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MARCH 2021

THE CHELSEA EATS STUDY: FINDINGS FROM THE BASELINE SURVEYS

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Context

Chelsea, Massachusetts - a city of 40,000 people just north of Boston - is among the places in the country hardest hit by COVID-19, both from a health and an economic perspective. Chelsea is one of the lowest-income municipalities in Massachusetts, has the second highest population density, and has the largest foreign-born population share. Its heavily Latino population is concentrated in sectors of the economy that were shut down when the pandemic hit, and Chelsea residents are also disproportionately likely to be front-line service workers exposed to infection risk. Its large number of undocumented residents are ineligible for unemployment insurance, SNAP, and stimulus checks. In April 2020, 32 percent of Chelsea residents who were tested at a mobile site had SARS-CoV-2 antibodies, the highest seroprevalence rate observed in the U.S. as of that date. As of December 2020, Chelsea had the highest rate of confirmed COVID-19 cases in Massachusetts – 11.9 per 100. In June 2020, Chelsea's unemployment rate reached 24.8 percent.

Local community organizations and the City of Chelsea responded to the economic crisis facing Chelsea residents by mounting an unprecedented food distribution effort. During the second week of April 2020, the City of Chelsea began running food distribution sites. The City established a centralized logistics hub where food products were procured, stored, and boxed for distribution. In partnership with the National Guard, the City ran two neighborhood pop-up pantries five days each week. These sites rotated daily to different locations in Chelsea. The City also operated a home delivery service for households afflicted by COVID-19 as well as for other vulnerable populations. At the height of its operation, the City produced 800 to 900 boxes of food per day, enough to feed 10,000 residents on a weekly basis.

Meanwhile local community groups such as St. Luke's, Luz de Cristo, La Collaborativa, and Revival International Church greatly increased their

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¹American Community Survey; Massachusetts Immigrant and Refugee Advocacy Coalition, Massachusetts Immigrant Facts January 2019.

²The most recent Census Bureau estimate (for 2015-2019) is that 45.4 percent of the Chelsea population is foreign born. The Pew Research Center estimates (for 2016) that 22 percent of the Massachusetts foreign born population is unauthorized. A simple application of these numbers to the current official Census Bureau population estimate of 40,000 would suggest that there are 4000 residents of Chelsea who are unauthorized. However, this would almost certainly be an undercount, both because the foreign-born share of the Chelsea population has continued to rise and because the countries of origin of Chelsea residents are ones with a greater than average share who are unauthorized. Local Chelsea experts believe that the true population of Chelsea is closer to 50,000 than to 40,000 and that there are more than 10,000 residents of Chelsea who are unauthorized.

₃Vivek Naranbhai et al, "High Seroprevalence of Anti-SARS-CoV-2 Antibodies in Chelsea, Massachusetts," Journal of Infectious Diseases, 222 (12), December 15, 2020.

⁴Commonwealth of Massachusetts, COVID-19 Weekly Public Health Report, December 3, 2020. As of March 2, the rate of confirmed cases in Chelsea reached 20.2 per 100, slight below, slightly below the level in Lawrence, but higher than any other city or town in Massachusetts.

⁵U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, series LAUCT251320500000006, extracted March 4, 2021. ⁶Other relief efforts focused on housing assistance and direct economic aid.



distribution of free food. In May 2020, as capacity ramped up at community group sites, the City switched to one pop-up site per weekday, serving 250 to 500 households per day. Demand for free food has remained high. As of January 2021, it was still common to see queues forming that were more than 600 feet in length.⁷

In September 2020, after five months of running its food distribution sites, the City decided to redirect its efforts toward distributing financial support so that residents could purchase their own food and other necessities through a program called Chelsea Eats. By combining city general revenue funds, state aid, and philanthropic contributions, the City assembled enough resources to distribute Chelsea Eats cash cards to approximately 2000 households and to replenish the cards on a monthly basis for a total of six months. The card amounts vary with household size. Most households are receiving \$400 per month, but one- and two-person households receive \$200 and \$300, respectively. The cards can be spent anywhere Visa is accepted.

