Creating Moves to Opportunity: Experimental Evidence on Barriers to Neighborhood Choice

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Seattle Housing Authority, King County Housing Authority,
MDRC, and J-PAL North America

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Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods
The Geography of Upward Mobility in Seattle and King County
Average Income at Age 35 for Children with Parents Earning $27,000 (25th percentile)

Source: Chetty, Friedman, Hendren, Jones, Porter (2018)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly
Estimates of Childhood Exposure Effects

**United States**

Source: Chetty, Friedman, Hendren, Jones, Porter (2018)

**Australia**

Source: Deutscher (2018)

Source: Laliberté (2018)

**Montreal, Canada**

Source: Laliberté (2018)

**Denmark**

Source: Faurschou (2018)

**MTO: Baltimore, Boston, Chicago, LA, NYC**

Source: Chetty, Hendren, Katz (AER 2016)

**Chicago Public Housing Demolitions**

Source: Chyn (AER 2018)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly

3. Low-income families who receive housing vouchers predominantly live in low-opportunity neighborhoods
Most Common Locations of Families with Housing Vouchers 2015-2017

- 25 most common tracts where voucher holders with children lived before the CMTO experiment

Percentile Rank in Adulthood

- > 60 ($55k)
- 48 ($39k)
- < 30 ($20k)
Motivation: Four Facts on Neighborhoods and Economic Opportunity

1. Children’s prospects for upward income mobility vary substantially across neighborhoods

2. Moving to better neighborhoods earlier in childhood improves children’s outcomes in adulthood significantly

3. Low-income families who receive housing vouchers currently live predominantly in low-opportunity neighborhoods

4. Differences in rent do not explain why low-income families live in low-opportunity areas
The Price of Opportunity in King County: Upward Mobility vs. Rents, by Census Tract

Mean Household Income Ranks of Children with Low-Income (25th Percentile) Parents vs. Median 2-Bedroom Rent in 2015

- West Kent
- Federal Way
- Newport
- Woodinville

West Kent: Mean Household Income $21K, Median 2-Bedroom Rent $30
Federal Way: Mean Household Income $31K, Median 2-Bedroom Rent $40
Newport: Mean Household Income $42K, Median 2-Bedroom Rent $50
Woodinville: Mean Household Income $56K, Median 2-Bedroom Rent $60
Question: Why Don’t Low-Income Families Move to Opportunity?

- Two classes of explanations:

  1. **Preferences**: families may prefer to stay in current neighborhoods because of other amenities (e.g., commute time, proximity to family)

  2. **Barriers**: families may be unable to find housing in high-opportunity areas because of lack of information, search frictions, or landlords’ tastes

- If barriers are what is driving segregation, can we reduce them through changes in affordable housing policy?
Randomized trial to develop and test policy-scalable strategies to reduce barriers housing choice voucher recipients face in moving to high-opportunity areas in Seattle and King County
Outline

1. Program Description and Experimental Design
2. Treatment Effect Estimates
3. Mechanisms
4. Conclusion
Housing Choice Voucher Program: Institutional Background

- 2.2m families in U.S use housing vouchers each year
- Administered by local housing authorities
- Typical features:
  - Income cutoff for eligibility (~30% of area median income)
  - Waitlists: typically 2+ years
  - Limited time to use voucher: typically 4 months
  - Voucher subsidizes tenant’s rent
    - Tenant typically pays 30% of income toward rent and utilities
    - Landlord receives rent up to a cap based on “fair market rent”
  - Inspection process for landlords
Definition of Opportunity Areas

- Experimental intervention seeks to help voucher families move to opportunity areas

- First step: define a set of neighborhoods as “opportunity areas”

- Starting point: identify Census tracts with rates of upward income mobility roughly in top third of distribution within Seattle (SHA) and King County (KCHA)

- Adjust definitions in collaboration with housing authorities to account for two issues:
  - Neighborhood change (using test score data to assess stability)
  - Create contiguous areas
Designation of High-Opportunity Neighborhoods

Seattle City Boundary

High-Opportunity Area
Opportunity Atlas vs. Other Measures of Economic Opportunity

Upward Mobility (Opportunity Atlas)

Kirwan Child Opportunity Index

Population-Weighted Correlation Across Tracts: 0.30
**Treatment Interventions**

- **Customized Search Assistance**
  
  On average, non-profit staff spend **6.3 hours** with each household

- **Direct Landlord Engagement**
  
  52% of rentals in high-opportunity areas made through links via non-profit staff

- **Short-Term Financial Assistance**
  
  Average financial assistance of **$1,100** for security deposits, application fees, etc.

