education northwest

A LONGITUDINAL EVALUATION OF A HOUSING CHOICE VOUCHER PROGRAM

Homelessness and Housing Insecurity Among Community College Students

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Executive Summary

Housing insecurity and homelessness among American community college students are widespread problems that reduce the odds of college attainment and undermine students' health and well-being. In 2014 Tacoma Community College and the Tacoma Housing Authority launched the College Housing Assistance Program (CHAP) to address this challenge by offering housing choice vouchers to local community college students experiencing or at serious risk of experiencing homelessness. If students could successfully navigate the application process and local housing market, the vouchers offered a short-term subsidy to reduce their rent and hopefully promote degree completion. Over the next several years, CHAP received national and regional awards and became a model for affordable college housing programs. This evaluation examines its effects on students before the housing authority ended the program in 2022.

Evaluation

We conducted a comprehensive, independently funded program evaluation over a seven-year period (2017–2023) to examine how this housing and education program might affect students and the colleges and communities that support them, using a social determinants of education framework. We leveraged state and college administrative data and student surveys to estimate the program's effects across six domains: academic performance and attainment, housing stability, employment and earnings, use of public benefits, health and use of publicly funded health services, and interactions with the criminal justice system.

Social determinants of education framework

The study sample included 422 individuals who applied to the program from fall 2017 through spring 2019. There were three enrollment cycles per year (October, January, and April), and Tacoma Community College uses the quarter system, so this corresponded to fall, winter, and spring terms. CHAP served two groups of students (homeless and near-homeless), and the evaluation team used these same categories. The program defined "homeless students" as students who were living in a shelter or participating in a program for homeless individuals at the time they applied. The program defined "near-homeless" students as students who were couch surfing, facing eviction, escaping domestic violence, and/or enduring other threats to their education. We report outcomes over time for both groups, and for the second group we compare the outcomes for program participants to a comparable group of non-participants, leveraging a lottery used to determine program participation among near-homeless students. The COVID-19 pandemic occurred during the evaluation period, and the full report discusses the potential implications.

422 individuals → Applied to the program **fall 2017** → **spring 2019** → Two groups of students **homeless** *or* **near-homeless**

Students applying to the program attributed their housing challenges to being new to town and/or experiencing a family crisis, loss of income, or medical expenses. Individuals who were homeless when they applied to the program tended to be single women with an average age of 30. Almost half did not file a Free Application for Federal Student Aid (FAFSA), and those who did were not expected to contribute much to college expenses (just under $1,500 per year). Less than a quarter had a college-educated parent, and 40 percent had dependents of their own. Thirty-two percent of homeless applicants were Black, 29 percent were white, and 33 percent were another race such as Asian, Pacific Islander, or Native American.

Applicant demographics

Female	*Single*	*Had dependents*
63% Homeless *vs* **75%** Near-homeless	**44%** Homeless *vs* **41%** Near-homeless	**40%** Homeless *vs* **54%** Near-homeless
Black	***White***	***Other races***
32% Homeless *vs* **18%** Near-homeless	**29%** Homeless *vs* **34%** Near-homeless	**33%** Homeless *vs* **38%** Near-homeless

Students who were near-homeless when they applied differed from the homeless applicants in several ways. They were an average of three years older and more likely to be female (75% vs. 63%). More than a third (34%) were white and just 18 percent were Black (vs. 32% for homeless students). They were much more likely than homeless students to have a high school diploma (47% vs. 29%), be married or divorced (22% vs. 8%), and have dependents (54% vs. 40%) and more likely to have filed a FAFSA (66% vs 52%).

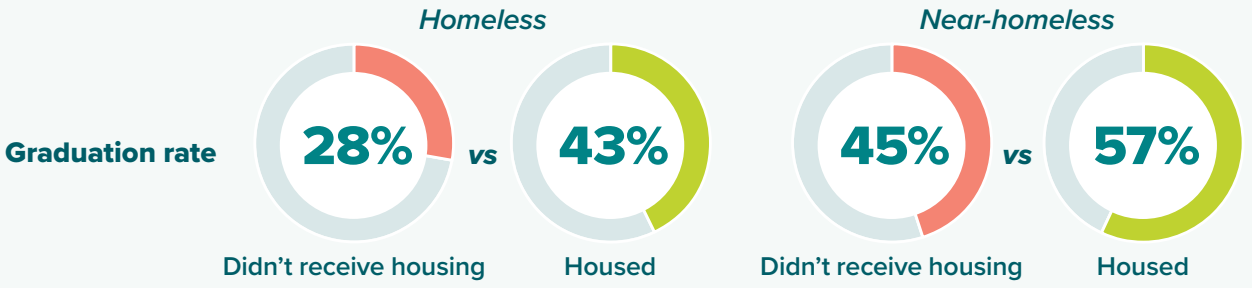
Key Finding 1

Program challenges: Completing paperwork → Searching for housing → Identifying landlords → Providing funds → **1 in 4** students leased up

Ultimately, only one in four students admitted to the program leased up with a housing choice voucher. Like most low-income people trying to use vouchers on the private housing market, students struggled to complete necessary paperwork, search for housing, identify landlords willing to rent to them, and provide the funds (e.g., security deposits) required to lease up. While these challenges are not unique to this program—and may constrain potential impacts—they could be addressed by housing authorities, colleges, and/or community partners. In addition, CHAP also offered some support that went beyond housing, including support with navigating other social service programs, although the college had limited staffing available to help with this.

As with many housing and education programs, CHAP also struggled to serve students equitably. Female students were much more likely than male students to lease up: 82 percent of housed students were female, compared to 64 percent of vouchered but unhoused students. Students with children were also more likely to lease up: 71 percent of housed students had dependents, compared to 40 percent of vouchered but unhoused students. Students who were housed had much higher GPAs than those who were not: the average GPA for students who leased up was 2.88 compared to 2.25 for vouchered but unhoused students.

Key Finding 2



The students who managed to lease up did well in college and experienced other positive outcomes: two-thirds completed a credential, transferred to university, and/or remained enrolled on track to a degree—despite an intervening pandemic. Even with a narrowed focus on graduation, the students in this program completed at much higher rates than the national average. For example, while the average three-year completion rate for community college students is 35 percent, the average rate for homeless students is 8 to 12 percentage points lower. In CHAP, homeless participants graduated at 28 percent, and that rate was 43 percent if they were housed. Meanwhile, 45 percent of near-homeless participants graduated, and that rate was 57 percent if they were housed. However, we could not confirm that the program caused those improvements for near-homeless students, and there is some indication that students stayed enrolled in Tacoma Community College—perhaps rather than graduating or transferring—to retain their housing.

Key Finding 3

Program outcomes

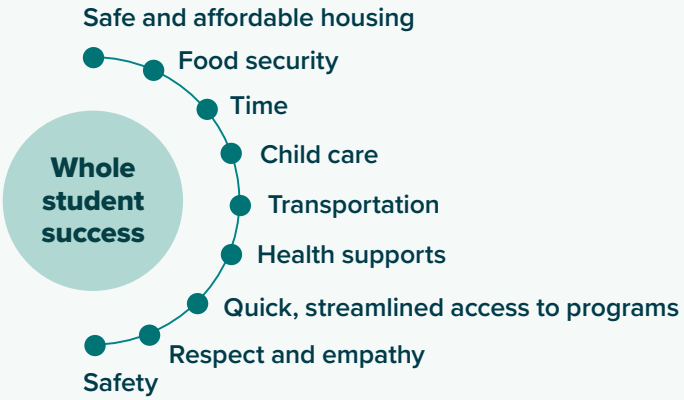
↑ Labor force participation
Food security
Financial stability

↓ Expensive health services
Criminal justice system interactions

The program boosted students' rates of labor force participation and increased the likelihood that they also received support from public assistance to bring more financial stability to their homes. Moreover, it substantially increased the probability that students were food secure. The use of expensive health services, such as the emergency room, declined over time among homeless students, while for near-homeless students we did not detect a clear pattern of program reductions in use of those services and even estimated an increase in inpatient hospital admission. Finally, very few program participants interacted with the criminal justice system, although rates were higher in later years of the evaluation (during the pandemic). The rate of felonies, arrests, and charges were much lower for homeless students who leased up, but the lack of clear impacts for near-homeless students raises questions about whether that was due to the program.

Implications

Key components of whole student success



This evaluation sheds new light on how higher education and housing professionals might address homelessness and housing insecurity among community college students. It should contribute to a broader conversation about the many ways that housing and education are health and social goods, not solely economic goods. In addition, students are humans first and this evaluation demonstrates why colleges should do their part to support the whole student—including their basic needs—to facilitate success.

CHAP's challenges are common in the world of subsidized housing and are also common among basic needs security programs at community colleges. It is difficult to connect structurally disadvantaged and stigmatized populations with critical support, and especially difficult to help them successfully obtain housing on the private market. It is also hard to provide sufficient navigational support to students attending under-resourced community colleges unless new dedicated funds are explicitly provided.

It is also clear that programs such as CHAP are only as strong as the relationship between the partners—in this case, Tacoma Community College and the Tacoma Housing Authority. Close collaboration is essential. This program appears to have had an influence on greater ability to secure public support during a period of need for its participants. We hope that this evaluation contributes to the development of even more effective programs to support students with affordable housing during college. Partnerships will only succeed in meeting students' needs if they have the proper staffing and infrastructure to help participants. Navigational assistance is needed throughout every stage of a housing voucher program, and without it the people who most need support are often left behind. Additional staffing and resources would likely enhance program outcomes.

Even without optimal implementation, CHAP improved self-sufficiency and economic mobility for many participants. The program clearly induced increases in labor force participation, use of critical public benefits programs, and food security. While the evidence is inconclusive when it comes to the program's intended improvements in college attainment, the overall trends are positive. These are promising results, and we hope that they contribute to the development of even more effective programs to support students' basic needs.

ACKNOWLEDGEMENTS

It took nine years to develop and execute this evaluation. It would not have been possible without the extraordinary students who pursued their education despite significant housing barriers, many of whom shared their stories with us. We also owe an enormous debt of gratitude to partners who provided access, data, funding, and other essential support: Tacoma Community College (especially President Ivan Harrell, Tamyra House, Jennifer Fountain, Shema Hanebutte, and Marybeth McCarthy); Tacoma Housing Authority (especially April Black, Michael Mirra, and Jessica Thompson); The Kresge Foundation (especially Bethany Miller and Joelle-Jude Fontaine); Arnold Ventures; the U.S. Department of Housing & Urban Development; the Washington State Department of Social and Health Services (especially Jim Mayfield); the Washington State Board for Community and Technical Colleges (especially Edward Esparza); Evaluation, Research, and Assessment Solutions; M. Davis and Company; Association of Community College Trustees (especially Jee Hang Lee); Temple University; and the staff at The Hope Center for College, Community, and Justice employed from 2018 to 2021 (especially Stephanie Brescia, Vanessa Coca, Sonja Dahl, and Tiffani Williams). We also benefitted from wisdom offered by Katharine M. Broton, Dennis Culhane, Lindsay Daugherty, Michelle Hodara, Debbie Raucher, Amy Ellen Schwartz, Christine Stevens, and Joy Wilcox. Leaders at Education Northwest (especially Chris Mazzeo and Ilona Wall) offered critical support, and the communications team at Education Northwest greatly strengthened the final version of this report. The findings and conclusions contained within are those of the authors and do not necessarily reflect the positions or policies of the study's partners or funders.

CONFLICT OF INTEREST STATEMENT

None of the authors have any financial conflicts of interest with partners in this evaluation. However, during the final stages of drafting this paper, Sara Goldrick-Rab was retained by Tacoma Community College to assist its leadership in identifying new strategies to support students facing housing challenges. This evaluation is not part of her contract, and she did not accept any compensation for her work on it.

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Introduction

College is among the most promising interventions for economic mobility and promoting financial security for both individuals and communities. Post-high school academic and vocational education and training yield substantial dividends, whether offered at community colleges or universities. Each additional year of college pays off, even when a degree is not completed (Chetty et al., 2020; Giani et al., 2020; Haveman & Smeeding, 2006; Mountjoy, 2022; Stevens et al., 2019). The benefits are especially strong for people from marginalized backgrounds, making the expansion of opportunities for college attainment critical to increasing equity (Brand, 2023; Brand & Xie, 2010).

But housing instability and homelessness are significant impediments to college enrollment and graduation. Young people who grow up without stable homes are much less likely to attend college, and adults facing housing insecurity are much less likely to decide to enroll (Coca et al., 2022; Kull et al., 2019). Among people who do enroll in college, living expenses are a key barrier to completion, as many students struggle to afford the full cost of food, housing, transportation, medical care, child care, and more (Goldrick-Rab, 2016). While the federal student financial aid framework recognizes these expenses as part of the "cost of attendance," which goes well beyond tuition, financial aid often falls short and costs are frequently higher than anticipated (Goldrick-Rab, 2016).

About 4.5 million students, or approximately 30 percent of undergraduates, enroll in community colleges. About 60 percent of those students continue to attend college the next year, with just

Debunking myths about community college students

✗ ***Myth:*** *Community college students are a small percentage of the overall undergraduate student population.*

✓ **Fact:** Community college students make up 30 percent of the national undergraduate student population.

✗ ***Myth:*** *Community college is cheap.*

✓ **Fact:** After financial aid, the average cost of attending a community college is $15,540 per year.

✗ ***Myth:*** *Most community college students live at home and therefore do not having housing expenses*

✓ **Fact:** The average age of a community college student is 28, and many have children. Sixty percent of community college students do not live with their parents, and among the 40 percent who do, 38 percent receive no parental support for paying any of their bills. That rate jumps to 75 percent among students with children who qualify for the Pell grant because of their low incomes.

✗ ***Myth:*** *If community college students worked, they could easily afford college.*

✓ **Fact:** Seventy-eight percent of community college students work while attending school. Almost half (49%) work full-time. Even so, about half fall short on their bills.

over half returning to the same college, and 43 percent earn a credential within six years. Completion rates are considerably higher for full-time students (67%) compared to part-time students (20%) (CCRC, 2024). One leading reason why two-thirds of community college students attend part-time is that most are from low to moderate income households and experience both financial challenges and time poverty that necessitate working while in college. Another reason is that many have been out of school for a while and/or had difficult experiences in secondary schooling, and thus prefer to take fewer college courses at a time (Jenkins, 2023; Perna, et al., 2020).

While community colleges provide a significantly lower cost and more geographically accessible option for postsecondary education, many of their students struggle to afford housing. According to the College Board, in 2023–24, first-time full-time students at community colleges had to cover an estimated $9,640 in housing and food after grant aid, in addition to another $5,900 in allowances for books and supplies, transportation, and other personal expenses, for a total out-of-pocket cost of $15,540 per year (Ma et al., 2023). While most community college students attend college part-time, that reduced course load also reduces their grant aid while not reducing their living expenses.

Few community colleges offer housing, which means nearly all students (99%) live, work, and study in the general housing market while seeking their degree. Indeed, among undergraduates at all types of colleges and universities, only 16 percent reside on a college campus. While 40 percent of community college students live with their parents, that does not mean they do not incur housing costs. Among those students, 38 percent receive no parental support for paying any of their bills, and that rate jumps to 75 percent among parenting students receiving the Pell grant.[1]

People often attend community college because they have limited incomes and few assets, and while most are working while enrolled in school, that work often does not pay a living wage. As many as half have dependent children, adding to their expenses and time constraints. Grant aid is scarcer at community colleges, which often lack significant endowments, leaving many students no choice but to turn to public assistance. However, even when they are income-eligible, many community college students find they are ineligible for or otherwise unable to connect to key housing and food programs due to eligibility (for example, full-time students are excluded) and/or work requirements that do not recognize college as work (Crutchfield, 2018; Larin, 2018).

[1] These statistics come from the National Postsecondary Student Aid Study of 2020, with calculations performed by the lead author in Data Lab. Among the 40 percent of community college students living with their parents, 62 percent have dependent children and 53 percent receive the federal Pell grant. Students without children, and those not receiving the Pell, are more likely to benefit from parental financial support while paying for college.

As a result, housing insecurity (i.e., trouble paying rent and utilities) affects as many as half of all community college students, while nearly 1 in 10 students experiences homelessness (Broton, 2020; Broton & Goldrick-Rab, 2017; Crutchfield & Maguire, 2018; Goldrick-Rab, 2023; Goldrick-Rab et al., 2020). Students facing these challenges are more likely to come from structurally marginalized and/or minoritized backgrounds and—particularly without a college degree—face substantial odds of economic instability throughout their lives.

