experiment that has no defiers or always-takers; see also AIR (p. 449), Bloom[9], and Angrist and Pischke[10] (p. 164). In a model with no covariates this is equivalent to using two-stage least squares (instrumental variables) to estimate TOT, using treatment group assignment as an instrumental variable for treatment take-up. The first stage uses linear regression to regress an indicator for using a MTO voucher against an indicator for assignment to one of the MTO treatment groups, together with the baseline variables shown in Table 1. The second stage uses linear regression to regress the health outcomes reported in row labels at left against the same baseline covariates plus the predicted value of using a MTO voucher from the first stage; the indicator for assignment to one of the MTO treatment groups serves as the instrumental variable excluded from the second stage regression (see AIR).

This standard TOT formula, together with the fact that 48% of those assigned to the low-poverty voucher group and 63% of those assigned to the traditional voucher group use a MTO voucher, is the basis for our statement in the main text of the paper that the TOT effect for the low-poverty voucher is 2 times the ITT effect for that treatment, while the TOT effect for the traditional voucher is 1.5 times the ITT effect for that treatment.

C. Dose-response model

Also of interest is the relationship between health outcomes for MTO program participants and specific candidate mediating measures, such as census tract poverty rates, which we estimate using the instrumental variables (IV) approach from Kling et al..[11] Let M_1 represent a measure of a candidate mediating mechanism through which MTO might affect health in a model in which there is only one mediator, while X represents the baseline control variables. The relationship between the candidate mediator(s) and health is summarized by the parameter(s) π_{51} in outcome equation (5).

(5) $Y_i = M_{1i}\,\pi_{51} + X_i\pi_{52} + e_{5i}$

For purposes of estimation of equation (5) we view our measures of tract poverty rate as a summary measure of neighborhood economic disadvantage. Thus π_{51} should be viewed as the effect of moving to a neighborhood that has a lower poverty rate *and* other aspects of neighborhood economic disadvantage that co-vary with tract poverty rates.

Ordinary least squares or logistic regression estimation of (5) may be biased by self-selection of systematically different types of families into different types of neighborhoods. That is, families that wind up living in lower-poverty tracts may be systematically different from those who live in high-poverty areas in ways that are difficult to measure in a social science dataset and that also directly affect health outcomes. We build on the approach of Kling et al.[11], and use interactions between dichotomous indicators for treatment group assignments (Z) and site indicators (S) as instrumental variables to isolate the experimentally-induced variation in some candidate mediating variable, M_1, across MTO demonstration sites and groups, as in equation (6), where the main site effects are subsumed in X. In the second-stage equation (7) we replace M_1 with the predicted value from the first stage equation, $\quad_1$, and thus isolate the variation in the mediating measure across the MTO sample that is due just to variation across the demonstration sites in treatment effects on the mediator.

(6) $M_{1i} = Z_i{*}S_i\,\pi_{61} + X_i\pi_{62} + e_{6i}$
(7) $Y_i = \quad_{1i}\,\pi_{71} + X_i\pi_{72} + e_{7i}$

The intuition behind this quasi-experimental instrumental variables (IV) design is to take advantage of the fact that in some sites, the MTO treatment may have generated relatively larger changes in census tract poverty rates than in other sites. The IV design asks whether the site and treatment group that experiences the relatively larger change in census tract poverty rates also show the most pronounced change in health outcomes.

Our measure for M_1 in Table 9 of this Supplementary Appendix is equal to the duration-weighted average census tract poverty rate that families experience over the study period (from random assignment through 2008). Data on census tract poverty rates come from the 1990 census, the 2000 census, and the 2005-2009 American Community Survey (ACS). We use linear interpolation to estimate census tract poverty rates between 1990 and 2000, and between 2000 and the time of the ACS (which we assign to be 2007, the mid-point of the ACS data collection window).

We also present results using as a measure for M_1 the concentrated disadvantage index defined by Sampson et al.[12], which is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare (4) unemployed, (5) female-headed family households, and (6) under age 18, with loading factors from Sampson et al.[12]

Discussion of Supplemental Tables

Supplemental Table 1 presents descriptive statistics by treatment group for additional baseline characteristics that are not included in Table 1. Taking the 57 baseline characteristics shown in Table 1 and Supplemental Table 1, as a set the differences across treatment groups are not statistically significant.

Supplemental Table 2 shows the association between the interventions and residential mobility and neighborhood characteristics. Specifically, the table shows intent-to-treat and treatment-on-treated estimates for Census tract poverty rates for the respondents' addresses at baseline, 1 year after random assignment, 5 years after random assignment, and then 10-12 years after random assignment for each treatment group and its compliers. For each of these time periods, we have also included the percentile ranking and z-score based on the 2000 national distribution of census tracts to gain a better understanding of how poor these tracts are relative to the rest of the nation. Supplemental Table 2 also examines the respondent's exposure to various Census tract characteristics by averaging these characteristics based on how long they lived in each tract. In addition, the table presents analyses of the respondent's reports on their neighborhood's collective efficacy, safety, friends with college degrees, and access to local health services.

Supplemental Table 3 presents findings on our main outcomes (BMI $\geq$ 30, BMI $\geq$ 35, BMI $\geq$ 40, and HbA1c $\geq$ 6.5%) using three different estimation procedures: a) logistic regression, calculating TOT effects by dividing the ITT effect by each MTO treatment group's compliance rate (share using a MTO housing voucher); b) linear regression, calculating the TOT by dividing the ITT by the treatment group's compliance rate; and c) calculating treatment-on-the-treated by using instrumental variables (IV) methods described above.

Supplemental Table 4 and Supplemental Table 5 allow the reader to compare average health outcomes and baseline covariates for MTO compliers and non-compliers. The comparison of the average health outcomes for compliers and non-compliers is not informative about the effects of actually moving with a MTO housing voucher, because compliers and non-compliers represent two distinct (and self-selected) types of people.

Suppose, for example, that the MTO program participants who would move if they were assigned into one of the experiment's treatment groups (the compliers) had background factors that put them at elevated risk for adverse health outcomes compared to those people who would not move if assigned to the treatment group (non-compliers). In this case, a comparison of average health outcomes of the compliers versus the never-takers would confound the causal effect on health outcomes from actually moving through MTO with the effects on health outcomes from measured and unmeasured background factors that are systematically different for compliers versus non-compliers. Put differently, the systematic differences in other risk factors between compliers and non-compliers would help mask any beneficial effect of moving through MTO on health.

Indeed, Table 5 in this Supplementary Appendix makes clear that there are numerous statistically significant differences in baseline survey characteristics between compliers and never-takers within the two MTO treatment groups. A Wald test rejects the hypothesis that the baseline covariates are jointly insignificant in predicting the likelihood of using a MTO voucher, both for the low-poverty voucher group and the traditional voucher group ($p<.001$ in both samples). Our baseline surveys are not directly informative about whether the compliers have background factors that put them at elevated versus reduced risk for health problems compared to never-takers, given that the baseline surveys collected by HUD included very limited information about health or health-related risk and protective factors. But Supplemental Table1 does make clear that compliers and non-compliers are systematically different types of people.

Supplemental Table 6 examines what happens to the impact of the main health outcomes and Census tract characteristics when the sample is split by the adult respondent's age at baseline: below 33 versus 33 and above. This sub-group analysis was suggested by a peer reviewer in response to an earlier draft of our submitted manuscript, and so is post hoc. Our test for whether there is a statistically significant difference in effects by baseline age comes from testing the coefficient for the interaction of an indicator for assignment to the treatment group and an interaction for being ages 33 and over, following the recommendation of Wang et al. (2007).

Supplemental Table 7 shows the impact of the main health outcomes and Census tract characteristics when the sample is split by random assignment site. This sub-group analysis (as with those shown in Supplemental Table 6) was also suggested by a peer reviewer in response to an earlier draft of our submitted manuscript, and so is post hoc. Our test for whether MTO effects on health vary across demonstration sites comes from calculating an F-test for the joint significance of interactions for indicators for demonstration site and treatment assignment, which helps account for concerns about multiplicity in carrying out sub-group tests raised by Wang et al.[13]

Supplemental Table 8 presents baseline control group and city-characteristics by site, in order to gain a better understanding of cross-site differences. The table presents household characteristics as well as city-level statistics on: crime (in 1994), poverty (in 1990), and health (in 2002 and 2004).

