



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Impacts of COVID-19 on Food Banks

Anne T. Byrne and David R. Just

JEL Classifications: Q18, L31

Keywords: COVID-19, Food assistance, Food bank, Food security

Introduction

The COVID-19 pandemic has had demonstrable impacts on food security in the United States. Food security is defined as the state of being able to regularly access adequate, nutritious food. Food insecurity is the absence of such conditions. Levels of food insecurity following the onset of COVID-19 are currently being researched; rates before the pandemic (2001–2019) hovered between 9% and 15% (Coleman-Jensen et al., 2020). Food insecurity is correlated with several ailments, including but not limited to asthma, birth defects, anemia, suicide ideation, and diminished oral health (Gundersen and Ziliak, 2015). Poverty, which is strongly correlated with food insecurity, was found to be a strong predictor of COVID-19 case numbers, so impoverished households may face multiple challenges under pandemic conditions (Esobi et al., 2021).

Increased food insecurity is mainly a result of lockdown restrictions and associated economic fallout (Béné, 2020). While vaccines are being rolled out to address the public health crisis, the economic crisis may require its own solutions. And alleviating any rise in food insecurity may require interventions. Programs like the Supplemental Nutrition Assistance Program (SNAP), as well as private assistance programs, have been found to decrease food insecurity (Gundersen, Kreider, and Pepper, 2011).

The economic fallout from the pandemic has shone a spotlight on food banks, which provide food assistance to millions of Americans each year. These privately run organizations collect food through donations and purchases, which they distribute to clients through pantries and other programs. While food banks and their affiliate pantries vary tremendously, their shared goal of distributing groceries to households in need remains consistent nationwide. Many families have turned to food banks as job loss has increased, economic conditions have worsened, and schools have closed. The National School Lunch Program (NSLP), which serves 84% of low income, food insecure households with children, is a major food assistance program operating through public

schools (Ralston and Coleman-Jensen, 2017). In some cases, schoolchildren lost access to school feeding programs, adding to the number already regularly using food bank services.

The swell in food bank use has made headlines. With many banks adjusting their operations and distributing food using drive-through pantries, photos of lines of cars have circulated as journalists describe “jam-packed parking lots” (e.g., Kalifa, 2020; Napoleon, 2020). News organizations have followed food bank operations, reporting on volunteer shortages (e.g., Gowdy, 2020; Schmitt, 2020), high profile donations (e.g., Halberg, 2020; Liao, 2020), and food bank responses to mounting demand (e.g., Pao, 2020; Shelbourne, 2020). Feeding America, a national organization that coordinates most of the nation’s food banks, has attempted to aggregate these stories by leveraging their network. They have reported that more than 80% of their food banks are serving more people than they did a year ago and two-thirds of their food banks are accepting volunteers (Morello, 2020).

Building on anecdotes shared in the news, we conducted a survey of food banks to analyze the impact of COVID-19 on food bank activity. Respondents were approached via phone and asked to complete the survey online. With the help of a team of research assistants, we reached out to each of the roughly 200 food banks in the Feeding America network. Each bank was contacted at least twice. Of these, 60 banks responded to our request and took our brief survey examining the impact of the pandemic on their operations. There were no clear trends in nonresponse. The respondents represent 26 of the nation’s 50 states and include banks from both urban and rural regions. The banks answered questions about demand, safety, volunteers, and staffing, helping to illuminate how food banks responded to the crisis—and what can be learned for future emergencies.

Our analysis also compares Google search data, unemployment data, and COVID-19 case and death data over the course of the spring of 2020. Collectively,

these data allow us to compare whether COVID-19 cases or unemployment numbers drove online interest in searches for food assistance. We find that unemployment is a stronger predictor of search interest than COVID-19 case numbers.

Background on Food Banks

Food banks are a relatively recent innovation. They were established in the 1960s in Arizona, where a soup kitchen volunteer found himself searching for a better way to allocate food that would otherwise go to waste. Ten years later, almost 20 food banks served cities across the United States. Today, there are over 200 serving every state, as well as Washington, DC, and Puerto Rico (Feeding America, n.d.). These organizations distribute food through brick-and-mortar pantries as well as through the Mobile Pantry Program, which reaches remote locales and communities. Most, but not all, are in the Feeding America network.