The City closed its pop-up food pantries on September 14th, 2020. However, each week community organizations continued to distribute more than 10,000 boxes of free food and more than 30,000 free prepared meals.

Program Details

Between July 27th, 2020 and August 17th, 2020, the City accepted applications for the Chelsea Eats cash assistance cards. Multilingual information about the cards was distributed to individuals using the city-run food distribution sites.

Additionally, information and applications were disseminated to community-based organizations, food pantries, faith groups, health care organizations, and low- and moderate-income housing complexes. Direct outreach to residents by city staff occurred in multiple locations, including food pantry lines, COVID-19 testing lines, and social service agencies. Applications could be submitted online via the city's website or on paper by dropping them off or mailing them to City Hall. In practice, most applications were submitted by residents attending one of the various city or community partner food pantries, where city staff, equipped with tablets, assisted residents with the application. Out of 3,615 applications, slightly less than 15 percent were submitted by paper. Approximately 80 percent of applicants were female, presumably because women were more likely to be the household member with the responsibility for shopping at food pantries.

In total, 3,615 households applied for the cards, and 2,074 were chosen to receive the cash assistance cards via a lottery. The lottery occurred on September 17th,

⁷Another initiative, the Youth Food Project, has focused on providing meals to youth under 18. This collaboration between the seven public food pantries in Chelsea, the YMCA of Boston, the Shah Family Foundation, and the City of Chelsea is providing culturally relevant, nutritious meals prepared by Stockpot Malden, a local vendor. Between the end of September 2020 and the beginning of December, the initiative provided more than 270,000 meals to youth.



2020, viewable by live stream, and applicants were notified by phone and through the mail. In early November 2020, the City sent lottery winners a letter inviting them to pick up their Chelsea Eats cards at City Hall. Follow-up texts and phone calls were sent to lottery winners who did not respond to the mailing. Gift cards were credited with the first payment on November 18th, 2020 and with the second payment on December 18th, 2020. The program is currently expected to continue with monthly credits through at least April 2021.

The Research Study

The lottery distribution creates the opportunity to evaluate the impact of the Chelsea Eats program by comparing the outcomes of lottery winners to those of applicants who were unsuccessful in the lottery. We enrolled 1,951 applicants in our study prior to randomization, 1,121 who ultimately won the lottery and 830 who did not, and administered two baseline surveys, one in September 2020 prior to randomization and a second in November 2020 that was after randomization but before the Chelsea Eats cards were distributed. Because we collected baseline data, we will be able to describe the circumstances Chelsea Eats applicants were facing at the beginning of the program as well as how the circumstances of both lottery winners and unsuccessful applicants subsequently evolve. In addition, by controlling for baseline characteristics, we will be able to increase the precision of our later experimental impact estimates.

The survey is administered through Qualtrics, with approximately two-thirds of the sample taking the surveys on-line themselves and about one-third via a telephone interview. 74 percent of the baseline surveys were conducted in Spanish. In appreciation of their time, respondents receive a \$20 gift card after every completed survey.

The research study is focusing on six domains:

- Direct impacts on financial hardship, such as food insecurity and the ability to pay rent.
- Downstream effects of additional income, such as mental health, access to medical care, and child well-being.
- Changes in the composition of what people are eating, with a focus on nutrition and on culturally relevant food choices.
- Economic responses to cash transfers, including income and expenditures, employment, debt, and remittances.
- Health and safety during a pandemic, including workplace conditions and infection rates.
- Real time data collection that can inform Chelsea's program administration, including satisfaction with free food distribution and availability of internet access for students.



Baseline Survey Findings

The following data come from the two baseline surveys conducted in September and November 2020. They describe the circumstances of Chelsea Eats applicants just before the financial assistance began.