Compared to a housing-secure student, a community college student experiencing housing insecurity and/or homelessness is 8 to 12 percentage points less likely to persist or earn a credential (Broton, 2021). Other research establishes measurable associations between homelessness and academic performance, as well as health (Crutchfield & Maguire, 2018; Goldrick-Rab et al., 2020; Haskett et al., 2021; Leung et al., 2021; Silva et al., 2017). Qualitative studies document compounding challenges many housing-insecure community college students face, including stress, isolation, barriers to financial aid, lack of access to technology, and difficult choices between paying for food or rent (Ambrose, 2016; Gupton, 2017; Vasquez et al., 2019). This scientific literature affirms that housing, education, and other needs are often intertwined.

Research on the benefits of housing for low-income individuals and families, particularly evidence that housing—like education— is a social determinant of health, suggests that increasing community college students' access to affordable housing may offer multiple benefits (Baxter et al., 2019). The decision to enroll in college increases the odds that these individuals will achieve economic stability and mobility, offering a potential multiplier to typical housing effects. While they may be less likely to work during the years they are enrolled—given competing demands on their time—students' odds of future employment and better wages are improved by their college education. Moreover, attending college may enhance housing's benefits when it comes to financial security, health, and reduction in engagement with expensive public systems such as hospitals and incarceration.

In other words, strategically leveraging affordable housing to support people pursuing college may have a sizable return on investment. This evaluation was designed to broadly examine that potential. We examined five questions, with a focus on the College Housing Assistance Program (CHAP) in Tacoma, Washington, which offered housing choice vouchers to students at Tacoma Community College.

Research Question 1. How often did students who participated in the program lease up? How did their experiences obtaining vouchers and leasing up differ by demographic, financial, and academic characteristics?

Research Question 2. Did the program reduce the probability that students would require homelessness services (i.e., publicly-funded programs)?

Research Question 3. How did the program improve students' probability of completing a credential, transferring to a university, or remaining enrolled in pursuit of a credential? How did it affect their overall credit accumulation and grades?

Since housing can positively impact individuals' lives, whether it induces more educational attainment (HUD's stated mission is to create "strong, sustainable, inclusive communities"), we also considered CHAP's impacts in several other domains. Improved health and well-being, employment, and earnings, are also part of community colleges' missions as community-serving institutions. For example, community colleges are working to connect students to programs such as the Supplemental Nutrition Assistance Program (SNAP) that promote their financial stability and health, on the road to a degree.[2] We therefore added questions in those domains:

Research Question 4. How did the program affect:

- Labor force participation, working hours, and/or wages?
- Use of public benefits programs?
- Health (i.e., food security) and/or use of public health services, including mental health services, emergency room visits, or in-patient hospital admission?
- Interactions with the criminal justice system?

Finally, we also considered whether being housed by the program (the final stage of the intervention) was associated with positive improvements across the domains.

Research Question 5. How did leasing up (as compared to only being admitted to the program or only receiving a voucher) relate to outcomes in education, employment, public benefits, health and health services, and criminal justice?

Since students have complex lives, we cannot say which outcomes might come first. For example, does a program affect students' educational outcomes before affecting their health, or vice versa? Their health may affect their use of services, and/or their use of services may affect their health. We cannot distinguish timing with enough detail to answer this question temporally; however, given that these factors are interrelated we focused on establishing the link between being admitted to the program on the one hand and changes in those domains on the other. The link between the two may run through housing, or education, or neither. It could occur because students gained hope through program admission or learned of new resources from program staff members. Or perhaps, they did not benefit at all.

[2] See, for example, the Compton College pilot program (Umaña et al., 2022). Additionally, some colleges are exploring automated enrollment (Chavarin-Rivas et al., 2021).

This report provides findings and implications from a longitudinal evaluation of CHAP that used multiple research designs to study program implementation, outcomes, and impact, including a randomized controlled trial and a social determinants of education framework (Figure 1).[3]

Figure 1. Social determinants of education framework

[3] Funding for this evaluation was provided by the Kresge Foundation, Arnold Ventures, and the U.S. Department of Housing and Urban Development.

The College Housing Assistance Program

The effort to develop effective affordable housing programs for community college students is only about a decade old. Early programs focused on deploying philanthropic resources and/or emergency cash assistance but were quickly outmatched by the scale and expense of the work. CHAP, operated by the Tacoma Housing Authority (THA) and Tacoma Community College (TCC), was a vanguard in the field, as it engaged the resources of a respected subsidized housing authority to address housing insecurity (Hallett et al., 2019; Sackett et al., 2016).

Tacoma Community College

TCC was founded in 1965 and is located about 35 miles south of Seattle. It is the largest college in the South Puget Sound region in Washington State. In 2017, when this evaluation began, TCC had a student population of about 14,000 students; in 2018–19 the college reported that it was serving nearly 12,000 students in a variety of programs (Tacoma Community College, n.d.). Almost two-thirds of TCC students are women, at least a quarter are from structurally minoritized racial/ethnic groups, and the average age is 27. TCC students face several challenges on their path to a credential. Many have children, work to make ends meet, and are the first in their family to attend college. Like community college students throughout the country, most do not graduate from their program in fewer than three years due to numerous barriers.[4]

Living in Tacoma introduces an added challenge: an increasingly expensive and highly competitive rental market. For example, in 2017 a household earning 70 percent of Tacoma's median household income could not afford to pay the average rent without being overburdened (Washington Center for Real Estate Research, 2023) and rental vacancy rates were around 3 percent (Demkovich, 2023; Washington Center for Real Estate Research, 2017). The first time TCC examined housing challenges among its students in 2014, a point-in-time count identified 100 enrolled students who were homeless or at risk of becoming homeless. Since then, the affordable housing crisis in the Seattle-Tacoma-Bellevue metropolitan area has deepened, and rates of homelessness have increased (Grimley, 2016; Talton, 2017). In 2016, the year before this evaluation began, another survey at the college, led by two of the authors of this evaluation, found that 69 percent of respondents were housing insecure and 26 percent had been homeless in the prior year.

[4] Three years, or "150% of normal time," is the standard length of time to measure community college graduation rates. However, national data show that most community college students do not graduate in that time. See National Center for Education Statistics (n.d.)

Federal Housing Assistance Program

Through the U.S. Department of Housing and Urban Development (HUD), the federal government funds several housing assistance programs providing "decent and safe rental housing for eligible low-income families" (HUD, 2024). The two largest are subsidized housing and housing choice vouchers (HCVs). The primary distinction is that while subsidized housing is a place-based subsidy only available to families living in subsidized housing units, HCVs provide subsidies directly to individual families to rent units on the private market. Eligible participants in both programs typically pay 30 percent or less of their income in rent, but in the HCV program, the difference between the payment and the asking rent is funded by the federal government. This payment is capped at a locally defined maximum payment standard, determined annually by HUD, while the average rent for a one-bedroom apartment in Pierce County, where Tacoma is located, was $974. The demand for these programs is high, as evidenced by long waiting lists, which may limit their usefulness for combatting housing insecurity among community college students who are enrolled for a finite period.

Program Origins

In response to the housing challenges faced by TCC students, in 2014 the college formed a partnership with THA to create a pilot program offering HCVs to 25 homeless students. The hope was that by providing a voucher to reduce rent on the public market, CHAP would help homeless students complete credentials or transfer to a university within three years. The terms of the CHAP partnership were contained in a memorandum of understanding (MOU) signed in 2014.

For many decades, HUD has funded the Jobs Plus Program and the Family Self-Sufficiency program, connecting families receiving housing assistance with opportunities to attain higher education and employment-related skills. CHAP inverted that strategy by targeting housing assistance to those already enrolled in higher education but with severe housing needs. It was the first program in the nation to leverage HUD's HCV and Moving to Work programs to support community college students toward degree completion and economic stability. Together, those programs give some local subsidized housing authorities additional discretion to test innovative approaches to supporting low-income people. HCV recipients use vouchers on the private market, leasing up with landlords. The impacts of HCVs for the general population are mixed (Ellen, 2020). While they tend to make rent more affordable, reducing the risk of homelessness, many adults struggle to use HCVs due to a lack of transportation, difficulty finding housing that meets the requirements of both work and family, and landlord discrimination (Bell et al., 2018; Graves, 2016).

Program Components and Eligibility

CHAP was similar to THA's other HCV options, but with four main differences. First, people could qualify for a voucher and be prioritized for support based on their enrollment in community college, which sometimes offered an advantage to those who had been waiting in the queue for a long time. The program creators hoped that time-limited support would be needed for students as they were working toward a credential that might make them self-sufficient; this was viewed as a cost-effective allocation of resources.

Second, the subsidy was shallower than those typically offered in an HCV, leaving students to cover more of the costs. All participants received a flat-rate subsidy based on household size rather than also considering income, and all paid at least something for housing. THA estimated the average subsidy was $450, while the average rent for a one-bedroom apartment in Tacoma was around $1,000.

Third, the CHAP voucher was time-limited—initially to three years and later expanded to five years—and dependent on continued enrollment at TCC. Transfer to the University of Washington-Tacoma was also allowed for later cohorts of participants, but many were unaware. Finally, the program was jointly operated with a college, rather than with an area housing nonprofit, and the college was expected to provide navigational support. This was the first partnership between TCC and THA, and the first such partnership in the nation.

Defining eligibility was a critical task. THA was accustomed to HUD's definition of homelessness, whereas TCC—like other educational institutions—used the U.S. Department of Education's (ED) definition, which is broader and includes a range of housing conditions that disrupt one's education. For example, ED recognizes as homelessness the conditions of couch-surfing in other peoples' homes or staying in a motel due to a lack of alternatives, while HUD does not (Administration for Children & Families, n.d.; Chicago Coalition for the Homeless et al., 2023). TCC had both anecdotal and survey evidence that many of its students experienced these issues (indeed, couch surfing is the most common form of homelessness among college students) and wanted to do preventative work to address the problems and keep students on track.

The partners compromised: the program would serve both homeless and "near-homeless" students. CHAP deemed a student *homeless* if they were living in an emergency shelter or transitional housing facility, or if they were a client of a case management program serving homeless people. A student was *near-homeless* if they were experiencing any of the following issues that put them "at serious risk" of homelessness:

- Unable to meet basic housing expenses (rent, mortgage, utilities) that will result in the loss of permanent housing
- Residing in a motel/hotel due to loss of permanent housing and lacks the resources to remain

- Lost permanent housing and living temporarily with a friend or family member and cannot be placed on the lease
- Received an eviction notice
- Has a pending unlawful detainer notice that will result in loss of permanent housing
- Recent history of serious housing instability
- Victim of domestic violence
- Facing discharge from a public institution (e.g., incarceration, hospital) without a housing discharge plan

In addition to facing housing challenges, students' household income had to be at or below 50 percent median income, which is a requirement for all HCV recipients. Financial aid did not count toward that amount but could be used to pay the student's contribution to rent.

Other eligibility criteria evolved over time. In 2016, the year before this evaluation began, the average CHAP participant was 34 and three-quarters of participants had dependent children. To be eligible for the program, students had to enroll full time (at least 12 credits), have a cumulative GPA of at least 2.0, and attempt to file the Free Application for Federal Student Aid (FAFSA) after they had been in the program for two quarters.[5] These criteria had to be maintained for continued assistance. Additionally, students had to meet THA eligibility criteria for the program, including income level, a successful background check, and proof of lawful residency.

Together, these criteria restricted the number of students facing housing crises who could receive help. Students experiencing housing challenges tend to enroll part-time and have lower grades and face many challenges filing paperwork, including the FAFSA (Broton, 2021; Calhoun, 2020; Hallett et al., 2018; Silva et al., 2017). It was therefore possible that the strong academic outcomes of the pilot program (discussed below) were due to the restrictive nature of the requirements. The next year, the program dropped the full-time enrollment requirement to allow students to participate if they registered for at least six credits but required that they enroll for at least a term before applying to the program. The GPA requirement remained but only applied to continued program eligibility, rather than initial eligibility. However, these requirements were not consistently enforced, and there was a limited amount of partnership communication about students' enrollment status.

Like many housing and education programs, CHAP was a bureaucratic program that both staff members and students found difficult and time-consuming to navigate. Figure 2 provides an overview of the six program stages students typically experienced in CHAP as they sought housing.

[5] Full-time enrollment is measured as at least 12 credits or submission of an education plan showing the classes needed to complete their degree do not require full-time attendance.

First, during each open enrollment cycle for the program, which occurred three times a year (fall, winter, and spring), students completed a two-page **program application.** Once that was done, students were officially "applicants." Program staff members assessed whether the student met eligibility requirements. If they did, and the program had sufficient slots, they were **admitted** and became "participants."

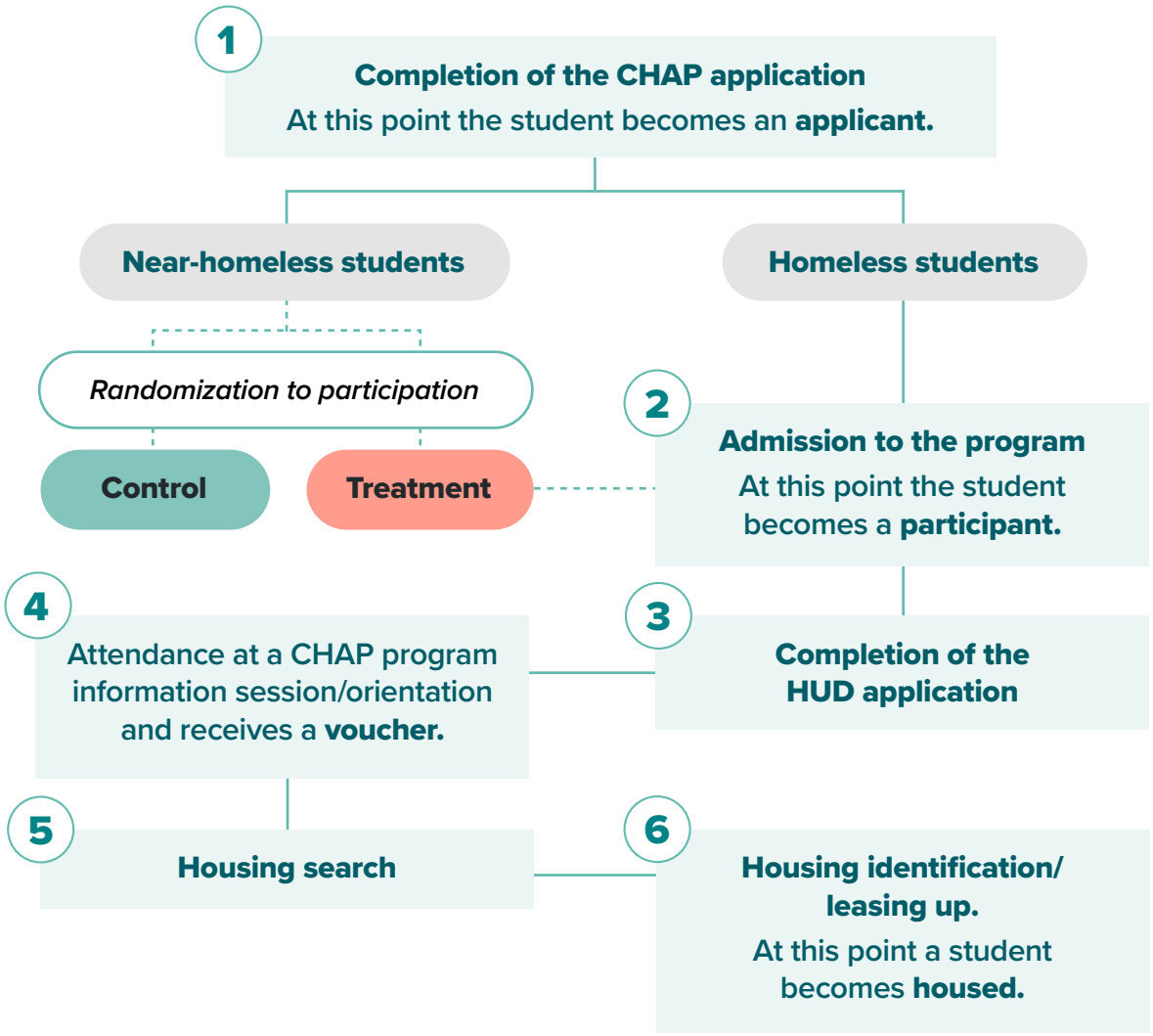
At that point, students began interacting with the program staff, particularly a college-employed navigator who helped them with next steps and shared information about relevant resources on and off campus. That interaction with a dedicated staff member had potential benefits for students even if they did not obtain housing, such as helping them learn about public benefits programs and employment opportunities.