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Program Cost: $2,600 per family issued a voucher
(2.2% of average voucher payments over 7 years)

*Note: Families *not* required to move to high-opportunity areas*
Key Elements in the CMTO Intervention

**CUSTOMIZED SEARCH ASSISTANCE**
- High-opportunity area education to increase families’ knowledge about high-opportunity areas.
- Rental application coaching to increase families’ competitiveness for rental units by addressing credit history and preparing a narrative.
- Housing locator services to help families identify suitable units in high-opportunity areas.

**INCREASED LANDLORD ENGAGEMENT**
- Cultivate relationships with landlords in designated high-opportunity areas to create housing opportunities for CMTO families.
- Expedite lease-up processes by completing PHA required documents and conducting housing inspections more quickly.
- Insurance fund to mitigate risks of property damage.

**SHORT-TERM FINANCIAL ASSISTANCE**
- Grants to defray move-in expenses, such as application fees and security deposits (on average $1,100).
Intervention Process Timeline

**Family Contacted**
Notified of selection from waitlist

**Intake Appointment**
Consent
Randomization
Baseline survey

**Nonprofit Staff Meet with Families and Landlords**
Rental application coaching
Opportunity area education
Visiting locations

**Voucher Issued**

**Unit Selected**
Family approved by landlord for unit

**Lease Signed**

**Lease Up**
Receive paperwork and financial assistance (e.g. assistance for deposit)

**Rental application coaching**

**Opportunity area education**

**Visiting locations**

**Search assistance**

**Landlord recruitment**

**Linking families to units**

**Nonprofit**

**Family Milestone**

**PHA**
# Creating Moves to Opportunity Program Costs

<table>
<thead>
<tr>
<th>A. Total Costs</th>
<th>Average Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of CMTO services per family issued</td>
<td>$2,573</td>
</tr>
<tr>
<td>Cost of CMTO services per family leased</td>
<td>$2,926</td>
</tr>
<tr>
<td>Cost of CMTO services per opportunity move</td>
<td>$4,712</td>
</tr>
<tr>
<td>Cost of CMTO services per family issued / 7-year HAP costs per family</td>
<td>2.2%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>B. Costs by Service Category</th>
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<tbody>
<tr>
<td>Cost of CMTO financial assistance per issuance</td>
<td>$1,070</td>
</tr>
<tr>
<td>Cost of CMTO program services per issuance</td>
<td>$1,500</td>
</tr>
<tr>
<td>Cost of PHA CMTO administration per issuance</td>
<td>$392</td>
</tr>
<tr>
<td>Cost savings of PHA services paid by CMTO</td>
<td>($389)</td>
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<table>
<thead>
<tr>
<th>C. Housing Assistance Payment (HAP) Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incremental HAP cost per lease per year</td>
<td>$2,804</td>
</tr>
<tr>
<td>Incremental HAP / average HAP costs per family</td>
<td>17.0%</td>
</tr>
</tbody>
</table>
Creating Moves to Opportunity Experiment

- Sample frame: families with at least one child below age 15 who were issued vouchers in either Seattle or King County between April 2018 to April 2019

- 421 eligible families in the experiment, split randomly into control (standard services) and treatment
  - Here we use data on 274 families issued vouchers up to December 31, 2018, followed through June 24, 2019
  - 141 treatment families and 133 control families
## Summary Statistics for Experimental Sample

<table>
<thead>
<tr>
<th>Head of Household Characteristics</th>
<th>Pooled Mean</th>
<th>Control Mean</th>
<th>Treatment Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Income</td>
<td>$19,639</td>
<td>$19,932</td>
<td>$19,362</td>
</tr>
<tr>
<td>% Black</td>
<td>50.2</td>
<td>50.8</td>
<td>49.6</td>
</tr>
<tr>
<td>% High School Grad</td>
<td>80.8</td>
<td>75.4</td>
<td>85.8</td>
</tr>
<tr>
<td>Head of Household's Age</td>
<td>34.2</td>
<td>34.2</td>
<td>34.2</td>
</tr>
<tr>
<td>Children’s Mean Age</td>
<td>6.5</td>
<td>6.4</td>
<td>6.6</td>
</tr>
<tr>
<td>% Homeless</td>
<td>13.6</td>
<td>15.2</td>
<td>12.1</td>
</tr>
<tr>
<td>% Currently Working</td>
<td>56.4</td>
<td>63.6</td>
<td>49.6</td>
</tr>
<tr>
<td>% Satisfied with Current Neighborhood</td>
<td>54.2</td>
<td>50.0</td>
<td>58.1</td>
</tr>
<tr>
<td>% Unsatisfied with Any Child's Current School</td>
<td>14.4</td>
<td>16.0</td>
<td>12.8</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>274</td>
<td>133</td>
<td>141</td>
</tr>
</tbody>
</table>