Demographics

The survey respondent group is comprised of the 1,951 of the 3,615 applicants for the Chelsea Eats cash assistance program who enrolled in the study prior to random assignment. Tables 1 and 2 below outline the demographic breakout of the survey respondent pool. Overall, 80.6 percent of respondents are women, 5.8 percent are seniors, 78.3 percent of households include at least one child, and the most common household sizes are three and four. 90.1 percent of Chelsea Eats survey respondents are Latino, which is greater than the 67.0 percent estimated by the Census Bureau for the city as a whole.⁸

Table 1: Respondent Demogra	phics	
Sex		
Female	80.6%	
Male	19.2%	
Age (65+)		
Yes	5.8	
No	94.2	
Race/Ethnicity (Select as many as apply)		
Latino	90.1%	
White	9.0%	
Black	2.7%	
Native American	0.5%	
Asian/Pacific Islander	0.5%	
Other	2.1%	

	Table 2: Household Size and Composition	
	Household Size	
1	1:	3.7%
2	10	6.4%
3	23	3.4%
4	24	4.1%
5	14	4.3%
6+	8	8.0%
	Number of Children in Household	
0	2:	1.7%
1	28	8.0%
2	33	1.0%
3	14	4.7%
4+		4.6%

Financial Hardship

Understanding the financial situation of respondent households is a key focus of this project; the baseline surveys began with a series of questions about general financial distress.

⁸ The Census Bureau estimates that 48.4 percent of Chelsea residents are White alone, 6.4 percent are Black alone, 4.0 percent are Asian alone, 32.8 percent are two or more races, 67.0 percent are Hispanic/Latino, and 20.6 are non-Hispanic White alone. See https://www.census.gov/quickfacts/fact/table/chelseacitymassachusetts/PST040219



When asked if they or someone in their household had experienced financial hardship such as a job loss, drop in income, health emergency, divorce or loss of home, 82 percent of survey respondents answered yes. When the "yes" respondents were asked what contributed to this financial hardship, 54 percent responded that they had lost a job and 35 percent reported having hours or pay reduced. Furthermore, 22 percent reported that a spouse or partner lost a job and 19 percent had a spouse or partner whose hours and/or pay was reduced. The other largest category of impact was "price increases for food and other essential items" (44 percent).

Table 3: Experienced Financial Hardship			
"In the past year, have you experienced financial hardship such as a job loss, drop in income, health emergency, divorce, or loss of your home?"			
Yes 82.3%			
No	17.7%		

Table 4: Causes of Financial Hardship			
"Which of the following contributed to your financial hardship over the past year?" (Select all that apply)			
I lost a job	54.2%		
I had my work hours reduced and/or pay reduced	34.5%		
My spouse/partner lost a job	22.0%		
My spouse/partner had work hours reduced and/or pay reduced	18.5%		
A business I owned had financial difficulty	1.9%		
Separation/divorce from a partner or spouse	4.0%		
A health emergency	19.2%		
Loss/reduction in government benefits	7.9%		
Received a foreclosure/eviction notice	2.1%		
Death of a household member	4.9%		
Received fewer meals at schools or from community groups	5.4%		
Price increases for food and other essential items	44.1%		
Other difficulty	6.7%		

Each survey also asks the question, "Would you say that you are better off or worse off financially than you were last month?" In September 2020, 49.5 percent



of respondents answered "worse" and only 6.8 percent answered "better." The remainder answered, "about the same." Given that this sample was already in enough financial distress to be relying on free food sites, the fact that things were continuing to get worse is concerning.

As the economy partially reopened, the November 2020 baseline survey saw a decline in the rate of deterioration. 32.6 percent answered "worse", 59.4 percent answered "the same," and 8.1 percent responded "better."

Table 5: Financial Situation Compared to Last Month				
"Would you say that you are better off or worse off financially than you were last month?"				
September 2020 November 2020				
Better	6.8%	8.1%		
Worse	49.5%	32.6%		
About the same	43.7%	59.4%		

COVID-19 Exposure

As we mentioned in the introduction, Chelsea is a community that has experienced extremely high rates of COVID-19. 22.4 percent of our respondent group reported having been sick with the virus as of September 2020 and recovery at home and another 1.7 percent had been hospitalized. Furthermore, 28.0 percent reported at least one other household member having COVID-19 and recovering at home, and 4.4 percent reported having at least one other household member in the hospital with the virus. In total, 32 percent of households contained at least one household member who had been sick with COVID-19.