Next, program participants completed the extensive **HUD application** for the HCV, which included providing income statements, asset certification, debt statements, and certification of eligibility. After the application was reviewed, students **attended an orientation session** in which staff members explained the process for using vouchers. Initially, these sessions were only offered off campus, but eventually they were moved on campus to accommodate students' time constraints. After orientation, students received vouchers.

Students then began to **search for housing.** This required finding privately owned properties that accepted vouchers; were affordable; met their household's needs (e.g., number of bedrooms, transportation, distance/accessibility to college, job, and/or child care); and whose landlords were willing to rent to them. There was a standard 120-day timeline for leasing up, but program staff sometimes extended it.

Only if the search was successful, and THA approved an inspection of the unit, could students **lease up and become housed.** Until 2019 the program did not provide support for security deposits or moving expenses, which research demonstrates can be barriers to housing for students (Waters-Bailey et al., 2019).

Figure 2. Six program stages, from CHAP application to housing



Pilot Results

Pilot data collected by TCC staff members suggested that CHAP achieved success: "95% of participating community college students (21 of 22) remain enrolled in school a year later compared with 24% of eligible applicants (35 of 146) who were not served" (Tacoma Housing Authority, n.d.). At a 2016 national meeting of the Association of Community College Trustees, Michael Mirra, then-executive director of THA, reported: "Since January 2014, 201 students qualified for vouchers. Forty-seven (23%) received a voucher. Sixty percent of voucher recipients either graduated (6) or remained enrolled two years later (22). In comparison, none of the 154 students who did not receive a voucher graduated, and only 16% (24) remained enrolled at the college two years later."[6]

[6] This information is contained in a PowerPoint presentation available from the authors.

It was unclear, however, whether students who received a voucher and those who did not were different in important ways—independent of the program—that could lead to better academic outcomes. In other words, it was hard to know whether CHAP *caused* these results. Nonetheless, early program outcomes were featured in the HUD Guidebook to Addressing Housing Insecurity and Living Costs in Higher Education and covered in a HUD issue brief (Office of Policy Development & Research, 2015; Sackett, 2015; Sackett et al., 2016). Harvard presented the program with an award, and many community colleges and public housing authorities began exploring potential replication (Ash Center, 2018; Highline College, n.d.; Snyder, 2021; Weissman, 2021).

CHAP continued to serve 25 students per year until 2017, when it expanded to offer support to 150 students and this evaluation began. In 2019 TCC established a $30,000-per-year fund to help students pay security deposits.[7]

[7] In 2019 the program also expanded by adding property-based vouchers (essentially subsidized housing in a building THA owned or partnered with) to the tenant-based housing choice vouchers that were already being made available to eligible students. At that point CHAP provided vouchers that served as rental assistance to help pay for private market units, purchased apartments near campus, and negotiated long-term contracts with private developments near campus to offer property-based affordable rental units (THA, 2019). This did not affect the present evaluation, however, which continued to focus on HCVs.

Evaluating the College Housing Assistance Program

An ideal methodological design for this sort of evaluation would involve randomly assigning all participants to treatment (CHAP) or control (no CHAP) groups and tracking participants over time to compare difference in outcomes. A series of programmatic considerations, outlined below, meant that we had to modify that design. For example:

- Program administrators (and evaluators) wanted to serve as many students as possible, as fast as possible.
- The program was ongoing and continuously enrolling students.
- The number of students applying to the program varied over time and was too small to support a rigorous evaluation addressing the core questions using a single application period. Therefore, we had to build the evaluation sample over time by pooling multiple cohorts.
- The program aimed to support students experiencing homelessness as quickly as possible when they applied and had enough slots to be able to do that; homeless students were served first, remaining vouchers were randomized among near-homeless students.
- The program also sought to support students who were near-homeless when they applied, but administrators were concerned about having enough vouchers at any one point in time. For example, they were concerned about giving away all vouchers to near-homeless applicants in the fall, which might leave no space for students experiencing homelessness in the spring.

To address the evaluation questions while accommodating the needs of a complex program actively supporting students, we used a multi-stage multi-method design. Implementation rolled out iteratively over the course of two years (from fall 2017 through spring 2019) with three enrollment cycles per year (October, January, and April). TCC uses the quarter system, so this corresponded to fall, winter, and spring terms.

To ration the limited number of vouchers, administrators used a lottery to select among near-homeless students. Program admissions occurred as follows (see also figure 1):

- All currently homeless applicants were immediately accepted and became program participants. Homeless students could also apply and be admitted in between application cycles.
- Applications from near-homeless students were held until the conclusion of a given enrollment cycle when the program could verify all homeless students had been admitted to the program as participants. A lottery was then held to determine admissions among those applicants, with the number randomized based on available vouchers not allocated to the homeless students in that cycle. On average, 56 percent of applicants were admitted.

- Students who were not admitted in one cycle could reapply in another. If they became homeless in the meantime, they were automatically admitted. Four percent of applicants became participants through a change in status or re-application (see appendix table A2).

We recorded post-treatment outcomes beginning in the spring following each application; notably for the final three cohorts the first post-treatment outcomes are measured during the start of the COVID-19 pandemic in spring 2020 (more below). We collected and analyzed data several ways:

- An **implementation assessment** provided information on how the program operated and how students navigated it from the point of application through to housing. This included electronic surveys of program applicants (each applicant received three surveys, one shortly after they applied, one six months after application, and another a year post-application) and in-depth interviews conducted with approximately 20 program participants and non-participants and program staff members throughout the implementation period. These interviews were conducted in person with the lead author and were tape recorded, transcribed, and coded for key themes.
- A **descriptive analysis** measured how homeless students fared in the program. We examined and report their outcomes over a period of up to four years. However, since all eligible homeless students were accepted into the program, we lacked a comparison group against which to benchmark those outcomes and cannot provide causal evidence on the evaluation questions for that group of students.
- An **impact analysis** examined how CHAP changed the outcomes of near-homeless students. That analysis relies on comparisons between two groups of students: those applicants chosen by lottery to participate in the program and those not selected.

The COVID-19 Pandemic

The COVID-19 pandemic struck in March 2020, almost a year after the last cohort was admitted to the program. The first period of follow-up data collection was complete for the initial three program cohorts (who entered in 2017–18), but the remaining two follow-up periods might have been affected by the pandemic for these cohorts. Moreover, the first and second follow-up periods of outcome measurement for the final three cohorts occurred during the pandemic, although the third occurred in 2022, post-pandemic. Additional government assistance became available during the pandemic and that may have benefited both program participants and non-participants. For example, rules for SNAP eligibility changed to make it easier for students to access food assistance, additional support was available to their children, and from March 2020 until October 31, 2021, there was a state moratorium on rental-related residential evictions.

Staff members at the college also endeavored to support students, irrespective of whether they were enrolled in this program. Enrollment at TCC declined significantly during that time and may have also caused both participants and non-participants to leave school, although we were still able to follow these students using administrative data.[8] These contextual considerations should also be kept in mind when examining the results.

Data and Measures

The analyses use data from student surveys and administrative data from TCC, THA, and the Washington State Department of Social and Health Services (DSHS). We assess program implementation and outcomes across the six domains with a total of 15 measures. Each of these data sources and measures is described in appendix table A1. Figure 3 describes the timeframe during which each type of data and measure is constructed for each of the six cohorts.[9]

- **Survey data** reveal students' program experiences and assess food security. We fielded three surveys per student: immediately after they applied, six months after they applied, and 12 months after they applied.
- **THA data** provide indicators of voucher receipt and whether a student was housed throughout the entire study period at regular intervals. Students were defined as receiving a voucher if THA reported a date of issue and were defined as housed if they had a move-in date. For almost all analyses, students are defined as "ever" receiving a voucher or being housed—that is, this measure is equal to one if a student ever has a date of issue or move-in date. This is because allowing a voucher to expire or exiting the program likely indicates other changes (either positive or negative) unrelated to the voucher per se, but that could still be reflected in participant outcomes. Such changes might include successful completion of a credential or a disruptive event that interferes with a participant's ability to submit any documentation required for renewal.[10] Notably, these instances are infrequent in the data provided by THA, and THA confirmed that they did not have a consistent process for evaluating eligibility or expirations due to limited staff capacity.
- **TCC data** provide five measures of academic success: credential completion, transfer to university, continued enrollment, total credits completed, and GPA. We coded a student as successful at a given point in time if they have completed a credential or transferred or are still enrolled. We collected

[8] In 2021 TCC enrollment was approximately 6,000 students, and it was even lower in 2019 and 2020 (National Center for Education Statistics, 2021a). While this decline is significant it somewhat aligns with a national trend of declining enrollment throughout the study period (National Center for Education Statistics, 2021b).

[9] For missing data, we adopted mean imputation for continuous variables. In addition, we created dummy variables to indicate the existence of missing data for the categorical variables. Only missing data for baseline covariates were imputed.

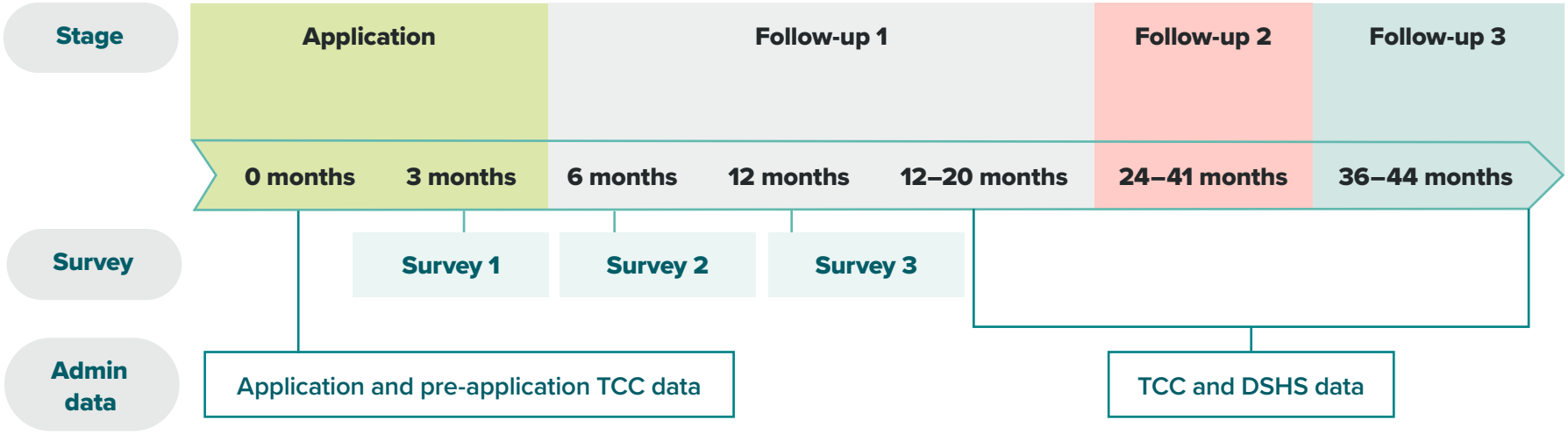
[10] We do not know whether the program required anything beyond standard income verification for renewal.

these data two or three times per student, depending on when they applied to the program, with the last data collection in 2023 (six years after the first program cohort applied). In addition, TCC data include the program application information used to establish students' circumstances and characteristics at baseline (the point of application).

- **DSHS data** reveal students' employment (labor force participation, average quarterly work hours and wages); receipt of public benefits (SNAP and Temporary Aid to Needy Families [TANF]); health (receipt of mental health treatment, emergency room visit, inpatient hospital admission); and criminal justice system involvement (felonies, charges, arrests). Earnings are adjusted to 2021 dollars using the Consumer Price Index. DSHS also provided monthly indicators of use of homelessness services. These measures were based on an indicator associated with SNAP in combination with use of services reported in the Homeless Management Information System. Data from DSHS were provided through September 2021 and therefore available for three follow-ups for students who applied in cohorts 1–4 and two follow-ups for students who applied in cohorts 5 and 6.

In addition, we conducted interviews with program staff members and a dozen students who applied to the program, including those not admitted. Some insights from those interviews are shared in this report.

Figure 3. Data collection and measurement timeline



Analytic Strategy

The analytic plan was pre-registered with the Open Science Registry (Goldrick-Rab et al. 2018). We employed descriptive statistics and regression modeling to analyze the results. Analyses of program implementation are the result of interview coding by theme and tests for mean differences in survey results. Analyses of program outcomes for homeless participants are simple means presented at points in time to explore trends. There is no comparison group against which to benchmark those outcomes.

For near-homeless applicants, we leveraged the random assignment created by the lottery to conduct an intent-to-treat (ITT) analysis to assess the impact of program admission. As previously noted, students who were not accepted into the program could later reapply, and students who became homeless during the evaluation could gain automatic program admission. Since these were non-random events, and students who re-applied were systematically different from those who did not, we use their initial status (near-homeless participant vs. non-participant) in the ITT models. Such crossover was rare—just 4 percent of near-homeless applicants (12 students). Among these, 2 percent reapplied as near-homeless students while 3 percent reapplied after becoming homeless (see appendix table A2).

The ITT analyses follow What Works Clearinghouse guidelines and control for all variables that were not equivalent at baseline (i.e., effect size difference of >0.05) : age, gender, race/ethnicity, high school credential, parents' education level, marital status, dependent status, children status, expected family contribution, receipt of public benefits, whether students enrolled in the remedial placement courses in college, cumulative GPA, and the number of college credits completed before application (see table 2 for details on equivalence). Also, since the probability of assignment to the program varied by cohort, we include cohort fixed effects in the models and cluster standard errors by cohort. Impacts for continuous outcomes are estimated using ordinary least squares regression and those for binary outcomes are estimated using logistic regression, with impacts presented as marginal effects.

While assignment into the evaluation of CHAP was random, as it occurred through a lottery, whether a student received a voucher and/or ultimately leased up was not. It reflected an array of factors contributing to whether students completed the voucher application process and secured an apartment that met voucher requirements. Thus, outcome estimates based on voucher receipt or whether a participant leased up may be biased. Unfortunately, due to the small sample, traditional treatment-on-treated estimates using two-stage least squares are likely to be imprecise and offer limited insight. Instead, we compare final program outcomes across program/housing conditions descriptively. Due to the selection concerns described above, we do not draw causal conclusions from these analyses.

Findings

In the first section, we describe CHAP application patterns over time and the characteristics of the applicants during the period of this evaluation. We then provide information on program implementation and address research question 1 about the extent to which program participants leased up and their experiences with obtaining vouchers and leasing up. Next, we describe outcomes for students who were homeless, addressing research questions 2 through 5 using descriptive methods. Third, we provide impact estimates for near-homeless students, addressing research questions 2 through 4 using causal methods. Finally, we describe the association between obtaining housing/leasing up and outcomes, addressing research question 5 for near-homeless students.

