Supporting Statement for Paperwork Reduction Act Submissions
Evaluation of the Community Choice Demonstration
(OMB # 2528-0337)

B. Collections of Information Employing Statistical Methods

The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When statistical methods are involved, the following documentation should be included with the Supporting Statement A to the extent that it applies to the methods proposed:

1. **Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.**

The Community Choice Demonstration (OMB control # 2528-0337, Expiration: December 31, 2026), referred to herein as the Demonstration, is a large, eight-site randomized experiment, which enrolled approximately 5,600 Housing Choice Voucher (HCV) program families over a four-year enrollment period—of which approximately 5,000 are existing voucher families and approximately 600 are waitlist families.[1] Demonstration randomly assigned families to either a treatment group or a control group. The treatment group is offered a comprehensive set of mobility-related services (CMRS) and the control group receives standard services offered through the HCV program. The study is evaluating whether the offer of CMRS helps families with children access and remain in opportunity and its cost-effectiveness. Impact is measured by whether families move to opportunity areas and whether they stay in those areas (up to two years after random assignment).

The Demonstration also includes two ancillary studies.[2] The first is the HUD-funded Child Assessment study that will assess the impact of CMRS on children's health and well-being. The second is the Johns Hopkins University (JHU)-led and National Institutes of Health-funded Mobility Opportunity Vouchers for Eliminating Diabetes and Obesity (MOVED) study that will assess the impact of CMRS on adult obesity and diabetes risk. These two studies are being

[1] Originally, the Demonstration expected to enroll about 15,000 families. This target was reduced after two sites exited the demonstration and after HUD decided to cancel the design and implementation of a second treatment arm and shorten the implementation in early 2025.
[2] The Demonstration included a third ancillary study to examine the impacts of being offered CMRS on indoor air quality indicators and exposure to cockroach and mouse allergens. The Home Assessment study was cancelled in 2024 because of lower than expected enrollments, the withdrawal of one of the two sites implementing this study, and new research that questioned the study's ability to detect impact with the proposed methodology.

conducted together in four Demonstration sites and are expected to enroll 837 children ages 2 to 15 and 900 adults.

This Information Collection Request (ICR) seeks approval to extend the information collection using a subset of the previously approved instruments. No new instruments are being added to this collection.

Sampling Plan

A. Service Provision Data from PHAs and Service Providers

Data on the provision of mobility-related services to treatment group households is a key input for the Process Study analysis. The evaluation contractor, Abt Global, has collected data on service provision from PHAs and mobility service providers for 100 percent of the treatment participants. Thus, there is no sampling required for this data collection component.

The service provision data is contained in administrative records maintained by the mobility service providers. At some sites, the mobility related services is provided directly by PHA staff. In other sites, contracted organizations provide mobility services.

Exhibit B-1: Samples for Service Provision Data Collection During Five Years of Study Enrollment

Year	Total Households Assigned to Treatment Groups (CMRS)	Number of Households with Service Provision Data Collection	Percent of Treatment Sample with Service Provision Data Collection
2022	125	125	100%
2023	894	894	100%
2024	858	858	100%
2025	691	691	100%
2026	392	392	100%
Total	**2,960**	**2,960**	**100%**

Notes: CMRS=Families randomly assigned to an offer of Comprehensive Mobility Related Services.

B. The Child Assessment and the Obesity and Type II Diabetes Risk Assessment

The following is a description of the Sampling Plan for the two Assessments: 1) The Child Assessment and 2) The Obesity and Type II Diabetes Risk Assessments (administered together, as part of a single coordinated visit, to families at 4 PHAs). Eligible participants include all families enrolled in the CCD study who are located at one of the 4 sites where the assessments are being conducted. They will receive targeted outreach to participate in these assessments. Each assessment will involve a convenience sample of CCD households who opt to participate in them.

Because these assessments involve a very targeted sample – households eligible for vouchers that are participating in the CCD – there is likely to be less variation between participants. Nonetheless, in the event that there is substantive variation between the characteristics of participants who are randomly assigned to receive CMRS and those who are not, the analysis

strategy will involve adding weights so that treatment and control groups are equivalent at baseline.

Child Assessment

For the Child Assessment, the evaluation contractor Abt Global (until 2025) and its subcontractor JHU (starting in 2026) administer validated child and parent/guardian assessments at baseline (shortly after random assignment) and a two-year follow-up to a convenience sample of families enrolled in the Demonstration at the Cuyahoga County, Nashville, Pittsburgh Metro, and Minneapolis Metro Demonstration sites.[3] Families are eligible for participation if they have at least one child between the ages of 2 and 15 years old at baseline, as indicated on the family's Demonstration baseline information form. All families with a child in that age range that enroll in the Demonstration at these sites over the course of a two-year enrollment period and are randomized to either the CMRS Group or the Control Group are contacted shortly after random assignment in the Demonstration and invited to participate in the Child Assessment and Obesity and Type II Diabetes Risk Assessment. (Note, however, that the study excludes families where the parent or guardian of the focal child is pregnant at baseline.)[4] The evaluation team sends families a letter introducing the Child Assessment and the Obesity and Type II Diabetes Risk Assessment. Because data collection for these two assessments occurs during the same home visit, these two assessments are branded as one study—the Mobility Opportunity Vouchers for Eliminating Diabetes and Obesity (MOVED) study—in materials provided to prospective families. The evaluation team then follows-up with a phone call to set up an appointment to visit the family at home. During the home visit, the evaluation team explains the nature of the assessments, and the risks and benefits of participating, to the parent of a pre-selected focal child, and then requests that they provide informed consent in writing to participation by them and a focal child. Children 10 and up are also asked to assent to their participation. Recruitment for the Child Assessment will stop when 837 adults complete the Child Assessment, 900 adults complete the Obesity and Type II Diabetes Risk Assessment, or when the end of the two-year recruiting period is reached, whichever happens first.[5] The evaluation team estimates it may need to send initial letters to up to 1,285 families in order to recruit 900 families to participate in the Obesity and Type II Diabetes Risk Assessment and 837 to participate in the Child Assessment.