Table 6: COVID-19 Illness		
"Have you been sick with COVID-19 since the pandemic began?"		
No, I have not had COVID-19	75.9%	
Yes, I had COVID-19 and recovered at home	22.4%	
Yes, I had COVID-19 and was hospitalized	1.7%	
"Besides you, has at least one member of your household been sick with COVID-19 since the pandemic began?" (Select as many as apply)		
No, nobody else in my household has had COVID-19	69.2%	
Yes, at least one other member of my family had COVID-19 and recovered at 28.0% home		
Yes, at least one other member of my family had COVID-19 and was hospitalized	4.4%	



Employment

Of our approximately 1,950 respondent pool, only 36.1 percent were "working for pay" in September 2020 with 45.3 percent "unemployed and looking for work." For those who were unemployed, 70.7 percent had been unemployed for less than one year and 39.5 percent for less than six months with 62.5 percent having unsuccessfully looked for work in the past four weeks, indicating a significant pandemic impact. Of the unemployed, 82.3 percent would prefer to be working whereas 17.7 percent reported "not working by choice."

Table 7: Employment		
"Which of the following best describes your current situation?"		
Working for pay	36.1%	
Unemployed and looking for work	45.3%	
Unemployed and not looking for work	18.6%	

Table 8: Unemployment Situation*		
"Would you prefer to be working or are you not working by choice?"		
Prefer to be working 82.3		
Not working by choice	17.7%	
"Have you looked for work in the	past 4 weeks?"	
Yes	62.5%	
No	37.5%	
"How long have you been un	employed?"	
<6 months	39.5%	
6 months to 1 year	31.2%	
1 to 2 years	8.4%	
2 to 3 years	2.4%	
3 years or more	18.5%	

^{*}This question was asked if answered "unemployed" in previous question.

When the unemployed respondents were then asked why they were not working for pay, 52.6 percent answered, "suitable work is unavailable or hard to find," 21.7 percent answered, "illness or disability" and 16.0 percent answered, "unable to find good childcare."



Table 9: Unemployment Circumstances		
Why are you not working for pay?* (Select all that apply)		
Suitable work is unavailable or hard to find	52.6%	
Own illness or disability	21.7%	
Lack necessary skills or qualifications**	11.2%	
Prefer to stay home with children	17.6%	
Unable to find good childcare	16.0%	
Personal or family responsibilities	14.4%	
Lack transportation to or from work	9.2%	
Gave up looking for work	6.0%	
Attending school	3.3%	
Caring for elderly relative	2.8%	

^{*}This question was asked if answered "not working for pay" to previous question

Of the currently employed, 64.4 percent wanted to be working more hours, 27.4 percent wanted their current hours, and 8.2 percent wanted to be working fewer hours. In total, 76 percent of our sample was either unemployed and wanted work or was working and wanted more hours.

	Table 10: Desired Hours of Work*		
	Would you prefer to be working more hours at this job, fewer hours, or no change? (Select all that apply)		
More hours		64.4%	
Fewer hours		8.2%	
No change		27.4%	

^{*}This question was asked if answered "working for pay" to earlier question.

Food Insecurity

The food insecurity data from our baseline surveys highlight the struggles of Chelsea Eats applicants compared to typical Massachusetts residents. We can compare our Chelsea results to state-wide data because we used the same food insecurity measures that are being asked in the U.S. Census Bureau Household Pulse Survey, a weekly survey administered nationally that measures household experiences during the COVID-19 pandemic.⁹

When asked about the amount of food eaten in the household in September 2020, only 12.4 percent of our Chelsea respondents answered that they had "enough of the kinds of food we want to eat" vs. 67.0 percent of Massachusetts Census Pulse Survey respondents. Conversely, 49.3 percent of the Chelsea group

^{**} Inadvertently asked only in English language version of survey.

⁹ We compare our September results to week 14 of the Census Pulse survey and our November results to week 18.



reported "sometimes" or "often" not enough to eat vs. only 7.3 percent of the Massachusetts respondents overall.

The Chelsea responses improved slightly in November 2020 but remained much worse than the Massachusetts averages. In the second baseline survey, the fraction of Chelsea respondents reporting "enough of the kinds of food we want to eat" rose to 16.5 percent vs. 66.4 percent in Massachusetts overall, and the Chelsea percentage reporting "sometimes" or "often" not enough to eat fell to 37.1 percent, though still much higher than the statewide 8.7 percent.