Application Patterns and Applicant Characteristics

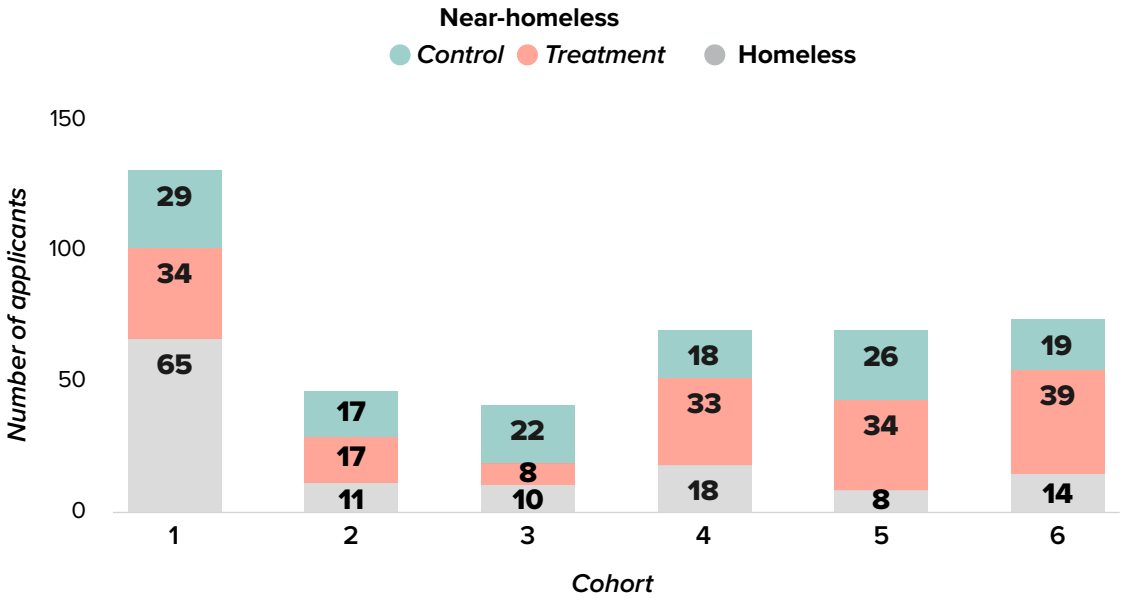
Over three years (2017–2019) and six program cycles, the program received 452 applications from 422 unduplicated individuals (recall that individuals could reapply). In this section we examine applicants' initial housing status, how their housing status met or did not meet eligibility criteria, and applicant characteristics such as age, race, gender, and college academic record.

Initial Housing Status

The first application cycle in fall 2017 was the largest (figure 4). Across all application cycles, 12 applications came from individuals who did not appear in college records (likely because they were not students but seeking housing), while 440 of the applications were from 422 unduplicated students.

Among those 422 students, 30 percent (126) met the program's definition of homelessness and were immediately enrolled. Most of those students entered the program; over time the number of homeless applicants to the program declined. The other 296 students were near-homeless and entered each cycle's lottery to determine program participation. The fraction admitted varied by cycle, depending on the program administrators' assessment of the number of available vouchers and local housing market conditions—for example, they did not want to flood the market with too many vouchers at once. Also, community college enrollment is typically highest in the fall, so there were more applicants in the fall cycles (1 and 4) compared to winter or spring. In total 56 percent (165 students) were selected and enrolled in the program while the other students (131) were not, although the percentage of applicants selected and enrolled in the program ranged from a low of 26 percent in spring 2018 (cohort 3) to a high of 67 percent in spring 2019 (cohort 6).

Figure 4. Samples by initial housing status and application cycle



Source: Program data from the College Housing Assistance Program evaluation.

Based on observations and interviews with staff members, we believe the variation in application patterns over time reflected fluctuations in program outreach rather than changing in student needs. When the evaluation period began, college staff members used traditional outreach strategies such as emails and posters to invite students to apply. But after the initial cycle, applications and outreach activities declined.

During the evaluation period, we recommended ways to boost applications, including putting the application online, identifying potential applicants using financial aid administrative data and/or surveys, sending students personalized information via text and/or email to urge them to apply, and/or placing flyers in restrooms where students could review the information privately. The application went online for the fifth application cycle. College staff members put flyers in restrooms and urged faculty members to tell students about the program. Some were concerned about widespread advertising, since a few program applicants were not registered at the college, and they did not view the program as an appropriate enticement to enrollment.

Based on data from surveys about the most common source of information used to learn about the program, we know that about half of homeless applicants learned about CHAP from TCC staff members or by word of mouth, while a quarter of near-homeless students learned about CHAP from posters and flyers.[11] This may reflect differences in the social networks of students and/or staff time and effort reaching out to targeted groups.

[11] These results do not appear in a table but are available upon request.

Housing Status vs. Eligibility Criteria

Almost all applicants (95%) designated homeless according to the program eligibility criteria also reported on the baseline survey that they had been homeless in their lifetime, and 91 percent said they had been homeless since starting college. Moreover, 80 percent of the near-homeless applicants said that they had been homeless in their lifetime, and 46 percent said that they had been homeless since starting college. This speaks to the temporal nature of homelessness, affecting schooling across the life course, and raises questions about how point-in-time assessments, including for program admissions, may affect eligibility (Broton, 2020; Kull et al., 2019; Lee et al., 2021; Parrott et al., 2022).[12]

Students had many reasons for their housing challenges, which they were asked to indicate on the CHAP application. The most common issues included being new to town or experiencing a family crisis, loss of income, or medical needs—more than a quarter of students said they experienced one of these challenges. Black students were far more likely than white students to be new to the area; this was the most common reason for homelessness for Black students. Medical needs were also a common contributor to homelessness for all groups. Nearly a third of female students indicated domestic violence caused their homelessness. White students were much more likely than Black students to cite loss of income as a factor (Goldrick-Rab et. al 2021; Hodara 2021).

Applicant Characteristics

Students who were homeless when they applied to the program tended to be single women (two-thirds identified as female) with an average age of 30. Almost half did not file a FAFSA and among those who did they were expected to contribute very little to college expenses (just under $1,500). Less than a quarter had a college-educated parent, and 40 percent had dependents of their own. Thirty-two percent of homeless applicants were Black, 29 percent were white, and 33 percent were another race such as Asian, Pacific Islander, or Native American (although 7% did not indicate their race). At the time of application, they held an average of 58 college credits at TCC with a GPA slightly below 2.0 (required to receive financial aid), and nearly half were enrolled in remedial math or English (table 1).

Students who were at serious risk of homelessness (near-homeless) when they applied differed from homeless applicants in several ways. They were an average of three years older and more likely to be female (75% vs. 63%). More than a third (34%) were white and only 18 percent were Black (vs. 32% for homeless students). They were much more likely than homeless students to have a high school diploma (47% vs. 29%), be married or divorced (22% vs. 8%), and have dependents (54% vs. 40%) and more likely to have filed a FAFSA (66% versus 52%). Their academics were generally similar, although near-homeless students had substantially higher GPAs than homeless students (2.77 vs. 1.92).

[12] These results do not appear in a table but are available upon request.

Table 1. Participant characteristics at baseline, all applicants

Demographics, receipt of benefits, academic measures	Homeless (n = 126)	Near-homeless (n = 296)	Difference between groups (p-value)
Age			
Average age	30	33	0.02
Age missing (%)	4	2	0.41
Gender (%)			
Female	63	75	0.02
Male	35	22	0.01
Gender missing	2	3	0.85
Race (%)			
White	29	34	0.23
Black	32	18	0.01
Other races	33	38	0.27
Race missing	7	9	0.49
High school credential (%)			
High school diploma	29	47	0.00
High school GED	18	13	0.17
Home school	16	7	0.02
High school credential missing	37	33	0.41
FAFSA complete (%)	52	66	0.01
Parents' education level (%) - BA/BS	23	29	0.41
Parents' education level missing	52	47	0.34
Marital status (%)			
Single	44	41	0.50
Married	2	7	0.02
Divorced/separated	6	15	0.01
Marital status missing	48	38	0.04
Supporting dependents (%)	40	54	0.05
Expected family contribution ($)	1,452	1,356	0.88
Receipt of public benefits (%)	25	19	0.40
Baseline college information			
Cumulative GPA (4.0 Scale)	1.92	2.77	0.00
Cumulative credits completed	58	62	0.44

Demographics, receipt of benefits, academic measures	Homeless (n = 126)	Near-homeless (n = 296)	Difference between groups (p-value)
Enrolled in remedial placement courses	48	47	0.92
Information on cumulative GPA and cumulative credits missing	1	3	0.08

Notes: Cumulative percentages may not add up to 100 due to rounding.

P value is calculated to estimate the statistical difference between homeless and near-homeless group means.

Sources: Application data, students' academic records, and pre-treatment data are provided by TCC. Information on age comes from application data; race/ethnicity and gender for student study participants comes from TCC administrative data and are filled in with application data if missing; remainder still missing noted as missing. Data on FAFSA, marital status, parental education, financial aid, and receipt of public benefits are drawn from TCC financial aid records. Parents' education level equals one if students' parents obtained a bachelor's degree or higher. Information on baseline college characteristics from TCC administrative records.

The admissions lottery divided near-homeless applicants into program participants and non-participants with very similar characteristics (table 2). Differences with effect sizes greater than 0.05 and less than 0.25 were controlled for in statistical models. Notably, in the full sample most of these characteristics are not fully equivalent at baseline, despite their equivalence within cohort, and are thus included in analytic models. Only three characteristics (age missing, married, and missing baseline college information) have effect sizes greater than 0.25. The magnitudes of these differences are all relatively small and/or reflect a small number of participants. Therefore, while we do not believe these differences substantively bias our estimates, we also control for them in models.

Table 2. Participant characteristics at baseline, near-homeless applicants, by treatment status

Demographics, receipt of benefits, academic measures	Treatment group (n = 165)	Control group (n = 131)	Difference between groups (effect size)
Age			
Average age	32	34	0.19
Age missing (%)	1	4	0.57
Gender (%)			
Female	78	71	0.17
Male	20	25	0.18
Gender missing	2	4	0.21
Race (%)			
White	34	35	0.05

Demographics, receipt of benefits, academic measures	Treatment group (n = 165)	Control group (n = 131)	Difference between groups (effect size)
Black	17	20	0.09
Other races	40	36	0.12
Race missing	9	9	0.04
High school credential (%)			
High school diploma	51	42	0.20
High school GED	12	14	0.10
Home school	8	6	0.19
High school credential missing	29	38	0.23
FAFSA complete (%)	64	68	0.13
Parents' education level (%) - BA/BS	31	27	0.10
Parents' education level missing	48	46	0.23
Marital status (%)			
Single	41	40	0.01
Married	7	8	0.25
Divorced/separated	15	14	0.09
Marital status missing	38	37	0.04
Supporting dependents (%)	56	51	0.02
Expected family contribution ($)	1,487	1,191	0.07
Receipt of public benefits (%)	21	17	0.12
Baseline college information			
Cumulative GPA (4.0 Scale)	2.88	2.63	0.22
Cumulative credits completed	60	64	0.07
Enrolled in remedial placement courses	44	52	0.05
Information on cumulative GPA and cumulative credits missing	1	5	0.68

Notes: Cumulative percentages may not add up to 100 due to rounding.
Effect size is the absolute value estimated using Hedges G or Cox's Index, as appropriate based on whether the measure is binary or continuous.

Sources: Application data, students' academic records, and pre-treatment data are provided by TCC. Information on age comes from application data; race/ethnicity and gender for student study participants comes from TCC administrative data and are filled in with application data if missing; remainder still missing noted as missing. Data on FAFSA, marital status, parental education, financial aid, and receipt of public benefits are drawn from TCC financial aid records. Parents' education level equals one if students' parents obtained a bachelor's degree or higher. Information on baseline college characteristics from TCC administrative records.

Program Implementation

Program implementation often affects program outcomes. If participants struggle to understand and/or comply with a program's processes and rules, face barriers to engagement (for example insufficient time or money), or otherwise have trouble navigating the program, then they are much less likely to benefit. These sorts of challenges can be emblematic of and/or caused by administrative burden—a key gate-keeping mechanism (Herd & Moynihan, 2018).

We therefore examined program implementation throughout the evaluation and provided ongoing feedback, both formal and informal, to both partners. Recognizing that the experiences of administrators, staff members, and students may differ, we actively sought to corroborate evidence or establish where it is conflicting. The conclusions in this section are based on survey data and analytic memos kept throughout the evaluation as we conducted site visits, interviews, and meetings.

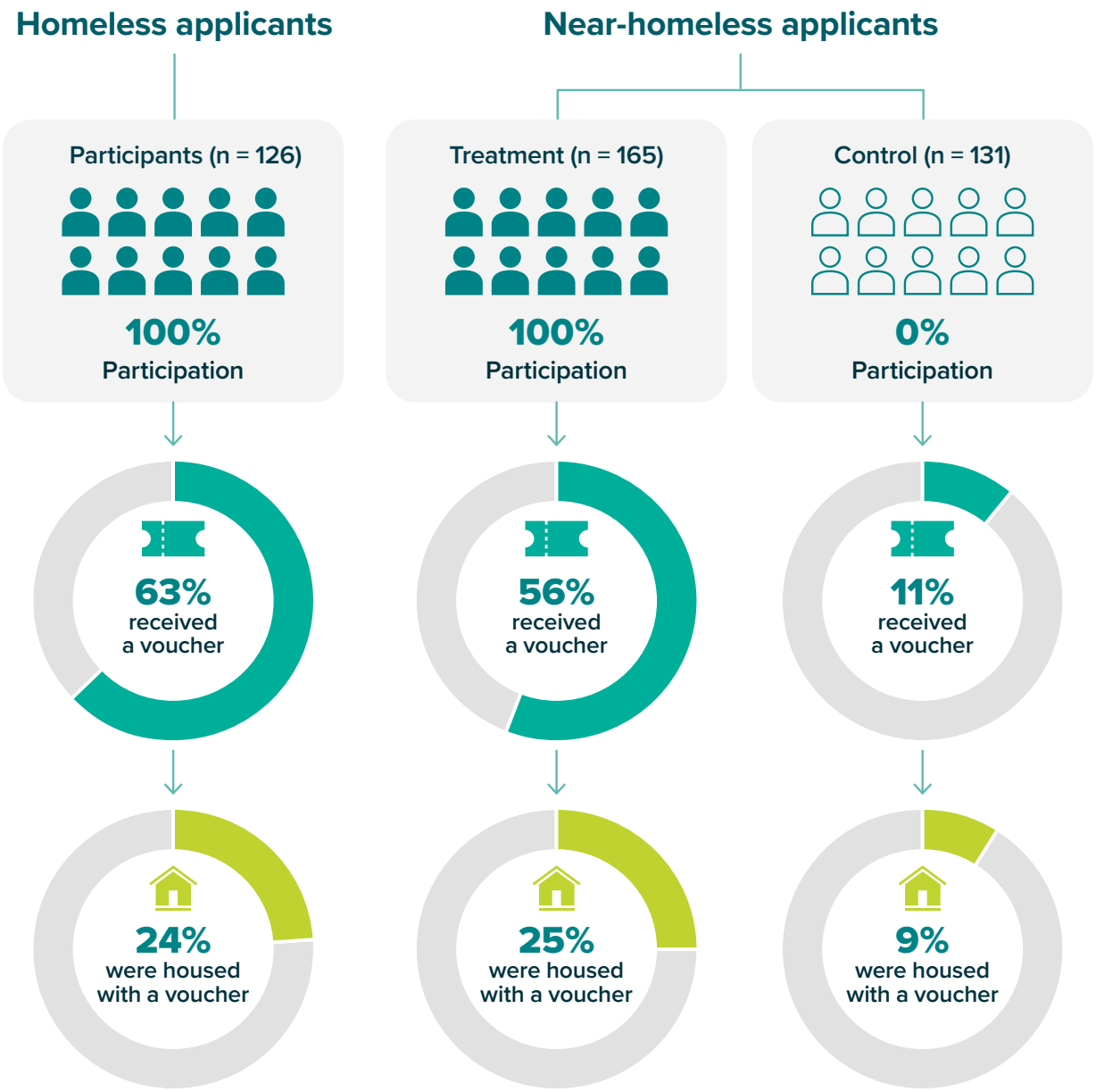
HUD Application, Housing Search, and Leasing Up

Figure 2 presented the multiple stages of the program that a student had to complete to receive housing. Figure 5 outlines the fraction of program participants who advanced through those stages. Just one in four students offered voucher support by the program between 2017 and 2019 leased up in housing by 2022. The rate was nearly the same for students who were initially homeless when they applied to the program and those who were near-homeless at that time (24% vs. 25%).[13]

Nearly half of the students accepted into the program never obtained a housing voucher with which to search for housing. Obtaining a voucher required that students complete the HUD application for a voucher and attend an orientation session. The HUD application is lengthy and requires substantial documentation of income, proof of citizenship, and evidence that you have not been evicted from subsidized housing. Homeless students were more likely than near-homeless students to obtain a voucher, however (63% vs 56%). Conversely, among those who obtained a voucher, homeless students were less likely than near-homeless participants to secure housing (38% vs 45%).

[13] Notably, 9 percent of the non-participants/control group also leased up. This is not surprising as the partners did not restrict access to vouchers outside the program. We anticipate that these students are some of the most advantaged with regard to their ability to navigate systems of bureaucracy, although the sample size is too small to measure.

Figure 5. Participant progress in program



Source: Tacoma Housing Authority administrative data.

