

Information Frictions in Rental Voucher Programs: Experimental Evidence from Chile

Pablo Celhay
Universidad Católica

Javiera Selman
Universidad de Chile

Hugo E. Silva
Universidad Católica

Motivation

- Recent evidence for the US Housing Choice Voucher Program shows that 40% of rental voucher holders fail to use their benefits. (Ellen, O'Regan, & Strohach, 2024)
- The reasons why families, who applied and waited for a rental voucher, ultimately gave up to such a generous benefit remain unknown.
- In traditional welfare programs, imperfect take-up has been attributed to large transaction costs, stigma, and lack of information about benefits, rules and application procedures. (Bertrand, Mullainathan, & Shafir, 2004; Bhargava & Manoli, 2015; Chareyron, Domingues, & Lieno-Gaillardon, 2021; Currie, 2006; Giannella, Homonoff, Rino, & Somerville, 2024; Mani, Mullainathan, Shafir, & Zhao, 2013; Moffitt, 1983; Shah, Mullainathan, & Shafir, 2012)
- While some of these barriers may apply to rental vouchers, additional demand and supply-side barriers may emerge from housing search in the private rental market.

Motivation

- The economic literature, motivated by large positive neighborhood effects, has focused on understanding barriers to neighborhood choice for rental voucher holders instead of the barriers to unconditional voucher utilization. (Aliprantis, Martin, & Tauber, 2020; Bergman et al., 2023; DeLuca & Rosenblatt, 2017; Kling, Liebman, & Katz, 2007; Schwartz, Mihaly, & Gala, 2017)
- Recent evidence on housing mobility programs suggests that families need assistance to use their vouchers in high-opportunity areas. Intensive customized counseling seems to work by supporting and motivating families throughout the housing search process. (Bergman et al., 2023; Galiani, Murphy, & Pantano, 2015; Shroder, 2002)
- Intensive customized counseling is expensive and have not changed (already high) lease-up rates. By combining services, it is difficult to disentangle barriers to design cost-effective policies to increase voucher utilization. (Bergman et al., 2023)
- Understanding take-up barriers and their impact on different groups of voucher holders is key for designing cost-effective policies and assessing the welfare implications of rental voucher programs.

This Research

We use a large-scale experiment in Chile to study one type of demand-side barrier to voucher utilization: information frictions.

- Do families lack information about how to use their vouchers, positive neighborhood effects on children, and neighborhood characteristics?
- Does a light-touch online counseling program providing information to reduce these barriers increase voucher utilization?

This Research

- In March 9th 2022, we launched the light-touch online counseling platform “*Aprendo y Arriendo*” (Learn and Rent).
- Through the platform, we randomly varied access to information for 11,149 rental voucher recipients who had not used their vouchers into four groups:
 - T1: Voucher status, lease-up instructions, Q&A, Blog, frequent reminders encouraging platform and voucher use.
 - T2: T1+ video explaining the benefits of growing up in better neighborhoods for children (almost the entire sample has children)
 - T3: T2 + “*Neighborhood Browser*”, where they can search for any location and learn its characteristics.
 - C: Pure control
- *A&A* was online but tried hard to provide support, help and motivate families to search on their own, use their vouchers and live in better neighborhoods.

Preview of Preliminary Results

1. *A&A* generated a large short-run increase on lease attempts and successful lease-ups that persisted over time.
 - 4 and 24 months after the intervention, *A&A* increased total lease attempts by 6.0 pp (33%) and 5.5 pp (14%).
 - Effects on successful lease-ups were smaller but also significant: 3.4 pp (24.2%) in the first 4 months and 4.3 pp (11.9%) after 24 months.
2. Counseling did not lead to a higher rate of unsuccessful lease activations i.e. it did not increase administrative burden for local housing authorities.
3. *A&A* did not significantly affect rents, housing, or neighborhood satisfaction. However, it did improve access to amenities such as child care, schools, health care, public transportation, and parks.

Preview of Preliminary Results

4. We found statistically significant differences across treatment arms:
 - In the first few months, providing the most basic information (T1) proved to be the most effective form of counseling.
 - In the long run, encouraging families to use their voucher in better areas without informing neighborhood characteristics (T2) was the least effective treatment.

To further study these results, we develop a decision-making model under uncertainty, and analyze survey and platform data.

5. We found that neighborhood information changed search behavior of rental voucher holders.
 - It increased search in high quality neighborhoods, where it is less likely to find an eligible unit.

Contribution

- **Incomplete take-up of social programs** (Bhargava & Manoli, 2015; Carneiro, Flores, Galasso, Ginja, & de Paula, 2016; Currie, 2006; Giannella et al., 2024; Goldin, Homonoff, Javaid, & Schafer, 2022)
 - We study a different type of program, that provides benefits through the private market, and found important information frictions, that interact with supply side barriers.
- **Barriers to rental voucher utilization** (Bergman, Chan, & Kapor, 2020; Bergman et al., 2023; Collinson & Ganong, 2018; DeLuca & Rosenblatt, 2017; Ellen et al., 2024; Kling et al., 2007; Schwartz et al., 2017):
 - We focus on voucher use and quantify specific demand-side barriers.

