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RESEARCH ARTICLE

Food banks show resilience in face of COVID-19

When COVID-19 caused spikes in food insecurity, California food banks and partners rallied to meet higher demands for food assistance.

by Kelsey D. Meagher, David C. Campbell and Edward S. Spang

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Abstract

The COVID-19 pandemic caused unprecedented spikes in food insecurity. In California, food banks, which were already facing high demand for emergency food assistance, rallied federal, state and local resources to help meet the challenges of the pandemic. Our study draws on interviews with food banks and their partners approximately one year into the pandemic to learn how they responded to enormous challenges in staffing, procurement, distribution and infrastructure. These interviews captured lessons for resilience planning and food security policy that might otherwise have been lost. We found an encouraging story of resilience, and a story of how government agencies and community networks can work together to create and strengthen food security policies, even under the most dire circumstances.

Millions of Californians are food insecure, with limited or uncertain access to adequate food. The COVID-19 pandemic created an unprecedented demand for emergency food assistance. Long lines at food banks became symbolic of the economic crisis (Alonso and Cullinane 2020; Kulish 2020; Luhby 2020; Rector 2020; Said 2020). Almost three million Californians lost their jobs in March and April 2020, with unemployment reaching 15.5% (California Employment Development Department 2020). Around 265,000 Californians applied for CalFresh food benefits (from the USDA Supplemental Nutrition Assistance Program, SNAP) in April 2020, more than double the previous April's total (Rector 2020). Many food banks reported serving double or triple the numbers they had served previously (Anderson and Smith 2020; De Faria 2021; Los Angeles Regional Food Bank 2021; Walker 2020).



A drive-by food distribution in Woodland, California. Despite being confronted by multiple challenges at the beginning of the COVID-19 pandemic, food banks in California adapted quickly to meet increased demand. *Photo*: Evett Kilmartin.

The goal of our study was to document the challenges the pandemic posed for food banks and the ways they responded. We interviewed food banks and their partners about one year into the pandemic to learn how they responded to enormous operational challenges, including staffing, procurement, distribution and infrastructure. This has provided lessons for resilience planning and food security policy while the experiences were fresh in the minds of the respondents. Driven by the urgency of the pandemic, food banks rallied their local networks and adopted innovative procedures to meet additional demands. Their ability to do so relied on the timely provision of programs and resources from federal, state and local governments. The response became an exemplary model of what bureaucratic agencies and community networks can achieve when they work together.

Geographical diversity

Between January and April 2021, we interviewed 30 individuals, 24 from food banks and six from their partners in food pantries, food distribution businesses, or government agencies. The respondents were recruited through the authors' professional networks and a directory of food banks in California. A "snowball" sampling strategy was used to recruit additional participants recommended by interviewees.

The food banks in our sample collectively serve 28 of the 58 counties in California. Many serve a single county, but several reach across multiple counties. They are geographically diverse, covering regions in Northern and Southern California, coastal and inland communities, and urban and rural areas. Prior to the pandemic, the smallest organizations had a handful of paid staff and 10–20 organizational partners, served fewer than 1,000 people per month, and distributed about one million pounds of food per year. By contrast, the largest food banks in metropolitan areas had 100–200 paid staff and over 300 community partners, served over 300,000 people per month, and distributed as much as 82 million pounds of food per year.

The interview script was developed by the lead author, Dr. Kelsey Meagher, who also conducted all of the interviews in English via Zoom. She followed a semi-structured interview protocol (fig. 1) that was approved by the UC Davis IRB. The interviews generally lasted between 45 and 60 minutes. Interviews were professionally transcribed, and the transcripts were sent to respondents for corrections and clarifications. The revised transcripts were analyzed in Dedoose, a qualitative data analysis software program, using a three-step process. First, we read through the transcripts to develop an initial coding scheme based on themes that emerged from the interviews. Second, team members met to revise the coding scheme based on the goals of the research. Third, Dr. Meagher applied the revised coding scheme to the interview transcripts and analyzed the excerpts by theme.



A food bank employee delivers boxes containing fresh produce, meat and dairy products. The USDA "Farmers to Families" program distributed over 174 million food boxes nationwide. *Photo*: Yolo Food Bank.

In this article, we first share key findings about the pandemic-related challenges and adaptive strategies that food banks developed. We then explore the key role that government partners played in facilitating the food bank response. We conclude with lessons learned for future resilience planning and food security policy and programs.

Demand spikes, volunteer losses

The pandemic-related challenges facing food banks were significant. Demand spiked in parallel to an increase in first-time clients, especially individuals in the hard-hit tourism and service industries. Meanwhile, food banks simultaneously lost volunteers — a generally older demographic and thus more at risk from COVID — and faced declining grocery donations as retailers struggled to restock shelves. When food banks tried to purchase food to make up the difference, they found themselves competing for limited supply or facing long delivery delays. As food volumes eventually increased, many food banks lacked the infrastructure or staff to sort, store, and distribute it. Maintaining safe conditions for staff and clients amidst changing public health advisories was another concern. The combination of these stresses led to concerns about staff and

Interview questionnaire

Background

1. Personal background: Would you mind stating your name and title and explaining a little bit about your role at this organization?
2. Background on the organization:
   a. How much food do you typically distribute in normal times?
   b. Where does that food come from?
   c. How do you distribute the food?
   d. How much fresh produce do you typically distribute each year? Where does that produce come from?