Table 11: Food Insecurity "Which of these statements best describes the food eaten in your household in the last 7 days?"					
September 2020 November 2020					
	Chelsea Survey	Massachusetts	Chelsea Survey	Massachusetts	
Enough of the kinds of food we want to eat	12.4%	67.0%	16.4%	66.4%	
Enough but not always the kinds of food we want to eat	38.2%	25.6%	46.5%	24.9%	
Sometimes not enough to eat	39.0%	5.5%	31.5%	6.9%	
Often not enough to eat	10.3%	1.8%	5.6%	1.8%	

Child Food Insecurity

We also ask specifically about the food security of children in households. When asked to indicate whether it was often true, sometimes true, or never true that in the last 7 days the children living in your household who are under 18 years older were not eating enough because we couldn't afford enough food, 13.0 percent of respondents replied "often true" and 41.4 percent replied "sometimes true" in the September 2020 survey (and 6.1 percent and 44.8 percent, respectively, in the November 2020 survey). This represents an extraordinarily high rate of food insecurity for children.

Table 12: Child Food Insecurity					
"Please indicate whether the next statement was <i>often true, sometimes true, or never true</i> in the last 7 days for the children living in your household who are under 18 years old: The children were not eating enough because we couldn't afford enough food."					
September 2020 November 2020					
Often True	13.0%	6.1%			
Sometimes True	41.4%	44.8%			
Never True	45.6%	49.1%			



Rent and Eviction Risk

Food and rent are the two expense categories that our survey respondents report having the most difficulty meeting. In the September 2020 baseline survey, we asked respondents if they were currently behind on rent or mortgage payments. 38.7 percent responded yes and, when asked the amount of arrears, nearly half of those behind on payments reported between \$900 and \$3,000 of outstanding rent payments.

Table 13: Rent and Eviction Risk				
"Are you currently behind in your rent or mortgage?" (September 2020)				
Yes	38.7%			
No	61.3%			
"How much are you currently behind?"* (September 2020)				
<\$400	8.7%			
\$400 - \$900	15.5%			
\$900 - \$1600	23.9%			
\$1600 - \$3000	22.3%			
\$3000 - \$4500	19.0%			
>\$4500	10.6%			

^{*}This question was asked if answered "yes" to previous question.

In the November 2020 baseline survey, we asked respondents how confident they were that they would be able to make their next rent or mortgage payment on time. Only 11.8 percent of our respondent group was "highly confident" that they could make their next rent payment vs. 63.7 percent for Massachusetts residents overall. Likewise, 37.0 percent of our survey respondents were "not at all confident" that they could make their next rent payment vs. only 5.9 percent for Massachusetts residents overall.

Table 14: Confidence in Housing Payment "How confident are you that your household will be able to pay your next rent or mortgage payment on time?" (November 2020)					
Highly confident	11.8%	63.7%			
Moderately confident	17.0%	21.5%			
Slightly confident	33.3%	7.3%			
Not at all confident	37.0%	5.9%			
Payment is deferred	1.0%	1.5%			

¹⁰ Massachusetts-wide data from week 18 of U.S. Census Bureau Household Pulse Survey.

¹¹ Ibid.



Anxiety and Depression

Nationwide, the COVID-19 pandemic has adversely affected mental health, with 4 in 10 adults reporting symptoms of anxiety or depressive disorders. We administered the GAD-2 screen for anxiety disorder and the PHQ-2 screen for depressive disorder. 31 percent of our sample scored 3 or above on the GAD, and 25 percent scored 3 or above on the PHQ-2, thresholds that are indicative of possible cases of disorder. These rates are similar to those of all Massachusetts residents as measured by the Census Pulse. Is

Table 15: Anxiety and Depression							
"Over the last 7 days, how often have you been bothered by the following problems?"							
	Not at all	Several days	More than half the days	Nearly every day			
Feeling nervous, anxious, or on edge	35.2%	36.8%	13.1%	14.9%			
Not being able to stop or control worrying	39.6%	37.2%	11.8%	11.4%			
Having little interest or pleasure in doing things	47.4%	33.0%	10.2%	9.4%			
Feeling down, depressed, or hopeless	43.0%	35.6%	10.7%	10.8%			

Current Concerns

When asked in September about the current concerns that respondents have for themselves and their households, 68 percent cited **having enough income for food** as a major concern and a nearly equal percentage cited **having enough income to pay rent or mortgage**. These concerns were followed by "COVID infection risk at job" (43.2 percent), "Children's infection risk at school" (34.8 percent) and the rent-related eviction risk (28.1 percent).