**F-Test for Treat-Control Balance:**

<table>
<thead>
<tr>
<th>F-Statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.053</td>
<td>0.394</td>
</tr>
</tbody>
</table>
Outline

1. Program Description and Experimental Design
2. Treatment Effect Estimates
3. Mechanisms
4. Conclusion
Fraction of Families Who Leased Units in High Opportunity Areas

- Control: 14.3%
- Treatment: 54.3%

Difference: 40.0 pp
SE: (5.2)
Fraction of Families Who Leased Units in High Opportunity Areas

Historical mean rate: 11.6%

Share of Households Who Have Moved to High Opportunity Areas

Control: 14.3%
Treatment: 54.3%
Difference: 40.0 pp
SE: (5.2)
Fraction Who Has Leased *Any* Unit within Six Months of Voucher Issuance

- **Control**: 84.2%
- **Treatment**: 87.8%

Difference: *3.6 pp*
SE: (4.2)
Fraction Who Leased Units in High Opportunity Areas, Given They Moved

- Control: 17.0%
- Treatment: 61.9%

Difference: 44.9 pp
SE: (5.6)
Fraction Who Leased Units in High Opportunity Areas, Given They Moved

Mean Household Income Rank (p=25) in Neighborhood

Difference: **2.1 ranks**
SE: (0.5)
Lifetime Earnings Impact

- Treatment effect estimate of 2.1 percentiles on neighborhood upward mobility.
  - Chetty, Friedman, Hendren, Jones, and Porter (2018) estimate that 62% of the variation in upward mobility is due to causal effects.
  - Only 40% of families were induced to move to high-opportunity neighborhoods by the CMTO treatment.

- Adjusting for these two factors, the causal effect is $2.1 \times \frac{0.62}{0.4} \approx 3.3$ percentiles corresponding to a gain of $3,700 in annual income.

- Projecting over life cycle results in an total lifetime earnings increase of 210,000 (10.4% increase).

- Moving to a high-opportunity area reduces the intergenerational persistence of income by about 24.2%.
Destination Locations for Families that Leased Units Using Housing Vouchers
### Treatment Effects By Race and Ethnicity

#### Percent of Households Who Moved to High Opportunity Areas

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Control</th>
<th>Treatment</th>
<th>Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Non-Hispanic</td>
<td>12.3%</td>
<td>46.2%</td>
<td>33.9 (7.3)</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>10.3%</td>
<td>65.9%</td>
<td>55.6 (10.2)</td>
</tr>
<tr>
<td>Other Race/Ethnicity</td>
<td>23.5%</td>
<td>60.5%</td>
<td>37.0 (10.8)</td>
</tr>
</tbody>
</table>
Tradeoffs in Unit Characteristics

- Are families making sacrifices on other dimensions to move to high-opportunity areas?
Tradeoffs in Neighborhood and Unit Quality
Treatment Effects on Distance Moved and Unit Size

Distance Moved

- Control: 10.6 miles
- Treatment: 10.6 miles

Difference: 0.0 miles
SE: (1.4)

Unit Size

- Control: 1278.8 sq. ft.
- Treatment: 1419.9 sq. ft.

Difference: 141.1 sq. ft.
SE: (110.1)
Satisfaction with New Neighborhoods
Based on Surveys Six Months Post-Move

Satisfaction with New Neighborhood

- Control: 33.3%
- Treatment: 67.9%

Certainty about Wanting to Stay in New Neighborhood

- Control: 20.0%
- Treatment: 52.7%

Difference:
- Satisfaction with New Neighborhood: 34.6 pp (SE: 14.0)
- Certainty about Wanting to Stay in New Neighborhood: 32.7 pp (SE: 12.5)
Implications for Models of Neighborhood Choice

- Experimental results suggest that barriers play a central role in neighborhood choice

- Frictionless model would require that 45% of people happen to have (net) willingness to pay for low-opportunity areas between $0 and $2,600 (cost of treatment)
62% have WTP < $2,600 for low-opportunity neighborhood.

17% have WTP < $0 for low-opportunity neighborhood.