Questions about the COVID-19 pandemic

1. Could you walk me through your experience of the pandemic: how it impacted you in the beginning — when the pandemic first began — and then whether those impacts changed over time?
2. What have been the greatest challenges in adapting?
3. We're interested in learning whether the pandemic has led to increases or decreases in food loss in California. Has your organization experienced any changes in the amount of food loss/waste since the beginning of the pandemic?
   a. If yes: Could you give me an estimate of the total amount of food losses?
   b. How does this compare to "normal" times?
   c. What were the main drivers of this change?
   d. Where does this food loss go?

Wrapping up

1. Thinking more broadly about the California food system, what kinds of changes do you think would be important to prioritize to make the food system more resilient against future disruptions?
2. Is there anything else you'd like to share with us?
3. Can you recommend anyone else that I should talk to about these issues?

FIG. 1. Interview questionnaire. While the interview questions explored pandemic-related food losses alongside other operational challenges, interviewees shared that food losses were short-lived relative to more enduring concerns about staffing, procurement and infrastructure. Thus, we did not pursue deeper research into this topic.

volunteers burning out. The pandemic-related disruptions were most acute during the first few months of the pandemic, but some food banks also experienced longer-term challenges around food sourcing, operational capacity, and staff burnout. Some food banks reported these challenges at the time of the interviews, January to April 2021. A greater number reported near-term stability coupled with uncertainty about future demand and resources.

The following sections summarize key findings on the nature of these challenges and the ways food banks adapted, focusing on four areas: staffing, procurement, distribution and infrastructure capacity.

Creative staffing solutions

Safety concerns prompted major changes in daily operations. Many food banks rely heavily on older volunteers who chose to self-isolate due to their heightened risk for infection and hospitalization. The California Governor's Office of Emergency Services found that hunger relief organizations reported an average weekly shortage of more than 1,100 staff and volunteers across all organizations (De Faria 2021). A respondent lamented: "Every aspect of our operation literally changed overnight. You couldn't have people working side by side. Eventually we had more food coming in, and we didn't have the labor to process it." To defend against outbreaks, a few food banks suspended or eliminated their volunteer programs. While none of the food banks in our sample had to shut down, some had to manage small COVID outbreaks.

Governor Newsom deployed the National Guard in March 2020 to assist food banks (Office of Governor Gavin Newsom 2020). Many food banks testified that this saved them from limiting their operations: "The Guard has been a godsend. We wouldn't have been able to stay open." One year after the deployment, several food banks continued to rely on the Guard. Others, however, refused the assistance due to concerns that a militarized presence would discourage undocumented immigrants from seeking assistance.

Staffing challenges prompted a variety of creative responses. One food bank used county disaster service workers whose jobs were paused during the pandemic. Another took advantage of an offer from a local Head Start director to send her staff — who were still being paid despite school closures — to assist. Still another was able to hire 120 laid-off restaurant employees and put them to work in their distribution center: "We paid them $15 an hour and gave them a box of food every week."

Many respondents expressed concerns about staff and volunteers burning out because of the unsustainable pace of the pandemic response and its unanticipated persistence: "My volunteers are just amazing. But I think they're getting worn out."

Purchasing food

Grocery donations — including food, diapers and plastic bags (for food packing and distribution) — declined in the pandemic's early months as retailers struggled to restock shelves (Charles 2020; Raghavendran and McCarthy 2020; Said 2020). At the same time, restaurants and institutions that were shutting down made large donations of perishable items, which are typically difficult to sort, store and distribute. After the short-term surge in institutional donations, food banks found sourcing food increasingly difficult as grocery donations lagged: "We were getting a lot of money to provide shelf-stable products, but I couldn't find it anywhere. I have the money, but I don't have the access. Usually, it's the other way around."



Sorting food into boxes for distribution at Yolo Food Bank. In order to minimize contact with clients, warehouse operations shifted away from "client choice" or "farmers market style" distributions to standardized food boxes. *Photo*: Yolo Food Bank.

Though they found themselves competing with retailers and each other, many food banks dramatically increased their food purchasing programs. One respondent reported their food purchasing expenditures rose from $1 million per year to more than $10 million; another from $980,000 to $7.2 million. Staff without previous purchasing experience had to quickly learn to monitor inventory, forecast need, and develop vendor relationships. Meanwhile, respondents reported that disruptions in the food supply chain in the first months of the pandemic caused some food purchases to arrive late, or not at all. Several interviewees predicted that food purchasing would continue to be a core part of their sourcing strategy: "We really didn't purchase a lot of food pre-pandemic. Now a huge portion of my role is food procurement. It's going to shape how we do things going forward."

