Basic Need Supports at Compton College
November 2022

Compton College has been investing in basic need supports for its students for several years, including emergency grants, technology, food, and housing supports. Former analyses of basic need supports are available: [presentation to the Board of Trustees on April 20, 2021](#) and [presentation to the Board of Trustees on August 18, 2020](#). The COVID-19 pandemic exacerbated the basic needs of students and Compton College has used federal and local resources to fill these needs. This report answers these questions:

- What students received basic need supports in 2021-2022?
- What was the success rate of students who received basic need supports in 2021-2022?
- Was the success rates of students who received basic need supports different from those students who did not receive supports in 2021-2022?

Finally, the report concludes with recommendations for further basic need activities and inquiry.

What students received basic need supports in 2021-2022?

In fall 2021, 4,360 students enrolled at Compton College, with 64% female, 34% male, and 2% unknown gender. The college distributed 3,060 supports to students (students may have received more than one support), Table 1. Women were overrepresented (highlighted in green) in CalFresh, Equity Grant, and Wi-Fi access, while men were overrepresented in calculators, Everytable Food Delivery, headsets, and laptops.

Table 1. Resource Distribution by Gender in Fall 21

Resource	Female (64%)	Male (34%)	Unknown (2%)	Total
Calculator	36 (58%)	26 (42%)		62
CalFresh	88 (75%)	29 (25%)	*	118
CRCD Housing Referral	229 (64%)	126 (35%)	*	358
Edquity Grant	170 (70%)	72 (30%)		242
Emergency Grants	843 (64%)	445 (34%)	19 (1%)	1307
Everytable Food Delivery	197 (62%)	122 (38%)		319
Headset	66 (53%)	57 (46%)	*	124
Laptop	154 (63%)	90 (37%)	*	246
Wi-Fi	197 (69%)	84 (30%)	*	284
Total	**1980 (65%)**	**1051 (34%)**	**29 (1%)**	**3060**

In spring 2022, 3,818 students enrolled at Compton College, again with 64% female, 34% male, and 2% unknown. The college distributed 3,511 supports to students, Table 2. Women were

overrepresented (highlighted in green) in CalFresh, Equity Grant, Emergency Grants, headsets, laptops, uber eats, and Wi-Fi access, while men were overrepresented in Everytable Food Delivery and Everytable Cafeteria.

Table 2. Resource Distribution by Gender in Spring 22

Resource	Female (64%)	Male (34%)	Unknown (2%)	Total
Calculator	23 (66%)	12 (34%)		35
CalFresh	117 (75%)	36 (23%)	*	155
Edquity Grant	175 (77%)	47 (21%)	*	226
Emergency Grants	1265 (67%)	588 (31%)	23 (2%)	1876
Everytable Cafeteria	291 (55%)	235 (44%)	6 (1%)	532
Everytable Food Delivery	95 (57%)	70 (42%)	*	166
Headset	98 (74%)	34 (26%)		132
Laptop	107 (77%)	32 (23%)		139
uber eats	46 (72%)	16 (25%)	*	64
Wi-Fi	147 (79%)	38 (20%)	*	186
Total	**2364 (67%)**	**1108 (32%)**	**39 (1%)**	**3511**

In fall 2021, 4,360 students enrolled at Compton College, with 22% black or African American, less than 1% American Indian, 3% Asian, 2% Pacific Islander, 65% Hispanic/Latinx, 3% unknown, and 2% white. Unknown students were overrepresented in all services, and black or African American students were overrepresented in every service except Everytable food delivery (highlighted in green), Table 3.

Table 3. Resource Distribution by Ethnicity in Fall 21

Resource	African American (22%)	American Indian (>1%)	Asian (3%)	Pacific Islander (2%)	Hispanic / LatinX (65%)	Unknown (3%)	White (2%)	Total
Calculator	27 (44%)		*	*	28 (45%)	5 (8%)		62
CalFresh	38 (32%)		*	*	63 (53%)	15 (13%)		118
CRCD Housing Referral	125 (35%)	*	7 (2%)	6 (2%)	188 (53%)	29 (8%)	*	358
Edquity Grant	88 (36%)	*	*	*	122 (50%)	23 (10%)	*	242
Emergency Grants	351 (27%)	*	57 (4%)	10 (1%)	756 (58%)	106 (8%)	25 (2%)	1307
Everytable Food Delivery	60 (19%)	*	35 (11%)	*	177 (55%)	23 (7%)	21 (7%)	319
Headset	53 (43%)		*	*	55 (44%)	12 (10%)		124