Supplemental Table 9 uses an instrumental variables approach to estimate the association between changes in neighborhood characteristics (census tract poverty rate and the concentrated disadvantage index[c]) and changes in BMI and HbA1c (≥6.5%). The intuition behind this quasi-experimental instrumental variables (IV) design is to take advantage of the fact that in some sites, the MTO treatment generated relatively larger changes in mediating measures than in others, and to use the sizes of these changes to estimate the causal effect of each mediator. (See discussion above). The table presents our estimates for coefficients π_{71} in equation (7) above,

[c] The concentrated disadvantage index is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare (4) unemployed, (5) female-headed families, and (6) under age 18, with loading factors determined by Sampson et al.[12]

when the mediating measures (M_1) are defined as tract poverty or tract concentrated disadvantage.

The four different columns along the top of the Table represent the dependent variable (*Y*) in the regression. The columns represent the different mediating variables (M_1) that are instrumented for one at a time, using interactions of MTO treatment group and demonstration site dummies. For example, the cell of the table in the first column, second row shows our instrumental variables estimate for the coefficient π_{71} from equation (7), derived by using two-stage least squares to equations (6) and (7) above. The dependent variable in the second stage equation for this cell is an indicator for BMI above 35 kg/m^2, and the mediating measure that is being instrumented for with site-group interactions (M_1) is the family's duration-weighted tract poverty rate for their addresses over the entire study period. The coefficient of 0.62 (in the second row and first column of the table) shown for the IV regression of a BMI above 35 kg/m^2 on tract poverty can be interpreted as suggesting that decreasing the poverty rate of a tract from 30 percent to 20 percent is associated with a 6.2 percentage point decrease in the subject's likelihood of having a BMI above 35 kg/m^2 ($p<.01$).

The second column presents results from re-estimating equations (6) and (7) using two-stage least squares, but now using the family's tract poverty rate averaged over just the three years preceding the long-term survey (a measure of contemporaneous exposure to neighborhood poverty). The third column presents results from a separate two-stage least squares estimating of (6) and (7) using average tract poverty rates from baseline through the period three years before our long-term survey as the mediator of interest (a measure of lagged exposure to neighborhood poverty). The final column presents results using the duration-weighted average concentrated disadvantage index for families over the entire study period as the endogenous mediating measure of interest in the model. The results imply that going from the 75th percentile in the MTO study sample for the concentrated disadvantage index value (2.05) to the 25th percentile (1.30) is associated with a decline in the likelihood of BMI over 35 kg/m^2 of 13.94 percentage points (i.e., -0.75 x 18.59).

We also estimated models that control for two endogenous explanatory variables at once, to examine non-linearities in the association between tract poverty or concentrated disadvantage with health outcomes, or to try to disentangle the influences of contemporaneous versus lagged exposure to poverty. Unfortunately, given the nature of the MTO research design, these estimates wound up being very imprecise and thus not very informative.

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Supplemental Tables

List of Tables:

Supplemental Table 1. Additional Baseline Characteristics of Study Sample, by Randomized MTO Mobility Group

	Low-poverty housing voucher (n = 1425)		Traditional housing voucher (n = 657)		Control (n = 1104)	
	No.[a]	**(%)[a]**	**No.[a]**	**(%)[a]**	**No.[a]**	**(%)[a]**
Household Characteristics						
Female head of household	1327	(92.9)	617	(95.6)	1020	(93.8)
Household member disabled	216	(14.6)	111	(16.9)	161	(14.9)
Owns car	242	(18.6)	115	(17.9)	189	(16.5)
No teens in household	871	(60.9)	412	(61.5)	706	(64.7)
Household size						
Two	306	(22.5)	150	(21.5)	212	(19.0)
Three	431	(30.2)	197	(29.4)	366	(33.3)
Four	340	(23.3)	155	(23.9)	245	(22.4)
Five or more	348	(24.0)	155	(25.2)	281	(25.2)
Government Benefits						
Aid to Families with Dependent Children	1086	(76.4)	486	(74.5)	840	(76.9)
Food Stamps	1165	(81.7)	529	(81.7)	898	(82.3)
Women, Infants, and Children	505	(36.9)	240	(37.7)	397	(37.2)
Medicaid	988	(72.1)	477	(73.3)	750	(71.2)
Over 30 Minutes Away from the…						
Grocery store	308	(21.3)	135	(22.4)	231	(21.1)
Doctor	587	(42.7)	297	(43.8)	479	(45.0)

Supplemental Table 1. *continued*

	Low-poverty housing voucher (n = 1425)		Traditional housing voucher (n = 657)		Control (n = 1104)	
	No.[a]	**(%)**[a]	**No.**[a]	**(%)**[a]	**No.**[a]	**(%)**[a]
Neighborhood Characteristics [b]						
Household member victimized in past 6 months	602	(43.2)	274	(41.5)	443	(41.4)
Streets very unsafe at night	692	(49.5)	351	(52.2)	562	(51.3)
Very dissatisfied with neighborhood	668	(48.2)	316	(48.2)	490	(46.6)
Very confident about finding new apartment	661	(48.0)	333	(50.7)	498	(45.6)
Lived in neighborhood 5 or more years	832	(59.8)	408	(61.5)	633	(60.4)
Moved more than 3 times in 5 years prior to baseline	127	(9.2)	53	(9.2)	121	(11.0)
Previously applied for Section 8	553	(40.0)	263	(38.1)	478	(43.0)
No family in neighborhood	887	(64.3)	418	(61.1)	703	(63.9)
Chatted with neighbors at least once per week	747	(52.5)	326	(48.7)	598	(54.7)
Very likely to tell neighbor about their child getting into trouble	775	(55.5)	341	(51.7)	617	(55.9)
Primary or Secondary Reason for Moving was…						
To get away from drugs and gangs	1092	(78.6)	485	(75.5)	843	(77.8)
Better schools for the children	676	(49.0)	353	(55.4)	502	(48.1)
To get a bigger or better apartment	625	(44.4)	280	(43.9)	509	(45.9)
To get a job	91	(6.3)	31	(5.0)	64	(7.0)

Supplemental Table 1. *continued*

	Low-poverty housing voucher (n = 1425)		Traditional housing voucher (n = 657)		Control (n = 1104)	
	No.[a]	**(%)[a]**	**No.[a]**	**(%)[a]**	**No.[a]**	**(%)[a]**
Site						
Baltimore	196	(13.4)	93	(14.2)	152	(13.3)
Boston	280	(20.2)	133	(20.6)	248	(20.4)
Chicago	371	(20.4)	107	(21.6)	179	(20.7)
Los Angeles	269	(23.0)	135	(20.0)	296	(22.1)
New York	309	(23.0)	189	(23.6)	229	(23.5)
Site/Randomization Cohort						
Baltimore, Cohort 1	164	(9.1)	39	(9.2)	101	(8.7)
Baltimore, Cohort 2	32	(4.3)	54	(4.9)	51	(4.6)
Boston, Cohort 1	173	(9.4)	42	(9.7)	105	(9.6)
Boston, Cohort 3	52	(7.7)	70	(7.9)	123	(7.7)
Boston, Cohort 7	55	(3.2)	21	(3.0)	20	(3.1)
Chicago, Cohort 1	200	(11.4)	51	(11.9)	118	(11.3)
Chicago, Cohort 3	133	(6.2)	25	(6.2)	42	(6.0)
Chicago, Cohort 8	38	(2.8)	31	(3.4)	19	(3.4)
Los Angeles, Cohort 1	107	(6.3)	19	(4.5)	66	(5.5)
Los Angeles, Cohort 4	134	(13.4)	82	(12.7)	190	(12.8)
Los Angeles, Cohort 11	28	(3.4)	34	(2.8)	40	(3.7)
New York, Cohort 1	115	(6.1)	25	(5.4)	73	(6.7)
New York, Cohort 5	166	(14.7)	149	(15.9)	133	(14.7)
New York, Cohort 9	9	(1.1)	11	(1.0)	15	(1.3)
New York, Cohort 10	19	(1.1)	4	(1.3)	8	(0.9)

Supplemental Table 1. *continued*

[a] No. unweighted. % calculated using sample weights to account for changes in random assignment ratios across randomization cohorts and for subsample interviewing. Sample is female adults with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c). An omnibus F-test fails to reject null hypothesis that the joint set of baseline characteristics reported in Table 1 and those above are the same across MTO random assignment groups (p-value for the low-poverty housing voucher vs. control comparison is p=.93; p-value for the traditional housing voucher vs. control comparison is p=.35).