Interviews with participants revealed that finding time for the extensive HUD application was difficult due to challenges with their existing housing situations and their responsibilities as students, workers, and caregivers. For example, at the time of her interview, one student worked full-time, attended college part-time, and cared for her child and two nieces, who all lived with her. Under these circumstances, it was difficult for her to find the time and energy to complete the application and pull together documents for all three children.

Some students also reported in interviews that they had trouble providing the necessary documentation, in at least one case because they had fled a domestic violence situation. Several others said they lacked sufficient proof of income or enough income to meet the rent requirement. A survey confirmed that a third of homeless students and one-fifth of near-homeless students said they did not receive enough help with the application, and 1 in 10 struggled with the required HUD documentation (table 3).[14]

For early program cohorts, a college resource navigator tried to assist, but she was not consistently available for later cohorts. When she was available, her limited time focused on assisting homeless students. In interviews, college administrators said they also expected THA staff members to help students as needed, but THA administrators disputed that assignment of responsibility, stating that was not their role.

Table 3. Participant program experiences, all applicants

		Homeless applicants (%)	Near-homeless applicants (%)
Completing the CHAP application (baseline)	Applicant had sufficient help	100	100
	Applicant had necessary documentation	100	91
Completing the HUD application	Applicant had sufficient help	65	77
	Applicant had necessary documentation	85	86

Source: CHAP study survey data. Baseline survey percentages are used for "Completing the CHAP application" sections; these indicate results for individuals upon application to CHAP. Follow-up 2 survey data are used for "Completing the HUD application" sections. "Completing CHAP application" and "Completing the HUD application" sections represent only students who completed both baseline and follow-up 2 surveys (n = 42).

Among participants who received a voucher, less than half leased up in housing. Students who were homeless had a harder time securing housing than students who were near-homeless. One student said "I can't get people to call me back or email me back … I have the voucher, I have the money, I have everything, and I still cannot find [housing] … I have called and emailed probably 100 places." Interviews with program administrators and staff members, as well as conversations in ongoing program meetings, suggest that the main barriers to housing included:

[14] The survey may underestimate the scale of the problem, since students who completed the survey tended to be relatively advantaged.

- **A tight housing market.** The Tacoma region is among the most expensive housing markets in the country, with a dearth of affordable rentals. The value of the CHAP voucher was often not enough to meet students' needs in an area with low vacancy and steep housing prices—prices that continue to increase.[15] While the voucher was never intended to cover the full rent, it was meant to make housing affordable.
- **Geography.** Identifying units that were within reasonable distance from TCC and/or students' workplaces proved to be quite difficult. In many cases, students also had to factor in yet another location, such as a child care provider or their children's schools.
- **Sufficient income.** Landlords often required that their tenants' incomes were at least three times the portion of the rent that they were responsible for. Many CHAP students did not meet this threshold.
- **Discrimination.** Some students reported that landlords would not rent to them. In addition to subjecting them to negative stereotypes as voucher recipients (which is illegal in Tacoma), several students said that landlords judged them for being students, assuming they were irresponsible or otherwise risky tenants.[16] TCC administrators echoed this concern.
- **Paperwork.** Once participants identified potential rental units, they struggled with still more paperwork, including apartment applications and agreements between the landlord and THA.
- **Other expenses.** Paying security deposits and other moving costs presented an additional, albeit one-time, hurdle for students. Several years after the program began, TCC created a fund to help address this challenge.

[15] For a news account summarizing a variety of studies on rising rents in Tacoma, see: Martin, K., & Cockrell, D. (2018, January 31). How big are the rent increases here? Big enough to put Tacoma at the top of one list. *The News Tribune*.

[16] See here for the City of Tacoma's protections for voucher-holders: City of Tacoma, Washington. (n.d.) City of Tacoma's Fair Housing Law. https://www.cityoftacoma.org/government/city_departments/equity_and_human_rights/fairhousing

One Student's Experience

Luz, a student at serious risk of homelessness, was living with her two children at her brother's house when she found out about CHAP. She submitted her application at the end of October, since she had to move out of her brother's house by November. After being admitted to the program, Luz thought that she would soon lease up. In the meantime, she moved her children to her mother's house outside Tacoma, which was her last housing option and meant a longer commute to work, school, and child care. She planned to stay just two weeks, but it took almost two months (until the end of December) to complete all the steps and finally move into a new apartment.

The landlord did not complete his paperwork on time, however, so Luz had to pay full market rent for January. She prodded her landlord to complete the paperwork. Several more weeks passed without a response, so Luz went to the landlord's office with paper copies to sign, and faxed those to THA. But there were still forms missing. At the time we interviewed her, near the end of January, Luz was still trying to resolve the issue. A search of THA's administrative records several months later showed that she was eventually able to use her voucher, but without her extraordinary efforts, she might never have been able to do so. Many other students did not have the time to go navigate such hurdles.

Program Staffing

Sufficient staff resources are critical for effective program implementation. While an initial MOU governed the division of roles and responsibilities for program activities and resources, it did not clarify how program participants were supposed to be supported, with what resources, or when.

Both the college and the housing authority provided staff members for multiple functions, including program oversight and administration; case management and coaching; program navigation; and processing of applications, vouchers, and other paperwork. Staff members' work also included disbursing rental assistance, data management, and relationship management with external organizations and departments of the college and housing authority that offered additional supports.

College staff members faced two significant challenges to helping students through the program: lack of time and lack of specific expertise on program activities such as completing the HUD application. Since the program did not include funds for it, the CHAP office at TCC was short-staffed throughout the evaluation period. This was particularly true in the first year when there was not a dedicated person assigned to the role. Instead, an administrator oversaw the program on top of her other duties, devoting about a third of her week to CHAP. Later, when a full-time resource navigator was hired, she was largely on her own with occasional assistance from two front desk staff members and a work-study student.

The lack of an online application and case management system further complicated program administration. Paper records were difficult to share across agencies, which made it harder to track how students were faring and facilitate proper handoffs.

Disparities in Program Experiences

CHAP best served students who already had some form of income since the voucher only supplemented the rental payment. Relatively few participants were able to secure housing, and rates of success were inequitable along several lines. This suggests that the barriers outlined above were more prominent or posed more of an obstacle for some students than others.

Table 4 compares program applicants based on whether they received a voucher and/or were housed. Recall that the overall sample for this study is relatively small and subgroup samples can be especially small, so the tests for statistically significant differences on the right side of the table are particularly important. There are several disparities that may affect the program results described in the rest of the paper.

- Students were much more likely to receive a voucher if they had a lower expected family contribution according to their FAFSA and/or received public assistance. Still, less than a third of students who received a voucher also received public benefits.
- Female students were much more likely than male students to lease up: 82 percent of housed students were female, compared to 64 percent of vouchered but unhoused students.
- Students with children were also more likely to lease up: 71 percent of housed students had dependents, compared to 40 percent of vouchered but unhoused students.
- Students who were housed had much higher GPAs than those who were not: the average GPA for students who leased up was 2.88 compared to 2.25 for vouchers but unhoused students.

Disaggregating the sample reveals additional disparities. Appendix table A3 examines differences among near-homeless students and reveals that Black participants who received a voucher were much less likely to lease up: 26 percent of vouchered but unhoused students were Black, compared to 11 percent of vouchered students who participated in the program and leased up. While the results suggest that fewer Black students with vouchers leased up, these results are not statistically significant, and this disparity is not evident among homeless students (appendix table A4). Additionally, Black students were more likely to be homeless rather than near homeless at the point of application (32% vs. 18%) (see table 1).

There is also some evidence that Black students were less likely to be housed overall, compared to white students, and that students with a high school diploma but less parental education were more likely to be housed, but those differences are not statistically significant. It also appears that younger students were less likely to receive a voucher, but that may be an artifact of missing data. The multiple pieces of evidence indicating potential racial disparities in program implementation and engagement should be explored in future evaluations.

Table 4. Participant characteristics at baseline, by program stage, all applicants

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 236)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 102)	B vs C (p value)	Applicants who received a voucher and were housed (C) (n = 84)
Age					
Average age	31	*0.06*	34	1.00	34
Age missing (%)	4	**0.00**	0	0.16	2
Gender (%)					
Female	71	0.21	64	**0.00**	82
Male	25	0.04	36	0.00	17
Gender unknown	4	**0.00**	0	0.32	1
Race (%)					
White	31	0.86	32	0.52	37
Black	22	0.39	26	0.16	18
Other races	38	0.26	31	0.27	39
Race unknown	9	0.80	10	0.33	6
High school credential (%)					
High school diploma	42	0.52	38	0.43	44
High school GED	12	0.22	18	0.86	17
Home school	10	0.87	11	0.39	7
High school unknown	36	0.69	33	0.86	32
FAFSA complete (%)	63	0.87	62	0.64	58
Parents' education level (%) - BA/BS	33	0.31	25	0.22	15
Parents' education level unknown	48	0.11	57	0.06	43

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 236)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 102)	B vs C (p value)	Applicants who received a voucher and were housed (C) (n = 84)
Marital status (%)					
Single	42	0.95	41	0.70	44
Married	6	0.87	6	0.46	4
Divorced/separated	11	0.15	17	0.24	11
Marital status unknown	42	0.57	38	0.64	42
Supporting dependents (%)	48	0.28	40	**0.00**	71
Expected family contribution ($)	1,908	**0.01**	594	0.60	910
Receipt of public benefits (%)	14	**0.03**	29	1.00	29
Baseline college information					
Cumulative GPA (4.0 Scale)	2.50	*0.09*	2.25	**0.00**	2.88
Cumulative credits completed	61	0.68	58	0.60	62
Enrolled in remedial placement courses (%)	51	0.27	44	0.74	42
Information on cumulative GPA and credits missing	4	**0.00**	0	–	0

P-values are bold if <0.05 and italicized if p<0.10.

Note: Cumulative percentages may not add up to 100 due to rounding.

Significance for differences between group means A vs B shown in column 2, those for B vs C shown in column 4.

Source: Application data, students' academic records, and pre-treatment data are provided by TCC. Information on age comes from application data; race/ethnicity and gender for student study participants comes from TCC administrative data and are filled in with application data if missing; remainder still missing noted as missing. Data on FAFSA, marital status, parental education, financial aid, and receipt of public benefits are drawn from TCC financial aid records. Parents' education level equals one if students' parents obtained a bachelor's degree or higher. Information on baseline college characteristics from TCC administrative records.

Outcomes for Homeless Applicants

We begin by examining outcomes in six domains for applicants who were homeless at the time they applied to the program. There is not a proper comparison group against which to assess these outcomes since all homeless applicants were accepted into the program, so these results are descriptive and suggestive of possible program impact. They are important, however, because very few programs supporting homeless students have been evaluated, and these outcomes (particularly across the range of domains)—whether they are causal—can help establish a baseline. We use several comparisons, such as differences in outcomes between voucher recipients who leased up versus those who did not lease up and changes in outcomes for homeless students over time.

In addition to looking at outcomes at the end of the evaluation, the appendices show trends over time. It is common for programs offering homelessness services to examine aggregate trend data to try and assess if a program is working. But while trend data might suggest program impacts, it is also possible that upward or downward shifts in outcomes are due to other factors. For example, if more students persist over time, it could be due to changes who attends the college. If fewer students are food secure over time, it could be due to changes in the economy, or perhaps due to increased government assistance or other factors during the pandemic. Comparing the trend data to the final data, particularly when there is not a proper comparison group available, may be informative for future program evaluation.

Housing

Recall that while all homeless applicants were accepted to CHAP, only 63 percent received a voucher and only 24 percent (30 students) leased up. Did engaging with the program, perhaps receiving navigational support, reduce the probability that students would experience homelessness and receive homelessness services from the county?

Homelessness is often episodic, with people housed one month and not the next, and thus the use of services is recorded in administrative records month by month. Table 5 displays final outcomes based on whether students received a voucher and whether they leased up. Students who did not receive a voucher received homelessness services for an average of nearly two months (1.97). Students who got a voucher but did not lease up received services for nearly three months on average. Students who leased up received homelessness services for a shorter period on average (1.59 months). This may indicate an improvement, but the small samples make it impossible to be sure.

The trend data are also suggestive of possible program-induced improvements. At the first follow-up, students had received services for 3.63 months of the last 12, but by the second follow-up that declined to 2.20 months (see appendix table A5).

Academics

Seventy percent of students who were homeless when applying to the program, received a voucher for housing, and successfully leased up also completed a credential (53%), transferred to a university (37%), and/or were still enrolled in college (10%) when this evaluation concluded six years later. They completed an average of 153 credits with a GPA of 2.50 (table 5).

It is difficult to know if those outcomes are attributable to being housed or even to being admitted to CHAP. Overall rates of academic success (63%) were nearly as high for program participants who received a voucher but were not housed. Looking across all homeless students admitted to the program, however, there are signs of academic progress. Possessing 58 credits at the time of application, they had an average of 84 credits by the first follow-up period (12–20 months later), 95 at the second follow-up, and 102 at the third. However, GPAs rose only slightly over time. By the final follow-up period, regardless of whether they leased up, 28 percent of program participants who did not receive a voucher completed a credential, a rate that was 37 percent if they were vouchered, and 43 percent if they leased up. Some were still enrolled; in total 58 percent of all homeless applicants had either finished college, transferred, or were still enrolled pursuing their credential (see appendix table A5). This suggests that, at minimum, practitioners and policymakers investing in homeless student support can expect substantial academic outcomes after a reasonable window of time.

Table 5. Final (follow-up 3) outcomes across six domains, by level of program participation, homeless applicants

	Applicants who did not receive a voucher (A) (n = 47)	Applicants who received a voucher but did not lease up (B) (n = 49)	Applicants who received a voucher and leased up (C) (n = 30)
Housing			
Average number of months receiving homelessness services in last year	1.97	3.0	1.59
Academics			
Total credits	83	89	153***
GPA (4.0 scale)	1.74	1.77	2.50**
Credential completed (%)	28	37	43
Still enrolled (%)	7	2	10
Credential completed or still enrolled (%)	35	39	53
Transferred to university (%)	30	37	37
Positive academic outcome (%) (credential, transferred, still enrolled)	49	63	70

	Applicants who did not receive a voucher (A) (n = 47)	Applicants who received a voucher but did not lease up (B) (n = 49)	Applicants who received a voucher and leased up (C) (n = 30)
Employment			
In labor force (%)	50	56	59
Quarterly hours worked	110.04	102.92	108.69
Quarterly wages ($)	2,441.05	1,828.97	2,453.90
Public benefits receipt (%)			
Supplemental Nutrition Assistance Program (SNAP)	58	62	81
Temporary Aid to Needy Families (TANF)	10	6	22~
Health and health services (%)			
Food secure (high or marginal)	20	18	35~
Any mental health treatment (per 1,000 months of Medicaid) (%)	28	D	33~
Any emergency room visit (per 1,000 months of Medicaid) (%)	28	50	D
Any inpatient hospital admission (per 1,000 months of Medicaid) (%)	D	D	0*
Criminal justice system involvement (%)			
Felonies, arrests, charges	18	0*	0

Significance for differences between group means A vs B shown in column b and second column from right, those for B vs C shown in column C and right most column, ~ if p=<0.1, * if p=<0.05, ** if p=< 0.01, *** if p=<0.001.

N = 124 for academic outcomes. N = 101 all other outcomes.

*D is used to indicate suppressed cells.

Note: These are mean descriptive outcomes, not adjusted. Applicants are defined as being in the labor force if they have both nonzero hours worked and nonzero earnings during the follow-up period. The follow-up period for employment, social benefits, health, and involvement with the criminal justice system is defined as 28–39 months after application for each cohort and only includes cohorts 1–4. Housing insecurity is calculated for 12–24 months after application due to data availability. Groups are as follows: (A) applied but was not approved (control group) (B) applied and approved as CHAP program participant but not housed, (C) applied and approved as CHAP program participant and housed.

Source: Students' academic records provided by TCC. Information on months receiving homeless services, employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses.

Employment and Earnings

Compared to students who were not housed, homeless students who obtained housing through the program were no more likely to participate in the labor force and there were also no significant differences in hours worked or earnings (table 5).

For the first two waves of follow-up, homeless students worked more and earned more each period. Nearly 70 percent were employed, with quarterly hours suggesting they worked roughly 10 hours per week, and their quarterly earnings rose from an average of $16/hour to about $18/hour. Rates of employment and quarterly hours fell by the third follow-up, potentially affected by the end of the pandemic. However, quarterly earnings remained stable, suggesting that at least some students may have secured jobs with higher wages (appendix table A5).