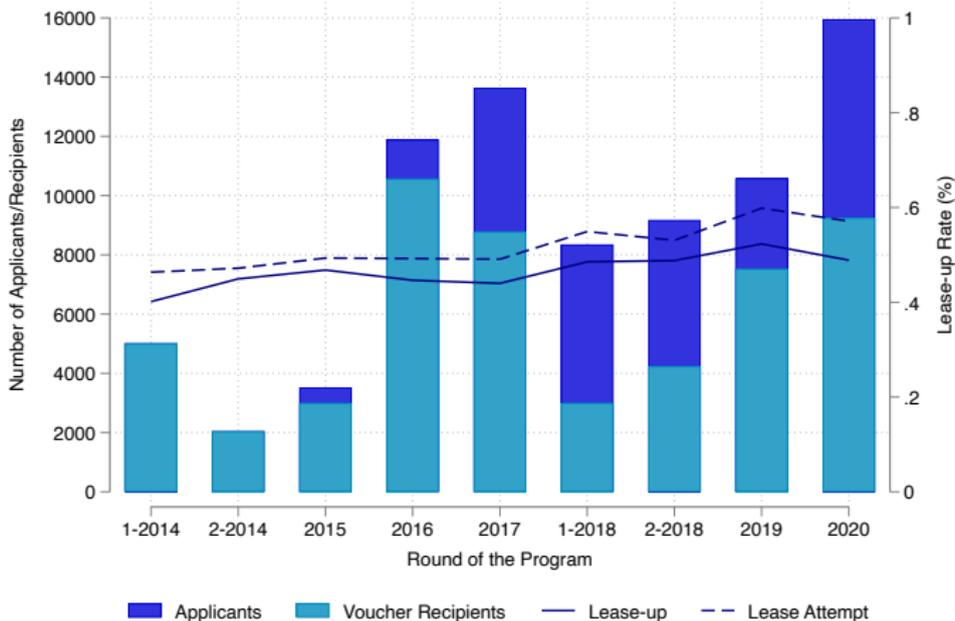
Today's Agenda

1. The Chilean Rental Subsidy
2. Experimental Design
3. Data
4. Results
5. Conclusion

The Chilean Rental Voucher

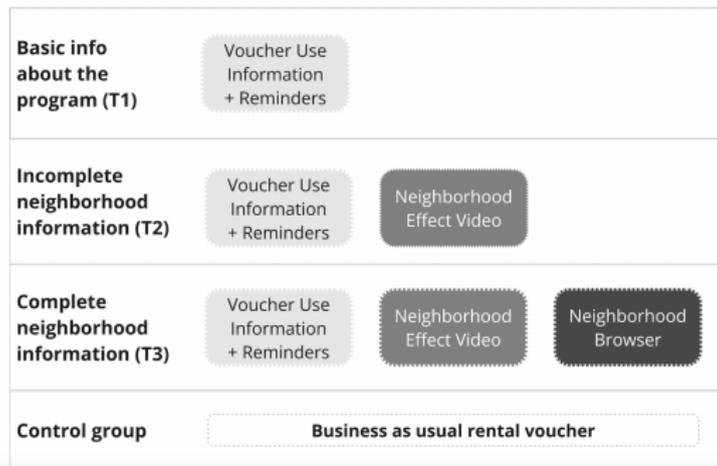
- Targets 18 or older hh in the bottom 70% of the national vulnerability index (RSH), with family income between US\$270-US\$900 and at least US\$155 in savings to buy a house.
- Provides US\$6,500 in fixed monthly installments of US\$167 to pay rents below the national rent payment standard (US\$420) for 3 years. Voucher \leq 80% rent. Higher payment standard (US\$498) and voucher (US\$187) in the extreme north, south and Santiago.
- Voucher recipients have 24 months to find an eligible unit (minimum size, certificates and legal documents) and a landlord (not a extended family member) willing to participate in the program in the private market.
- No rent negotiation or pre-rent inspection. MINVU collects co-payment and transfers the entire rent amount to the landlord.
- Doubled-up families need to move. Tenants can lease-up in place if the unit and the landlord met the requirements.

Rental Voucher Utilization



Regions

Experimental Design



Randomization: stratified by region, assignment period (July 29th, Oct 21st, Dec 9th and 30th), tenure, children in school age, baseline survey response (online).

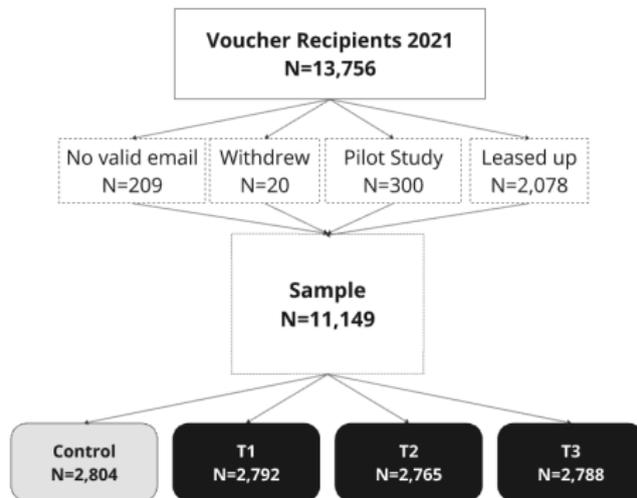
Sample

11,149 from the 2021 round of vouchers with a valid email who had not leased up by March 9th 2022.

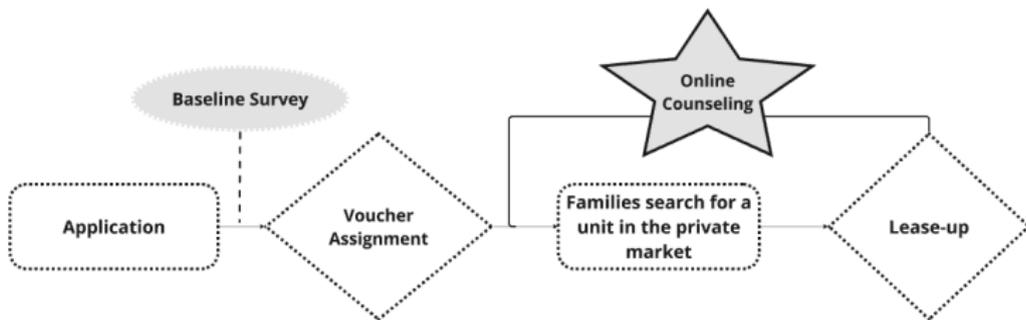
Balance in multiple baseline characteristics using admin and survey data, including previous lease attempt.

Families with potentially stronger barriers: more recent applicants, families that cannot lease-up in place, in Santiago and in counties with no PHA. Very small differences in socioeconomic characteristics.

Balance



Intervention Timeline



- Fieldwork launched on March 9th 2022. Last reminder sent on July 26th.

Information Design: Lack of information about the program

Voucher Status: "Do you know you hold a voucher?"

Clear guidance to lease up and a Q&A section clarifying rules

New communication channel: answers to questions via WhatsApp, email or the platform were posted in a Blog.

Frequent (weekly or bi-weekly) reminders.

¡Hola Laura Marshall!

¿Sabes que eres beneficiario del Subsidio de Arriendo? ¿Sabes cómo usarlo?

Te presentamos **Aprende y Arrienda**, el NUEVO sitio web para beneficiarios del Subsidio de Arriendo.

Al ingresar encontrarás información relevante para utilizar tu subsidio y podrás enviarnos tus consultas. También podrás aprender sobre los lugares donde te gustaría usar TU Subsidio de Arriendo en el NUEVO Navegador de Barrios.

(Todo en un solo lugar! Usa tu subsidio y arrienda en el mejor barrio posible para ti y tu familia.

Para ingresar aprieta el botón "Ingresa acá".

[Ingresa Acá](#)

(Más informados y más conectados!
¡No te quedes sin usar TU beneficio!

Atentamente,

Equipo Subsidio de Arriendo

www.inec.cl/ | informacion@inec.cl

Si deseas consultar la veracidad de este correo y al contenido ingresa a <https://www.inec.cl/> o inec@subsidio.de.arriendo.cl

WhatsApp: +56948877022
inec@subsidio.de.arriendo.cl

Aprende y Arrienda

Toda la información para activar TU Subsidio de Arriendo en un solo lugar

¡Regístrate por WhatsApp, así te avisamos todo por mensaje sobre posturas, subsidios, convocatorias y Barrios. ¡No te pierdas nada! ¡Inscríbete ya en el Blog de Programas!

¿Cómo funciona el Subsidio de Arriendo?