¹²Nirmita Panchal, Rabah Kamal, Cynthia Cox, and Rachel Garfield, "The Implications of COVID-19 for Mental Health and Substance Use," Kaiser Family Foundation Issue Brief, February 10, 2021.

¹³Given the complicated findings in the literature comparing the performance of these measures in Latino vs. non-Latino populations, and using Spanish vs. English survey, we suggest caution in comparing our estimates to those from populations that are primarily English speaking and non-Latino. See Santiago-Rivera, A. L., Benson-Flórez, G., Santos, M. M., & Lopez, M. (2015). Latinos and depression: Measurement issues and assessment. In K. F. Geisinger (Ed.), Psychological testing of Hispanics: Clinical, cultural, and intellectual issues (p. 255–271). American Psychological Association. Bridges, A. J., Dueweke, A. R., Anastasia, E. A., & Hernandez Rodriguez, J. (2019). The positive predictive value of the PHQ-2 as a screener for depression in Spanish-Speaking Latinx, English-speaking Latinx, and non-Latinx White primary care patients. Journal of Latinx Psychology, 7(3), 184–194. Reuland, D. S., Cherrington, A., Watkins, G. S., Bradford, D. W., Blanco, R. A., & Gaynes, B. N. (2009). Diagnostic accuracy of Spanish language depression-screening instruments. Annals of family medicine, 7(5), 455–462. Merz EL, Malcarne VL, Roesch SC, Riley N, Sadler GR. A multigroup confirmatory factor analysis of the Patient Health Questionnaire-9 among English- and Spanish-speaking Latinas. Cultural Diversity & Ethnic Minority Psychology. 2011 Jul;17(3):309-316. Patel, JS, Oh, Y, Rand, KL, et al. Measurement invariance of the patient health questionnaire-9 (PHQ-9) depression screener in U.S. adults across sex, race/ethnicity, and aducation level: NHANES 2005–2016. Depress Anxiety. 2019; 36: 813–823. Mills, S. D., Fox, R. S., Malcarne, V. L., Roesch, S. C., Champagne, B. R., & Sadler, G. R. (2014). The psychometric properties of the Generalized Anxiety Disorder-7 Scale in Hispanic Americans with English or Spanish language preference. Cultural Diversity and Ethnic Minority Psychology, 20(3), 463–468.



Table 16: Current Concerns "Which of the following are major concerns of your family right now?" (Select all that apply)				
Having enough income to pay rent or mortgage	68.2%			
COVID infection risk at job	43.2%			
Children's infection risk at school	34.8%			
Childcare	19.2%			
Eviction	28.1%			
No major concerns	4.2%			
Other	7.3%			

Conclusion

The households participating in the Chelsea Eats study were experiencing extremely high levels of food insecurity and financial distress. The economic and health consequences of the COVID-19 pandemic left nearly half of the sample involuntarily unemployed, and the majority of those with jobs wanted more hours. More than two-thirds were concerned about finding enough income for the most basic needs – food and rent. In half of the households, children were sometimes not eating enough because there was not enough food.

The experiences of these households illustrate where our nation's economic relief efforts have fallen short. Chelsea residents were disproportionately employed in the sectors of the economy such as office cleaning and restaurant work that substantially shut down. The community experienced high rates of COVID-19 infections, which directly impacted personal health and employment as well as caretaking responsibilities. And many Chelsea residents were ineligible for unemployment insurance benefits and other forms of government assistance because of their immigration status.

Over the next few months, we will be releasing additional results from this research including descriptions of how food insecurity and financial distress have evolved in recent months and comparisons between the outcomes of the Chelsea Eats lottery winners and those of unsuccessful lottery applicants.