Public Assistance

When they applied to CHAP, only 25 percent of homeless applicants received public benefits—important forms of assistance that could bring needed financial stability during college. By contrast, more than half of homeless participants used those programs during the evaluation period. For example, 81 percent of housed students received SNAP. This suggests that they may have been encouraged and/or supported to obtain public assistance by the college navigator associated with the program or by peers or other influences. It could also be that some of the administrative burdens associated with applying for SNAP (i.e., collecting the relevant documentation for income verification) were lessened for those who had already completed a similar process to obtain a voucher.

Housed students were more likely than vouchered but unhoused students to receive public assistance. There is a statistically significant difference in the rates of TANF usage (22% among housed students compared to 6% among vouchered but unhoused students) (table 5). This may be related to the higher rates of leasing up among students with children. Also, trends over time shows fluctuations in use of SNAP and TANF that may be due to the pandemic and/or changes in earnings (see appendix table A5).

Health and Health Services

Food security rates are higher among homeless students who leased up (35% vs. 18% of vouchered but unhoused students) (table 5). This may be related to their greater use of public assistance. Just 15 percent of students were food secure at the first follow-up, but 25 percent were food secure at the second follow-up, and that rate remained about the same at the third follow-up (see appendix table A5).

Housed students were also less likely to require inpatient hospital admission: none were admitted during the study period, whereas 15 percent of vouchered but unhoused students were admitted. There were other signs of potential health improvements in the trend analysis. For example, while

36 percent of homeless students received mental health treatment by the first follow-up, just 26 percent did in the last follow-up period. Emergency room usage fell from 52 percent at the first follow-up to 40 percent at the last.

Criminal Justice System

It seems that engagement with CHAP, even if students did not receive housing, was associated with fewer interactions with the criminal justice system. Just under 1 in 5 homeless students (18%) who did not receive a voucher experienced a felony, arrest, or charge during the evaluation period, but none of the students who received a voucher did. At the first follow-up, 9 percent of homeless students admitted to the program had experienced a felony, charge, and/or arrest. That rate rose to 11 percent at the second follow-up before declining to 7 percent at the third. This may also be related to the pandemic, as crime rose during that time.

Impact for Near-Homeless Applicants

We next examine program impacts for students who were at serious risk of homelessness when they applied to CHAP and were admitted to the program. In these analyses we use regressions to compare outcomes of students who were assigned by lottery to program participation (i.e., admitted to CHAP) against outcomes for a comparable group of students who were not admitted to CHAP. We also draw on marginal mean differences contained in the appendices. When we describe impacts, they are statistically significant unless stated otherwise. The analyses of impacts on housing and academic outcomes are based on all six cohorts of students while the impacts on non-academic outcomes are based on the first four cohorts, as the third follow-up data are not available for the last two cohorts.

We also conducted two sensitivity analyses, available but not shown. First, we reproduced the analyses just mentioned with all six cohorts and only two follow-ups, given that the third wave of follow-up data for some outcomes is only available for four of the cohorts. Second, we reran all analyses with only the first three cohorts who enrolled in the program prior to the pandemic. The results of the sensitivity analyses are not meaningfully different and do not change the conclusions.

Housing

Earlier we examined receipt of homelessness services in the years following program admission among students experiencing homelessness when they applied. The results suggest that if students received a voucher, perhaps particularly if they were housed, they spent less time receiving services. But does that mean CHAP caused those changes? Next, we examine that question for students at risk of homelessness when they applied to the program.

Most students who applied to CHAP did not lease up. But it seems that they did get some housing support in the form of temporary assistance. State records show higher rates of homelessness services among students admitted the program, compared to those not admitted. On average students admitted to the program spent 42 to 44 days receiving services in each of the first two follow-up periods, compared to 18 to 20 days of services among students not admitted.

The survey data clarify this result, revealing that program participants were twice as likely as non-participants to have stayed temporarily at a hotel or motel without a permanent home to return to (not on vacation or business travel) in the past year (22% vs. 11%, $p = 0.03$). But they were no more or less likely to have couch surfed, stayed outdoors, or stayed in an indoor location not meant for human habitation.[17] Thus, it is likely that following program admission, college staff (who knew it could take a while to lease up) referred them for county services in order to obtain hotel vouchers. In other words, these results indicate that students received more support if they were in the program, *not* that they were more likely to be homeless.

Academics

The program aimed to increase the probability that students would complete college credentials and/or transfer. The provision of affordable housing was the intended mechanism through which those effects occurred, although staff support with other basic needs may also have helped. The data for homeless students suggest that most who were housed did rather well in college, with upward trends over time, but we do not know if those were improvements induced by the program.

On average, by the conclusion of the evaluation near-homeless students admitted to the program earned about five more credits and had slightly higher GPAs than comparable students not admitted to the program, but we cannot rule out the possibility that those differences are due to chance. Rates of credential completion rose over time, from about 25 percent of students at the first follow-up to almost half by the third, but those rates were not improved by admission to CHAP (table 6). In fact, program participants completed credentials at lower rates, and at the time of second follow-up that difference (33% vs. 39%) was statistically significant (see appendix table A6).

However, it seems that being admitted to CHAP boosted the probability that students remained enrolled without transferring or graduating. At the end of the evaluation, 7 percent of students in the program remained enrolled, compared to 4 percent of those not admitted. Further, these differences were driven entirely by those students who were housed, 13 percent of whom remained enrolled. This may be related to a desire to retain their housing, which was conditional on enrollment (while transfer to UW-Tacoma was allowed, students did not seem to understand that).

[17] Results not shown, but available from the authors upon request.

Given the lack of academic improvements, some might wonder whether the program targeted students who had the potential for academic success. Earlier we noted that 58 percent of homeless participants graduated, transferred, or remained enrolled by the end of the evaluation. We find that 65 percent of near-homeless participants did as well.

Table 6. Program admission impacts on housing and academic outcomes, near-homeless applicants

	Follow-up 1	Follow-up 2	Follow-up 3
Housing			
Average number of months receiving homelessness services in last year	0.896*	0.692	N/A
(se)	(0.239)	(0.239)	–
Academics			
Total credits	-0.564	3.614	5.485
(se)	(2.183)	(7.366)	(8.540)
GPA (4.0 scale)	0.046	0.034	0.044
(se)	(0.057)	(0.045)	(0.055)
Marginal effects			
Credential completed (%)	-0.052	-0.088*	-0.082
(se)	(0.058)	(0.036)	(0.053)
Still enrolled (%)	0.067	0.089~	0.056*
(se)	(0.078)	(0.048)	(0.026)
Completion or enrolled (%)	0.019	-0.007	-0.050
(se)	(0.035)	(0.064)	(0.053)
Ever transfer (%)	N/A	N/A	-0.013
(se)			(0.038)
Positive academic outcome (%) (credential, transferred, still enrolled)	N/A	N/A	-0.019
(se)			(0.052)

Note: These are adjusted intent-to-treat estimates for the near-homeless sample (n = 296); sample size within row varies by outcome. Academic records are provided by TCC, baseline information is as described in the footnote of table 2. All models include controls for variables not equivalent at baseline in table 2 with some modifications to preserve power in the analytic models: for race we collapse missing and other races into an "other" category, models include indicators for less than high school diploma and missing high school diploma with combined diploma/GED as the reference, marital status is categorized as single/divorced/separated or married missing with married serving as the reference group. The analyses of impacts on housing and academic outcomes are based on all six cohorts of students while the other impact analyses are based on the first four cohorts, as the third follow-up data are not available for the last two cohorts.

Source: Students' academic records provided by TCC. Information on months receiving homeless services, employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses. The sources for controls are described in table 2.

Employment and Earnings

Working during college is associated with lower academic performance, but many students need to work and do work to afford living expenses (Perna, 2023). However, it can be difficult to find and maintain employment if one is unhoused.

CHAP substantially increased the probability that students joined the labor force (appendix table A7). At the first follow-up 75 percent of program participants worked compared to 62 percent of non-participants, and that gap widened by the second follow-up (to 18 percentage points, $p<.10$) before declining to 5 percentage points at the end of the evaluation period (see appendix table A7).

There was no impact of CHAP on either wages or hours worked. This is reflected in table 7 where we see a mixture of positive and negative coefficient estimates, all with relatively large confidence intervals. This is also reflected in appendix table A7, which shows that CHAP participants tended to work more hours and have higher wages, but these differences were relatively small and not statistically significant.

Public Benefits

More than half of the applicants to CHAP who were near-homeless when they applied had children. The program substantially increased the probability that their families would receive TANF in the initial years following program admission, probably thanks to college staff support (see appendix table A7). For example, at the first follow-up 9 percent of non-participants received TANF compared to 18 percent of program participants. That difference grew even larger by the second follow-up (4% vs 16%) before diminishing in the third (1% vs. 10%). TANF support is time-limited, which may contribute to this pattern of results. This is also reflected in the impact estimates, where we find that CHAP participants were roughly 11 to 16 percentage points more likely to receive TANF during follow-ups 1 and 2 (table 7).

There is also some indication that CHAP participants were more likely to use SNAP, which was clear in the analysis of homeless students. But those differences were more modest and could have been due to chance.

Table 7. Program admissions impacts on employment, public benefits, health, and criminal justice outcomes, near-homeless applicants, cohorts 1–4

	Follow-up 1	Follow-up 2	Follow-up 3
Employment (%)			
In labor force	0.082	0.053~	0.033
(se)	(0.092)	(0.028)	(0.052)
Quarterly hours worked (hrs)	13.530	20.438	-3.897
(se)	(27.853)	(53.410)	(43.527)

	Follow-up 1	Follow-up 2	Follow-up 3
Quarterly wages	484.965	180.498	-210.310
(se)	(550.822)	(1,143.784)	(1,074.660)
Public benefits (%)			
Supplemental Nutrition Assistance Program receipt	0.020	0.107	0.057
(se)	(0.016)	(0.085)	(0.095)
Temporary Aid to Needy Families receipt	0.113**	0.159**	0.126
(se)	(0.054)	(0.058)	(0.079)
Health and health services (%)			
Food secure (high or marginal)	0.227**	0.238**	0.065
(se)	(0.069)	(0.069)	(0.150)
Received mental health treatment (per 1,000 months of Medicaid)	-0.112	0.006	-0.010
(se)	(0.109)	(0.132)	(0.096)
Any emergency room visit (per 1,000 months of Medicaid)	-0.019	0.053	0.032
(se)	(0.054)	(0.050)	(0.045)
Any inpatient hospital admission (per 1,000 months of Medicaid)	0.119*	-0.017	0.141**
(se)	(0.047)	(0.046)	(0.013)
Criminal justice system involvement (%)			
Any felonies, arrests, charges	-0.034	0.022	–
(se)	(0.032)	(0.025)	–

Note: These are adjusted intent-to-treat estimates reported in marginal effects unless outcome is noted as a continuous measure. Applicants are defined as being in the labor force if they have both non-zero hours worked and non-zero earnings during the follow-up period. Applicants are defined as receiving public benefits if they ever received them during the follow-up period. Health and criminal justice system involvement are defined similarly—the outcome is equal to 1 if the applicant ever experienced that event during the follow-up period. Health outcomes are only reported for applicants who received Medicaid during the follow-up period. Follow-up period 1 is 4–15 months after application, follow-up period 2 is 16–27 months after application, and follow-up period 3 is 28–39 months after application. All models include controls for variables not equivalent at baseline in table 2 with some modifications to preserve power in the analytic models: for race we collapse missing and other races into an "other" category, models include indicators for less than high school diploma and missing high school diploma with combined diploma/GED as the reference, marital status is categorized as single/divorced/separated or married missing with married serving as the reference group. Models for any felonies, arrests, or charges do not include baseline controls since models with controls did not converge due to the small number of participants experiencing this outcome. Standard errors are clustered by cohort.

Source: Information on employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses. The sources for controls are described in table 2.

Health and Health Services

While CHAP may not have improved students' educational outcomes, it does appear to have increase their income (from both employment and public assistance) and correspondingly there is some evidence that their health improved. Their odds of achieving food security substantially improved (table 7). More than a third of program participants were food-secure across all follow-ups, with rates rising from 36 percent to 38 percent over time. Among non-participants those rates were much lower and unstable: just 17 percent were food-secure at first follow-up, 12 percent at second follow-up, and 31 percent at third follow-up (see appendix table A7).

In terms of receipt of health services, we do not find any indication that program participation caused changes in the rates at which students received mental health treatment or visited the emergency room, but in the last follow-up period students admitted to CHAP were more likely to receive inpatient hospital treatment (table 7). Nine percent of them were admitted to the hospital, compared to 1 percent of students not in the program (see appendix table A7).

Criminal Justice System

CHAP applicants rarely interacted with the criminal justice system in the form of felonies, arrests, or charges—rates were in the low single digits. We are unable to confirm a causal impact of the program in this domain (table 7).

Association Between Voucher Receipt, Leasing Up, and Outcomes

Many near-homeless CHAP participants did not receive a voucher and most did not lease up. How might program results differ if more students had obtained those supports? The characteristics of students who reached those stages in the program differ along some important lines—recall that table 4 illustrated disparities by age, race, gender, and whether a student has children. It is possible that when we examine outcomes based on the program stage achieved, any differences are due to those pre-existing advantages or disadvantages.

We attempted to conduct regression analyses to model the relationships between voucher receipt, housing, and individual outcomes, but the models were grossly under-powered and would not converge. Instead, we display results at the third and final follow-up for the first three cohorts, who are less likely to have been affected by the pandemic, disaggregated by the students' final program stage (table 8). While this does not enable an assessment of impacts, it does provide a picture of how students who were vouchered and/or housed fared.

There are many differences in the academic outcomes of program participants based on whether they were vouchered or housed. Compared to vouchered but unhoused students, housed students earned far more credits (140 vs. 108) and higher GPAs (3.01 vs. 2.45) and graduated at higher rates (57% vs. 36%) or otherwise remained enrolled (13% vs. 2%). Again, we cannot attribute those differences to the program; they deserve further exploration. There is not a clear pattern of differences in other outcomes.

Table 8. Final (follow-up 3) outcomes across six domains, by level of program participation, near-homeless applicants

	Applicants who did not receive a voucher (A) (n = 189)	Applicants who received a voucher but did not lease up (B) (n = 53)	Applicants who received a voucher and leased up (C) (n = 54)
Housing			
Average number of months receiving homelessness services in last year	0.89	1.19	1.52
Academics			
Total credits	105	108	140**
GPA (4.0 scale)	2.57	2.45	3.01***
Credential completed (%)	45	36	57*
Still enrolled (%)	5	2	13*
Credential completed or still enrolled (%)	50	38	70***
Transferred to university (%)	34	40	35
Positive academic outcome (%) (credential, transferred, still enrolled)	62	58	78*
Employment			
In labor force (%)	67	69	72
Quarterly hours worked	227.53	174.33	133.61
Quarterly wages	5,094.29	3,700.70	2,944.79
Public benefits receipt			
Supplemental Nutrition Assistance Program (%)	58	45	69~
Temporary Aid to Needy Families (%)	2	7	17
Health and health services			
Food secure (high or marginal) (%)	33	33	29
Any mental health treatment (per 1,000 months of Medicaid) (%)	40	D**	37*
Any emergency room visit (per 1,000 months of Medicaid) (%)	38	27	48

	Applicants who did not receive a voucher (A) (n = 189)	Applicants who received a voucher but did not lease up (B) (n = 53)	Applicants who received a voucher and leased up (C) (n = 54)
Any inpatient hospital admission (per 1,000 months of Medicaid) (%)	7	D	19
Criminal justice system involvement			
Felonies, arrests, charges (%)	0	0	10

Significance for differences between group means A vs B shown in column B and second column from right, those for B vs C shown in column C and right most column, ~ if p=<0.1, * if p=<0.05, ** if p=< 0.01, *** if p=<0.001.

Note: N = 296 for academic outcomes. N = 165 for all other outcomes. These are mean descriptive outcomes, not adjusted. Applicants are defined as being in the labor force if they have both non-zero hours worked and non-zero earnings during the follow-up period. The follow-up period for employment, social benefits, health, and involvement with the criminal justice system is defined as 28–39 months after application for each cohort and only includes cohorts 1–4. Housing insecurity is calculated for 12–24 months after application due to data availability. Groups are as follows: (a) applied but was not approved (control group) (b) applied and approved as CHAP program participant but not housed, (c) applied and approved as CHAP program participant and housed.