El Subsidio de Arriendo es un beneficio que permite a las personas que cumplen con los requisitos económicos y familiares, acceder a un subsidio que les permite pagar menos por el alquiler de un departamento o casa en un barrio que les interesa vivir.

La persona que recibe el subsidio debe utilizarlo en un barrio que sea de su interés, y que cumpla con los requisitos del programa. El subsidio se aplica a la renta mensual del departamento o casa que se alquila.



Paso a Paso para utilizar TU Subsidio de Arriendo

- 1** Recibir tu tarjeta de identidad por correo. No debes usar el Programa Pre-arriendo de subsidio de arriendo.
- 2** Recibir tu tarjeta de identidad por correo. No debes usar el Programa Pre-arriendo de subsidio de arriendo.
- 3** En el sitio web de arriendo de tu barrio de Arriendo, en el menú de "TU Subsidio de Arriendo", clickear en "TU Subsidio de Arriendo".
- 4** Ingresar tus datos del subsidio de arriendo. Verificar que los datos sean correctos y guardarlos.
- 5** Recibir tu correo de confirmación de tu Subsidio de Arriendo. Aplicarlo en el GBA. Verificar que los datos sean correctos y guardarlos.
- 6** Recibir tu correo de confirmación de tu Subsidio de Arriendo. Aplicarlo en el GBA. Verificar que los datos sean correctos y guardarlos.

Preguntas Frecuentes [¿Cómo funciona el subsidio de arriendo?](#)

Information Design: Lack of information about neighborhood characteristics

Survey data and qualitative research to determine relevant information and effective design.

It includes neighbor's age and education, school quality, luminosity, and access to services (health care, schools, police stations, groceries, bakeries, pharmacies, green areas, banks/ATM).

More

The top screenshot shows a survey titled "¿Qué características tiene el entorno?" (What characteristics does the environment have?). It includes a header for "Municipalidad de Valdivia" and a "Inicio" button. Below the header is a photo of a park. The survey questions are:

- ¿Qué características tiene su escuela? (What characteristics does your school have?)
- ¿Cómo es el entorno público que rodea este espacio? (How is the public environment that surrounds this space?)
- ¿Qué porcentaje SÍ/NO tiene las respuestas de los siguientes parámetros? (What percentage YES/NO do the answers of the following parameters have?)

The bottom screenshot shows a map titled "¿Qué servicios tiene este entorno?" (What services does this environment have?). It includes a header for "Municipalidad de Valdivia" and a "Inicio" button. Below the header is a map of a neighborhood with various service icons. A legend on the right lists the services:

- Acción social
- Facilidades recreativas - niños y jóvenes
- Establecimientos educativos - adultos
- Establecimientos de salud
- Parqueadero
- Paseos
- Supermercados
- Viveros/árboles
- Farmacias
- Carabineros

Identification

$$Y_i = \beta_0 + \beta_1 T_i + X_i' \delta + \phi_s + \epsilon_i \quad (1)$$

$$Y_i = \alpha_0 + \sum_{j=1}^3 \alpha_j T_{j,i} + X_i' \delta + \phi_s + \epsilon_i \quad (2)$$

- Y_i outcome variable. X_i baseline covariates used in balance tests and ϕ_s are dummies for each randomization strata.
- Parameter of interest (β_1, α_j) are Intention to Treatment Effects.

Outcome Data

- Monthly administrative data on all lease attempts, successful and unsuccessful, 2 to 24 months after treatment.
 - 6,331 leases created in Minvu's platform after treatment; 19.3% failed to be activated.
 - Failed attempts explained by supply-side barriers: the unit or the landlords did not meet the requirements, or the landlord decided not to participate.
- To measure additional outcomes and uncover mechanisms:
 - We implemented a follow up survey between Sept 15th and Nov 15th, 2022. 60% response rate, higher among the control group but groups remained balanced.
 - We tracked all the activity in the platform (opened email, link, time spent, etc.).

Attrition Follow-up

Balance Follow-up

Compliance

	Email Opened (1)	Clicked Link (2)
All Treat	0.972*** (0.002)	0.790*** (0.005)
Treat 1	0.974*** (0.003)	0.811*** (0.007)
Treat 2	0.971*** (0.003)	0.780*** (0.008)
Treat 3	0.969*** (0.003)	0.779*** (0.008)
T1=T2=T3	0.625	0.002
Observations	11,149	11,149

Different emails by treatment arm: take-up is defined as having opened the email. No statistical differences across groups.

Short and long-run effects on voucher utilization

	Lease Attempt		Successful Lease-up	
	4 months (1)	24 months (2)	4 months (3)	24 months (4)
All Treat	0.060*** (0.009)	0.055*** (0.011)	0.035*** (0.008)	0.043*** (0.010)
Treat 1	0.075*** (0.011)	0.057*** (0.013)	0.048*** (0.010)	0.045*** (0.013)
Treat 2	0.051*** (0.011)	0.037*** (0.013)	0.034*** (0.010)	0.032** (0.013)
Treat 3	0.055*** (0.011)	0.071*** (0.013)	0.022** (0.009)	0.052*** (0.013)
T1=T2=T3	0.087	0.049	0.038	0.321
N	11,149	11,149	11,149	11,149
Control Mean	0.18	0.40	0.14	0.36
Strata	YES	YES	YES	YES
Add. Controls	YES	YES	YES	YES

A&A increased lease attempts by 6 pp (33.3%) and successful lease-up by 3.4 pp (24.2%) in 4 months. Differences across treatment arms, persistent for lease attempts.

Short and long-run effects on voucher utilization

- *A&A* did not increase the share of unsuccessful lease attempts:
 - After four months, 43% of the attempts by both the control and treatment groups were unsuccessful. This share dropped to 19% by the end of the period.
- *A&A* provided valuable information otherwise unavailable to rental voucher holders without increasing the administrative burden on local housing authorities.

Unsuccessful lease attempts

Residential Mobility, Housing, and Neighborhood Outcomes (Survey Data)

Increased voucher utilization can result from additional families leasing their current unit or relocating to an eligible unit.

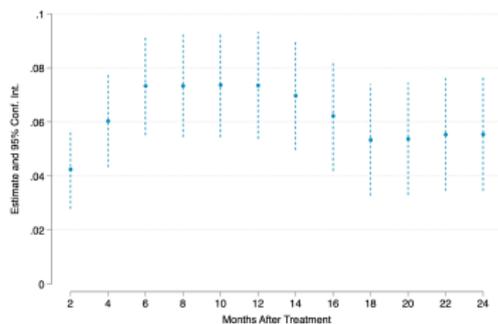
- Six to eight months post-treatment, *A&A* increased residential mobility by 2 pp (14%) and leased up in place by 4.7 pp (19%).
- *A&A* did not affect rents, housing, or neighborhood satisfaction, but it did improve access to amenities such as child care, schools, health care, public transportation, and parks.