Baseline data is collected from one randomly selected focal child and the child's parent or guardian in an estimated 837 families. These families are evenly split between families in the group offered CMRS and the control group. These families are also participating in the Obesity and Type II Diabetes Risk Assessment as part of the MOVED study, described in more detail

[3] Originally, three sites were participating in these two studies: Cuyahoga County, Nashville, and Pittsburgh Metro. In late 2025, Minneapolis Metro joined the studies.

[4] Pregnant women are excluded because the primary outcome is change in body mass index (BMI) and type II diabetes risk from baseline to follow-up. Pregnancy at baseline would impact BMI and potentially blood sugar control in ways that would make it hard to assess whether change over time was due to study arm (randomization) or due to giving birth.

[5] Subject to budget availability, the time window for recruitment could be extended to facilitate progress toward enrolling the target of 837 families in the Home Assessment.

below. The evaluation team randomly selects a focal child from each participating family to be the subject of data collection in both the Child Assessment and the Obesity and Type II Diabetes Risk Assessment. Data collection for the Child Assessment includes two components:

- Survey about child (questions asked of parent or guardian).
- Direct child assessment and survey.

The Obesity and Type II Diabetes Risk Assessment

For the Obesity and Type II Diabetes Risk Assessment, the evaluation contractor Abt Global (until 2025) and its subcontractor JHU (starting in 2026) administer data collection at baseline and a two-year follow-up at the Cuyahoga County, Nashville, Pittsburgh Metro, and Minneapolis Metro Demonstration sites (the same sites as the Child Assessment). The sampling procedures for the Obesity and Type II Diabetes Risk Assessment are the same as for the Child Assessment; however, the Obesity and Type II Diabetes Risk Assessment is not limited to families with a child aged 2-15. All families who enroll in the main Demonstration during the two-year recruitment window in either the CMRS or control group, regardless of the age of their children, are invited to participate in the Obesity and Type II Diabetes Risk Assessment and asked to complete informed consent. Also, as noted above, the sample excludes female heads of household who are pregnant at baseline. Recruitment for the Obesity and Type II Diabetes Risk Assessment will stop when 900 adults have consented to participate or when the end of the two-year recruiting period is reached, whichever happens first.[6]

Baseline data will be collected for an estimated 900 families (approximately half of whom will be in the group offered CMRS and the other half will be in the control group) from one parent or guardian and one child recruited from families that enroll in the main Demonstration over the two-year recruitment period. (An estimated 837 of these families will also be participating in the Child Assessment, as described above). For questions or measurements related to children, the focal child for the Obesity and Type II Diabetes Risk Assessment is the same child as the evaluation team selected for the Child Assessment. Data collection at baseline and follow-up include the components noted below. Participants participate in some or all of these data collection activities as some activities apply only to a sub-sample of participants, as noted:

- Adult survey.
- Anthropometric assessment (adult).
- Anthropometric assessment (child).
- Blood spot sample (adult).
- Home Observations/Housing Assessment.
- Accelerometers (adult). A subset of 400 (about half from the group offered CMRS and half from the control group) of the adults.
- Accelerometers (child). A subset of 400 (about half from the group offered CMRS group and half from the control group) children.
- Blood pressure readings (adult).

[6] Subject to budget availability, the time window for recruitment could be extended to facilitate progress toward enrolling the target of 900 families in the Obesity and Type II Diabetes Risk Assessment.

- Semi-structured interviews (adult). Only at follow-up, a sub-set of 100 adults, 25 from each site (oversampling the treatment group relative to the control group 2:1).
- Tracking Contacts:
    - Tracking Emails/Texts.
    - Tracking Calls.

Exhibit B-2 shows the maximum sample size and projected response rates at baseline and follow-up for each data collection activity under the Child Assessment and the Obesity and Type II Diabetes Risk Assessment. The response rate for the baseline assessments is 100% since it reflects only those families who consent to participate in the study. The evaluation team is aiming to achieve an 80 percent response rate for the follow-up assessments. This can be challenging to achieve, but it represents our target as a high response rate helps reduce non-respondent bias. The evaluation contractor has achieved response rates of 80% or higher for follow-up surveys in other studies. For example, the HUD study, Impact of Housing and Services Interventions for Homeless Families, achieved an 81% response rate for the 18-month follow-up and 79% response rate for the 36-month surveys and the Social Security Administration's Benefit Offset National Demonstration (BOND) had an 85.6% response rate for the 24-month follow-up and 81% response rate for the 36-month follow-up surveys.

Exhibit B-2 Sample Sizes and Projected Response Rates by Specific Component

Information Collection Component	Number of Respondents	Response Rate at Baseline	Response Rate at Follow-up
Enrollment in main Demonstration	5,600	*N/A*	*N/A*
The Child Assessment			
Consent for Assessment	837	100 percent (837)	80 percent (670)
Survey about child (asked of parent/guardian) and parent/guardian's presence during direct Child Assessment	837	100 percent (837)	80 percent (670)
Direct Child Assessment	837	100 percent (837)	80 percent (670)
The Obesity and Type II Diabetes Risk Assessment			
Consent for Assessment	900	100 percent (900)	80 percent (720)
Adult Survey	900	100 percent (900)	80 percent (720)
Anthropometric assessments (adult)	900	100 percent (900)	80 percent (720)
Anthropometric assessments (child)	900	100 percent (900)	80 percent (720)
Anthropometric assessments (child, but accounting for parent's time)	900	100 percent (900)	80 percent (720)
Blood spot samples (adult)	900	100 percent (900)	80 percent (720)
Home Observations/Housing Assessment	900	100 percent (900)	80 percent (720)
Accelerometers (adult)	400	100 percent (400)	80 percent (320)
Accelerometers (child)	400	100 percent (400)	80 percent (320)

Blood Pressure Reading (adult)	900	100 percent (900)	80 percent (720)
Consent for Semi-Structured Interviews*	100	N/A	100 percent (100)
Semi-Structured Interviews*	100	N/A	100 percent (100)
Tracking Emails/Texts (9 and 15 months)**	900	N/A	20 percent (180)
Tracking Calls (6,12, and 18 months)**	900	N/A	20 percent (180)

* Semi-structured interviews are only performed at follow-up.
** These response rates are expected to be 20 percent because the evaluation team only expects a response if the participant's contact information has changed and because, generally, only a small share of families responds to tracking emails or calls.