Cumulative Distribution Function (%)

Net Willingness to Pay for Low-Opportunity Area

$2,600 (cost of CMTO program)
Implications for Models of Neighborhood Choice

- Experimental results suggest that barriers play a central role in neighborhood choice

  - Frictionless model would require that 45% of people happen to have (net) willingness to pay for low-opportunity areas between $0 and $2,600 (cost of treatment)

- These barriers could potentially be captured in a standard model of housing search with sufficiently large search costs [e.g., Wheaton 1990; Kennan and Walker 2011]

  - Important to unpack what these costs are to understand how to reduce them
Outline

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What are the barriers families face in moving to higher-opportunity areas?

Qualitative study of 110 families interviewed for two hours each during search process and post-move

Key lessons from these interviews:

1. [Scarcity] Most families have extremely limited time and resources to search 
   [Mullainathan and Shafir 2013]

2. [Customization] Case workers’ ability to respond to each family’s *specific* needs 
   is crucial above and beyond standardized resources
Five Key Mechanisms Underlying the Treatment Effects

1. Emotional Support

2. Increased Motivation to Move to Opportunity

3. Streamlining the Search Process

4. Landlord Brokering

5. Short-Term Financial Assistance
Qualitative Evidence on Mechanisms

Emotional/Psychological Support
“It was this whole flood of relief. It was this whole flood of, “I don’t know how I’m going to do this” and “I don’t know what I’m going to do” and “This isn’t working,” and yeah…I think it was just the supportive nature of having lots of conversations with Megan.” –Jackie

Brokering with Landlords
“When you find a place, I will come with you and we will help you to fill out the application. I will talk with the landlord, I will help you to do a lot of stuff, that maybe sometimes will be complicated.” –Leah

Short-Term Financial Assistance
“I’m not going to be able to pay here and then there [in the new apartment] …They were able to get me more money, so that they would pay more of my first portion of my rent. Because they understood the situation that I was in.” –Jennifer
### Intervention Dosage: Treated Households' Usage of CMTO Services

<table>
<thead>
<tr>
<th></th>
<th>Pooled</th>
<th>Moved to Low Opportunity Tract</th>
<th>Moved to High Opportunity Tract</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>N</td>
</tr>
<tr>
<td>Total hours in contact with non-profit or PHA staff</td>
<td>141</td>
<td>6.31</td>
<td>47</td>
</tr>
<tr>
<td>Percent linked to a unit of a landlord contacted by non-profit staff</td>
<td>141</td>
<td>29.79</td>
<td>47</td>
</tr>
<tr>
<td>Percent that received any financial assistance (%)</td>
<td>141</td>
<td>65.96</td>
<td>47</td>
</tr>
<tr>
<td>Total amount of assistance among families that received financial assistance ($)</td>
<td>92</td>
<td>1640</td>
<td>13</td>
</tr>
</tbody>
</table>
More standardized policies with similar goals of helping families move to higher-opportunity areas have much smaller impacts than CMTO:

1. Information provision
   - Schwartz et al. (2017) and Bergman et al. (2019): RCTs providing information and lighter-touch counseling → order-of-magnitude smaller impacts

2. Financial incentives: Small Area Fair Market Rents
   - Offer larger voucher payments in higher rent areas [Collinson and Ganong 2018]
   - Offer larger voucher payments in higher opportunity neighborhoods
Impacts of Financial Incentives: Evidence From Changes in Rent Payment Standards

- Study two changes in payment standards that preceded CMTO experiment using a difference-in-differences design

  1. March 2016: King County switched from a two-tier to five-tier payment standard, effectively increasing payment standards in more expensive areas of the county

  2. February 2018: Seattle effectively increased payment standards in areas designated as “high opportunity” by making a supplemental payment to families with children
CMTO Has Much Larger Impact on Moves to Opportunity than Small Area Payment Standards

Effect of 5-Tier Reform: -3.59 ranks (5.75)

If voucher holders from KCHA had received CMTO treatment in March 2016

Date of Voucher Issuance

Percent of Households Who Moved to High Opportunity Areas
Effect of SHA Increase in Payment Standards for High-Opportunity Areas in Seattle

Difference-in-Difference Estimate

Note: data shown from May 2018 onward are based on control group in CMTO experiment

Effect of Family Access Supplement: 13.79 pp (5.11)
Impacts of Financial Incentives: Conclusions

- Results suggest that simply providing adequate rental payments to move to higher-opportunity areas is insufficient to induce moves to opportunity.

- Need to provide additional customized support in search process to overcome barriers.
Conclusions

- Economic segregation in the United States appears to be driven not by deep-rooted preferences but rather by small barriers in housing search process.