Food pantries, the client-facing arm of food bank services, serve millions of Americans each year by distributing free groceries. These agencies get over 60% of the food they distribute directly from their local food bank, with the rest of the food coming from direct donations and purchasing (Weinfield et al., 2014). Because they represent different levels of the charitable food assistance supply chain, we expect that shifts in

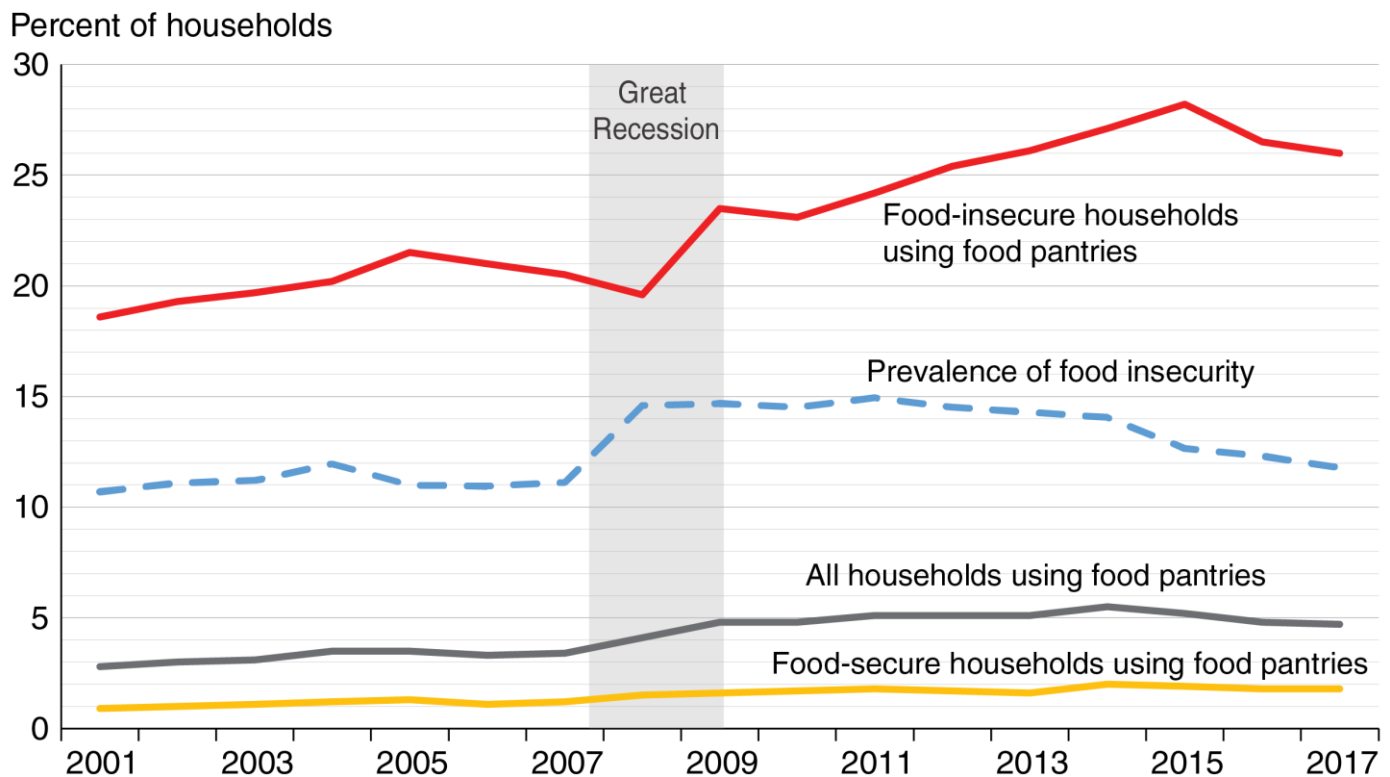
bank activity will affect pantry activity and vice versa.