2. Describe the procedures for the collection of information including:

- **Statistical methodology for stratification and sample selection,**
- **Estimation procedure,**
- **Degree of accuracy needed for the purpose described in the justification,**
- **Unusual problems requiring specialized sampling procedures, and**
- **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

This section describes the procedures for the collection of information, followed by the analysis and estimation procedures. Procedures are provided for the Child Assessment data collection and Obesity and Type II Diabetes Risk Assessment data collection, which will happen at the same time. The section concludes with statements regarding unusual problems requiring specialized sampling and the use of periodic data collection cycles to reduce burden.

Procedures

Service Provision Data from PHAs and Service Providers

The evaluation contractor, in consultation with HUD, and the contractor's Institutional Review Board, developed a set of informed consent documents for use in the Demonstration, including informed consent from the adult head of household, other adult household members, and parental or guardian permission for children to participate in the Demonstration.

Between June 2022 and June 2026, PHA staff conducted outreach efforts with households deemed likely to be eligible based on information in the PHA files. During the enrollment session with households, PHA staff confirmed eligibility, explained the Demonstration and the study in more detail, showed a video that reviews the informed consent documents, addressed any questions, and obtained consent from all heads of household who wish to participate in the study. Once informed consent was obtained and the previously OMB-approved baseline data collection was completed, PHA staff (or agent) added information to the enrollment and mobility service tracking tool. The tool randomly assigned the household to the CMRS or control groups.

PHA staff or their mobility service provider partner used the mobility service tracking tool to serve households assigned to CMRS. The tool serves as a user-friendly case management system

and mobility program management information system for staff that are providing mobility-services. The Demonstration ended enrollment of study participants on June 30, 2026. Data collection in the tool will end on January 2027. The evaluation contractor will continue to use the data from the tool until 2028, to inform the evaluation reports.

Child Assessment and Obesity and Type II Diabetes Risk Assessments

To minimize the burden on prospective families, the evaluation contractor Abt Global (until 2025) and its subcontractor JHU (starting in 2026) conduct the data collection for the Child Assessment and Obesity and Type II Diabetes Risk Assessments during the same visits to families recruited from those who enrolled in the main Demonstration at the four participating sites (Cuyahoga County, Nashville, Pittsburgh Metro, Minneapolis Metro). To prospective families, these two assessments are branded as the MOVED study.

The evaluation team designed a flyer to describe the Child Assessment and the Obesity and Type II Diabetes Risk Assessment (Attachment E.1), and the activities associated with these assessments. From January 2024 to June 2026, PHA staff at participating sites started provided this flyer to families who enrolled in the main Demonstration and let the families know that an interviewer would be in touch to tell them more about the study.

Local interviewers at each site used a multi-modal approach to recruitment, including phone calls, e-mails, and letters to connect with each family. Families were sent an advanced letter and then a follow-up email notifying them about the study. Once the interviewers contacted a family by phone, they explained the purpose of their call and attempted to schedule an in-person visit. Interviewers recorded all scheduled home visit appointments or phone call-backs in their electronic record of calls. Families participating in the main Demonstration are not required to participate in the Child Assessment or the Obesity and Type II Diabetes Risk Assessment.

Between 2024 until October 2026, interviewers have been visiting the homes of families that expressed an initial interest in participating. At the start of the enrollment visit, interviewers obtain informed consent from adults and child assent. Both forms include an overview of the study and the risks and benefits of participating, the voluntary nature of participation, how the data will be used and who to contact with questions. The consent form to participate in the Obesity and Type II Diabetes Risk Assessment and Child Assessment (Attachment G) explains each of the data collection components. Once the interviewer reviews the consent form with the family, the adult is asked to sign the form to consent to their own participation and gives permission for the participation of their child. Children 10 and up are also asked to assent (Attachment B).

Once informed consent has been obtained, interviewers proceed with the data collection components. JHU expects all baseline data collection to be completed by October 2026.

Interviewers are expected to start the follow-up data collection activities in September 2026.

Interviewers will have the flexibility to begin follow-up data collection with either the child components or the adult components—depending on the families' preferences. Assuming the

families want to complete the child components first, so that they can leave the room, the data collection process will [7]: Using their computers, interviewers will first conduct the follow-up Child Assessment (Attachments D.1 and D.2) followed by the follow-up Child Anthropometric portions of the Obesity and Type II Diabetes Risk Assessment (Attachment J). Interviewers will next conduct the adult follow-up data collection pieces, including the Adult Survey (Attachment H) and the Survey on Child Outcomes (Attachment C from the Child Assessment, which is directed at the parent[8]). These two modules will be administered together so that they feel like one interview to the respondent. The interviewer will also complete the follow-up adult Anthropometric Assessment (Attachment I), Blood Spot Sample (Attachment K, adult), the Accelerometers with a sub-set of adults (Attachment M), Accelerometers with a subset of children (Attachment N), and Blood pressure readings (Attachment O, adult) with those who consented to participate in each of those components of the Obesity and Type II Diabetes Risk Assessment. At the end of the visit, the interviewer will complete the follow-up Home Observations (Attachment L) using their computer. This will be done once the interviewer completes the other data collection components.

Participants in the evaluation will be informed that arrangements are available to assist individuals who require assistance with auditory or other disabilities or disorders. The evaluation contractor, PHAs, and HUD will ensure communication with individuals with disabilities is as effective as communication with individuals without disabilities throughout this study.

Data collection will be performed by trained interviewers and overseen by a field director for each site. The local interviewers will conduct the enrollment and baseline data collection for the Child Assessment and the Obesity and Type II Diabetes Risk Assessment data collection, conduct tracking outreach, respond to inbound contacts from participants, and administer all follow-up data collection. Interviewers will complete comprehensive training prior to conducting each round of data collection (enrollment and baseline data collection, tracking, and follow-up data collection activities). Training will provide a study overview, guidelines for obtaining cooperation, purpose of each data collection instrument, and ample time to conduct mock interview sessions. Interviewers will receive a set of Frequently Asked Questions (FAQs) and supplemental materials to aid them in their data collection efforts. Interviewers and field managers will be in close contact throughout the study period to proactively monitor activities and strategize on solutions for contacting hard-to-reach participants and getting them to respond.