The baseline head of household reported on the neighborhood characteristics listed here.

Supplemental Table 2. Association between MTO Randomized Intervention and Neighborhood Conditions during Study Period and Relative to National Neighborhood Poverty Distribution [a]

		Low-poverty housing voucher vs. control group						Traditional housing voucher vs. control group					
	Control Mean	Intention to Treat [ITT][b] (95% CI)		Treatment on the Treated [TOT][c] (95% CI)		*P* Value	N	Intention to Treat [ITT][b] (95% CI)		Treatment on the Treated [TOT][c] (95% CI)		*P* Value	N
Tract Poverty at Baseline [d]													
Natural units (%)[e]	53.1	-0.37	(-1.23 to 0.50)	-0.76	(-2.55 to 1.03)	.41	2404	-0.37	(-1.55 to 0.81)	-0.60	(-2.52 to 1.31)	.54	1673
Percentile ranking [f]	96.2	-0.25	(-0.81 to 0.31)	-0.52	(-1.68 to 0.64)	.38	2404	0.01	(-0.69 to 0.71)	0.01	(-1.13 to 1.15)	.98	1673
Z-score [g]	3.2	-0.03	(-0.10 to 0.04)	-0.06	(-0.21 to 0.08)	.41	2404	-0.03	(-0.13 to 0.07)	-0.05	(-0.20 to 0.11)	.54	1673
Tract Poverty 1 Year Post-Random Assignment													
Natural units (%)[e]	50.0	-17.06	(-18.57 to -15.56)	-35.21	(-38.32 to -32.11)	<.01	2404	-13.50	(-15.33 to -11.67)	-21.98	(-24.97 to -19.00)	<.01	1673
Percentile ranking [f]	94.6	-19.41	(-21.01 to -17.80)	-40.05	(-43.37 to -36.73)	<.01	2404	-7.17	(-8.69 to -5.65)	-11.68	(-14.15 to -9.20)	<.01	1673
Z-score [g]	2.9	-1.38	(-1.50 to -1.26)	-2.85	(-3.10 to -2.60)	<.01	2404	-1.09	(-1.24 to -0.95)	-1.78	(-2.02 to -1.54)	<.01	1673
Tract Poverty 5 Years Post-Random Assignment													
Natural units (%)[e]	39.9	-9.78	(-11.25 to -8.31)	-20.19	(-23.22 to -17.16)	<.01	2404	-6.26	(-8.41 to -4.11)	-10.19	(-13.70 to -6.69)	<.01	1673
Percentile ranking [f]	89.3	-11.43	(-13.06 to -9.80)	-23.59	(-26.95 to -20.23)	<.01	2404	-3.71	(-5.81 to -1.61)	-6.04	(-9.47 to -2.62)	<.01	1673
Z-score [g]	2.1	-0.79	(-0.91 to -0.67)	-1.64	(-1.88 to -1.39)	<.01	2404	-0.51	(-0.68 to -0.33)	-0.83	(-1.11 to -0.54)	<.01	1673
Tract Poverty 10-14 Years Post-Random Assignment													
Natural units (%)[e]	33.0	-4.86	(-6.23 to -3.48)	-10.02	(-12.86 to -7.19)	<.01	2404	-2.87	(-4.80 to -0.95)	-4.68	(-7.81 to -1.55)	<.01	1673
Percentile ranking [f]	83.5	-6.58	(-8.45 to -4.72)	-13.59	(-17.43 to -9.75)	<.01	2404	-2.20	(-4.77 to 0.37)	-3.59	(-7.77 to 0.60)	.09	1673
Z-score [g]	1.5	-0.39	(-0.51 to -0.28)	-0.81	(-1.04 to -0.58)	<.01	2404	-0.23	(-0.39 to -0.08)	-0.38	(-0.63 to -0.13)	<.01	1673

Supplemental Table 2. *continued*

		Low-poverty housing voucher vs. control group						Traditional housing voucher vs. control group					
	Control Mean	Intention to Treat [ITT][b] (95% CI)		Treatment on the Treated [TOT][c] (95% CI)		*P* Value	N	Intention to Treat [ITT][b] (95% CI)		Treatment on the Treated [TOT][c] (95% CI)		*P* Value	N
Average Census Tract Characteristics from Random Assignment through Long-Term Follow-up; percent tract that is: [h]													
Poor	39.6	-9.14	(-10.26 to -8.02)	-18.87	(-21.17 to -16.56)	<.01	2404	-6.07	(-7.53 to -4.61)	-9.89	(-12.27 to -7.50)	<.01	1673
Minority	88.0	-6.23	(-7.58 to -4.89)	-12.87	(-15.65 to -10.09)	<.01	2404	-0.99	(-2.88 to 0.90)	-1.61	(-4.68 to 1.46)	.30	1673
Single female-headed family households	54.3	-7.95	(-9.08 to -6.82)	-16.40	(-18.73 to -14.07)	<.01	2404	-5.03	(-6.55 to -3.51)	-8.19	(-10.67 to -5.72)	<.01	1673
College graduates	16.1	4.49	(3.68 to 5.30)	9.27	(7.60 to 10.94)	<.01	2404	1.41	(0.29 to 2.52)	2.29	(0.48 to 4.10)	.01	1673
Collective Efficacy: Neighbors are Likely to Do Something about Kids Spraying Graffiti on Local Building [i]													
Interim survey [j]	54.0	10.61	(6.46 to 14.76)	22.80	(13.89 to 31.71)	<.01	2377	5.30	(0.53 to 10.07)	8.86	(0.88 to 16.84)	.03	1927
Long-term survey	58.9	8.20	(4.20 to 12.21)	16.92	(8.65 to 25.18)	<.01	2516	0.80	(-5.16 to 6.76)	1.29	(-8.29 to 10.87)	.79	1752
Safety: Respondent Feels Safe/Very Safe on Streets Near Home During the Day [i]													
Interim survey [j]	74.9	9.14	(5.77 to 12.52)	19.29	(12.16 to 26.41)	<.01	2482	8.95	(5.16 to 12.73)	14.93	(8.62 to 21.23)	<.01	2023
Long-term survey	80.7	3.70	(0.52 to 6.87)	7.60	(1.08 to 14.12)	.02	2522	5.00	(0.50 to 9.50)	8.03	(0.81 to 15.26)	.03	1756
Social Networks: Respondent has At Least One Friend who Graduated from College [i]													
Interim survey [j]	40.8	6.90	(2.63 to 11.17)	14.59	(5.56 to 23.62)	<.01	2414	4.55	(-0.22 to 9.33)	7.60	(-0.37 to 15.56)	.06	1963
Long-term survey	53.4	6.90	(2.74 to 11.06)	14.11	(5.60 to 22.61)	<.01	2478	-2.11	(-8.33 to 4.11)	-3.39	(-13.37 to 6.60)	.51	1723
Access to Local Health Services: Has a Place to Go for Routine Care (Excluding Emergency Room)[i]													
Interim survey [j]	89.7	-1.35	(-4.13 to 1.43)	-2.85	(-8.73 to 3.02)	.34	2490	-0.21	(-3.15 to 2.73)	-0.35	(-5.26 to 4.56)	.89	2022
Long-term survey	93.4	-1.36	(-3.49 to 0.77)	-2.80	(-7.17 to 1.58)	.21	2526	0.64	(-2.11 to 3.40)	1.04	(-3.39 to 5.46)	.65	1755

Supplemental Table 2. *continued*

[a] The analysis sample consists of female adults in MTO with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c) in the long-term follow-up data collection, and the analysis sample for the number of moves and census tract characteristics is further limited to those who have valid address data at baseline, year 1, year 5, and year 10. Census tract characteristics are as of the time when the MTO family lived in the tract, calculated by interpolating tract poverty values using data from the 1990 and 2000 decennial censuses and the 2005-09 American Community Survey. For the low-poverty voucher comparison, the number of observations denotes the total number of women included in the analyses from both the control and low-poverty voucher groups. For the traditional voucher comparison, the number of observations denotes the total number of women included in the analyses from both the control and traditional voucher groups.

[b] Intention to treat (ITT) estimates compare average outcomes of everyone assigned to treatment group with average outcomes of controls, adjusting for the set of baseline covariates shown in Table 1 and indicators for survey sample release and random assignment periods. Impacts calculated using linear regression.

[c] Treatment on the Treated (TOT) estimate is intended to capture the change in the outcome/mediator associated with MTO-assisted moves among those who actually moved with MTO vouchers. It is estimated by dividing the treatment group's ITT effect by the share of the group that complies with the treatment, which is equivalent to using random assignment as an instrumental variable for treatment group compliance.