	African American	American Indian	Asian	Pacific Islander	Hispanic/LatinX	Unknown	White	Total
Laptop	101 (41%)	*	6 (2%)	*	112 (46%)	22 (9%)	*	246
Wi-Fi	100 (35%)	*	7 (2%)	*	146 (51%)	27 (10%)		284
Total	**943 (31%)**	**9 (>1%)**	**119 (4%)**	**30 (1%)**	**1647 (54%)**	**262 (9%)**	**50 (2%)**	**3060**

Table 4. Resource Distribution by Ethnicity in Spring 22

Resource	African American (22%)	American Indian (>1%)	Asian (3%)	Pacific Islander (2%)	Hispanic / LatinX (65%)	Unknown (3%)	White (2%)	Total
Calculator	17 (49%)		*		13 (37%)	*		35
CalFresh	54 (35%)	*	*	*	76 (49%)	21 (14%)	*	155
Edquity Grant	91 (40%)		7 (3%)	*	105 (46%)	21 (9%)	*	226
Emergency Grants	396 (21%)	*	48 (3%)	10 (1%)	1282 (68%)	105 (6%)	32 (2%)	1876
Everytable Cafeteria	147 (28%)	*	17 (3%)	*	326 (61%)	31 (6%)	8 (2%)	532
Everytable Food Delivery	41 (25%)		19 (11%)		80 (48%)	11 (7%)	15 (9%)	166
Headset	62 (47%)		*	*	51 (39%)	13 (10%)	*	132
Laptop	60 (43%)	*	*	*	63 (45%)	12 (9%)	*	139
Uber Eats Gift Card	23 (36%)	*	*		32 (50%)	6 (9%)	*	64
Wi-Fi	79 (42%)	*	*		82 (44%)	18 (10%)	*	186

What was the success rate of students who received basic need supports in 2021-2022?

The overall success rates ranged from 68-70% in fall 2021 and spring 2022. This is a consistent success rate over the last several years at Compton College. Males achieved a higher success rate than female students (Table 5), and Asian students achieved a higher success rate than other ethnicity groups (Table 6).

Table 5. Overall Success and Retention Rates by Gender

	Fall 2021	Spring 2022

	Success Rate	Retention Rate	Success Rate	Retention Rate
Female	68%	83%	68%	84%
Male	73%	85%	69%	84%
Total	70%	84%	68%	84%

Table 6. Overall Success and Retention Rates by Ethnicity

	Fall 2021		Spring 2022	
	Success Rate	Retention Rate	Success Rate	Retention Rate
African American	62%	79%	59%	79%
American Indian	84%	88%	65%	76%
Asian	96%	96%	92%	97%
Hawaiian/Pacific Islander	60%	74%	50%	65%
Hispanic/Latinx	75%	87%	73%	87%
Unknown	63%	81%	66%	80%
White	64%	79%	74%	85%
Total	70%	84%	68%	84%

Success rates for students who received resources are presented in tables 7 and 8.

Table 7. Success by Gender and Resource

Term/Resource	Female		Male	
	Fall	Spring	Fall	Spring
Calculator	55%	70%	78%	53%
CalFresh	73%	67%	77%	74%
CRCD Housing Referral	67%		71%	
Edquity Grant	72%	68%	75%	69%
Emergency Grants	72%	68%	72%	67%
Everytable Cafeteria		75%		75%
Everytable Food Delivery	65%	75%	75%	87%
Headset	57%	57%	78%	61%
Laptop	59%	56%	73%	69%
Uber Eats Gift Card		67%		60%
Wi-Fi	64%	63%	70%	61%

Note: Greyed cells note that the service was not offered during that term. Green shading shows a 5 percentage point or more difference from the overall success rate among students in the ethnicity group.

**Table 8. Success by Ethnicity and Resource**

	Black or African American		Asian		Pacific Islander		Hispanic/ Latinx		Unknown		White	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Calculator	54%	58%	*	*	*	*	76%	67%	56%	73%		
CalFresh	68%	63%	*	*	0%	*	80%	75%	68%	69%		
CRCD Housing Referral	61%		86%		63%	*	73%		68%		*	
Edquity Grant	67%	56%	89%	100%	50%		77%	76%	69%	68%	*	*
Emergency Grants	63%	59%	97%	88%	75%	*	76%	71%	67%	63%	60%	72%
Everytable Cafeteria		65%		90%		*		71%		75%		78%
Everytable Food Delivery	65%	59%	71%	100%	0%		75%	78%	50%	72%	*	*
Headset	57%	51%	100%	100%	86%	*	77%	62%	46%	59%		*
Laptop	61%	52%	100%	*	*	*	69%	64%	45%	68%	*	*
Uber Eats Gift Card		57%		*				75%		47%		*
Wi-Fi	56%	52%	100%	100%	86%		71%	67%	64%	65%		*

Note: Greyed cells note that the service was not offered during that term. Green shading shows a 5 percentage point or more difference from the overall success rate among students in the ethnicity group.