For the Semi-Structured Interviews for Obesity and Type II Diabetes Risk Assessment (Attachment Q), the contractor will recruit 25 adults from each site (100 total) to participate in semi-structured in-depth interviews at 2-year follow-up after completion of their follow-up survey. Interviewers will ask participants if they would be willing to participate in an in-depth interview about their moving experience. Interviewers will obtain consent from participants prior to conducting these interviews (Attachment P). They will contact participants (Attachments R

[7] Although the recommendation is to start with the child activities, if the Adult wants to do their part first, interviewers will defer to their preference.

[8] If the adult respondent is not the parent or guardian, then we will stop the adult survey prior to the child outcome questions. This will enable the interviewer to complete that section with the parent or guardian.

and S) and conduct the interviews. The contractor will oversample individuals from the treatment group relative to the control group in a 2:1 manner, given the desire to understand the role of neighborhood change. The evaluation contractor will then identify potential participants based on the following criteria: (a) success in moving to opportunity areas (treatment group only), (b) sociodemographic characteristics, and (c) obesity (at baseline and reductions at follow-up). The evaluation contractor will establish a systematic approach to recruitment, generating lists of participants who meet the criteria (strata) and agreed to be contacted, randomly selecting participants for interviews from each strata. Participants will be offered an option to complete their interviews in-person, via Zoom or phone and interviews will follow the semi-structured interview guide.

Statistical Methodology for Stratification and Sample Selection

Child Assessment and Obesity and Type II Diabetes Risk Assessments

From January 2024 until June 2026, all families who enrolled in the main Demonstration and were randomly assigned to the CMRS or the control groups were eligible for recruitment to the Obesity and Type II Diabetes Risk Assessment studies in the four study sites. The first 900 families who meet exclusion criteria and enrolled will be part of the Obesity and Type II Diabetes Risk Assessment.

Among these 900 families, those with at least one child between the ages of 2 and 15 years old are eligible for inclusion in the Child Assessment. The study team expects that approximately 837 of these 900 families will have at least one eligible child, an estimate based on the age distribution of children in families who have already enrolled in CCD to date Should more than 837 families have an eligible child, the first 837 families enrolled will be a part of the Child Assessment.

Families who are eligible for the Child Assessment will have one focal child between the ages of 2 and 15 years at baseline randomly selected using simple random sampling (e.g., if a family has three potentially eligible focal children between the ages of 2 and 15 years, one of the three would be randomly selected with each child having a 1 in 3 chance of selection). For the Obesity and Type II Diabetes Risk Assessments, the same focal child selected for the Child Assessment will be assessed.

In the Obesity and Type II Diabetes Risk Assessment, accelerometry data will be collected for up to one adult and up to one focal child in a sub-sample of the families enrolled who have an eligible focal child between the ages of 5 and 15 selected as part of the Child Assessment, with a target enrollment of 400 families. The evaluation contractor will invite eligible families to participate, with approximately the first 133 families in each site enrolling being a part of the accelerometry data collection.

Estimation Procedure

Child Assessment

For the Child Assessment, the evaluation will analyze the data using an intent-to-treat framework, with a focus on understanding the average impact of the pairwise comparison of being assigned to CMRS versus the control group. In general, the impact analysis model is based on the estimation model procedures used in the main Demonstration study with three differences: (1) analysis weights will be used for child outcomes to account for the probability of selection as a focal child, so that analyses will equally represent all eligible children ages 2–15 in the study sample; (2) because participant recruitment for the Child Assessment study will occur after random assignment into the main Demonstration evaluation and potential sample loss at follow-up, the evaluation contractor will investigate whether the CMRS and Control groups have equivalent baseline outcome values; and (3) baseline measurement of the outcome will be included as a covariate, along with a select set of child and family demographic characteristics and study site. For the analytic sample (those with collected follow-up data), the evaluation contractor will develop a set of analytic weights to ensure that the weighted assignment groups are similar to each other on pre-randomization characteristics (which are collected during enrollment into the main Demonstration study). These weights will address any differential enrollment into the Child Assessment sample across assignment groups and any differential non-response to follow-up Child Assessment data collection.

Following standard practice, the evaluation will use regression adjustment to increase the precision of the impact estimates[9]. The evaluation contractor will estimate the impact on an outcome Y (e.g., child anxiety symptoms) of being offered CMRS rather than the control condition using estimating equation. The estimation equation is:

$$Y_i = \alpha + \beta\, CMRS_i + \theta\, Y_{baseline,i} + \gamma X_i + \sum_{k=1}^{3} \varphi_k I_{k,i} + e_i$$

Where:

Y_i= outcome Y for focal child *i* at the two-year follow-up,

$CMRS_i$= indicator variable that equals one if family *i* was assigned to CMRS,

β= estimated impact of being assigned to CMRS rather than the control condition,

$Y_{baseline,i}$= the baseline value of the outcome *Y* for family *i*,

X_i= a vector of background characteristics of family *i*,

$I_{k,i}$= indicator variable for site *k* for family *i*,

[9] Orr, L. L. (1999). *Social experiments: Evaluating Public Programs with Experimental Methods.* Thousand Oaks, CA: Sage Publications.

e_i= residual for child i (assumed mean-zero and i.i.d.),

α= a constant term, and

γ , θ, φ_k= other regression coefficients.

In this model, the evaluation assumes that the true impact of CMRS relative to the control condition is homogeneous across sites. The impact parameter βwill be a weighted average of the point estimates of site-level impacts, with each site-level impact weighted by the analysis-weighted number of families in the site.

The evaluation will plan to estimate the model above using least squares with survey non-response weights (described below). This estimation assumes that the outcome data have a normal distribution (i.e., form a bell-shaped curve) with a common variance (i.e., are homoscedastic). There is no reason a priori to expect homoscedasticity, however, since some types of families could have higher variability in their outcomes than other families and the different interventions could themselves influence this variability. Furthermore, some of the outcomes are binary; applying least squares to such binary outcomes (i.e., using the "linear probability model") induces heteroscedasticity.[10]

To address the potential of heteroscedasticity, the evaluation will compute robust standard errors (i.e., Eicker-White robust standard errors). Judkins and Porter show that least squares estimation performs well with binary outcomes in sample sizes smaller than found in this study.[11] Therefore, the evaluation will use least squares for both continuous and binary outcomes.