[d] Baseline date ranged from 1994 to 1998.

[e] Natural units are tract percent poverty.

[f] Percentile ranking is based on the national distribution of tract poverty from the 2000 Census.

[g] Z-score is the distance in standard deviations from the mean of the national tract poverty distribution from the 2000 Census.

[h] Census tract characteristics are as of the time when the MTO family lived in the tract, calculated by interpolating tract poverty values using data from the 1990 and 2000 decennial censuses and the 2005-09 American Community Survey. Average duration-weighted census tract characteristics give more weight to tracts in which MTO families spent relatively more time during the study period.

[i] Reported by MTO adults on the interim and long-term follow-up surveys, which occurred 4-7 and 10-15 years after random assignment.

[j] The analysis sample for interim follow-up study (2002) measures use that study's sample and weights, limited to female adults and adjusting for the same set of covariates as the long-term survey measures.

Supplemental Table 3. Association between MTO Randomized Intervention and Main Health Outcomes - Robustness to Alternative Estimation Procedures [a]

		Low-poverty housing voucher vs. control group				Traditional housing voucher vs. control group			
	Control Prevalence (%)	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N
Logistic regression, TOT calculated by rescaling ITT (main results from Table 3) [c]									
Body Mass Index (BMI) [d]									
BMI ≥ 30 kg/m^2	58.6	-1.19 (-5.41 to 3.02)	-2.45 (-11.10 to 6.21)	.58	2508	-0.14 (-6.27 to 5.98)	-0.24 (-10.20 to 9.73)	.96	1747
BMI ≥ 35 kg/m^2	35.5	-4.61 (-8.54 to -0.69)	-9.47 (-17.53 to -1.41)	.02	2508	-5.34 (-11.02 to 0.34)	-8.69 (-17.93 to 0.55)	.07	1747
BMI ≥ 40 kg/m^2	17.7	-3.38 (-6.39 to -0.36)	-6.93 (-13.12 to -0.75)	.03	2508	-3.58 (-7.95 to 0.80)	-5.83 (-12.95 to 1.30)	.11	1747
Glycosylated Hemoglobin (HbA1c) [e]									
HbA1c ≥ 6.5%	20.0	-4.31 (-7.82 to -0.80)	-8.86 (-16.09 to -1.63)	.02	2092	-0.08 (-5.18 to 5.02)	-0.12 (-8.13 to 7.88)	.98	1516
Linear regression, TOT calculated by rescaling ITT [c]									
Body Mass Index (BMI) [d]									
BMI	32.9	-0.64 (-1.33 to 0.05)	-1.32 (-2.73 to 0.10)	.07	2508	-0.43 (-1.53 to 0.68)	-0.69 (-2.48 to 1.10)	.45	1747
BMI ≥ 30 kg/m^2	58.6	-1.19 (-5.43 to 3.05)	-2.45 (-11.15 to 6.25)	.58	2508	-0.18 (-6.36 to 6.01)	-0.29 (-10.35 to 9.78)	.96	1747
BMI ≥ 35 kg/m^2	35.5	-4.65 (-8.65 to -0.65)	-9.55 (-17.75 to -1.34)	.02	2508	-5.35 (-11.15 to 0.46)	-8.70 (-18.16 to 0.75)	.07	1747
BMI ≥ 40 kg/m^2	17.7	-3.44 (-6.53 to -0.35)	-7.07 (-13.41 to -0.72)	.03	2508	-3.63 (-8.19 to 0.94)	-5.90 (-13.33 to 1.52)	.12	1747
Glycosylated Hemoglobin (HbA1c) [e]									
HbA1c	6.2	-0.09 (-0.22 to 0.04)	-0.18 (-0.44 to 0.08)	.18	2092	-0.09 (-0.26 to 0.09)	-0.14 (-0.41 to 0.13)	.32	1516
HbA1c ≥ 6.5%	20.0	-4.42 (-8.01 to -0.83)	-9.10 (-16.49 to -1.71)	.02	2092	0.31 (-4.90 to 5.52)	0.49 (-7.69 to 8.66)	.91	1516
Linear regression, TOT calculated using instrumental variables (IV) [f]									
Body Mass Index (BMI) [d]									
BMI	32.9	-0.64 (-1.33 to 0.05)	-1.31 (-2.73 to 0.11)	.07	2508	-0.43 (-1.53 to 0.68)	-0.69 (-2.48 to 1.10)	.45	1747
BMI ≥ 30 kg/m^2	58.6	-1.19 (-5.43 to 3.05)	-2.45 (-11.14 to 6.25)	.58	2508	-0.18 (-6.36 to 6.01)	-0.29 (-10.34 to 9.77)	.96	1747
BMI ≥ 35 kg/m^2	35.5	-4.65 (-8.65 to -0.65)	-9.53 (-17.77 to -1.30)	.02	2508	-5.35 (-11.15 to 0.46)	-8.70 (-18.14 to 0.75)	.07	1747
BMI ≥ 40 kg/m^2	17.7	-3.44 (-6.53 to -0.35)	-7.06 (-13.40 to -0.72)	.03	2508	-3.63 (-8.19 to 0.94)	-5.90 (-13.33 to 1.54)	.12	1747
Glycosylated Hemoglobin (HbA1c) [e]									
HbA1c	6.2	-0.09 (-0.22 to 0.04)	-0.18 (-0.44 to 0.08)	.18	2092	-0.09 (-0.26 to 0.09)	-0.14 (-0.41 to 0.13)	.32	1516
HbA1c ≥ 6.5%	20.0	-4.42 (-8.01 to -0.83)	-8.99 (-16.34 to -1.64)	.02	2092	0.31 (-4.90 to 5.52)	0.49 (-7.69 to 8.66)	.91	1516

Supplemental Table 3. *continued*

[a] The analysis sample consists of female adults with valid BMI (for the BMI measures) or valid HbA1c (for the HbA1c measures) in the long-term follow-up data collection. For the low-poverty voucher comparison, the number of observations denotes the total number of women included in the analyses from both the control and low-poverty voucher groups. For the traditional voucher comparison, the number of observations denotes the total number of women included in the analyses from both the control and traditional voucher groups.
[b] Intention to treat (ITT) estimates compare average outcomes of everyone assigned to treatment group with average outcomes of controls, adjusting for the set of baseline covariates shown in Table 1 and indicators for survey sample release and random assignment periods. Impacts from logistic regression presented as average marginal effects.
[c] Treatment on the Treated (TOT) estimate is intended to capture the change in the outcome/mediator associated with MTO-assisted moves among those who actually moved with MTO vouchers. It is estimated by dividing the treatment group's ITT effect by the share of the group that complies with the treatment, which is equivalent to using random assignment as an instrumental variable for treatment group compliance.
[d] BMI was calculated from measured height and weight for most adults (a small number self-reported) as part of the long-term follow-up data collection.
[e] HbA1c was assayed from dried blood spots collected as part of the long-term follow-up data collection.
[f] As above, the TOT estimate is intended to capture the change in the outcome/mediator associated with MTO-assisted moves among those who actually moved with MTO vouchers, but here it is calculated using two-stage least squares, in which the first stage uses linear regression to regress an indicator for using a MTO voucher against an indicator for assignment to one of the MTO treatment groups, together with the baseline covariates shown in Table 1. The second stage uses linear regression to regress the health outcomes reported in row labels at left against the same baseline covariates plus the predicted value of using a MTO voucher from the first stage; the indicator for assignment to one of the MTO treatment groups serves as the instrumental variable excluded from the second stage regression. See Angrist J, Imbens G, Rubin D. Identification of causal effects using instrumental variables. *Journal of the American Statistical Association*. 1996;91(434): 444-72.