There is wide variation in reports of how many households receive free groceries through food banks or their affiliate pantries. The last time this measure was taken by both the Census Current Population Survey Food Security Supplement (CPS-FSS) and Feeding America was 2014. Researchers from the U.S. Department of Agriculture Economic Research Service (ERS) reported, using the CPS-FSS, that 18.8 million individuals used food pantries in 2014 (Coleman-Jensen et al., 2015). However, Feeding America reported that their affiliates had seen 46.5 million individuals in the same year (Weinfield et al., 2014). The ERS research was based on surveys conducted of the general population, while the Feeding America research was based on internal surveys of food banks, their affiliates, and their clients. Using information collected annually by CPS-FSS about pantry use, ERS researchers have tracked pantry use among all households as well as food insecure households (Figure 1). Use has particularly grown among food insecure households, a trend that began during the Great Recession.

Meeting Increased Demand

Our survey of food banks allows us to analyze the pandemic's impacts on food bank operations and the vulnerabilities in our private food assistance system. The

Figure 1. Rate of Food Pantry Use among Food Insecure and Food Secure Households, 2001—2017



Source: USDA Economic Research Service using data from U.S. Department of Commerce, U.S. Census Bureau, 2001–2017 Current Population Survey Food Security Supplements; adapted from Coleman-Jensen (2018).

food banks we surveyed all reported an increase in demand for food as a result of the COVID-19 pandemic, though not all were able to distribute more food. 81.4% of them report having sufficient food supply to meet the increased demand. Those who reported insufficient supply cited reduced grocery rescue and donations as well as slowdowns in the food supply chain as the key factors that limited their ability to serve clients. They reported rationing as one strategy to serve clients, but some noted that they simply ran out of food. We recommend future research to determine whether and how such gaps in supply were filled as the pandemic continued. However, the majority of surveyed food banks reported sufficient supply, which may be due to increases in donations as food banks received added attention. It may also be due to assistance from the Emergency Food Assistance Program (TEFAP), which provides federal resources for food supplies.

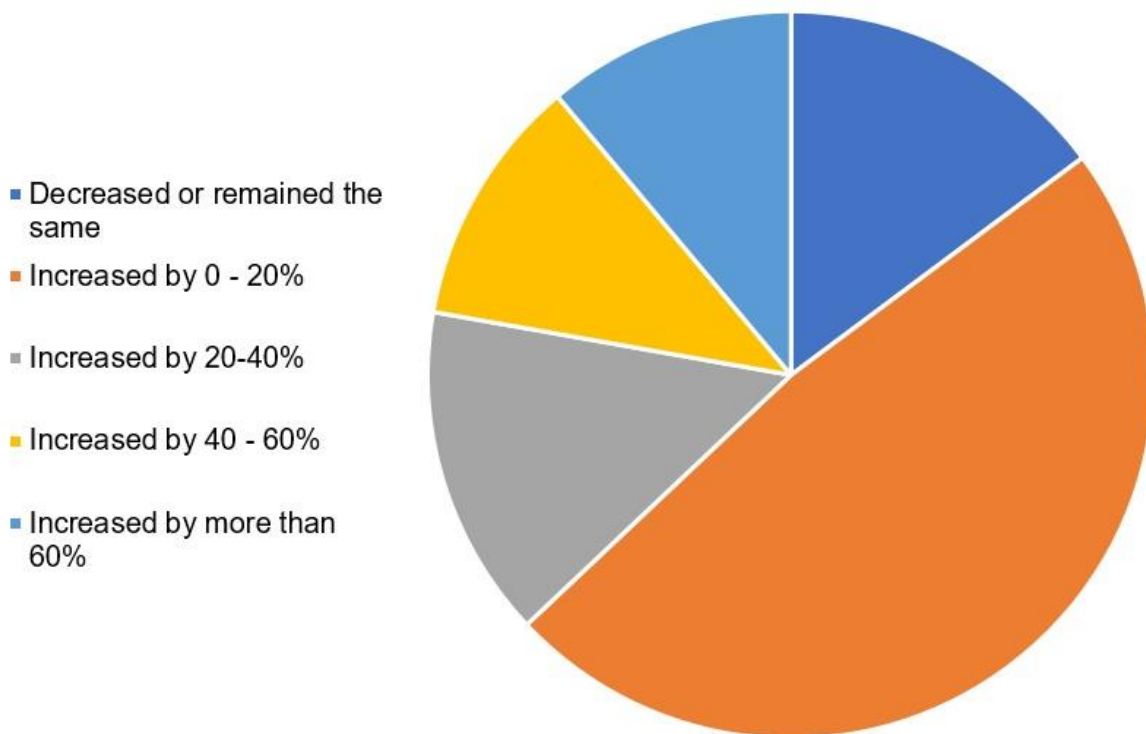
There was variation in how much food was distributed by surveyed food banks. We asked the number of pounds distributed per month for the first five months of 2019 and the first five months of 2020. We calculated the percentage change in food distributed between March 2019 and March 2020 for those food banks who knew their food distribution numbers ($N = 27$). The median increase was 26% and the mean was 44%. We grouped these into ranges, which are displayed in Figure 2. Overall, it is clear that the majority of food banks were