For each report, the evaluation contractor will perform balance tests of the pooled sample and key subgroups (existing voucher families, waitlist families, and site) to confirm that randomization and the post-randomization enrollment into the Child Assessment sample resulted in assignment groups with similar household and neighborhood characteristics at baseline. To address survey non-response, the evaluation contractor will prepare a set of non-response weights based on family characteristics measured in the baseline survey that attempt to adjust for nonresponse.[12] These weights will be used in estimating impacts for all family and adult outcomes. The evaluation will develop separate analysis weights for the parent report on child outcomes and the direct child assessment. The parent report on child outcomes will incorporate a family-level non-response weight and the inverse probability of being selected as a focal child; the direct child assessment outcomes will additionally incorporate a child non-response weight. The aim of this analysis is to equally represent all eligible children in all families that enroll in the Child Assessment for study outcomes. Therefore, focal children in families with more children receive more weight in the analyses than focal children from families with fewer children.

[10] Joshua D. Angrist and Jörn-Steffen Pischke, Mostly Harmless Econometrics: An Empiricist's Companion. Princeton, NJ: Princeton University Press. 2008. p. 47.
[11] Judkins, David. R., & Porter, Kristen. E. 2016. "Robustness of ordinary least squares in randomized clinical trials." Statistics in Medicine, 35, 1763–1773.
[12] Little, R. J. A. (August 1986), Survey nonresponse adjustments for estimates of means, International Statistical Review, 54 (2), 139-157.

The research questions for the Child Assessment are not part of the confirmatory research questions for this study. A key reason is that the intervention is not specifically designed to affect child outcomes. Thus, no adjustments for multiple comparisons are planned, and results will be indicated as exploratory in the reporting.

Obesity and Type II Diabetes Risk Assessment

The primary objective is to investigate whether adults who receive comprehensive mobility services ("treatment group") exhibit changes in obesity and type II diabetes risk after two years compared to a control group that receives no special mobility services, and whether children experience changes in obesity. The corresponding endpoints for this objective are change in BMI and change in HbA1c from baseline to the follow-up visit for adults and change in BMI z-score for children. To minimize selection bias, the evaluation will primarily use an intent-to-treat (ITT) design, where individuals are analyzed according to the study group to which they were randomized, regardless of whether they moved to a lower-poverty neighborhood. For the analytic sample (those with collected follow-up data), the evaluation will develop a set of analytic weights to ensure that the weighted assignment groups are similar to each other on pre-randomization characteristics (which are collected during enrollment into the main Demonstration study). These weights will address any differential enrollment into the Obesity and Type II Diabetes Risk Assessment sample across assignment groups and any differential non-response to follow-up Obesity and Type II Diabetes Risk Assessment data collection.

The evaluation will use a linear regression model to estimate the differences in the change from baseline to 2 years between study groups at the follow-up visit, while including the baseline value (BMI, HbA1c, or BMI z-score), baseline sociodemographic characteristics, and study site as covariates in the model. The adjusted mean difference in change in BMI (BMI z-score) and change in HbA1c between study groups will be estimated with a 95 percent confidence interval. The evaluation will allocate a type I error rate of 5 percent each to the analyses for adults and kids. For adults, a 2-sided p-value $< 0.05/2 = 0.025$ will be considered statistically significant for each analysis (BMI and HbA1c).[13] In secondary analyses, differences in waist circumference between groups will be explored and use clinical cut-points for BMI and HBA1c using multinomial logistic regression models.

The evaluation will then examine whether the associations between study group and outcomes vary across pre-specified subgroups by including interactions in the models described above. Subgroups include adult age, baseline BMI category, and study site. Most adult participants are anticipated to be female and of Black race; gender and race will therefore not be included as subgroups. For children, subgroups include age (<13 years old, 13+) and gender given prior MTO findings on economic outcomes and mental health by these factors, respectively. P-values for the interaction analyses will be adjusted for multiplicity using the Benjamini-Hochberg approach with a false discovery rate corresponding to the number of comparisons performed for each adult and child.

[13] These thresholds are aligned with biomedical standards.

Consistent with prior MTO analyses, the evaluation will estimate secondary local-average treatment effect (LATE) models in addition to the ITT models described above, since not everyone who receives services will move to lower-poverty neighborhoods. First, the evaluation will estimate the likelihood of moving to a lower-poverty neighborhood conditional on study group assignment, baseline sociodemographic characteristics, and site. Next, the evaluation will use this estimate to examine change in BMI and HbA1c, conditional on voucher use, controlling for baseline factors as in the analyses proposed above. The evaluation will also seek to explore the magnitude of the change in BMI and HbA1c associated with changes in neighborhood poverty exposure, while recognizing that neighborhood poverty is associated with other neighborhood attributes. A two-stage model will be estimated, where the first stage uses treatment group assignment to predict neighborhood poverty exposure in the first two years after randomization, and the second stage uses predicted poverty exposure to estimate changes in BMI and HbA1c.

The evaluation is also designed to explore how a range of behavioral, psychosocial, contextual, and structural factors change over 2 years in both the CMRS and control groups and whether this leads to different outcomes for participants offered CMRS services. The evaluation will next explore the potential for these factors to mediate the relationship between treatment group assignment and the primary outcomes of changes in BMI and HbA1c. Importantly, changes in the factors may mediate the relationship even if no main effect is observed. The evaluation will apply a causal mediation approach, estimating the independent effects of study group assignment and a behavioral/psychosocial factor on change in BMI, accounting for potential confounders. The total effect of treatment group assignment on change in BMI can then be calculated. The proportion of the total effect of treatment group assignment on change in BMI that is composed of the indirect effect, i.e., the effect that is mediated by the factor, will then be estimated. The evaluation will use a linear regression model to associate the change in each behavioral or psychosocial factor with each outcome (change in BMI, HbA1c) while including the study group as a covariate and employing the R package ‘mediation’ to estimate the average causal mediation effect.[14]

Each of the three assessments described above leverages the baseline study’s existing randomized experimental design framework to assess the impact of the overall CCD outcome on child health, while adjusting for individual characteristics that may affect outcomes, including unobservable characteristics. Baseline data collection methods are cognizant of race and other protected classes. The evaluation contractor will conduct balance testing to ensure that characteristics of participants in the treatment and control groups at baseline are statistically equivalent and will apply weights if they are unbalanced so that the analyses yield robust impact estimates. Notably, the baseline study design does not allow for isolating the impact of the intervention on child health regardless of historical and geographical differences in health by race because the impact of moving to an opportunity area will be measured for each study participant at the individual level and compared against the baseline health measures.