Search and Residential Mobility

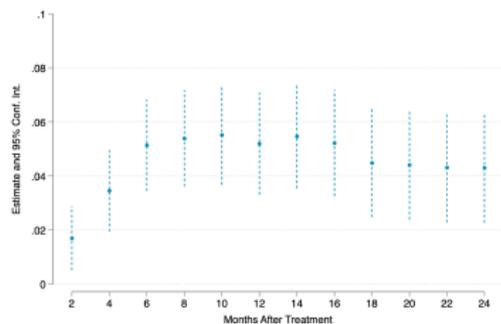
Tenure, Rents and Neighborhood Outcomes

Voucher Use (Survey)

Event Study: Pooled Treatment



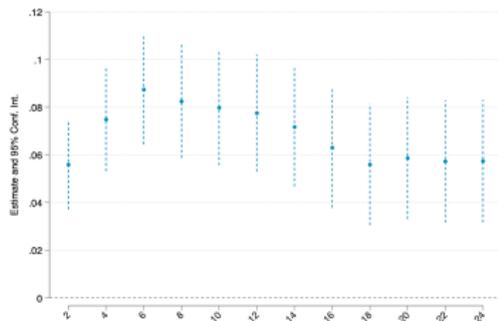
(a) Lease Attempts



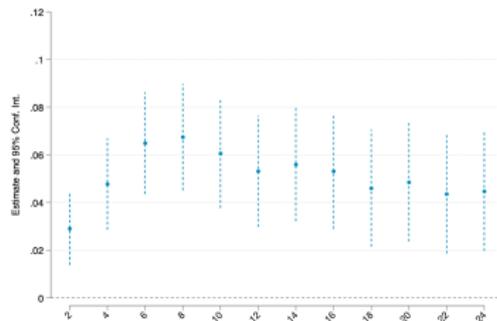
(b) Successful Lease-up

Effects increased in the first six months and persisted over time without much variation. By the sixth month, lease attempts increased by 7.3 pp (33%) and successful lease-up by 5.1 pp (28%).

Event Study: Most Basic Information (T1)



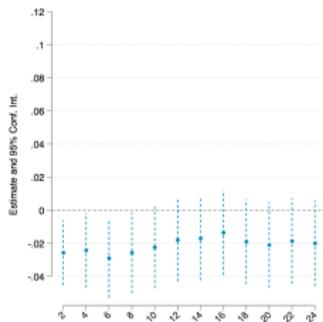
(a) Lease Attempts



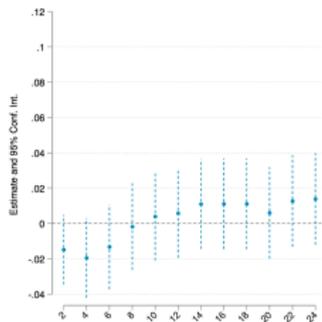
(b) Successful Lease-up

In the first six months, T1 increased lease attempts by 8.7 pp (39.3%) and successful lease-up by 6.4 pp (35%).

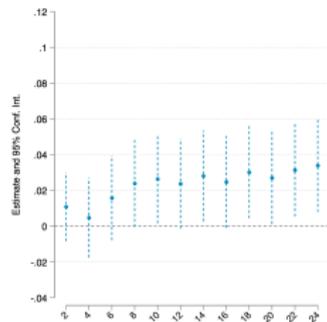
Treatment Arm Heterogeneity: Lease Attempts



$$H_0 : \delta_{T_2} - \delta_{T_1} = 0$$



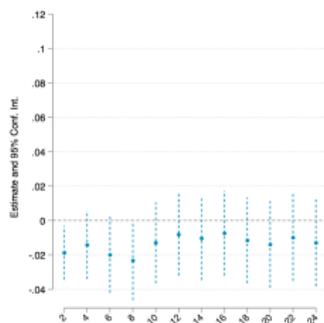
$$H_0 : \delta_{T_3} - \delta_{T_1} = 0$$



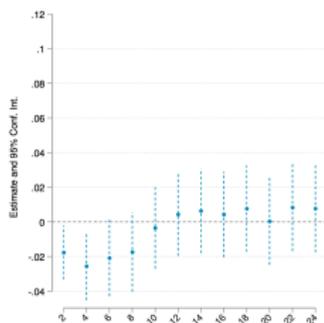
$$H_0 : \delta_{T_3} - \delta_{T_2} = 0$$

- T2 had a smaller effect than T1 throughout the entire period, although differences were not statistically significant after the first year.
- While the gap between T3 and T2 widens over time, differences between T3 and T1 disappeared after four months.

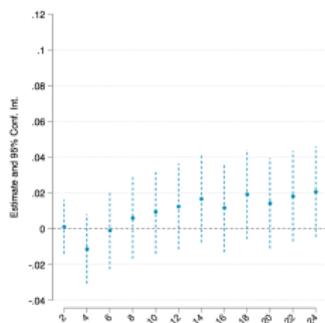
Event Study: Treatment Arm Heterogeneity on Successful Lease-up



$$H_0 : \delta_{T_2} - \delta_{T_1} = 0$$



$$H_0 : \delta_{T_3} - \delta_{T_1} = 0$$



$$H_0 : \delta_{T_3} - \delta_{T_2} = 0$$

- Differences between T3 and T1 lasted longer. However, differences across groups were not statistically significant after 8 months.

Event Study: Treatment Arm Heterogeneity

- Differences between treatment groups receiving neighborhood information (T2 and T3) and basic information (T1) may be explained by different behavioral responses.
 - Compared to T1, receiving incomplete neighborhood information (T2) reduced the likelihood of attempting to lease.
 - Compared to T1, receiving complete neighborhood information (T3) did not significantly change the likelihood of attempting to lease, yet it reduced the likelihood of finding an eligible unit.

Mechanisms: How did *A&A* increased voucher utilization?

The platform likely increased voucher utilization through three key channels:

- 1 Initial email may have raised voucher status awareness.
- 2 Constant reminders could have motivated voucher use.
- 3 Gained valuable information in the platform.

Data:

- Awareness about voucher status increased by 19.1 pp (28%). No variation across treatment groups.
- We cannot isolate the effect of reminders but all groups received the same number of reminders.
- *A&A* significantly increased awareness about leasing steps, and unit and landlord requirements. No variation across treatment groups.

Information

Mechanisms: Why did T1 have the largest short-term effect?

1. The complexity of the additional neighborhood information may have overwhelmed participants, impacting platform engagement.
2. Neighborhood information may have updated voucher holders' beliefs about neighborhoods or the subsidy, impacting search behavior differently from T1.

Data:

- Neighborhood information significantly reduced engagement with basic program content, especially the *Neighborhood Browser*.
- Neighborhood information significantly increased participants' beliefs that the subsidy provided access to better housing and neighborhoods.
- Significant differences in search behavior across groups: while T1 primarily encouraged lease attempts in their current home, T2 and T3 were more likely (3 pp and 4.6 pp) to conduct searches.

Platform experience

Search behavior survey

Information

Mechanisms: Why did T2 have the smallest effect in the long run?