*D is used to indicate suppressed cells.

Source: Students' academic records provided by TCC. Information on months receiving homeless services, employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses.

Discussion

In July 2023, nearly a decade after CHAP began, the federal government released the first nationally representative estimates on homelessness among American undergraduates (Goldrick-Rab, 2023). Eight percent of undergraduates—roughly 1.4 million students— experience homelessness each year. This includes 15 percent of American Indian or Alaskan Native students, 12 percent of African American students, and 11 percent of multi-racial students. Homelessness rates at community colleges are very similar to those detected at other sectors and types of institutions, though they are lower than at for-profit colleges. It is also possible that the numbers underestimate the full scale of the problem, since only students currently enrolled in college and with computer access were surveyed.

Would supporting students experiencing homelessness enhance their college experiences and overall well-being? Can HCVs effectively subsidize housing for community college students, improving their academic attainment, employment rates, health, and well-being? There was very little evidence to help practitioners and policymakers address these questions prior to this evaluation, and the evidence in this paper remains uncommon, particularly given the breadth of outcomes it considers. As cities, colleges, developers, and community organizations continue to try and address these challenges, we think these results should be considered and built upon with further evaluation (Chapman, 2024).

Consistent with research on homelessness in the general population, this evaluation reveals that students experiencing homelessness (and those at risk of homelessness) want safe, affordable housing but struggle to access it. Despite having moved beyond the pilot stage and having descriptive evidence of success, CHAP was under-developed when the evaluation began, with program implementation falling well short of students' needs. Only one in four students admitted to the program was housed. But these shortfalls are common for many college and housing programs, both of which struggle with resource constraints, misunderstandings about peoples' needs and how best to meet them, and so on.

Even so, students admitted to CHAP appear to have experienced better academic outcomes, participated more often in the labor force, been more likely to be food secure, and received more support from public benefits programs, while some also used fewer health services and interacted less often with the criminal justice system. A full cost benefit analysis should be performed on a better implemented program supporting more students, since in other studies of similar programs researchers find that helping people avoid expensive public services (e.g., emergency room, jail, hospitals) offsets program costs (Ferrante et al., 2024). If the impacts on academics could be strengthened and improvements in work participation maintained, the return on investment would be even stronger.

Key Results

Program Implementation

The most critical lesson from this study for practitioners is housing has great potential to improve students' wellbeing but partnerships between community colleges and subsidized housing authorities will only succeed in meeting students' needs if they have the proper staffing and infrastructure to help participants. Navigational assistance is needed throughout every stage of a housing voucher program, and without it the people who most need support are often left behind (Knoll, 2023). Adding additional staffing and resources to programs like the one described could improve outcomes.

Housing

Research on housing vouchers among the general population of low-income adults does not find much evidence that housing vouchers substantially improve housing stability, particularly when compared to subsidized housing (Kang, 2021). One key reason is that relatively few people offered vouchers lease up, exactly as we found in this study—just 1 in 4 students offered vouchers were housed. We also learned that while the program reduced the number of months already-homeless students used county homeless services, it increased use of those services for students who were at-risk of homelessness, as college staff secured hotel/motel vouchers for them while they worked to lease up.

Education

CHAP aimed to boost the odds of academic success among TCC students who were struggling to find housing. The available evidence confirms that the program supported students who were capable of and invested in succeeding in college. More than half of the students served by the program, and about two-thirds of those who were housed, completed a credential, transferred to university, and/or remained enrolled on track to a degree—despite an intervening pandemic.

Even with a narrowed focus on graduation, the students in this evaluation completed credentials at much higher rates than the average 35 percent completion rate over three years for community colleges (150% time for a "two-year" degree if students attend full-time) (U.S. Department of Education, 2022). Overall, 28 percent of homeless students graduated if they participated in the program and that rate was 43 percent if they were housed; 45 percent of near-homeless students graduated if they participated in the program, and that rate was 57 percent if they were housed.

However, we could not confirm that the program caused those outcomes. Academic performance trended up over time for students who were homeless when they applied to the program but there is no comparison group to examine. Academic attainment is not higher for near-homeless students based

on program participation, and there is some indication that students stay enrolled in college—perhaps rather than graduating or transferring—to retain their housing. This could be addressed by introducing program flexibility and allowing students to remain in housing for a period beyond graduation.

Employment

Studies of employment during college have mixed results—many students work, and helping students afford college can reduce work hours (rather than increasing them) (Broton et al., 2016). Evidence on the impact of housing vouchers more broadly tends to find negative effects on labor force participation and earnings (Carlson, et al., 2012; Jacob & Ludwig, 2012; Mills et al., 2006). By contrast, we find some positive trends, such that CHAP participation boosted labor force participation with no impact on wages or hours worked. This could reflect the unique design of the voucher offered through this program, which was not tied to income like typical HCVs.

The outcomes are also stronger for earlier cohorts as compared to later cohorts whose employment may have been affected by the pandemic. Homeless students worked more and earned more over time. Students who applied to the program and were admitted but did not receive a voucher to shop for housing worked much longer hours than those who were housed. With the knowledge that students have a finite number of hours in a day, reductions in number of hours worked could support near-term educational attainment by addressing time poverty and higher paying wages in the long-term. Since community college education has substantial economic returns, it would also be useful to examine employment outcomes after graduation and/or program exit.

Public Benefits

Following entry to the program, students were much more likely to use public benefits. The vast majority used SNAP, and there is a substantial program-induced increase in TANF use among the near-homeless students. Given the number of CHAP participants with children, the additional household income may have been quite important and may have improved the lives of students and their families, even if they were not ultimately housed. How the children of parenting students are affected by college housing programs is an important area for future research.

Health and Health Services

One clear benefit of CHAP is that it substantially increased the probability that students were food secure, which is important given that approximately 1 in 4 undergraduates experiences food insecurity during college, with higher rates among homeless students (Goldrick-Rab, 2023). There are also promising trends among homeless students as use of expensive health services declined over time. For near-homeless students, we did not detect a clear pattern of program reductions in use of those services, and even estimated an increase in inpatient hospital admission.

Criminal Justice System

Very few CHAP applicants interacted with the criminal justice system, although rates were higher in the second wave of the follow-up periods, during the pandemic. The rate of felonies, arrests, and charges were much lower for homeless students who leased up, but the lack of clear impacts for near-homeless students raises questions about whether that was due to the program.

Limitations and Future Research

There are several methodological limitations to this evaluation that should be considered when interpreting the results. First, while the sample includes six cohorts of students, the total size is still relatively small—far smaller than anticipated when the evaluation began. Program outreach waned over time, and applications did as well. Since only one in four students was housed, the sample sizes for analysis are especially limited. Moreover, we have three waves of follow-up data for only four cohorts rather than all six, reducing the sample further. In many cases analyses appear to be under-powered and thus inconclusive. We recommend conducting additional confirmatory research in the future, and below we outline several questions to pursue.

Second, this analysis cannot disentangle progress in the program from disenrollment in college. The THA data indicate there were very few program exits, and interviews with staff members indicated that the requirement for students to remain in college to keep their housing subsidy was not consistently enforced. However, another report on this program cites numerous "negative exits" from the program (terminated due to eviction or not meeting program requirements), and that discrepancy deserves more attention (BERK Consulting, 2020). It is possible that some students did not lease up because they dropped out of college and thus the program. While this does not result in attrition from our sample, this possibility should be investigated.

Third, while CHAP was strengthened over time, we have not accounted for any relationships between implementation and program impacts. For example, it is possible that results were stronger during periods of consistent staffing or during relatively slack periods in the local housing market. In addition, the COVID-19 pandemic struck in 2020, about a year after the last program cohort joined CHAP. This may have limited program efficacy for later cohorts, for example by adversely affecting their health, child care, budgets, and employment. While we do attempt to control for these shifts over time using cohort fixed effects, that may not be sufficient.

Finally, our measures of outcomes are limited to individual students and do not include their families. Past research on HCVs assessed impacts on participants' households and children, including schooling decisions (Fischer, 2015; Wood et al., 2008; Schwartz et al., 2020). The impacts of postsecondary education accrue to children, and the impacts of college students' housing may as well.

Improving Housing Program Implementation

The challenges that CHAP students faced are not unique to this program. Other studies of HCV identify similar barriers to securing housing, including landlord discrimination against voucher-holders, challenging housing markets (e.g., scarcity and expense), financial costs (e.g., security deposits), logistical costs (e.g., transportation to prospective apartments), demanding deadlines, and confusion about housing authority rules and paperwork (Finkel & Buron, 2001; Gubits et al., 2009; Orr et al., 2003; Sard, 2015; Tremoulet et al., 2016).

However, there are some areas where improved program implementation might have resulted in different outcomes. While this evaluation began when the program was three years old, our data suggest that it was not yet fully mature. For example, it did not have clear roles and responsibilities agreed upon by partners and it lacked a comprehensive up-to-date MOU. The only MOU in place during the evaluation period was written in 2014 when it served just 25 students.

This contributed to challenges. For example, partners disagreed over who was supposed to assist students with HUD applications and housing searches and address concerns about landlords who were not willing or able to help ease the path to housing for students. These items were not explicitly addressed in the MOU, which instead referred to case management. Case management takes many forms in higher education and has only recently been used to address basic needs insecurity. Relatively few college staff members are trained on case management techniques or have technological tools to use both internally and when tracking students across service providers. It takes time and attention to build an effective case management program.

Both partners also found the program more expensive to operate than anticipated. In the 2014 MOU, the college estimated its total costs for case management, project management, data management, and administrative support at $22,000, over an unspecified period. The housing authority estimated its costs for rental assistance at $150,000 over three years, plus $455 in annual, in-kind staff time. It seems likely that both partners spent far more on staff time than anticipated, especially since the number of students grew substantially.

Comparisons to Other Research

Prior to this evaluation, the program administrators reported improvements in academic outcomes for participants on the order of a three-fold increase in college retention. Those results were based on an early version of the program when it served a small number of students, restricted access to full-time students, and did not have a comparison group against which to measure results. This evaluation examined a more mature, and greater scale, version of the program for a much more diverse group of students and over time examined impacts for multiple groups, including a rigorous comparison group. As such it offers several new perspectives.

The program initially compared "participating students" to eligible non-participants, identifying a 71 percentage point difference in retention rates over one year, but the definition of participation was unclear (THA, n.d.). The program also shared that 23 percent of qualified students received vouchers; we find a rate nearly three times that (see figure 5). Then, when comparing voucher recipients to non-recipients, the program reported a 44 percentage point increase in retention rates over two years.[18] However, voucher recipients and non-recipients had pre-existing differences that could explain that margin. For example, we find that even among eligible applicants, students who used a voucher were relatively advantaged prior to interacting with the program, giving them a higher probability of retention, independent of program effects.

Many of this evaluation's findings align with those in another CHAP program evaluation later commissioned by THA (BERK Consulting, 2020). The 2020 BERK Consulting evaluation examined "disenrollment patterns" of CHAP participants at TCC "to understand the causes of educational disruption beyond housing insecurity." Evaluators obtained surveys from 104 participants and interviewed 12. Like this evaluation, that team concluded that the most difficult program element was finding or getting referred to an apartment. This affected more than half of the survey respondents. The BERK researchers described a student who "found a landlord willing to work with them when it [the voucher] was conveyed as the CHAP student housing voucher, but who ultimately balked when they realized it was Section 8." They also found that students received inaccurate information about available apartments that did not accept vouchers, struggled to afford transportation to reach those apartments, and did not know how to communicate with landlords about vouchers. The BERK evaluators also found that students struggled to get needed support from the program staff. They report "Overall, students noted that program requirements sometimes felt punitive instead of supportive."

The College Housing Assistance Program Ends

Since 2017 when this evaluation began, THA and TCC leadership changed, enrollment at the college declined, and the number of individuals seeking affordable housing support grew. The COVID-19 pandemic struck both the college and its community. In fall 2021 we published preliminary results of this evaluation. We described several implementation challenges and inequities in the program and noted that, at that point, the data did not offer much evidence that the program was effective—or ineffective—at promoting educational attainment. We cautioned against overinterpreting those results and recommended a focus on program improvement (Goldrick-Rab et al., 2021). The BERK evaluation report reached similar conclusions.

[18] Information contained in a PowerPoint presentation available from the authors.

However, in November 2022 THA leadership decided to sunset the program. Its decision was based on "program challenges," two evaluations (a preliminary version of this one and the BERK evaluation), "the impacts of COVID, and an increasingly challenging rental market" (THA, n.d.). In a memo explaining its decision, THA referred to an analysis undertaken by its Policy, Innovation, and Education staff that compared CHAP participants to those in its other programs. The authors highlighted the following specific concerns:

- CHAP required participants to take on additional financial responsibilities (i.e., college) to access housing support.
- CHAP participants were less likely than other program participants to lease up and racial disparities in lease up rates were large.
- CHAP did not "improve/accelerate a household's ability to achieve self-sufficiency and economic mobility." THA's evidence for that point was a simple comparison of income changes by type of housing program—CHAP students were less likely to experience an increase.

The evidence in this evaluation suggests several alternative explanations. First, CHAP applicants were already enrolled in college—the housing authority facilitated their access to a housing voucher but did not burden them with college; rather they were pursuing college for economic gain and other reasons. Second, differences in lease up rates could be due to other differences between CHAP participants and people in other programs—for example, CHAP participants were likely younger and had less experience with landlords.

Our evidence indicates that CHAP, even without strong implementation, likely was improving self-sufficiency and economic mobility for participants. The program clearly induced increases in labor force participation, increased use of critical public benefits programs, and improved their health. While the evidence is inconclusive when it comes to the program's intended improvements in college attainment, the overall trends are positive. Finally, students enrolled in college tend to earn less income than other adults not enrolled in college; CHAP participants were working on their education and less likely to experience income improvements during the period THA examined, but a longer-term view might reveal their comparative advantage over time—propelled by their college credentials.

TCC leadership did not agree with THA's assessment of CHAP and disputed the program's conclusion. Nonetheless, the program ended. All students awarded a CHAP voucher were then transitioned to traditional vouchers that do not require enrollment in TCC, and TCC continues to develop new approaches to addressing the affordable housing needs of its students.

Implications and Recommendations

This evaluation confirms that community colleges can identify significant numbers of students in dire housing circumstances and bring them support. CHAP was a vanguard, and its partners were innovating under difficult conditions with little prior evidence to inform their work. As is often the case in both community colleges and public housing authorities, resources were tight, and staff members were overworked. Both of those conditions should be addressed to boost program success and support students.

Overall, it seems that the program had significant potential to make housing more affordable for students, reducing their risk of homelessness and supporting their college ambitions. However, many voucher-eligible students never received a voucher, and many voucher-holders never leased up. These problems are typical of HCV programs and not unique to the community college setting (Ellen, 2020). When vouchers are used with students, additional supports should be funded and provided by the college and/or a third party (e.g., a housing nonprofit) to ensure that voucher-eligible students are housed. A clear division of responsibilities, a shared understanding of what case management and navigational support will entail, and sufficient financial and technical resources to provide that support are essential. The addition of college coaches to support students in housing programs would be particularly helpful.

This evaluation also uncovered many nuances and challenges associated with leveraging subsidized housing to support homeless college students. It underscores the importance of a comprehensive view of students' lives and their outcomes when designing and assessing housing programs. It should inform both future program development and future research. It seems likely that HCVs yield some dividends for the college-going population but that other approaches might be even more successful. Property-based subsidies, for example, would obviate most of the challenges described in this study and allow for the co-location of supportive services. While THA moved toward this approach later in the program, we lack data to evaluate its efficacy for students.

If TCC continues to partner with area landlords to offer property-based subsidies, that effort should also be evaluated, and perhaps additional supports provided. For example, the Family Scholar House in Louisville, Kentucky, offers on-site child care for university students living in publicly subsidized housing. It might also be effective to partner with rapid rehousing providers equipped with vouchers, as Jovenes is doing with many Los Angeles area colleges and universities, eight institutions in the California State University system, and 14 community colleges through a state investment of $15.5 million. Since so many students who need support have children, the properties must also, of course, offer family-friendly units. It is also worth examining whether alternative approaches to stabilizing housing, for example with cash transfers, might be more effective.