[14] Tingley D, Yamamoto T, Hirose K, Keele L, Imai K. mediation : R Package for Causal Mediation Analysis. J Stat Softw [Internet]. 2014 [cited 2022 Mar 5];59(5). Available from: http://www.jstatsoft.org/v59/i05/

Degree of Accuracy needed for the purpose described in the justification

The goal of the data collection had originally been to recruit 900 adults and 837 children. After HUD decided to end the enrollment period earlier, a more realistic sample size is expected to be 700 adults and 700 children.[15] Assuming an 80 percent response rate at the two-year follow-up yields an expectation of 560 adults and 560 children in the analysis samples.

Child Assessment

For the Child Assessment, the evaluation contractor has estimated the MDEs for the impact analysis.[16] Consistent with analyses in the main Demonstration study, the evaluation contractor proposes using .10 as the level of statistical significance for hypothesis testing. For the full Child Assessment sample, the evaluation contractor expects to be able to detect significant differences in children's outcomes of 0.155 standard deviations between the CMRS (treatment) and control groups, assuming the 80 percent response rate specified above and an R-squared of 0.35 for using a repeated measure (the same at baseline and follow-up) and other baseline characteristics. For binary outcomes, such as child health conditions and access to health services, the evaluation contractor expects to be able to detect a difference of 4.7 to 7.8 percentage points between the CMRS and control groups, depending on the base rate of the outcome in the control group (e.g., 10 percent versus 50 percent). MDEs will be somewhat higher for some outcomes only asked for certain age groups. The smallest age subset at follow-up is children between the ages of 12 and 17 (e.g., binary outcomes for police involvement or arrests outcomes and tobacco use are only asked for this age range).

As noted above, the research questions for the Child Assessment are not part of the confirmatory research questions for the study, so there are no confirmatory outcomes as a focus of the power analyses. However, the full-sample MDEs shown in Exhibit B-3 below would apply to key outcomes in each domain, including scores for executive functioning, child behavioral strengths and difficulties, school and neighborhood safety, and child general health status.

Though there is not directly comparable research on short-term effects of mobility interventions on child outcomes, the study would be sufficiently powered to detect changes in behavioral problems and strengths found in a study of the effects of housing vouchers on children who have experienced homelessness (effect sizes = 0.23 SD, 0.16 SD, respectively).[17] Base rates for mental health challenges in 4-to-7 year MTO follow-ups were around 7 percent for anxiety and depression among children ages 12 to 19 in the control group.[18]

[15] The original plan was to recruit from among all parents in the main CCD study with children ages 0-15. It was expected that 93% of parents would have a child aged 2-15 years who could be enrolled in the study. In order to simplify recruitment, only parents with a child aged 2-15 years are being recruited into the study.

[16] We present our power analyses in the form of MDEs for an assumed desired 80% power to detect effects, consistent with social science conventions and prior HUD evaluations.

[17] Gubits, D., Shinn, M., Wood, M., Bell, S., Dastrup, S., Solari, C. D., Brown, S. R., McInnis, D., McCall, T., & Kattel, U. (2016). Family Options Study: 3-Year Impacts of Housing and Services Interventions for Homeless Families. U.S. Department of Housing and Urban Development.

[18] Orr, L., Feins, J. D., Jacob, R., Beecroft, E., Sanbonmatsu, L., Katz, L. F., & Kling, J. R. (2003). Moving to Opportunity for Fair Housing Demonstration Program: Interim Impacts Evaluation. U.S. Department of Housing

Exhibit B-3: Expected Sample Sizes and Minimum Detectible Effects (MDEs) for Continuous and Binary Child Assessment Outcomes, by age ranges

Comparison	Sample	CMRS Sample Size	Control Sample Size	MDE in SDs (continuous)	MDE if control group mean is 10 percent (or 90 percent)	MDE if control group mean is 50 percent
CMRS vs. control	All children	280	280	0.170 SDs	5.1pp	8.5pp
CMRS vs. control	Children age 12+	120	120	0.260 SDs	7.8pp	13.0pp

Notes: Minimum detectible effects (MDEs) are based on calculations assuming two-sided tests are used at the 10 percent significance level, the desired power is 80 percent, and the regression R2 is 0.35. With outcomes being measured on a range of scales and units, MDEs reflect standardization of the outcomes such that the standard deviation is 1.0, with the effect size being in standard deviation units. The base rate of binary outcomes (i.e., the proportion in the control group) will vary across outcomes. In this table, we have provided the MDE when the base rate is relatively low or high (10 percent or 90 percent) and when the base rate is 50 percent. The maximum MDE for a binary outcome is when the base rate is 50 percent. Standard deviation for a binary outcome is calculated as the square root of the variance, where the variance is the base rate proportion of the outcome times one minus the base rate. Sample sizes reflect assumed response rates and an overall child age range of 4 to 17 years at follow-up.

Obesity and Type II Diabetes Risk Assessment

The evaluation contractor anticipates enrolling 700 adults, 80 percent of whom it expects to retain in follow-up, yielding a sample size of 560 for adult analyses. Prior studies of similar cohorts estimated the mean (standard deviation (SD)) BMI in adults to be ~28 (SD=6).[19] Using a simulation approach with 1,000 replications and a correlation 0.8 for repeated measures of BMI within participants yields a finding of 84.5 percent power to observe a 1.0-point difference in change in BMI between study groups, which is consistent with impacts that have been achieved in neighborhood-based interventions.[20] For example, the Pittsburgh Research on Neighborhood Change and Health (PHRESH) study, which investigated the impact of various neighborhood investments on health in two predominantly African American neighborhoods, saw a 0.34 unit reduction in BMI after 2 years in an intervention versus control community; results were not statistically significant, but the study sample size was substantially smaller than in the proposed work (N=532).[21] Shape Up Somerville—a child-targeted, community-based obesity prevention

and Urban Development.