Supplemental Table 4. Main Health Outcomes, Separately for Treatment Compliers (Moved with MTO Voucher) and Non-Compliers (Did Not Use MTO Voucher) [a]

			Low-poverty housing voucher						Traditional housing voucher					
	Control		Total mean		Complier mean		Non-complier mean		Total mean		Complier mean		Non-complier mean	
	No.[b]	(%)[b]	No.[b]	(%)[b]	No.[b]	(%)[b]	No.[b]	(%)[b]	No.[b]	(%)[b]	No.[b]	(%)[b]	No.[b]	(%)[b]
Body Mass Index (BMI)[c]	(n = 1092)		(n = 1416)		(n = 696)		(n = 720)		(n = 655)		(n = 396)		(n = 259)	
Percent BMI ≥ 30 kg/m^2	639	(58.6)	827	(57.5)	398	(57.0)	429	(58.0)	381	(58.4)	227	(57.5)	154	(59.9)
Percent BMI ≥ 35 kg/m^2	382	(35.5)	456	(31.1)	220	(31.5)	236	(30.8)	208	(30.8)	123	(29.9)	85	(32.3)
Percent BMI ≥ 40 kg/m^2	195	(17.7)	212	(14.4)	101	(14.0)	111	(14.8)	104	(15.4)	64	(15.9)	40	(14.5)
Glycosylated Hemoglobin (HbA1c)[d]	(n = 924)		(n = 1168)		(n = 575)		(n = 593)		(n = 592)		(n = 363)		(n = 229)	
Percent HbA1c ≥ 6.5%	175	(20.0)	187	(16.3)	86	(15.4)	101	(17.1)	123	(20.6)	74	(20.3)	49	(21.1)

[a] The analysis sample consists of female adults with valid BMI (for the BMI measures) or valid HbA1c (for the HbA1c measure) in the long-term follow-up data collection.
[b] No. unweighted. % calculated using sample weights to account for changes in random assignment ratios across randomization cohorts and for subsample interviewing.
[c] BMI was calculated from measured height and weight for most adults (a small number self-reported) as part of the long-term follow-up data collection.
[d] HbA1c was assayed from dried blood spots collected as part of the long-term follow-up data collection.

Supplemental Table 5. Association Between MTO Adult Baseline Characteristics and Likelihood of Using a MTO Voucher (Treatment Compliance)[a]

	Low-poverty housing voucher			Traditional housing voucher		
	Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 1425)			Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 657)		
Explanatory Variable from Baseline Survey [c,d]	**Odds Ratio**	**95% CI**	***P* Value**	**Odds Ratio**	**95% CI**	***P* Value**
Adult Characteristics						
Baseline age (reference category: age > 40)						
≤ 25	2.31	(1.33 to 4.00)	<.01	2.94	(1.29 to 6.69)	.01
26-30	1.84	(1.11 to 3.07)	.02	2.68	(1.28 to 5.61)	<.01
31-35	1.32	(0.84 to 2.06)	.23	1.21	(0.67 to 2.18)	.54
36-40	0.79	(0.49 to 1.25)	.31	1.30	(0.65 to 2.61)	.46
Race (reference category: white)						
African-American	0.49	(0.26 to 0.94)	.03	0.80	(0.29 to 2.21)	.66
Other non-white race	0.38	(0.20 to 0.73)	<.01	1.00	(0.41 to 2.45)	1.00
Hispanic ethnicity	0.95	(0.54 to 1.67)	.86	1.23	(0.60 to 2.52)	.58
Never married	1.03	(0.76 to 1.41)	.85	0.53	(0.32 to 0.87)	.01
Under age 18 at birth of first child	1.10	(0.80 to 1.51)	.56	1.01	(0.59 to 1.72)	.98
Working	1.21	(0.86 to 1.69)	.27	1.97	(1.13 to 3.44)	.02
Enrolled in school	1.68	(1.18 to 2.40)	<.01	0.74	(0.42 to 1.31)	.31
High school diploma	1.21	(0.89 to 1.65)	.22	1.79	(1.07 to 2.98)	.03
General Education Development (GED)	1.35	(0.94 to 1.95)	.11	2.09	(1.10 to 3.96)	.02
Household Characteristics						
Female head of household	1.58	(0.83 to 3.03)	.17	0.97	(0.34 to 2.75)	.95
Household member disabled	0.92	(0.62 to 1.36)	.66	0.74	(0.40 to 1.34)	.31
Owns car	1.25	(0.84 to 1.84)	.27	1.43	(0.77 to 2.66)	.25
No teens in household	0.77	(0.55 to 1.09)	.14	1.28	(0.80 to 2.05)	.30

Supplemental Table 5. *continued*

Explanatory Variable from Baseline Survey [c,d]	Low-poverty housing voucher: Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 1425)			Traditional housing voucher: Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 657)		
	Odds Ratio	**95% CI**	***P* Value**	**Odds Ratio**	**95% CI**	***P* Value**
Household Characteristics (continued)						
Household size (reference category: size > 4)						
Two	1.94	(1.26 to 2.98)	<.01	1.87	(0.94 to 3.72)	.08
Three	1.63	(1.12 to 2.38)	.01	1.51	(0.83 to 2.76)	.18
Four	1.31	(0.90 to 1.91)	.16	1.78	(0.98 to 3.23)	.06
Receiving Government Benefits						
Supplemental Security Income [e]	0.88	(0.60 to 1.29)	.50	1.07	(0.60 to 1.92)	.82
Aid to Families with Dependent Children	1.08	(0.68 to 1.71)	.74	1.76	(0.90 to 3.44)	.10
Food Stamps	1.39	(0.85 to 2.27)	.19	1.57	(0.80 to 3.06)	.19
Women, Infants, and Children	1.16	(0.87 to 1.56)	.32	1.35	(0.83 to 2.18)	.22
Medicaid	0.87	(0.62 to 1.21)	.40	1.00	(0.58 to 1.73)	1.00
Over 30 Minutes Away from the…						
Grocery store	0.88	(0.62 to 1.24)	.46	0.71	(0.43 to 1.17)	.18
Doctor	0.93	(0.70 to 1.24)	.62	0.99	(0.66 to 1.48)	.96
Neighborhood Characteristics [f]						
Household member was crime victim in past 6 months	1.30	(0.99 to 1.71)	.06	1.08	(0.68 to 1.69)	.76
Streets very unsafe at night	0.89	(0.67 to 1.17)	.40	1.45	(0.92 to 2.29)	.11
Very dissatisfied with neighborhood	1.47	(1.10 to 1.96)	<.01	1.40	(0.90 to 2.18)	.14
Very confident about finding new apartment	1.28	(0.98 to 1.67)	.07	1.11	(0.74 to 1.66)	.61
Lived in neighborhood 5 or more years	1.01	(0.76 to 1.35)	.94	1.01	(0.76 to 1.35)	.94

Supplemental Table 5. *continued*

	Low-poverty housing voucher			Traditional housing voucher		
	Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 1425)			Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 657)		
Explanatory Variable from Baseline Survey [c,d]	**Odds Ratio**	**95% CI**	***P* Value**	**Odds Ratio**	**95% CI**	***P* Value**
Moved more than 3 times in 5 years prior to baseline	1.01	(0.62 to 1.65)	.96	1.02	(0.48 to 2.18)	.95
Previously applied for Section 8	1.17	(0.90 to 1.52)	.25	1.29	(0.86 to 1.94)	.23
No family in neighborhood	0.95	(0.72 to 1.25)	.72	1.28	(0.82 to 1.98)	.28
No friends in neighborhood	1.09	(0.82 to 1.44)	.56	1.28	(0.83 to 1.96)	.26
Chatted with neighbors at least once per week	0.81	(0.61 to 1.07)	.13	1.07	(0.70 to 1.65)	.75
Very likely to tell neighbor about their child getting into trouble	0.78	(0.60 to 1.01)	.06	1.24	(0.81 to 1.90)	.33
Primary or secondary reason for moving was…						
To get away from drugs and gangs	1.43	(1.01 to 2.04)	.05	0.93	(0.54 to 1.59)	.78
Better schools for the children	1.07	(0.76 to 1.50)	.70	1.04	(0.61 to 1.76)	.89
To get a bigger or better apartment	1.10	(0.77 to 1.57)	.61	1.06	(0.62 to 1.82)	.84
To get a job	0.98	(0.55 to 1.74)	.94	0.85	(0.31 to 2.38)	.76
Site (reference category: New York)						
Baltimore	1.39	(0.82 to 2.35)	.23	9.09	(2.67 to 30.96)	<.01
Boston	0.98	(0.58 to 1.65)	.94	3.32	(1.35 to 8.18)	<.01
Chicago	0.28	(0.16 to 0.48)	<.01	5.08	(2.15 to 12.05)	<.01
Los Angeles	1.51	(0.86 to 2.64)	.15	2.57	(1.24 to 5.32)	.01
Site/Randomization Cohort						
Baltimore Cohort 2 (reference category: Cohort 1)	0.38	(0.17 to 0.82)	.01	0.36	(0.11 to 1.24)	.11
Boston (reference category: Cohort 1)						
Cohort 3	0.40	(0.20 to 0.82)	.01	0.38	(0.14 to 0.98)	.05
Cohort 7	0.65	(0.31 to 1.36)	.25	0.13	(0.03 to 0.48)	<.01