Finally, research on the impacts of using subsidized housing dollars to stabilize community college students' housing should continue—and outcomes beyond education should be measured. There is a robust debate occurring in multiple fields about the equitable distribution of resources, and it tends to pit college students against other low-income adults. This is a distinction without much difference. Community college students have relatively few advantages over others, face more costs, and are part of families, neighborhoods, and communities alongside other low-income adults. While policy decisions do not rely solely on research evidence, they do consider it, and so deepening our understanding of the implications of using housing dollars in this way is critical. Students are humans first and colleges and their partners need to do their part to support the whole student—including their basic needs— to facilitate success.

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Appendix. Methodological Details

Data Collection Timing

See figure 4 in the main report for details on sample aggregation by cohort. Because each cohort enrolled at a different point in the study, each had a different number of available follow-up periods; we adjusted the follow-up date to reflect a similar number of months from treatment for each cohort. Table A1 shows the follow-up data used for each cohort. Academic data is drawn from Tacoma Community College (TCC) administrative records and other data is drawn from the Washington State Department of Social and Health Services (DSHS).

Table A1. Data measurement by cohort for the College Housing Assistance Program evaluation

	Baseline (n = 422)			**Follow-up 1**			**Follow-up 2**			**Follow-up 3**	
	Time of application	**Preceding application**	**0–3 months**	**6 months**	**12–20 months**		**12 months**	**24–41 months**		**35–44 months**	
Cohort	***Application***	***TCC***	***Survey 1***	***Survey 2***	***TCC***	***DSHS***	***Survey 3***	***TCC***	***DSHS***	***TCC***	***DSHS***
n		*422*	*242*	*202*	*415*	*402*	*204*	*415*	*402*	*213*	*402*
1	Fall 2017	Spring 2017	Survey 1	Survey 2	2019	2018	Survey 3	2020	2019	2022	2020
2	Winter 2018	Fall 2017	Survey 1	Survey 2	2019	2019	Survey 3	2020	2020	2022	2021
3	Spring 2018	Winter 2018	Survey 1	Survey 2	2019	2019	Survey 3	2020	2020	2022	2021
4	Fall 2018	Spring 2018	Survey 1	Survey 2	2020	2019	Survey 3	2022	2020	N/A	2021
5	Winter 2019	Fall 2018	Survey 1	Survey 2	2020	2020	Survey 3	2022	2021	N/A	2021
6	Spring 2019	Winter 2019	Survey 1	Survey 2	2020	2020	Survey 3	2022	2021	N/A	2021

Note: Academic outcomes measured in spring of each year noted, enrollment is captured in spring only; DSHS outcomes are measured monthly and aggregated to annual outcomes; earnings and working hours are measured quarterly.

Data Sources

CHAP Application: Program status, gender and age are drawn from program application data.

Tacoma Housing Authority: Housing voucher application, receipt and housing status are calculated based on data provided by the THA.

Tacoma Community College (TCC): Race, ethnicity, academic and financial aid (FAFSA) data preceding treatment come from the college. Parental education is equal to one if student's parents obtained a bachelor's degree or higher as reported on the FAFSA. Remedial Education values are drawn from ACCUPLACER exam records: Math 1 Elementary Algebra; Math 2 Arithmetic; English 1 Write Placer; English 2 Reading Comprehension. Additionally, academic data following treatment comes from TCC and their National Student Clearinghouse (NSC) data. Credential is a cumulative measure across the year as measured in June of each year; transfer is identified through NSC data and a 1 if transferred in the year, 0 otherwise; Enrolled is coded as 1 if the student was enrolled in the spring term, 0 otherwise (we recognize this does not include students enrolled only in fall-it thus represents the lower bound of enrollment). Term GPA includes students enrolled in the spring term; cumulative credits is a cumulative measure of credits as of the spring term.

Department of Social and Health Services (DSHS): SSI refers to Social Security Income, SNAP refers to Supplemental Nutritional Assistance Program, TANF refers to Temporary Aid to Needy Families, WIC refers to Special Supplemental Insurance Program for Women Infants and Children. Students' receipt of public benefits (SNAP/TANF) and involvement with the criminal justice system are reported through whether students experience the outcome within the year. Involvement in the criminal justice system is calculated by combing the indicators of felony charges, charges, and arrests.

One-year quarterly earnings and working hours are calculated by average the quarterly earnings four quarters after the program implementation as of December 31 of each year. Two years quarterly earnings and working hours are calculated by average the quarterly earnings between the fifth and eighth quarters after the program implementation. Health outcomes are reported through the number of events per 1,000 months of Medicaid in the period. Students who do not enroll in Medicaid in the evaluation period are reported as missing. Homelessness is calculated monthly using DSHS records and reported in these data as a 12 point scale equal to the number of months the individual was identified as homeless by DSHS.

Missing Data and Sample Sizes: To assess the impact at various stages on the sample, we use different sample sizes for certain tables. In tables for homeless students: Two homeless students are missing in reporting the academic outcomes (N = 124). Four homeless students are missing in reporting the outcomes from DSHS (N = 122). Continuous missing data are imputed using mean imputation; categorical missing data are treated as a separate category. No outcomes are imputed.

Table A2. Program assignment by admissions cycle, near-homeless applicants, with crossovers

	Application cohort						
	1	**2**	**3**	**4**	**5**	**6**	**All application cohorts**
Percentage admitted to program (%)	54	50	27	65	57	67	56
Crossovers							
To homeless	0	1	0	1	0	1	3
To near-homeless treatment	0	3	1	2	4	2	12
Unique applicants	**63**	**34**	**30**	**51**	**60**	**58**	**296**

Notes: "Unique" represents the number of students who applied one or more times to the program within the period. Crossovers include applicants initially identified as control and later treated. There are 12 observations that were applicants twice but not crossovers, and they are not shown in the crossovers section here. Four of these were homeless at their first application and resubmitted an application as near-homeless at a later time. Of those, three were assigned to the control condition and one was assigned to treatment in the cohort during which they applied as near-homeless. There are also nine students who applied twice but were assigned to control both times; these are assigned to their original cohort as control. There is one applicant who entered the pool three times; this applicant is included in the non-participant count in cohort 3, in the homeless count (as a crossover) in cohort 4, and in the non-participant count again in cohort 6 (only shown in total). Remaining duplicate applicants are shown in the crossovers line in this table.

Source: Program data from the College Housing Assistance Program evaluation.

Table A3. Participant characteristics at baseline, by program stage, near-homeless applicants

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 189)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 53)	B vs C (p value)	Applicants who received a voucher and were housed (C) (n = 54)
Age					
Average age	32	0.32	34	0.80	35
Age missing (%)	3	**0.01**	0	0.32	2
Gender (%)					
Female	72	0.87	74	0.14	85
Gender unknown	4	**0.00**	0	0.32	2
Race (%)					
White	34	0.44	28	0.13	43
Black	18	0.21	26	**0.04**	11
Other races	38	0.96	38	0.90	39
Race unknown	10	0.56	8	0.98	7
High school credential (%)					
High school diploma	43	0.34	51	0.64	56
High school GED	13	0.78	11	0.60	15
Less than high school	7	0.57	9	0.45	6
High school unknown	37	0.23	28	0.62	24
FAFSA complete (%)	66	0.75	68	0.60	63
Parents' education level (%) - BA/BS	32	0.80	35	0.14	17
Parents' education level unknown (%)	49	0.31	57	**0.02**	33
Married status (%)					
Single	41	0.92	42	0.94	41

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 189)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 53)	B vs C (p value)	Applicants who received a voucher and were housed (C) (n = 54)
Married	7	0.97	8	0.68	6
Divorced/separated	13	0.30	19	0.77	17
Marital status unknown	39	0.34	32	0.60	37
Supporting dependents (%)	51	0.32	42	**0.00**	77
Expected family contribution ($)	1,908	**0.02**	503	0.81	394
Receipt of public benefits (%)	16	0.25	25	0.89	26
Baseline college information					
Cumulative GPA (4.0 scale)	2.70	0.47	2.57	**0.00**	3.21
Cumulative credits completed	63	0.83	65	0.34	56
Enrolled in remedial placement courses (%)	49	0.77	47	0.39	39
Information on cumulative GPA and credits missing	5	**0.00**	0	–	0

Notes: Cumulative percentages may not add up to 100 due to rounding.

Significance for differences between group means A vs B shown in column 2, those for B vs C shown in column 4.

P-values are bold if <0.05 and italicized if p<0.10.

Source: Application data, students' academic records, and pre-treatment data provided by TCC. Information on age comes from application data; race/ethnicity and gender for student study participants comes from TCC administrative data and are filled in with application data if missing; remainder still missing noted as missing. Data on FAFSA, marital status, parental education, financial aid, and receipt of public benefits are drawn from TCC financial aid records. Parents' education level equals one if students' parents obtained a bachelor's degree or higher. Information on baseline college characteristics is from TCC administrative records.

Table A4. Participant characteristics at baseline, by program stage, homeless applicants

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 47)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 49)	B vs C (p value)	Applicants who received a voucher and were housed (B) (n = 30)
Age					
Average age	26	**0.00**	33	0.56	32
Age missing (%)	9	**0.04**	0	0.33	3
Gender (%)					
Female	64	0.29	53	**0.03**	77
Gender unknown	6	*0.08*	0	–	0
Race (%)					
White	21	*0.10*	37	0.35	27
Black	38	0.22	27	0.75	30
Other races	36	0.22	24	0.17	40
Race unknown	4	0.16	12	0.13	3
High school credential (%)					
High school diploma	36	0.22	24	0.91	23
High school GED	11	*0.08*	24	0.64	20
Less than high school	23	0.16	12	0.76	10
High school unknown	30	0.36	39	0.50	47
FAFSA complete (%)	51	0.70	55	0.67	50
Parents' education level (%) - BA/BS	37	*0.07*	14	0.61	8
Parents' education level unknown (%)	43	0.16	57	0.81	60
Married status (%)					
Single	45	0.71	41	0.44	50

Demographics, receipt of benefits, academic measures	Applicants who did not receive a voucher (A) (n = 47)	A vs B (p value)	Applicants who received a voucher but were not housed (B) (n = 49)	B vs C (p value)	Applicants who received a voucher and were housed (B) (n = 30)
Married	2	0.59	4	0.16	0
Divorced/separated	2	**0.03**	14	**0.01**	0
Marital status unknown	51	0.55	45	0.67	50
Supporting dependents (%)	30	0.63	37	0.17	60
Expected family contribution ($)	1,907	0.27	716	0.43	2,082
Receipt of public benefits (%)	9	**0.03**	33	1.00	33
Baseline college information					
Cumulative GPA (4.0 scale)	1.70	0.42	1.90	0.16	2.30
Cumulative credits completed	53	0.87	52	0.13	74
Enrolled in remedial placement courses (%)	56	0.16	41	0.70	47
Information on cumulative GPA and credits missing	2	0.32	0	–	0

Notes: Cumulative percentages may not add up to 100 due to rounding.

Significance for differences between group means A vs B shown in column 2, those for B vs C shown in column 4. P-values are bold if <0.05 and italicized if p<0.10.

Source: Application data, students' academic records, and pre-treatment data provided by TCC. Information on age comes from application data; race/ethnicity and gender for student study participants comes from TCC administrative data and are filled in with application data if missing; remainder still missing noted as missing. Data on marital status, parental education, financial aid, and receipt of public benefits are drawn from TCC financial aid records. Parents' education level equals one if students' parents obtained a bachelor's degree or higher. Information on baseline college characteristics is from TCC administrative records.

Table A5. Program outcomes across six domains, homeless applicants

	Follow-up 1	Follow-up 2	Follow-up 3
Housing			
Average number of months receiving homelessness services in last year	3.63	2.20	–
Academic performance and attainment			
Total credits	83.72	94.97	102.46
GPA (4.0 scale)	1.89	1.94	1.94
Credential completed (%)	18	30	35
Still enrolled (%)	50	23	6
Credential completed or still enrolled (%)	68	53	41
Transfer (%)	–	–	34
Positive academic outcome (%) (credential, transferred, still enrolled)	–	–	58
Employment			
In labor force (%)	69	69	54
Quarterly hours	108	132	107
Quarterly earnings ($)	1,763	2,383	2,239
Receipt of public benefits (%)			
Supplemental Nutrition Assistance Program receipt	85	74	65
Temporary Aid to Needy Families receipt	17	15	12
Health and health services (%)			
Food secure (high or marginal)	15	25	26
Received mental health treatment (per 1,000 months of Medicaid)	36	31	26
Any emergency room visit (per 1,000 months of Medicaid)	52	48	40
Inpatient hospital admission	D	D	D

	Follow-up 1	Follow-up 2	Follow-up 3
Criminal justice system involvement (%)			
Felony, charges, arrests	9	11	7

Note: These are descriptive mean outcomes, not adjusted through regression. Housing stability is defined as the number of months during a follow-up period that the applicant was not recorded as homeless by the Department of Social and Health Services. Due to data availability, housing security is only measured for all cohorts during follow-up 1 and cohorts 1–4 during follow-up 2; where calculation is not possible due to unavailable data cells are marked with "—". Applicants are defined as being in the labor force if they have both non-zero hours worked and non-zero earnings during the follow-up period. Applicants are defined as receiving public benefits if they ever received them during the specific follow-up period. Health and criminal justice system involvement are defined similarly: the outcome is equal to 1 if the applicant ever experienced that event during the follow-up period. Health outcomes are only reported for applicants who received Medicaid during the follow-up period. For employment, social benefits, health, and criminal justice system involvement outcomes follow-up period 1 is 4–15 months after application, follow-up period 2 is 16–27 months after application, and follow-up period 3 is 28–39 months after application.

*D is used to indicate suppressed cells.

Source: Students' academic records provided by TCC. Information on months receiving homeless services, employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses.

Table A6. Unadjusted mean differences in housing and academic outcomes according to CHAP participation for near-homeless applicants, six cohorts

	Follow-up 1		Follow-up 2		Follow-up 3	
	T	C	T	C	T	C
Housing						
Average number of months receiving homelessness services in last year	1.37	0.60*	1.45	0.67	N/A	N/A
Academic performance and attainment						
Total credits	87.04	91.37	107.32	103.61	114.24	108.88
GPA (4.0 scale)	2.72	2.50~	2.71	2.51~	2.72	2.51~
Credential completed (%)	19	25	33	39~	44	48
Still enrolled (%)	61	54	33	26	7	4
Completion or enrolled (%)	80	79	66	64	51	52

	Follow-up 1		Follow-up 2		Follow-up 3	
	T	C	T	C	T	C
Transferred to university (%)	N/A	N/A	N/A	N/A	36	35
Positive academic outcome (%) (credential, transferred, still enrolled)	N/A	N/A	N/A	N/A	65	63

Statistical significance determined using t-tests

~ if p=<0.1, * if p=<0.05, ** if p=< 0.01, *** if p=<0.001.

Source: Students' academic records provided by TCC. Information on months receiving homeless services provided by DSHS.

Table A7. Unadjusted mean differences in employment, public benefits, health, and criminal justice outcomes according to CHAP participation for near-homeless applicants, four cohorts

	Follow-up 1		Follow-up 2		Follow-up 3	
	T	C	T	C	T	C
Employment						
In labor force (%)	75	62~	77	59*	72	67
Quarterly hours	147.52	124.29	172.96	158.16	211.93	194.19
Quarterly wages ($)	2,790.34	2,201.89	3,475.19	3,207.67	4,542.70	4,334.08
Public benefits (%)						
Supplemental Nutrition Assistance Program receipt	78	79	71	64	72	62
Temporary Aid to Needy Families receipt	18	9~	16	4**	10	1*
Health and health services (%)						
Food secure (high or marginal)	36	17*	37	12**	38	31
Mental health treatment (per 1,000 months of Medicaid)	21	41*	29	45~	21	27
Any emergency room visit (per 1,000 months of Medicaid)	35	34	43	43	28	24

	Follow-up 1		Follow-up 2		Follow-up 3	
	T	C	T	C	T	C
Inpatient hospital admission (per 1,000 months of Medicaid)	6	D	6	13	9	D*
Criminal justice system involvement (%)						
Felonies, arrests, charges	1	5	3	1	4	3

Statistical significance determined using t-tests

~ if p=<0.1, * if p=<0.05, ** if p=< 0.01, *** if p=<0.001.

*D is used to indicate suppressed cells.

Source: Information on employment, public benefits receipt, health and health services, and criminal justice involvement provided by DSHS. Food security calculated from participant survey responses.