[19] Rummo PE, Feldman JM, Lopez P, Lee D, Thorpe LE, Elbel B. Impact of Changes in the Food, Built, and Socioeconomic Environment on BMI in US Counties, BRFSS 2003-2012. Obes Silver Spring Md. 2020 Jan;28(1):31–39. PMID: 31858733

[20] Power analyses are presented here in the form of level of power for detecting an assumed fixed difference in outcomes between the treatment and control groups, consistent with biomedical conventions.

[21] Troxel WM, Bogart A, Holliday SB, Dubowitz T, Ghosh-Dastidar B, Baird MD, Gary-Webb TL. Mixed Effects of Neighborhood Revitalization on Residents' Cardiometabolic Health. Am J Prev Med. 2021 Nov;61(5):683–691. PMCID: PMC8541899

intervention reduced parent BMI by 0.411 point over 2 years relative to control parents (N=478).[22] The NIH-funded Watts Neighborhood Health Study estimated 80 percent power to detect a minimum difference of 2.19 BMI units among adults over 4 years (N=596).[23]

For HbA1c, approximately half of adults in the sample are expected to be pre-diabetic or diabetic with a mean HbA1c values of 7.7 percent (SD = 1.8 percent).[24,25] HbA1c values are expected to be ~5.6-5.9 percent (SD = 0.40-0.89 percent) in the remaining half without diabetes. The simulation approach allows for 1) a 0.5 percent improvement in HbA1c among pre-diabetics and diabetics in the intervention arm relative to the control arm, which is in line with prior studies;[26,27] 2) no change on average in HbA1c among non-diabetics in the intervention arm; and 3) a correlation of 0.7 for repeated measures within study subjects. Assuming an equal distribution of participants in the intervention and control groups, the evaluation anticipates having 80.2 percent power.

Unusual Problems Requiring Specialized Sampling Procedures

There are no unusual problems associated with the samples for this information collection request.

Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

Child and Obesity and Type II Diabetes Risk Assessments.

The evaluation contractor will use two types of administrative data to provide additional contact information for tracking and locating the study sample. These data do not impose any respondent

[22] Coffield E, Nihiser AJ, Sherry B, Economos CD. Shape Up Somerville: Change in Parent Body Mass Indexes During a Child-Targeted, Community-Based Environmental Change Intervention. Am J Public Health. 2015 Feb;105(2):e83–e89. PMCID: PMC4318303

[23] Datar A, Shier V, Braboy A, Jimenez-Ortiz M, Hernandez A, King SE, Liu Y. Assessing impacts of redeveloping public housing communities on obesity in low-income minority residents: Rationale, study design, and baseline data from the Watts Neighborhood Health Study. Contemp Clin Trials Commun. 2022 Feb;25:100879. PMCID: PMC8685992

[24] Tabaei BP, Rundle AG, Wu WY, Horowitz CR, Mayer V, Sheehan DM, Chamany S. Associations of Residential Socioeconomic, Food, and Built Environments With Glycemic Control in Persons With Diabetes in New York City From 2007–2013. Am J Epidemiol. 2018 Apr;187(4):736–745. PMCID: PMC6676946

[25] Fenelon A, Lipska KJ, Denary W, Blankenship KM, Schlesinger P, Esserman D, Keene DE. Association Between Rental Assistance Programs and Hemoglobin A1c Levels Among US Adults. JAMA Netw Open. 2022 Jul 1;5(7):e2222385. PMCID: PMC9301513

[26] Bryce R, WolfsonBryce JA, CohenBryce A, Milgrom N, Garcia D, Steele A, Yaphe S, Pike D, Valbuena F, Miller-Matero LR. A pilot randomized controlled trial of a fruit and vegetable prescription program at a federally qualified health center in low income uncontrolled diabetics. Prev Med Rep. 2021 Sep;23:101410. PMCID: PMC8193138

[27] Seligman HK, Lyles C, Marshall MB, Prendergast K, Smith MC, Headings A, Bradshaw G, Rosenmoss S, Waxman E. A Pilot Food Bank Intervention Featuring Diabetes-Appropriate Food Improved Glycemic Control Among Clients In Three States. Health Aff Proj Hope. 2015 Nov;34(11):1956–1963. PMID: 26526255

burden. The evaluation contractor will obtain data from HUD's Inventory Management System/PIH Information Center (IMS/PIC) and Tenant Rental Assistance Characteristics (TRACS) data systems (or successor systems) to obtain historical data on the receipt of housing assistance. IMS/PIC and TRACS will provide address information for families who receive housing assistance that is reported in these systems.

There are two planned assessments, one at baseline and one two years later. The primary data collection is on a less-than-an-annual basis, a sign of reduced burden. Data cannot be collected less frequently.

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

The evaluation contractor plans extensive efforts to maximize the response rates for the Child Assessment and the Obesity and Type II Diabetes Risk Assessment data collection efforts. These efforts, described below, include maintaining contact with study participants, the use of incentives, and procedures to manage item non-response. Under item 2, Estimation Procedure, there is more information about how the research team will manage survey non-response.

Maintaining Contact with Participants

For the Child Assessment and the Obesity and Type II Diabetes Risk Assessment, the team will attempt to contact participants by telephone at 6, 12 and 18 months and conduct electronic tracking (email or text) with those who are unresponsive to the telephone contacts at 9 and 15 months. At each contact, participants will be asked to confirm or update their contact information as well as contact information for up to two people who will always know how to reach them.

Incentives

As described in Supporting Statement A of this ICR, the evaluation contractor will provide incentives to families for participating in the Child Assessment, and the Obesity and Type II Diabetes Risk Assessment data collections. These incentives will help to offset the costs of participating in the study for participants and increase the likelihood that they will respond to each data collection effort. Maximizing response rates will help to minimize the potential for non-response bias.