distributing more food in March 2020 than they had been in March 2019.

Increased demand also led to increases in lines and wait times. In our survey, 92.9% of food banks reported longer lines or increases in wait times. However, by the summer of 2020, 42.9% of these food banks saw lines dissipate and return to normal levels. The median increase in line length was 20%–50%, though again, there was substantial heterogeneity and many reported even larger increases. Rises in wait times were more likely in rural areas, which may reflect the different types of infrastructure (e.g., smaller buildings, heavier reliance on cars) that exist in rural areas. We did not ask about typical wait times, only for estimates of the percentage change during COVID-19.

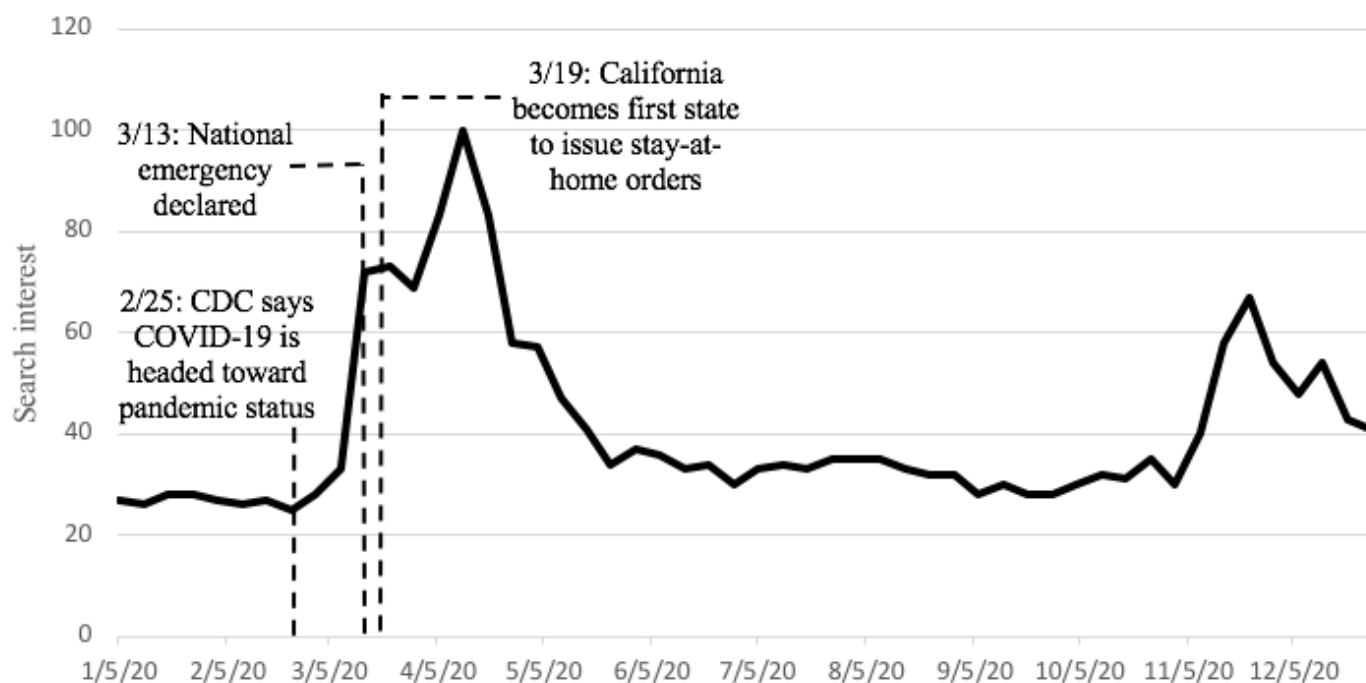
We further explore interest in food banks by examining Google search data for terms related to food assistance and relating the search interest data to data on COVID-19 and unemployment. Figure 3 shows interest in “food banks,” based on Google searches, during the year 2020. Google search interest may indicate any number of drivers, including potential donor interest or first-time user queries to determine pantry locations and times. Search interest was greatest in the spring and peaked in mid-April of 2020. Search interest calmed over the summer, then rose again in winter.