Was the success rates of students who received basic need supports different from those students who did not receive supports in 2021-2022?

Institutional Effectiveness staff created a matched comparison group to compare with the group that received services. More detail about how the matched comparison group was created and the comparison analysis may be found in the appendix.

Students who received food resources (in spring 2022 when Everytable cafeteria meals were introduced), calculators (in spring 2022), and technology (laptops, headsets in spring 2022, and Wi-Fi) achieved a higher course success than the matched comparison group that did not receive these basic need resources. Conversely, those students who received monetary grants either through Edquity or emergency grants or housing referrals did not have a statistically significant different course success rate.
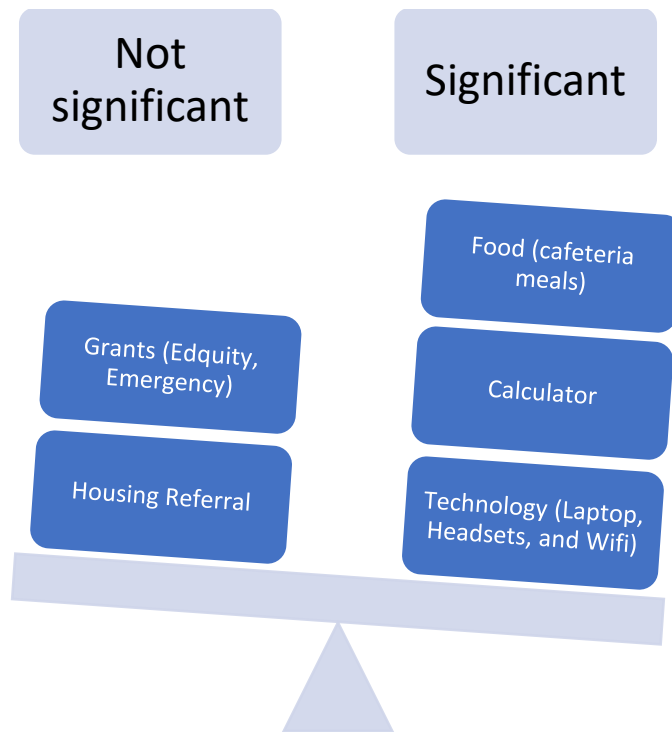
Recommendations and Next Steps

As Compton College continues to invest in basic needs for students, additional data may provide more evidence about how best to support students. These are some recommendations for future efforts:

- Collect basic needs data as a snapshot during each term. Currently the data provided by the Director of Basic Needs Success is for newly administered basic needs. IE staff collated students from several terms, but were unable to determine if students had returned basic needs services, such as laptops and Wi-Fi. A point-in-time snapshot would provide more accurate data.

- Try to collect more detailed data about students who received resources. For example, housing referrals may not be statistically significant, but a more refined data point, such as tagging students who received housing intervention may be important. Those data are not currently available.

- Additional outcomes will be important to consider in future analyses, such as persistence rates from term to term and degree/certificate completion.

Appendix

Statistical Analysis

We used the MatchIt package to implement the suggestions of Ho et al. (2007) for improving parametric statistical models for estimating treatment effects in observational studies and reducing model dependence by preprocessing data with semi-parametric and non-parametric matching methods. Matching is used to estimate the causal effect of a binary treatment or exposure on an outcome while controlling for measured pre-treatment variables, typically confounding variables or variables prognostic of the outcome.

We used propensity score matching to estimate the average marginal effect of the treatment on students' success on those who received basic needs resources, accounting for confounding by the included covariates. We first attempted full matching propensity score matching without replacement with a propensity score estimated using logistic regression of the treatment on the covariates. This matching yielded poor balance, so we instead tried 1:1 nearest neighbor propensity score matching, which yielded adequate balance. The propensity score was estimated using a probit regression of the treatment on the covariates, which yielded better balance than did a logistic regression. After matching, all standardized mean differences for the covariates were below 0.1, and all standardized mean differences for squares and two-way interactions between covariates were below .15, indicating adequate balance. Nearest neighbor propensity score matching uses all treated and all control units, so no units were discarded by the matching.

To estimate the treatment effect and its standard error, we fit a linear regression model with students' success as the outcome and the treatment and the covariates as additive predictors and included the nearest neighbor propensity score matching weights in the estimation. The coefficient on the treatment was taken to be the estimate of the treatment effect.