Managing Item Non-Response

Interviewers, equipped with computers, will administer both the Adult Survey and the Survey about Child Outcomes to the Adult (parent or guardian) at follow-up using Qualtrics. To ensure that heads of family do not skip questions inadvertently, the surveys will require participants to provide a response to each question—even if that response is 'prefer not to say' or 'do not

recall'. The surveys are programmed to ensure that the survey logic and skip patterns are administered as intended by displaying only the relevant questions based on the parent/guardian's prior responses. Interviewers will also administer the child assessment and survey, accelerometer, blood pressure, and height and weight measurement using Qualtrics.

For the adult height, weight, and waist circumference measurements, trained interviewers will conduct each assessment using a standard protocol and capturing each measure 3 times for an average. All measurements will be recorded in Qualtrics. Blood pressure readings will also be conducted using standard procedures and captured 3 times and recorded in Qualtrics. Blood spot samples will be taken for each adult using a small finger prick and 4 drops of blood on a small test kit. If any adult does not wish to participate in these measurements, interviewers will mark "do not wish to participate" in that portion of the adult assessment. Accelerometers will be placed on the wrist of a sub-sample of adults for 7 days. The evaluation contractor will make it easy for participants to send back Accelerometers. The contractor will provide pre-addressed/pre-paid envelopes to each family. It will be recorded if participants do not send accelerometers back to the study team. If participants have any difficulties, they may reach out to the study team via the study email address or toll-free number to request assistance, such as providing the participant with a replacement accelerometer.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

Most of the questions in the Adult Survey for the Obesity and Type II Diabetes Risk Assessment are identical or similar to questions used in previous studies of similar populations led by the evaluation team or other national surveys (e.g., the CDC National Health and Nutrition Examination Survey, CDC National Health Interview Survey, Pittsburgh Hill/Homewood Research on Neighborhood Change and Health). The same is true for the Survey of Child Outcomes in the Child Assessment (e.g., CDC Youth Behavior Risk survey, CDC National Health and Nutrition Examination Survey, NIDA Monitoring the Future Survey, CDC National Health Interview Survey, MTO Evaluation). As such, they have been thoroughly tested on large samples. (Specific sources for each question are provided in the copies of the survey instruments in Attachments C, D.1, D.2 and H).

The evaluation team relied on review of each instrument by skilled data collection staff and other evaluation contractor staff, HUD personnel, and JHU personnel to ensure that all instruments are clear and flow well. Their review also ensured that the instruments are concise but collect all the data necessary for analysis that is not otherwise available through other sources. The evaluation contractor conducted mock interviews with one another using each data collection instrument.

These mock interviews provided information on the average length of the survey and identified any final modifications to improve the clarity and flow of the instrument.

To test the surveys further, the evaluation team pretested the Child Assessment and Obesity and Type II Diabetes Risk Assessment adult and child surveys with three families in the Housing Choice Voucher programs of PHAs in the greater Boston area, but not participating in the Community Choice Demonstration.

Many of the questions in the semi-structured interview guide for the Obesity and Type II Diabetes Risk Assessment are based on questions used in prior studies of similar populations. The evaluation team will not pretest this Assessment instrument.

5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

HUD's Office of Policy Development and Research is working with the contractor, Abt Global, to conduct the Child Assessment data collection efforts and analyze the data. Teresa Souza, PhD, Social Science Analysts in HUD's Office of Policy Development and Research, Program Evaluation Division serves as Contracting Officer's Representative (COR). Their supervisor is Ms. Carol Star. Dr. Souza can be contacted at (202) 402-5540 and Ms. Star can be contacted at (202) 402-6139. The study's Principal Investigator is Dr. Daniel Gubits from Abt Global. Dr. Gubits can be reached at (301) 634-1854. Laura Paulen serves as the study's Project Manager and can be contacted at (301)-347-5673. Dr. Naganika Sanga serves as the study's Alternative Project Manager and can be contacted at (301) 347-5027.

The Obesity and Type II Diabetes Risk Assessment is funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)[28] and led by JHU as part of a study called the Mobility Opportunity Vouchers for Eliminating Diabetes and Obesity (MOVED). HUD and Abt Global are partnering with JHU on this research as well. Dr. Craig Pollack is the Principal Investigator for the Obesity and Type II Diabetes Risk Assessment. His number is (410) 955-4201. Supporting the JHU team from Abt Global are: Dr. Daniel Gubits, Laura Paulen, and Dr. Naganika Sanga. Their phone numbers are noted in the above paragraph.

The individuals shown in Exhibit B-4 also assisted HUD and JHU in the statistical design of the Demonstration evaluation.

Exhibit B-4: Individuals Consulted on the Study Design

Name	Role in Study
Daniel Gubits, Abt Global	Principal Investigator, main Demonstration and Child

[28] The NIDDK grant number is R01DK136610.

Name	Role in Study
	Assessment
Laura Paulen, Abt Global	Project Manager for the main Demonstration
Dan Litwok, Abt Global	Project Quality Advisor
Jeffrey Lubell, Abt Global contractor	Senior Advisor
Mathew Stange, Abt Global	Data Collection Lead for Child Assessment and the Obesity and Type II Diabetes Risk Assessment components (through March 2025)
Scott Brown, Abt Global	Child Assessment Director of Analysis
Naganika Sanga, Abt Global	Alternative Project Manager for the main Demonstration
Dr. Craig Pollack, Johns Hopkins University	Principal Investigator, Study Lead for the Obesity and Type II Diabetes Risk Assessment (Mobility Opportunity Vouchers to Eliminate Diabetes and Obesity (MOVED) study)
Alyssa Moran, Johns Hopkins University	Co-Investigator, MOVED, nutrition and diet expert
Erin Hager, Johns Hopkins University	Co-Investigator, MOVED, physical activity expert
Eliana Perrin, Johns Hopkins University	Co-Investigator, Pediatrician, child health expert
Stefanie DeLuca, Johns Hopkins University	Co-Investigator, MOVED, Sociologist and housing expert,
Sabriya Linton, Johns Hopkins University	Co-Investigator, MOVED, health equity, substance use, and mental health expert
Matthew Eisenberg, Johns Hopkins University	Co-Investigator/Advisor, MOVED, mental health and economics expert
Amanda Blackford, Johns Hopkins University	Co-Investigator, MOVED, biostatistician

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