Figure 2. Responses from Surveyed Food Banks: How Much Did Distributions Change (measured in pounds of food) Change from March 2019 to March 2020



Source: Internal survey conducted by Byrne and Just (July 2020).

Figure 3. U.S. Search Interest in “Food Bank” Using Google Search Data, 2020



Source: Google Trends.

We test whether changes in food bank interest are direct results of COVID-19 numbers or indirect reflections of the pandemic and can be better predicted using unemployment figures. Food bank interest is measured by Google using an index where 100 is equal to the greatest number of searches in the period considered. State-level analysis finds that COVID-19 diagnosis rates are a significant contributor to food bank searches but that they contribute at most about 10 points to the increase seen between January and May (see Figure 3 for scale); these results use simple linear regressions with data covering 2018 through June of 2020 in the United States and identify the upper bound of the 95% confidence interval around the coefficient. This means that at least 90% of the spike in searches is not likely associated with a mere increase in cases. Alternatively, a similar analysis finds that new unemployment claims (obtained from the U.S. Bureau of Labor Statistics) drove an increase of approximately 66 points. Unemployment is more closely aligned with search interest in food banks suggesting that it is a substantially better predictor of food insecurity during the pandemic.

Changes in Food Bank Operations

As discussed, food banks generally faced added challenges meeting food demand, which was partly due to changes in the supply chain. While monetary donations increased, donations from grocery stores decreased. Moreover, direct orders for food resulted in substantial delays due to the widely reported stock outs at grocery stores. Many of our surveyed food banks

report USDA shipments as having filled the significant gap.

Prior to the pandemic, many food bank agencies had a “client choice” model. Client choice pantries allow clients to shop and select items, similar to how they would in a grocery store. They can select items they want and leave items they don’t want. This model has been widely accepted for several reasons. First, clients are not stuck with food they won’t eat, which should theoretically cut down on waste. Second, it allows pantry managers to see what products are popular. While most pantries still rely on donations, many also purchase food, and this information can inform purchasing decisions. Finally, a client choice pantry may offer more dignity in allowing choice, rather than paternalistically dictating what a client should or can eat. Indeed, in focus groups of pantry users, client choice pantries are overwhelmingly preferred (Remley et al., 2010). Because they are so popular, the design of client choice pantries has been carefully considered. For example, research has been done on how to position food items to nudge healthy decisions in the client choice setting (e.g., Wilson et al., 2017).

COVID-19 fundamentally changed the way food was distributed by many food banks. We asked survey respondents what strategies they employed for food distribution during COVID-19. 36% switched to a drive-through distribution model, which eliminates client choice. These types of operations also require clients to have cars and food banks to have access to large,

empty parking lots for distribution. These are resources that clients and banks may not possess and present potential barriers to food assistance.

The COVID-19 pandemic also brought safety concerns that directly impacted food bank operations. “Good Samaritan” laws diminish donors’ responsibility for safety hazards with donated food. This generally helps facilitate a steady stream of donations but also put the onus on food banks to ensure safety. With a virus that can linger on surfaces, the handling of food along its supply chain is of particular import. COVID-19 brought a raft of important safety precautions to follow in order to stop the spread of the virus. For food banks and pantries, this meant requiring masks, supplying hand sanitizer, and frequently disinfecting surfaces. In our survey, 41.9% of food banks reported difficulty implementing measures to safely distribute food to clients.