1. T2 may have been particularly challenging due to its incomplete nature, which might have led recipients to perceive voucher utilization as less likely to yield positive results.
2. While cognitively demanding, the *Neighborhood Browser* may have helped overcome the initial complexity or reduced uncertainty about the benefits of different neighborhoods, increasing search effort.

Data:

- T2 was more likely to move but less likely to sign a formal lease. Notably, it was the only group that improved neighborhood characteristics.
- T3 recipients were searching for a longer period of time, searched farther away, and ended up living closer to family members.

Search behavior survey

Search time admin

Search behavior admin

Discussion

- Many families gave up their rental vouchers due to a lack of information about the program.
- A light-touch online counseling program effectively reduced these barriers and increased voucher utilization without increasing PHA's administrative burden.
- Families also lack neighborhood information. However, informing families about neighborhood effects without informing their characteristics may discourage voucher utilization.
- Online assistance is a cost-effective tool to increase voucher utilization, but understanding additional barriers is crucial to tailoring assistance effectively. There is no one-size-fits-all solution to increasing voucher utilization.

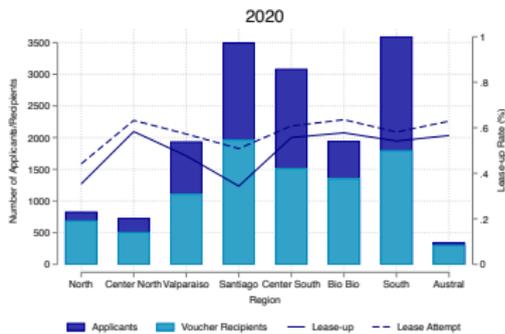
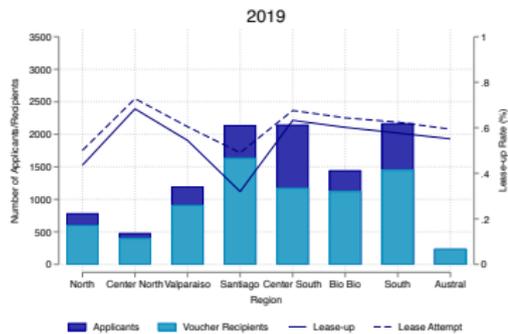
Next steps

- Working on the model, which predictions will guide the heterogeneity analysis
- Preparing new survey data collection to further understand long-term effects on search behavior and neighborhood characteristics.

Thanks!

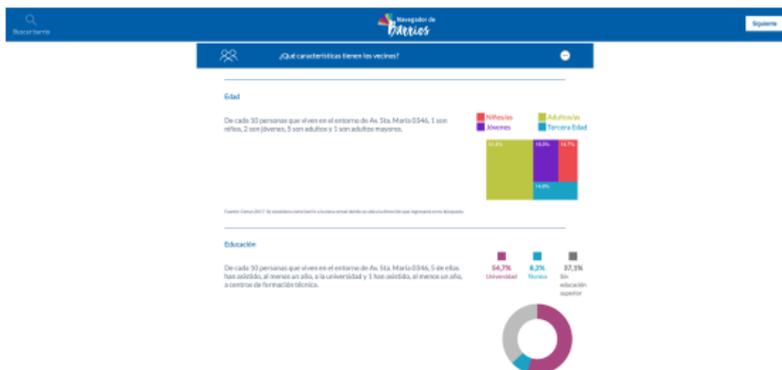
jselman@fen.uchile.cl

Rental Voucher Utilization



Go Back

Information Design: Lack of information about neighborhood characteristics



Go back

Balance [Go back](#)

	Mean C (1)	Mean T1 (2)	Mean T2 (3)	Mean T3 (4)	T vs C (5)	T1-T2-T3(p) (6)
Female	0.820 (0.385)	0.828 (0.377)	0.820 (0.384)	0.830 (0.376)	0.006 (0.008)	0.639
Age	34.958 (10.452)	34.687 (10.285)	34.727 (10.370)	34.739 (10.415)	-0.197 (0.220)	0.997
Married	0.191 (0.393)	0.188 (0.391)	0.192 (0.394)	0.186 (0.389)	-0.003 (0.006)	0.934
Migrant	0.137 (0.344)	0.152 (0.359)	0.147 (0.354)	0.156 (0.363)	0.156 (0.007)	0.014**
Family size	2.909 (0.966)	2.906 (0.956)	2.897 (0.969)	2.903 (0.959)	-0.011 (0.017)	0.908
Child 0-5	0.517 (0.500)	0.532 (0.499)	0.512 (0.500)	0.524 (0.499)	0.007 (0.009)	0.343
Elder	0.024 (0.153)	0.023 (0.151)	0.018 (0.133)	0.024 (0.153)	-0.001 (0.003)	0.268
Disability	0.037 (0.186)	0.030 (0.170)	0.025 (0.163)	0.032 (0.175)	-0.004 (0.004)	0.541
Income (UF)	13.871 (5.995)	13.824 (6.064)	13.911 (6.094)	13.692 (6.064)	-0.058 (0.129)	0.206
Savings (UF)	23.875 (29.495)	24.257 (30.500)	22.741 (31.730)	23.672 (30.262)	-0.492 (0.648)	0.166
40% RSH	0.926 (0.262)	0.909 (0.288)	0.915 (0.276)	0.921 (0.269)	-0.010* (0.006)	0.148
House	0.638 (0.461)	0.633 (0.462)	0.628 (0.463)	0.642 (0.479)	-0.004 (0.010)	0.478
Formal shelter	0.779 (0.415)	0.768 (0.422)	0.775 (0.418)	0.775 (0.418)	-0.008 (0.009)	0.801
Basic Sanitation	0.888 (0.315)	0.885 (0.319)	0.880 (0.325)	0.886 (0.318)	-0.005 (0.007)	0.668
Not crowded	0.610 (0.488)	0.595 (0.491)	0.607 (0.488)	0.595 (0.491)	-0.009 (0.009)	0.494
No geocoded location	0.107 (0.309)	0.106 (0.308)	0.119 (0.324)	0.115 (0.319)	0.006 (0.007)	0.287
Days to assignment	85.790 (47.436)	86.662 (48.822)	87.306 (48.816)	85.675 (48.878)	0.580 (0.750)	0.265
Online	0.835 (0.371)	0.834 (0.372)	0.829 (0.376)	0.840 (0.367)	-0.000 (0.008)	0.481
Created a lease pre-AyA	0.061 (0.239)	0.072 (0.299)	0.068 (0.252)	0.057 (0.231)	0.005 (0.005)	0.033
Prior Application	0.119 (0.324)	0.111 (0.314)	0.106 (0.308)	0.112 (0.315)	-0.009 (0.006)	0.692
Score	368.418 (83.296)	368.680 (83.187)	366.647 (81.236)	369.331 (82.686)	-0.234 (1.403)	0.321
PHA in the County	0.483 (0.500)	0.471 (0.496)	0.484 (0.500)	0.455 (0.498)	-0.010 (0.010)	0.055
Observations	2,804	2,792	2,765	2,788	11,149	11,149
Test F (p)	0.601					