- Services to reduce barriers to moving can increase moves to opportunity and thereby increased upward mobility substantially.
  
  - Program cost is about $2,600 per family issued a voucher, or $4,700 per opportunity move.
  
  - CMTO is predicted to increase the lifetime household income of each child who moves by **$210,000 (10.4%)**.
  
  - Also predicted to increase college attendance rates, reduce teen birth rates, and reduce incarceration rates significantly.
Next Steps: National Scaling

- Going forward, we plan to partner with other cities to expand CMTO nationally
  - Aim to increase cost-effectiveness of program and better understand mechanisms
- Of course, not all families can move to opportunity → also studying which place-based investments have the biggest impacts on upward mobility in low-opportunity areas
From Jasmine, 7 years old, whose family moved to a high-opportunity area in Seattle

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Appendix Figures
Map of Origin Tracts for Voucher Recipients

- High-Opportunity Area
- Control
- CMTO Treatment
Distribution of Upward Mobility in Destination Tracts
Families Issued Vouchers by King County Housing Authority

- Control
- Treatment
- Mean within PHA
Differences Focused in the Upper Tail of the Neighborhood Quality Distribution

Control vs. Treatment Distribution in Seattle Housing Authority

- Control
- Treatment
- Mean within PHA
Treatment Effects By Income

- **Income < $19,000**
  - Control: 15.9%
  - Treatment: 51.9%
  - Diff.: 36.0 (7.8)

- **Income > $19,000**
  - Control: 13.2%
  - Treatment: 57.9%
  - Diff.: 44.7 (7.3)

Percent of Households Who Moved to High Opportunity Areas
Predicted Treatment Effects on Other Long-Term Outcomes

**Teenage Birth Rates of Children in Adulthood**

- **Control**: 21.6%
- **Treatment**: 16.4%
  
  Difference: \(-5.2 \text{ pp}\)
  
  SE: (1.0)

**Incarceration Rates of Children in Adulthood**

- **Control**: 2.1%
- **Treatment**: 1.6%
  
  Difference: \(-0.5 \text{ pp}\)
  
  SE: (0.2)
Total Rent Paid to Owner

Control: $1,795.23
Treatment: $1,990.00

Difference: $194.77
SE: (72.7)
Comparison Between MTO and CMTO Treatment Effects

Upward Mobility in Destinations
Conditional on Lease-up

Lease-up Rates by Group

Upward Mobility in Destinations
Unconditional on Lease-up
Effects of Voucher Payment Standard Changes on Moves to Neighborhoods with Higher Upward Mobility

Effect of KCHA 5-Tier Reform

Effect of 5-Tier Reform: 0.38 ranks

(0.65)

Date of Voucher Issuance

Mean Household Income Rank (p=25) in New Neighborhood (Forecast)
Effect of Voucher Payment Standard Changes on Moves to Neighborhoods with Higher Upward Mobility

Effect of SHA Family Access Supplement

Date of Voucher Issuance

Mean Household Income Rank (p=25)
In New Neighborhood (Forecast)

- HHs w/ Kids
- HHs w/out Kids

Supplement Introduced
CMTO Pilot

Effect of Family Access Supplement: 1.20 ranks
(0.64)
### Post-Move Treatment Effects on Neighborhood Satisfaction

#### Satisfaction with New Neighborhood

- **Very Dissatisfied**: 4.8% (Control), 2.7% (Treatment)
- **Somewhat Dissatisfied**: 4.8% (Control), 8.0% (Treatment)
- **Neither Satisfied nor Unsatisfied**: 33.3% (Control), 17.3% (Treatment)
- **Somewhat Satisfied**: 28.6% (Control), 12.0% (Treatment)
- **Very Satisfied**: 28.6% (Control), 60.0% (Treatment)

**Difference in % Very Satisfied:** **33.6pp**

**SE:** (11.6)

#### Certainty about Wanting to Stay in New Neighborhood

- **Very Sure Wants to Move**: 35.0% (Control), 15.0% (Treatment)
- **Somewhat Sure Wants to Move**: 6.6% (Control), 11.8% (Treatment)
- **In the Middle**: 15.0% (Control), 10.0% (Treatment)
- **Somewhat Sure Wants to Stay**: 15.8% (Control), 20.0% (Treatment)
- **Very Sure Wants to Stay**: 20.0% (Control), 47.4% (Treatment)

**Difference in % Very Sure Want to Stay:** **29.5pp**

**SE:** (10.7)
Changes to King County Housing Authority Payment Standards in March 2016

Increase in Max Rent for 2BR Apt.