Supplemental Table 5. *continued*

	Low-poverty housing voucher			Traditional housing voucher		
	Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 1425)			Dependent variable = 1 if used MTO voucher, else = 0 [b] (n = 657)		
Explanatory Variable from Baseline Survey [c,d]	**Odds Ratio**	**95% CI**	***P* Value**	**Odds Ratio**	**95% CI**	***P* Value**
Site/Randomization Cohort (continued)						
Chicago (reference category: Cohort 1)						
Cohort 6	2.02	(1.16 to 3.49)	.01	1.50	(0.41 to 5.54)	.54
Cohort 8	1.84	(0.81 to 4.16)	.15	0.30	(0.10 to 0.85)	.02
Los Angeles (reference category: Cohort 4)						
Cohort 1	1.38	(0.71 to 2.68)	.35	5.13	(1.01 to 26.03)	.05
Cohort 11	0.92	(0.36 to 2.37)	.87	1.12	(0.39 to 3.20)	.83
New York (reference category: Cohort 5)						
Cohort 1	0.84	(0.49 to 1.42)	.51	0.96	(0.40 to 2.29)	.92
Cohort 9	2.81	(0.71 to 11.20)	.14	2.87	(0.68 to 12.08)	.15
Cohort 10	1.61	(0.45 to 5.85)	.47	0.32	(0.03 to 3.07)	.33

[a] The analysis sample is female adults with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c).
[b] The table shows results of a logistic regression with voucher use as the dependent variable, and each of the baseline characteristics shown at left. Two separate logistic regression models were estimated, one for adults assigned to the low-poverty voucher group and one for adults in the traditional voucher group. Sample weights to account for changes in random assignment ratios across randomization cohorts and for subsample interviewing were applied.
[c] Unless otherwise noted, the reference category is the opposite of the row label (e.g. non-Hispanic is the reference category for Hispanic ethnicity).
[d] A Wald test rejects the hypothesis that the baseline covariates are jointly equal to zero when predicting whether the adult used the MTO voucher (i.e., treatment compliance) for both the low-poverty and the traditional housing voucher group ($p<.001$ in both cases).
[e] Supplemental Security Income (SSI) is a federal assistance program for aged, blind, and disabled people.
[f] The baseline head of household reported on the neighborhood characteristics listed here.

Supplemental Table 6. Association of MTO Randomized Intervention with Main Health Outcomes and Neighborhood Characteristics, Separately for MTO Adults Above vs. Below Sample's Median Age at Baseline (33)[a]

	Control	Low-poverty housing voucher vs. control group				Traditional housing voucher vs. control group			
	Mean	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N
Body Mass Index (BMI) ≥ 30 kg/m^2 [d]									
< 33 years at baseline	57.7	2.30 (-3.42 to 8.03)	4.14 (-6.15 to 14.42)	.43	1368	-0.97 (-8.95 to 7.01)	-1.39 (-12.79 to 10.02)	.81	943
≥ 33 years at baseline	59.7	-5.32 (-11.63 to 0.99)	-13.04 (-28.51 to 2.43)	.10	1140	0.60 (-7.69 to 8.90)	1.16 (-14.87 to 17.20)	.89	804
Body Mass Index (BMI) ≥ 35 kg/m^2 [d]									
< 33 years at baseline	38.1	-6.68 (-12.16 to -1.20)	-12.00 (-21.85 to -2.16)	.02	1368	-9.35 (-16.81 to -1.89)	-13.36 (-24.02 to -2.70)	.01	943
≥ 33 years at baseline	32.4	-2.23 (-8.07 to 3.60)	-5.48 (-19.79 to 8.84)	.45	1140	-1.13 (-8.96 to 6.69)	-2.19 (-17.32 to 12.94)	.78	804
Body Mass Index (BMI) ≥ 40 kg/m^2 [d]									
< 33 years at baseline	19.6	-3.69 (-8.08 to 0.70)	-6.63 (-14.52 to 1.25)	.10	1368	-6.34 (-12.19 to -0.50)	-9.07 (-17.42 to -0.71)	.03	943
≥ 33 years at baseline	15.5	-3.14 (-7.51 to 1.23)	-7.70 (-18.41 to 3.02)	.16	1140	-0.58 (-6.71 to 5.55)	-1.12 (-12.97 to 10.73)	.85	804
Glycosylated Hemoglobin (HbA1c) ≥ 6.5% [e]									
< 33 years at baseline	13.0	-4.10 (-8.15 to -0.05)	-7.42 (-14.76 to -0.08)	.05	1149	-0.09 (-5.87 to 5.70)	-0.12 (-8.30 to 8.05)	.98	836
≥ 33 years at baseline	29.0	-4.81 (-10.99 to 1.37)	-11.63 (-26.57 to 3.32)	.13	943	0.79 (-7.28 to 8.87)	1.44 (-13.19 to 16.06)	.85	680
Duration-Weighted Average Percent Poor from Random Assignment through Long-Term Follow-up [f]									
< 33 years at baseline	39.6	-10.40 (-11.92 to -8.89)	-18.51 (-21.21 to -15.81)	<.01	1309	-6.75 (-8.63 to -4.87)	-9.53 (-12.18 to -6.88)	<.01	903
≥ 33 years at baseline	39.7	-7.67 (-9.31 to -6.03)	-19.31 (-23.44 to -15.18)	<.01	1095	-5.23 (-7.18 to -3.29)	-10.33 (-14.17 to -6.48)	<.01	770
Duration-Weighted Concentrated Disadvantage Index from Random Assignment through Long-Term Follow-up [f]									
< 33 years at baseline	1.9	-0.32 (-0.37 to -0.27)	-0.57 (-0.66 to -0.48)	<.01	1309	-0.20 (-0.27 to -0.14)	-0.28 (-0.37 to -0.19)	<.01	903
≥ 33 years at baseline	1.8	-0.22 (-0.28 to -0.16)	-0.55 (-0.70 to -0.41)	<.01	1095	-0.16 (-0.24 to -0.09)	-0.32 (-0.46 to -0.18)	<.01	770

Supplemental Table 6. *continued*

[a] The analysis sample consists of female adults in MTO with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c) in the long-term follow-up data collection, and the analysis sample for census tract characteristics is further limited to those who have valid address data at baseline, year 1, year 5, and year 10. A test for association between MTO random assignment and the main health outcomes was conducted by estimating models with interactions of baseline age and treatment assignment. No coefficients in those models were shown to be significantly different from zero at the 5% significance level.

[b] Intention to treat (ITT) estimates compare average outcomes of everyone assigned to treatment group with average outcomes of controls, adjusting for the set of baseline covariates shown in Table 1 and indicators for survey sample release and random assignment periods. MTO impacts on continuous dependent variables are calculated using linear regression. MTO impacts on dichotomous dependent variables are calculated using logistic regression and are presented as average marginal effects.

[c] Treatment on the Treated is estimated by dividing the treatment group's ITT effect by the share of the group that complies with the treatment, which is equivalent to using random assignment as an instrumental variable for treatment group compliance.

[d] BMI was calculated from measured height and weight for most adults (a small number self-reported) as part of the long-term follow-up data collection.

[e] HbA1c was assayed from dried blood spots collected as part of the long-term follow-up data collection.

[f] Random assignment date ranged from 1994 to 1998, and long-term follow-up began in June 2008. Census tract characteristics are as of the time when the MTO family lived in the tract, calculated by interpolating tract poverty values using data from the 1990 and 2000 decennial censuses and the 2005-09 American Community Survey. Average duration-weighted census tract characteristics give more weight to tracts in which MTO families spent relatively more time during the study period. The concentrated disadvantage index is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare, (4) unemployed, (5) female-headed family households, and (6) under age 18, with loading factors developed using 2000 Census tracts in Chicago by Sampson RJ, Sharkey P, Raudenbush SW. Durable effects of concentrated disadvantage on verbal ability of African-American children. *Proceedings of the National Academy of Science*. 2008;105:845-852.