Laptop

Table 9. Sample Size

Sample Sizes	Fall 2021		Spring 2022	
	Control	Treated	Control	Treated
All	7023	716	6996	317
Matched	716	716	317	317
Unmatched	6307	0	6679	0
Discarded	0	0	0	0

Table 10. Statistical results

Value	Fall 2021	Spring 2022
t-value	3.14	3.54
p-value	0.00**	0.00**

**p-value is smaller than 0.05.

The p-value is smaller than 0.05, and there is a significant difference in students' success between those who received laptops and those who did not (see Table 10).

Wi-Fi

Table 11. Sample Size

	Fall 2021		Spring 2022	
Sample Sizes	**Control**	**Treated**	**Control**	**Treated**
All	6963	776	6866	447
Matched	776	776	447	447
Unmatched	6187	0	6419	0
Discarded	0	0	0	0

Table 12. Statistical results

Value	Fall 2021	Spring 2022
t-value	2.30	2.85
p-value	0.02**	0.00**

The p-value is smaller than 0.05, and there is a significant difference in students' success between those who received Wi-fi and those who did not (See Table 12).

Calculator

Table 13. Sample Size

	Fall 2021		Spring 2022	
Sample Sizes	**Control**	**Treated**	**Control**	**Treated**
All	7537	202	6611	93
Matched	7537	202	93	93
Unmatched	7335	0	6518	0
Discarded	0	0	0	0

Table 14. Statistical Results

Value	Fall 2021	Spring 2022
t-value	- 1.23	1.95
p-value	0.22	0.05**

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received a calculator and those who did not for the Fall semester (See table 14). The p-value is smaller than 0.05, and there is a significant difference in students' success between those who received a calculator and those who did not for the Spring semester (See table 14).

Headset

Table 15. Sample Size

	Fall 2021		Spring 2022	
Sample Sizes	**Control**	**Treated**	**Control**	**Treated**
All	7372	367	6988	325
Matched	367	367	325	325
Unmatched	7005	0	6663	0
Discarded	0	0	0	0

Table 16. Statistical Results

Value	Fall 2021	Spring 2022
t-value	0.40	3.38
p-value	0.69	0.00**

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received a headset and those who did not for the Fall semester (See table 16). The p-value is smaller than 0.05, and there is a significant difference in students' success between those who received a headset and those who did not for the Spring semester (See table 16).

Edquity Grant

Table 17. Sample Size

	Fall 2021		Spring 2022	
Sample Sizes	**Control**	**Treated**	**Control**	**Treated**
All	7171	568	6120	584
Matched	568	568	584	584
Unmatched	6603	0	5536	0
Discarded	0	0	0	0

Table 18. Statistical Results

Value	Fall 2021	Spring 2022
t-value	-0.66	0.31
p-value	0.51	0.75

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received an Edquity grant and those who did not (See table 18).

Emergency Grant

Table 19. Sample Size

Sample Sizes	Fall 2021		Spring 2022	
	Control	**Treated**	**Control**	**Treated**
All	4210	3529	3208	3496
Matched	3529	3529	3208	3208
Unmatched	681	0	0	288
Discarded	0	0	0	0

Table 20. Statistical Results

Value	Fall 2021	Spring 2022
t-value	-1.78	1.36
p-value	0.07	0.17

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received an emergency grant and those who did not for the Fall semester (See table 20). The p-value is greater than 0.05, and there is no significant difference in students' success between those who received an emergency grant and those who did not for the Fall semester (See table 20).

Food

Table 21. Sample Size

Sample Sizes	Fall 2021		Spring 2022	
	Control	**Treated**	**Control**	**Treated**
All	7127	612	4653	2051
Matched	612	612	2051	2051
Unmatched	6515	0	2602	0
Discarded	0	0	0	0

Table 22. Statistical Results

Value	Fall 2021	Spring 2022
t-value	-0.44	5.2
p-value	0.66	0.00**

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received a food grant and those who did not for the Fall semester (See table 22). The p-value is greater than 0.05, and there is a significant difference in students' success between those who received a food grant and those who did not for the Fall semester (See table 22).

CRCD Housing Referral

Table 23. Sample Size

Fall 2021		
Sample Sizes	**Control**	**Treated**
All	6770	969
Matched	969	969
Unmatched	5801	0
Discarded	0	0

Table 24. Statistical Results

Value	Fall 2021
t-value	0.69
p-value	0.50

The p-value is greater than 0.05, and there is no significant difference in students' success between those who received a housing referral grant and those who did not for the fall semester (See table 24).

References

Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2007). Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference. *Political analysis*, *15*(3), 199-236.