Table 1: Balance

Balance Strata

[Go back](#)

	Mean C (1)	Mean T1 (2)	Mean T2 (3)	Mean T3 (4)	T vs C (5)	T1=T2=T3(p) (6)
Child 6-18	0.621 (0.485)	0.622 (0.485)	0.625 (0.484)	0.624 (0.484)	0.003 (0.011)	0.982
Tenant	0.720 (0.449)	0.718 (0.450)	0.720 (0.449)	0.721 (0.448)	0.000 (0.010)	0.973
Santiago	0.256 (0.436)	0.260 (0.439)	0.252 (0.434)	0.259 (0.438)	0.001 (0.010)	0.736
Voucher: July 29th	0.160 (0.366)	0.162 (0.368)	0.160 (0.367)	0.161 (0.367)	0.001 (0.008)	0.979
Voucher: October 21st	0.216 (0.412)	0.213 (0.410)	0.216 (0.411)	0.212 (0.409)	-0.003 (0.009)	0.938
Voucher: December 9th	0.397 (0.489)	0.394 (0.489)	0.394 (0.489)	0.399 (0.490)	-0.001 (0.011)	0.916
Voucher: December 30th	0.227 (0.419)	0.231 (0.421)	0.230 (0.421)	0.229 (0.420)	0.003 (0.009)	0.985
Responded BS	0.803 (0.398)	0.795 (0.404)	0.798 (0.401)	0.797 (0.403)	-0.006 (0.009)	0.961
Observations	2,804	2,792	2,765	2,788	11,149	11,149

Table 2: Balance in variables used in stratification

Attrition

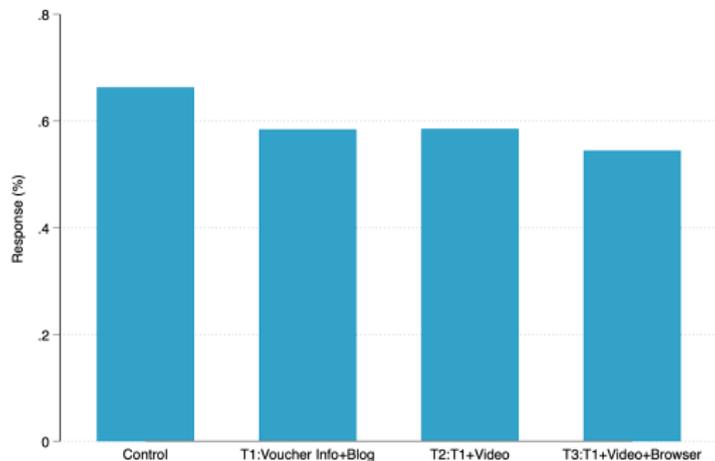


Figure 5: Follow up Sample Attrition

Go back

Balance Follow-up Survey [Go back](#)

	Mean C (1)	Mean T1 (2)	Mean T2 (3)	Mean T3 (4)	T vs C (5)	T1-T2-T3(p) (6)
Female	0.823 (0.382)	0.841 (0.396)	0.832 (0.374)	0.847 (0.361)	0.014 (0.010)	0.723
Age	34.963 (9.780)	34.770 (9.683)	34.536 (9.346)	34.480 (9.362)	-0.374 (0.262)	0.437
Married	0.194 (0.396)	0.181 (0.385)	0.195 (0.396)	0.186 (0.389)	-0.006 (0.011)	0.364
Migrant	0.161 (0.368)	0.170 (0.376)	0.178 (0.383)	0.178 (0.382)	0.109 (0.010)	0.553
Family size	2.955 (0.987)	2.929 (0.980)	2.944 (0.987)	2.954 (0.944)	-0.025 (0.022)	0.602
Child 0-5	0.516 (0.500)	0.527 (0.499)	0.510 (0.500)	0.522 (0.500)	0.007 (0.012)	0.404
Elder	0.026 (0.159)	0.023 (0.151)	0.021 (0.143)	0.022 (0.146)	-0.003 (0.004)	0.744
Disability	0.033 (0.178)	0.029 (0.169)	0.033 (0.180)	0.025 (0.156)	-0.003 (0.005)	0.287
Income (UF)	13.959 (6.095)	14.020 (6.183)	14.007 (5.990)	13.835 (5.931)	-0.081 (0.165)	0.566
Savings (UF)	23.302 (29.290)	23.573 (29.645)	22.030 (28.241)	23.417 (30.878)	-0.326 (0.794)	0.142
40% RSH	0.925 (0.283)	0.904 (0.295)	0.915 (0.279)	0.913 (0.282)	-0.014* (0.007)	0.731
House	0.643 (0.479)	0.631 (0.483)	0.628 (0.494)	0.628 (0.483)	-0.012 (0.013)	0.830
Formal shelter	0.789 (0.408)	0.774 (0.418)	0.756 (0.410)	0.777 (0.416)	-0.007 (0.011)	0.851
Basic Sanitation	0.895 (0.307)	0.882 (0.322)	0.878 (0.327)	0.892 (0.311)	-0.011 (0.009)	0.473
Not crowded	0.605 (0.489)	0.607 (0.489)	0.606 (0.489)	0.582 (0.493)	-0.009 (0.012)	0.284
No geocoded location	0.101 (0.302)	0.107 (0.309)	0.119 (0.324)	0.113 (0.316)	0.014* (0.000)	0.532
Days to assignment	85.145 (61.390)	87.947 (61.842)	87.532 (61.765)	86.006 (61.265)	2.217** (0.943)	0.512
Online	0.842 (0.364)	0.851 (0.356)	0.847 (0.360)	0.850 (0.307)	0.007 (0.010)	0.955
Created a lease pre-AyA	0.074 (0.281)	0.090 (0.286)	0.083 (0.276)	0.061 (0.240)	0.004 (0.007)	0.001
Prior Application	0.114 (0.317)	0.101 (0.301)	0.103 (0.304)	0.106 (0.308)	-0.009 (0.008)	0.702
Score	368.986 (83.921)	367.621 (83.573)	367.126 (80.836)	370.774 (82.208)	-0.731 (1.760)	0.439
PHA in the County	0.477 (0.500)	0.470 (0.499)	0.495 (0.500)	0.453 (0.498)	-0.003 (0.013)	0.093
Observations	1,859	1,631	1,618	1,518	6,626	6,626
Test F (p)	0.248					

Balance in Follow-up Sample

Share of unsuccessful lease attempts

	4 months (1)	24 months (2)
All Treat	-0.002 (0.024)	0.001 (0.013)
Treat 1	-0.012 (0.028)	0.003 (0.016)
Treat 2	-0.005 (0.029)	-0.003 (0.016)
Treat 3	0.012 (0.029)	0.002 (0.016)
T1=T2=T3	0.640	0.909
N	2,415	4,830
Control Mean	0.43	0.19
Strata	YES	YES