Supplemental Table 7. Association of MTO Randomized Intervention with Main Health Outcomes and Neighborhood Characteristics, Separately by MTO Demonstration Site [a]

		Low-poverty housing voucher vs. control group				Traditional housing voucher vs. control group			
	Control Mean	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N
Body Mass Index (BMI) ≥ 30 kg/m^2 [d]									
Baltimore	53.0	4.25 (-7.25 to 15.74)	7.58 (-12.93 to 28.08)	.47	343	4.89 (-10.17 to 19.95)	6.28 (-13.05 to 25.61)	.52	242
Boston	51.5	0.40 (-9.25 to 10.06)	0.94 (-21.61 to 23.50)	.94	526	-1.62 (-13.45 to 10.20)	-2.98 (-24.66 to 18.71)	.79	379
Chicago	65.1	1.97 (-7.23 to 11.16)	5.99 (-21.99 to 33.96)	.68	542	-6.29 (-19.52 to 6.95)	-9.34 (-29.00 to 10.33)	.35	283
Los Angeles	61.0	-2.69 (-11.42 to 6.04)	-4.26 (-18.05 to 9.54)	.55	563	-0.28 (-11.27 to 10.71)	-0.40 (-15.99 to 15.19)	.96	428
New York	59.9	-6.99 (-15.95 to 1.98)	-14.28 (-32.60 to 4.04)	.13	534	3.52 (-7.36 to 14.40)	7.91 (-16.52 to 32.33)	.53	415
Body Mass Index (BMI) ≥ 35 kg/m^2 [d]									
Baltimore	34.8	-3.74 (-14.44 to 6.97)	-6.67 (-25.76 to 12.43)	.49	343	-3.23 (-17.20 to 10.74)	-4.15 (-22.08 to 13.79)	.65	242
Boston	25.7	0.89 (-7.30 to 9.08)	2.08 (-17.04 to 21.19)	.83	526	0.13 (-10.15 to 10.40)	0.23 (-18.61 to 19.07)	.98	379
Chicago	50.0	-11.08 (-20.73 to -1.44)	-33.73 (-63.09 to -4.37)	.02	542	-14.95 (-28.16 to -1.74)	-22.21 (-41.83 to -2.59)	.03	283
Los Angeles	35.4	-3.65 (-11.98 to 4.69)	-5.76 (-18.94 to 7.42)	.39	563	-10.73 (-20.94 to -0.51)	-15.22 (-29.71 to -0.72)	.04	428
New York	31.9	-5.37 (-13.69 to 2.96)	-10.97 (-27.97 to 6.04)	.21	534	1.60 (-8.71 to 11.92)	3.60 (-19.55 to 26.75)	.76	415
Body Mass Index (BMI) ≥ 40 kg/m^2 [d]									
Baltimore	19.3	-8.13 (-16.24 to -0.02)	-14.50 (-28.96 to -0.03)	.05	343	-2.15 (-13.12 to 8.82)	-2.76 (-16.84 to 11.32)	.70	242
Boston	10.7	0.64 (-5.22 to 6.50)	1.50 (-12.19 to 15.18)	.83	526	-1.54 (-8.77 to 5.69)	-2.83 (-16.08 to 10.42)	.68	379
Chicago	25.5	-4.10 (-12.20 to 4.00)	-12.47 (-37.13 to 12.18)	.32	542	-2.73 (-14.17 to 8.70)	-4.06 (-21.04 to 12.93)	.64	283
Los Angeles	18.3	-3.54 (-10.11 to 3.04)	-5.59 (-15.98 to 4.80)	.29	563	-11.24 (-18.67 to -3.80)	-15.94 (-26.50 to -5.39)	<.01	428
New York	15.7	-3.66 (-9.82 to 2.50)	-7.48 (-20.06 to 5.10)	.24	534	-0.54 (-8.33 to 7.24)	-1.22 (-18.70 to 16.26)	.89	415
Glycosylated Hemoglobin (HbA1c) ≥ 6.5% [e]									
Baltimore	14.1	0.26 (-8.92 to 9.45)	0.47 (-15.90 to 16.84)	.96	295	8.54 (-3.90 to 20.98)	11.15 (-5.09 to 27.38)	.18	214
Boston	21.4	-7.52 (-14.84 to -0.21)	-17.30 (-34.12 to -0.48)	.04	451	-5.94 (-14.45 to 2.58)	-10.66 (-25.95 to 4.63)	.17	332
Chicago	20.4	-6.53 (-14.83 to 1.77)	-19.60 (-44.53 to 5.33)	.12	456	-0.09 (-11.45 to 11.27)	-0.12 (-15.71 to 15.48)	.99	247
Los Angeles	18.0	1.64 (-5.72 to 8.99)	2.61 (-9.14 to 14.36)	.66	468	1.76 (-7.44 to 10.96)	2.42 (-10.23 to 15.07)	.71	375
New York	23.8	-8.63 (-16.71 to -0.56)	-17.61 (-34.09 to -1.14)	.04	422	-0.25 (-10.31 to 9.80)	-0.54 (-22.17 to 21.08)	.96	348

Supplemental Table 7. *continued*

		Low-poverty housing voucher vs. control group				Traditional housing voucher vs. control group			
	Control Mean	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N	Intention to Treat [ITT][b] (95% CI)	Treatment on the Treated [TOT][c] (95% CI)	*P* Value	N
Duration-Weighted Average Percent Poor from Random Assignment through Long-Term Follow-up [f]									
Baltimore	35.2	-7.93 (-10.63 to -5.22)	-14.20 (-19.04 to -9.35)	<.01	336	-6.99 (-10.22 to -3.76)	-8.90 (-13.01 to -4.79)	<.01	235
Boston	31.9	-6.60 (-8.66 to -4.54)	-15.19 (-19.92 to -10.46)	<.01	509	-4.02 (-6.64 to -1.40)	-7.24 (-11.96 to -2.52)	<.01	362
Chicago	44.0	-6.59 (-9.23 to -3.96)	-19.64 (-27.50 to -11.79)	<.01	509	-4.43 (-7.80 to -1.05)	-6.72 (-11.83 to -1.60)	.01	269
Los Angeles	43.6	-13.26 (-16.06 to -10.47)	-21.30 (-25.79 to -16.82)	<.01	533	-10.57 (-13.41 to -7.73)	-14.68 (-18.63 to -10.74)	<.01	408
New York	41.4	-10.35 (-12.48 to -8.22)	-21.70 (-26.18 to -17.23)	<.01	517	-4.92 (-7.22 to -2.61)	-11.28 (-16.57 to -6.00)	<.01	399
Duration-Weighted Concentrated Disadvantage Index from Random Assignment through Long-Term Follow-up [f]									
Baltimore	1.98	-0.31 (-0.41 to -0.20)	-0.55 (-0.74 to -0.36)	<.01	336	-0.21 (-0.35 to -0.07)	-0.27 (-0.45 to -0.09)	<.01	235
Boston	1.47	-0.20 (-0.27 to -0.13)	-0.46 (-0.62 to -0.31)	<.01	509	-0.12 (-0.19 to -0.04)	-0.21 (-0.35 to -0.07)	<.01	362
Chicago	2.36	-0.21 (-0.30 to -0.11)	-0.61 (-0.89 to -0.34)	<.01	509	-0.13 (-0.25 to -0.01)	-0.20 (-0.38 to -0.02)	.03	269
Los Angeles	1.70	-0.45 (-0.55 to -0.35)	-0.72 (-0.88 to -0.56)	<.01	533	-0.34 (-0.44 to -0.24)	-0.48 (-0.62 to -0.34)	<.01	408
New York	1.77	-0.21 (-0.28 to -0.14)	-0.44 (-0.58 to -0.30)	<.01	517	-0.14 (-0.22 to -0.06)	-0.32 (-0.51 to -0.14)	<.01	399

[a] The analysis sample consists of female adults in MTO with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c) in the long-term follow-up data collection, and the analysis sample for census tract characteristics is further limited to those who have valid address data at baseline, year 1, year 5, and year 10. A test for association between MTO random assignment and the main health outcomes was conducted by estimating models with interactions of demonstration site and treatment assignment. No coefficients in those models were shown to be significantly different from zero at the 5% significance level.

[b] Intention to treat (ITT) estimates compare average outcomes of everyone assigned to treatment group with average outcomes of controls, adjusting for the set of baseline covariates shown in Table 1 and indicators for survey sample release and random assignment periods. MTO impacts on continuous dependent variables are calculated using linear regression. MTO impacts on dichotomous dependent variables are calculated using logistic regression and are presented as average marginal effects.

[c] Treatment on the Treated is estimated by dividing the treatment group's ITT effect by the share of the group that complies with the treatment, which is equivalent to using random assignment as an instrumental variable for treatment group compliance.