There were also notable changes in volunteer participation. Many food banks and their agency partners rely heavily on volunteers. Unfortunately, the pandemic has had a negative impact on volunteer recruitment, with 58.5% of surveyed food banks reporting difficulty recruiting volunteers during COVID-19. Of course, at a time when demand is surging, a shortage of labor can exacerbate distribution issues. Part of the problem is that many food banks rely on older volunteers. In their 2014 *Hunger in America* report, Feeding America reported that nearly 40% of their program volunteers were 60 or older (Weinfield et al., 2014). This represents a large part of the food bank volunteer base that is particularly

vulnerable to COVID-19. Many pantries are located indoors, often with limited space. For their own safety, many volunteers may have opted to pause their volunteer work. Food banks likely needed to replace this labor supply. Indeed, several food banks report that the National Guard played a pivotal role in replacing volunteer effort.

Looking Forward at the Role of Food Banks

Food banks are part of a larger patchwork of food assistance. SNAP remains the largest source of federal food assistance. Many food banks appear to view their own role as being a complement to, rather than substitute for, SNAP, since 39.7% of food banks provide services related to SNAP (Weinfield et al., 2014). Indeed, in our conversations with food bank personnel, some of them mentioned their efforts to lobby federal lawmakers to expand SNAP so that it might reach more people and offer higher benefits to those enrolled.

While efforts are being made to alleviate the effects of the pandemic, food insecurity persists. It is likely that food banks will continue to be a large component of food assistance across the United States. What we have learned from our work studying food bank operations during the COVID-19 pandemic is that by and large these organizations have the capacity to meet increased demand and the ability to transition services to meet unprecedented safety precautions.

For More Information

- Bauer, L. 2020. *Hungry at Thanksgiving: A Fall 2020 Update on Food Insecurity in the U.S.* Washington, DC: Brookings Institute.
- Béné, C. 2020. “Resilience of Local Food Systems and Links to Food Security – a Review of Some Important Concepts in the Context of COVID-19 and Other Shocks.” *Food Security* 12(4): 805–822.
- Byrne, A.T., and D.R. Just. 2021. “The Other Half: An Examination of Monthly Food Pantry Cycles in the Context of SNAP Benefits.” *Applied Economic Perspectives and Policy* 43(2): 716–731.
- Coleman-Jensen, A. 2018. “Food Pantries Provide Emergency Food to More Than One-Quarter of Food-Insecure Households.” *Amber Waves*.
- Coleman-Jensen, A., M.P. Rabbitt, C. Gregory, and A. Singh. 2015. *Statistical Supplement to Household Food Security in the United States in 2014*. Washington, DC: U.S. Department of Agriculture, Economic Research Service, Administrative Publication APN-069.
- Coleman-Jensen, A., M.P. Rabbitt, C. Gregory, and A. Singh. 2020. *Household Food Security in the United States in 2019*. Washington, DC: U.S. Department of Agriculture, Economic Research Service, Economic Research Report ERR-275.
- Daponte, B.O. 2000. “Private versus Public Relief: Use of Food Pantries versus Food Stamps among Poor Households.” *Journal of Nutrition Education* 32(2): 72–83.
- Esobi, I.C., M.K. Lasode, C.I. Anyanwu, M.F. Barriguete, M.A. Okorie, and D. Lasode. 2021. “Food Insecurity, Social Vulnerability, and the Impact of COVID-19 on Population Dependent on Public Assistance/SNAP: A Case Study

of South Carolina, USA." *Journal of Food Security* 9(1): 8–18.