[Go Back](#)

Follow-up Survey

Outcome	N	Control Mean	All Treat	Treat 1	Treat 2	Treat 3	T1=T2=T3	T1=T2	T2=T3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lease up 4m	11,149	0.14	0.035*** (0.008)	0.048*** (0.010)	0.034*** (0.010)	0.022** (0.009)	0.038	0.186	0.217
Lease up 6m	11,149	0.18	0.051*** (0.009)	0.065*** (0.011)	0.045*** (0.011)	0.044*** (0.011)	0.116	0.089	0.848
Lease up 8m	11,149	0.21	0.054*** (0.009)	0.067*** (0.011)	0.044*** (0.011)	0.050*** (0.011)	0.129	0.055	0.693
Current Voucher Use	4,284	0.28	0.108*** (0.015)	0.141*** (0.020)	0.105*** (0.020)	0.076*** (0.020)	0.016	0.106	0.214

[Go back](#)

Outcome	N (1)	Control Mean (2)	All Treat (3)	T1 (4)	T2 (5)	T3 (6)	T1=T2=T3 (7)	T1=T2 (8)	T1=T3 (9)
Leased up in Place	5,016	0.253	0.047 (0.014)*** 0.006***	0.064 (0.018)*** 0.003***	0.041 (0.018)** 0.047**	0.035 (0.018)* 0.086*	0.278	0.225	0.131
Move: Diff Unit	5,446	0.145	0.020 (0.011)* 0.086*	0.018 (0.014) 0.147	0.026 (0.014)* 0.086*	0.017 (0.014) 0.156	0.809	0.585	0.960
Ask their landlord	4,827	0.863	0.041 (0.011)*** 0.003***	0.055 (0.012)*** 0.001***	0.027 (0.013)** 0.075*	0.039 (0.013)*** 0.015**	0.065	0.021	0.173
Conducted search	5,637	0.597	0.023 (0.014) 0.125	-0.006 (0.018) 0.354	0.030 (0.018)* 0.119	0.046 (0.018)** 0.038**	0.017	0.052	0.006
Current search	5,723	0.529	-0.009 (0.015) 0.095*	-0.041 (0.018)** 0.006***	-0.002 (0.018) 0.155	0.019 (0.019) 0.056*	0.007	0.044	0.002
Landlord will to accept (new)	3,360	0.579	-0.048 (0.020)** 0.047**	-0.034 (0.025) 0.147	-0.046 (0.025)* 0.090*	-0.065 (0.025)** 0.038**	0.498	0.641	0.240
Search: Diff County	3,425	0.229	-0.011 (0.016) 0.272	-0.030 (0.020) 0.141	-0.025 (0.020) 0.149	0.022 (0.021) 0.183	0.031	0.842	0.016
Search: Same Neigh	3,425	0.600	0.023 (0.019) 0.156	0.056 (0.024)** 0.047**	0.002 (0.024) 0.372	0.010 (0.024) 0.349	0.063	0.029	0.066

[Go Back Outcomes](#)
[Go Back Mechanisms](#)

Outcome	N (1)	Control Mean (2)	All Treat (3)	T1 (4)	T2 (5)	T3 (6)	T1=T2=T3 (7)	T1=T2 (8)	T1=T3 (9)
Tenant: Not Family	5,793	0.654	0.004 (0.013) 0.753	0.024 (0.017) 0.384	0.007 (0.017) 0.753	-0.020 (0.017) 0.475	0.044	0.331	0.013
Tenant: Family	5,793	0.171	0.005 (0.011) 0.753	-0.001 (0.014) 0.756	-0.001 (0.014) 0.756	0.018 (0.014) 0.443	0.339	0.996	0.196
Doubled Up	5,793	0.145	-0.005 (0.010) 0.753	-0.019 (0.012) 0.348	-0.001 (0.012) 0.756	0.005 (0.012) 0.753	0.116	0.127	0.050
Signed Lease	4,823	0.755	0.043 (0.014)*** 0.018**	0.065 (0.016)*** 0.002***	0.024 (0.017) 0.384	0.039 (0.017)** 0.099*	0.041	0.013	0.117
Rent (UF)	4,699	9.148	0.089 (0.086) 0.525	0.008 (0.104) 0.756	0.121 (0.105) 0.477	0.146 (0.110) 0.442	0.390	0.283	0.211
Crowded	5,216	0.189	-0.030 (0.012)*** 0.076*	-0.032 (0.014)** 0.108	-0.036 (0.014)** 0.076*	-0.022 (0.015) 0.384	0.674	0.763	0.555
Access to amenities	5,116	-0.047	0.068 (0.031)** 0.052*	0.046 (0.039) 0.250	0.098 (0.039)** 0.037**	0.060 (0.040) 0.156	0.411	0.198	0.745
Disamenities (violence/drugs)	4,780	0.041	-0.052 (0.032) 0.137	-0.051 (0.039) 0.212	-0.088 (0.040)** 0.052*	-0.015 (0.041) 0.411	0.223	0.372	0.384
Nearby Family	4,860	0.549	0.025 (0.016) 0.144	0.002 (0.020) 0.489	0.021 (0.020) 0.251	0.055 (0.020)*** 0.034**	0.042	0.353	0.013
Neighbors' support	4,901	0.751	0.011 (0.014) 0.291	-0.009 (0.018) 0.387	0.014 (0.017) 0.291	0.030 (0.018)* 0.137	0.116	0.220	0.039
House Satisfaction	5,209	0.738	0.025 (0.013)* 0.187	0.053 (0.016)*** 0.020**	0.018 (0.017) 0.269	0.002 (0.017) 0.582	0.010	0.036	0.004
Neigh. Satisfaction	5,271	0.826	0.019 (0.012)* 0.192	0.028 (0.014)** 0.153	0.016 (0.014) 0.267	0.014 (0.015) 0.284	0.538	0.375	0.314