[d] BMI was calculated from measured height and weight for most adults (a small number self-reported) as part of the long-term follow-up data collection.

[e] HbA1c was assayed from dried blood spots collected as part of the long-term follow-up data collection.

[f] Random assignment date ranged from 1994 to 1998, and long-term follow-up began in June 2008. Census tract characteristics are as of the time when the MTO family lived in the tract, calculated by interpolating tract poverty values using data from the 1990 and 2000 decennial censuses and the 2005-09 American Community Survey. Average duration-weighted census tract characteristics give more weight to tracts in which MTO families spent relatively more time during the study period. The concentrated disadvantage index is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare, (4) unemployed, (5) female-headed family households, and (6) under age 18, with loading factors developed using 2000 Census tracts in Chicago by Sampson RJ, Sharkey P, Raudenbush SW. Durable effects of concentrated disadvantage on verbal ability of African-American children. *Proceedings of the National Academy of Science*. 2008;105:845-852.

Supplemental Table 8. Control Group Characteristics at Baseline and City-Level Characteristics, by MTO Demonstration Site

	Site [a]				
	Baltimore	**Boston**	**Chicago**	**Los Angeles**	**New York**
Control Group Household Characteristics	(n = 152)	(n = 248)	(n = 179)	(n = 296)	(n = 229)
Age (y)	31.6	33.5	30.5	32.8	34.4
Female headed households (%)	100.0	92.3	98.1	87.5	93.6
African-American (%)	98.7	38.6	98.8	58.5	49.8
Hispanic (%)	2.5	43.7	0.7	41.5	50.0
1990 Census tract poverty (%)	52.9	39.5	70.9	54.6	47.8
1990 Census tract concentrated disadvantage index (i)[b]	2.362	1.719	3.312	2.181	2.081
City Characteristics					
City-Level Crime & Socioeconomic Measures					
1994 FBI Part I violent crime rate per 100,000 residents [c]	2834.4	1915.5	2763.5	2059.0	1860.9
1994 FBI Part I property crime rate per 100,000 residents [c]	9717.8	7618.5	7314.9	5781.0	5365.1
1990 Census poverty (%)	21.9	18.7	21.6	18.9	19.3
1990 Census concentrated disadvantage index (i)[b]	1.433	0.978	1.205	0.815	1.027
1990 Census concentrated disadvantage index excluding percent black (i)[b]	0.938	0.764	0.879	0.699	0.787
County-Level Health Measures					
2002 diagnosed diabetic (%) [d]	8.1	5.7	7.0	8.9	7.7
2002 obese (%) [d]	21.9	17.0	20.4	19.6	21.0
2002 fair or poor general health (%) [d]	17.3	15.6	15.5	19.5	20.1
2004 physically inactive (%) [e]	27.1	23.3	23.0	19.9	30.2

Supplemental Table 8. *continued*

[a] Units in parentheses (y - years, % - percent, i - see footnote b). Sample weights were used to account for changes in random assignment ratios and subsample interviewing. The sample for control group means is female adults with valid Body Mass Index (BMI) or valid glycosylated hemoglobin (HbA1c).

[b] The concentrated disadvantage index is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare, (4) unemployed, (5) female-headed family households, and (6) under age 18, with loading factors developed using 2000 Census tracts in Chicago by Sampson RJ, Sharkey P, Raudenbush SW. Durable effects of concentrated disadvantage on verbal ability of African-American children. *Proceedings of the National Academy of Science*. 2008;105:845-852.

[c] City-level crime rates come from the FBI's Uniform Crime Report (UCR) system (http://www.ucrdatatool.gov). Because the Chicago Police Department does not report forcible rape rates to the UCR system, we imputed the violent crime rate (which is sum of the rate per 100,000 residents of four components: murder, robbery, aggravated assault, and forcible rape) for Chicago by multiplying the summed rate for the three known components for Chicago by the ratio of the true violent crime rate in the other four MTO sites to the summed rate excluding forcible rape.

[d] County-level health measures of diabetes, obesity, and general health come from the Centers for Disease Control and Prevention's 2002 Behavioral Risk Factor Surveillance System (BRFSS) available at http://www.cdc.gov/BRFSS/. Counties by site are: Baltimore-Baltimore City, Boston-Suffolk, Chicago-Cook, Los Angeles-Los Angeles, and for New York, Queens County, because the BRFSS data was not available for Bronx County.

[e] County-level physical inactivity data (Baltimore City, Suffolk, Cook, Los Angeles, and Bronx Counties) is from the Centers for Disease Control and Prevention's 2004 National Diabetes Surveillance System (http://www.cdc.gov/diabetes/statistics/index.htm).

Supplemental Table 9. Quasi-Experimental Estimates for Relationship between Specific Neighborhood Characteristics and Main Health Outcomes [a]

	Instrumented Explanatory Variable											
Dependent Variable	**Neighborhood Percent Poor Averaged Over All Years (95% CI) [b]**		***P* Value**	**Neighborhood Percent Poor in Past Three Years (95% CI) [b]**		***P* Value**	**Neighborhood Percent Poor More than Three Years Ago (95% CI) [b]**		***P* Value**	**Concentrated Disadvantage Index (95% CI) [c]**		***P* Value**
Body Mass Index (BMI) ≥ 30 kg/m² [d]	0.29	(-0.15 to 0.73)	.20	0.44	(-0.27 to 1.16)	.22	0.25	(-0.13 to 0.64)	.20	6.49	(-7.74 to 20.73)	.37
Body Mass Index (BMI) ≥ 35 kg/m² [d]	0.62	(0.20 to 1.04)	<0.01	0.78	(0.10 to 1.46)	.03	0.56	(0.19 to 0.93)	<.01	18.59	(4.86 to 32.32)	.01
Body Mass Index (BMI) ≥ 40 kg/m² [d]	0.43	(0.11 to 0.76)	<0.01	0.64	(0.12 to 1.16)	.02	0.38	(0.09 to 0.67)	<.01	14.27	(3.55 to 24.99)	.01
Glycosylated Hemoglobin [e] (HbA1c) ≥ 6.5%	0.32	(-0.07 to 0.70)	0.11	0.42	(-0.21 to 1.05)	.19	0.28	(-0.06 to 0.62)	0.11	8.16	(-4.53 to 20.84)	.21

[a] The table presents results from using quasi-experimental instrumental variables (IV) design from Kling JR, Liebman JB, Katz LF. Experimental Analysis of Neighborhood Effects. *Econometrica*. 2007;75(1): 83-119 that uses interactions of MTO treatment group and demonstration site as instrumental variables for the specific neighborhood characteristics shown above. Each entry in the table is estimated separately using equation (5) (see Discussion of Analytic Methods, part C), with a different outcome or mediator. City-level main effects are not presented because they are perfectly collinear with site-fixed effects. The entries shown in the table represent the estimated change in the percentage of people with the health outcome that is associated with a 1 percentage point change in neighborhood poverty or a 1-point change in the neighborhood disadvantage index. The analysis sample consists of female adults who have valid BMI or valid HbA1c data and valid address data at baseline and year 1, year 5, and year 10 in the MTO long-term follow-up data collection.

[b] Neighborhood characteristics are as of the time when the MTO family lived in the census tract, calculated by interpolating tract characteristics data from the 1990 and 2000 decennial censuses and the 2005-09 American Community Survey and duration-weighted to give more weight to tracts in which MTO families spent relatively more time during the study period. The sample sizes, with valid address data at baseline, year 1 post-random assignment, year 5 post-random assignment, and year 10 post-random assignment, for the BMI analysis is N=3003 and for the HbA1c analysis is N=2544.

[c] The concentrated disadvantage index is a weighted combination of census tract percent (1) poverty, (2) African-American, (3) on welfare, (4) unemployed, (5) female-headed family households, and (6) under age 18, with loading factors developed using 2000 Census tracts in Chicago by Sampson RJ, Sharkey P, Raudenbush SW. Durable effects of concentrated disadvantage on verbal ability of African-American children. *Proceedings of the National Academy of Science*. 2008;105: 845-852. The sample sizes, with valid address data, for the BMI analysis is N=3003 and for the HbA1c analysis is N=2544.

[d] BMI was calculated from measured height and weight for most adults (a small number self-reported) as part of the long-term follow-up data collection.

[e] HbA1c was assayed from dried blood spots collected as part of the long-term follow-up data collection.