- Feeding America. n.d. "Our History." Available online: <https://www.feedingamerica.org/about-us/our-history> [Accessed October 4, 2019].
- Garasky, S., L.W. Morton, and K. Greder. 2004. "The Food Environment and Food Insecurity: Perceptions of Rural, Suburban, and Urban Food Pantry Clients in Iowa." *Family Economics and Nutrition Review* 16(2): 41–48.
- Gowdy, S. 2020, June 2. "Houston Food Bank in Critical Need of Volunteers."
- Gundersen, C., B. Kreider, and J. Pepper. 2011. "The Economics of Food Insecurity in the United States." *Applied Economic Perspectives and Policy* 33(3): 281–303.
- Gundersen, C., and J.P. Ziliak. 2015. "Food Insecurity and Health Outcomes." *Health Affairs* 34(11): 1830–1839.
- Halberg, M. 2020, March 17. "Blake Lively and Ryan Reynolds Donate \$1 Million to Food Banks amid Coronavirus." *Observer*.
- Kalifa, T. 2020, June 27. "San Antonio Strong." *New York Times*.
- Liao, S. 2020, April 3. "Jeff Bezos Is Donating \$100 Million to American Food Banks." *CNN Business*.
- Morello, P. 2020, March 12. "The Food Bank Response to COVID, by the Numbers." *Feeding America*. Available online: <https://www.feedingamerica.org/hunger-blog/food-bank-response-covid-numbers>.
- Napoleon, C. 2020, May 14. "Gary, Food Bank Sponsor No-Contact Food Giveaway: 'These Are Difficult Times for So Many of Our Neighbors and Friends,' Mayor Says." *Chicago Tribune*.
- Niles, M.T., F. Bertmann, E.H. Belarmino, T. Wentworth, E. Biehl, and R. Neff. 2020. "The Early Food Insecurity Impacts of COVID-19." *Nutrients* 12(7): 2096.
- Pao, M. 2020, March 19. "How D.C.'S Biggest Food Bank Is Tackling a Decline in Donations and Volunteers." *WAMU* 88.5.
- Paul, R., A.A. Arif, O. Adeyemi, S. Ghosh, and D. Han. 2020. "Progression of COVID-19 from Urban to Rural Areas in the United States: A Spatiotemporal Analysis of Prevalence Rates." *Journal of Rural Health* 36(4): 591–601.
- Powell, L.M., S. Slater, D. Mirtcheva, Y. Bao, and F.J. Chaloupka. 2007. "Food Store Availability and Neighborhood Characteristics in the United States." *Preventive Medicine* 44(3): 189–195.
- Ralston, K., and A. Coleman-Jensen. 2017, August. "USDA's National School Lunch Program Reduces Food Insecurity." *Amber Waves*.
- Remley, D.T., A.C. Zubieta, M.C. Lambea, H.M. Quinonez, and C. Taylor. 2010. "Spanish- and English-Speaking Client Perceptions of Choice Food Pantries." *Journal of Hunger and Environmental Nutrition* 5(1): 120–128.
- Schmitt, O. 2020, March 18. "Northeast Iowa Food Bank Asking for Help; Needs Donations and Volunteers 'Now More Than Ever.'" *KWWL Cedar Rapids*.
- Shelbourne, T. 2020, July 2. "Milwaukee Food Banks and Pantries Face Unprecedented Demands as the Supplies Tighten during the Coronavirus Pandemic." *Milwaukee Journal Sentinel*.
- Weinfield, N.S., G. Mills, C. Borger, G. Maeve, T. Macaluso, J. Montaquila, and S. Zedlewski. 2014. *Hunger in America 2014: A Report on Charitable Food Distribution in the United States in 2013*. Available online: <http://www.feedingamerica.org/hunger-in-america/our-research/hunger-in-america/>.
- Wilson, N.L.W., D.R. Just, J. Swigert, and B. Wansink. 2017. "Food Pantry Selection Solutions: A Randomized Controlled Trial in Client-Choice Food Pantries to Nudge Clients to Targeted Foods." *Journal of Public Health* 39(2): 366–372.

Wolfson, J.A., and C.W. Leung. 2020. "Food Insecurity and COVID-19: Disparities in Early Effects for US Adults." *Nutrients* 12(6): 1–13.

Author Information: Anne T. Byrne (anne.byrne@usda.gov) is Research Agricultural Economist, USDA Economic Research Service, Kansas City, MO. David R. Just (drj3@cornell.edu) is the Susan Eckert Lynch Professor of Science and Business, Dyson School of Applied Economics and Management, Cornell University, Ithaca, NY.

Acknowledgments: The findings and conclusions in this article are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy. This work was conducted prior to Dr. Byrne joining the USDA Economic Research Service as a federal employee and the survey instrument used was designed and deployed while Dr. Byrne was a graduate student at Cornell University. This study was funded through a Rapid Response Grant from the Atkinson Center for a Sustainable Future at Cornell University. The authors would like to thank Lu Liu, Monisha Afrooz, and Zi Wang for assistance in data collection.

©1999–2022 CHOICES. All rights reserved. Articles may be reproduced or electronically distributed as long as attribution to Choices and the Agricultural & Applied Economics Association is maintained. Choices subscriptions are free and can be obtained through <http://www.choicesmagazine.org>.