Go Back

Information

Go Back Mechanisms 1

Go Back Mechanisms 2

Outcome	N (1)	Control Mean (2)	All Treat (3)	T1 (4)	T2 (5)	T3 (6)	T1=T2=T3 (7)	T1=T2 (8)	T1=T3 (9)
Assignment Awareness	6,227	0.787	0.155 (0.010)*** 0.001***	0.157 (0.011)*** 0.001***	0.149 (0.012)*** 0.001***	0.160 (0.011)*** 0.001***	0.449	0.374	0.716
Voucher Status Awareness	4,180	0.681	0.191 (0.014)*** 0.001***	0.198 (0.017)*** 0.001***	0.198 (0.017)*** 0.001***	0.177 (0.017)*** 0.001***	0.392	0.968	0.219
Unknow housing requirements	4,647	0.260	-0.104 (0.014)*** 0.001***	-0.112 (0.016)*** 0.001***	-0.099 (0.017)*** 0.001***	-0.101 (0.017)*** 0.001***	0.685	0.422	0.497
Unknow landlord requirements	4,592	0.308	-0.105 (0.015)*** 0.001***	-0.108 (0.018)*** 0.001***	-0.105 (0.018)*** 0.001***	-0.101 (0.018)*** 0.001***	0.923	0.857	0.690
Reason: Supply barriers	2,734	0.544	0.119 (0.020)*** 0.001***	0.109 (0.027)*** 0.001***	0.154 (0.027)*** 0.001***	0.094 (0.026)*** 0.001***	0.120	0.139	0.629
Reason: Didn't search	2,734	0.024	0.004 (0.006) 0.378	0.006 (0.009) 0.378	0.011 (0.010) 0.225	-0.003 (0.008) 0.445	0.410	0.640	0.377
Reason: Not know how	2,734	0.121	-0.056 (0.013)*** 0.001***	-0.047 (0.016)*** 0.007***	-0.058 (0.016)*** 0.001***	-0.061 (0.015)*** 0.001***	0.666	0.517	0.382
Reason: Want to apply own	2,734	0.086	-0.019 (0.011)* 0.110	-0.051 (0.014)*** 0.001***	-0.005 (0.015) 0.459	-0.002 (0.016) 0.485	0.002	0.005	0.003
Reason: Lack of resources	2,734	0.106	0.016 (0.012) 0.212	-0.004 (0.016) 0.485	0.025 (0.017) 0.168	0.025 (0.017) 0.172	0.244	0.147	0.153
Pref: rent is a waste	4,780	0.617	-0.036 (0.016)** 0.066*	-0.020 (0.020) 0.197	-0.041 (0.020)** 0.075*	-0.047 (0.020)** 0.066*	0.402	0.302	0.204
Subsidy: More choice	4,790	0.377	0.030 (0.016)* 0.083*	0.025 (0.020) 0.171	0.025 (0.020) 0.171	0.042 (0.020)** 0.075*	0.643	0.975	0.422
Subsidy: Better house	5,421	0.439	0.018 (0.015) 0.171	-0.009 (0.019) 0.333	0.033 (0.019)* 0.094*	0.032 (0.019) 0.103	0.056	0.034	0.044
Subsidy: Better neigh	5,421	0.338	0.038 (0.015)*** 0.057*	0.007 (0.018) 0.356	0.047 (0.018)** 0.057*	0.061 (0.019)*** 0.021**	0.018	0.039	0.007

	N (1)	T1 Mean (2)	Treat 2 (3)	Treat 3 (4)	T2=T3 (5)
Platform 6/22	8,345	0.76	-0.031*** (0.011)	-0.042*** (0.012)	0.337
Platform 3/23	8,345	0.81	-0.031*** (0.011)	-0.033*** (0.011)	0.811
Minutes 6/22	8,344	2.62	-0.736** (0.339)	-1.192*** (0.342)	0.028
Minutes 3/23	8,344	17.76	-0.559 (1.823)	-1.705 (1.924)	0.553
Program Info 6/22	8,345	0.25	-0.062*** (0.011)	-0.132*** (0.010)	0.000
Program Info 3/23	8,345	0.72	-0.065*** (0.012)	-0.208*** (0.013)	0.000
N Program Info 6/22	8,345	0.35	-0.106*** (0.018)	-0.208*** (0.016)	0.000
N Program Info 3/23	8,345	2.46	-0.627*** (0.070)	-1.241*** (0.067)	0.000
Min. Program Info 6/22	8,345	2.62	-1.067*** (0.334)	-1.665*** (0.334)	0.001
Min. Program Info 3/23	8,345	17.76	5.075 (6.965)	-6.820 (4.583)	0.079
Q&A 6/22	8,345	0.18	-0.039*** (0.010)	-0.092*** (0.009)	0.000
Q&A 3/23	8,345	0.60	-0.055*** (0.013)	-0.188*** (0.013)	0.000
Blog 6/22	8,345	0.05	-0.007 (0.006)	-0.020*** (0.005)	0.007
Blog 3/23	8,345	0.18	0.002 (0.010)	-0.068*** (0.009)	0.000

[Go back](#)

Search Time in Admin Data

	Time to Time Lease Attempt (1)	Time to Lease-up (2)	N. Attempts (3)	Time to Lease Attempt (4)	Time to Lease-up (5)	N. Attempts (6)
T1:Voucher Info+Blog	-36.544*** (7.469)	-50.210*** (8.050)	0.085*** (0.020)	-45.790*** (8.176)	-34.296*** (10.700)	0.019 (0.025)
T2:T1+Video	-27.738*** (7.432)	-36.038*** (7.971)	0.046** (0.020)	-36.807*** (8.182)	-31.055*** (10.822)	0.000 (0.024)
T3:T1+Video+Browser	-33.587*** (7.400)	-51.459*** (7.978)	0.085*** (0.020)	-32.385*** (8.089)	-21.762** (10.611)	0.009 (0.025)
Observations	11,109	11,109	11,109	4,830	4,830	4,830
Control Mean Sample	570.72 All	541.83 All	0.57 All	223.84 Attempts	357.23 Attempts	1.29 Attempts

- A&A reduced the time to attempt to lease and successfully lease-up.
- In the sub-sample of voucher holders who attempted leasing (endogenous), compared to the other groups, information about neighborhood characteristics delayed lease activation.

[Go back](#)

Search Behavior in Admin Data

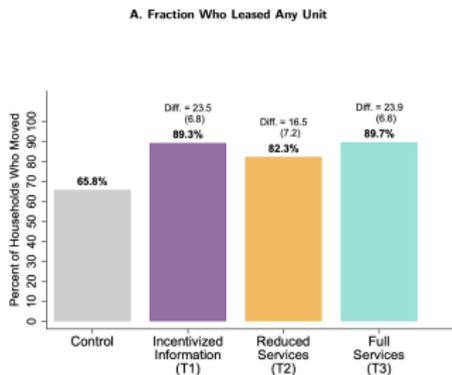
	Search Diff County (1)	Lease-up Diff. County (2)	Search Diff County (3)	Lease-up Diff. County (4)
T1:Voucher Info+Blog	0.001 (0.007)	0.003 (0.007)	-0.020 (0.016)	-0.012 (0.015)
T2:T1+Video	-0.002 (0.007)	-0.001 (0.006)	-0.015 (0.016)	-0.012 (0.015)
T3:T1+Video+Browser	0.023*** (0.008)	0.020*** (0.007)	0.022 (0.017)	0.024 (0.015)
Observations	11,109	11,109	4,830	4,830
Control Mean	0.08	0.06	0.20	0.15
Sample	All	All	Attempts	Attempts

- Compared to the other groups, information about neighborhood characteristics delayed lease activation.
- BUT, 24 months post- treatment, T3 was more likely to attempt and successfully leased-up in a different county.

[Go Back](#)

Take-up in the CMTO

APPENDIX FIGURE 10: Treatment Effects of Phase Two Interventions on Neighborhood Choice

[Go back](#)