Several respondents saw clear advantages to purchasing food rather than relying on donations. It enabled them to ensure more consistent food offerings and to better control nutrition standards. At the same time, respondents mourned the loss of personal connections and community-building that is fostered in donation programs.

Food boxes and gift cards

Pandemic safety concerns necessitated a shift toward distribution models that minimized contact with clients. Warehouse operations shifted away from "client choice" or "farmers market style" distributions to standardized food boxes. A drive-through distribution model became the most widely used approach. This required large parking lots to accommodate long lines of cars, with staff or volunteers to direct traffic. Interviewees universally appreciated that the drive-through model enabled them to distribute large volumes of food quickly and with minimal contact.

Some respondents lamented the loss of personal connections, which prevented staff from offering clients emotional support: "We had to close down everything that had that close contact, which to us is essential because it gives us an opportunity to talk to them and see what's going on in their lives." Others challenged the idea that the "client choice" distribution model inherently offers more dignity to clients. They believed that drive-through distributions promote dignity by allowing clients to receive food quickly and anonymously, which many clients likely prefer.

Drive-through distribution also posed the challenge of serving people who do not own vehicles, especially since public transit routes had declined. Creative adaptations included offering walk-up distribution sites, allowing people to pick up boxes for friends or neighbors, and enrolling people in home delivery programs. Several food banks established mobile food pantries to reach isolated communities, especially important in regions with large farmworker populations. Others partnered with schools to reach the families of school-age children. One used grant funding to purchase vouchers for fresh produce from a local community supported agriculture (CSA) farm, leveraging the existing CSA model where clients can pick up or have delivered to their homes pre-packed boxes of fresh fruits and vegetables. The CSA strategy allowed the food bank to increase clients' access to fresh fruits and vegetables, reduce the volume of produce being processed at the food bank, and support local growers. Another food bank established their own farm, growing 25,000 heads of romaine lettuce in a year.

Finally, although food banks typically focus on distributing material goods, a few began to provide clients with gift cards so they could purchase food at a grocery store. Often this occurred when a food bank received a grant with a short spending deadline and the stipulation that it could only be used for purchasing food. Several respondents reported that the gift cards were very well received by people in the community. "We gave out $180,000 worth of gift cards in the month of February through the CARES Act — 720 families

received $250 gift cards to local stores in their areas. It was a stimulus for them and a stimulus for the local economy — it made a big impact. We got a lot of really nice thank-you cards, especially from the seniors." We will return to this important finding in our conclusion.

Expanding capacity

As demand rose, food banks found they lacked adequate infrastructure, particularly warehouse space, refrigerated storage, and truck fleets. Strategies they deployed included adding new warehouse facilities, renting cold storage space, and repairing broken freezers or equipment. Several food banks also updated their IT infrastructure or data collection processes during the pandemic, enabling them to more precisely track their activities and forecast future needs. They were largely able to cover the infrastructure improvement costs with community donations or government grants, particularly funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act passed by Congress. "When the CARES funds came in, we were able to fix three of our freezers and update our walk-in cooler, and we're waiting for the delivery of a container freezer, one of those huge shipping containers."

Driven by the urgency of the pandemic, food banks rallied their local networks and adopted innovative procedures to meet additional demands.

Despite these successes, many challenges remain. As an interviewee from the California Department of Social Services described it: "Food banks can't pivot on a moment's notice to get more storage space." Apart from one-time or special funding, it can be difficult to justify making infrastructure investments, given the uncertainties associated with the pandemic and the difficulty of forecasting future needs. "It's very hard to convince a board that meets every other month that we needed to invest in trucks and storage because 'how long is it going to last?'"

Government support

Respondents insisted that government support was critical to their pandemic response. Food banks received financial and material support from all levels of government: federal, state and local.

The U.S. Department of Agriculture (USDA) Farmers to Families Food Box Program was a key resource, though respondents voiced criticism about its uneven geographic coverage. The program distributed over 174 million food boxes containing fresh produce, meat and dairy products (USDA Agricultural Marketing Service 2021). It was universally praised for its speedy response: "They contracted awards on a Friday, and seven days later I had semi-loads of beautiful produce packaged into boxes unloading from our dock. There's no way I could have done that." Early rounds of funding awarded contracts to community organizations and supported small and medium-sized growers. For example, the Bay Area nonprofit Fresh Approach coordinated with eight regional organizations to distribute over 50,000 boxes of local, organic produce (Ollove and Hamdi 2021). As one organizer said, "It was amazing! It supported over 50 farms and invested more than a million and a half dollars into those farms." However, in later rounds the USDA decided to stop supporting produce-only boxes and instead exclusively supported combination boxes containing meat and dairy products as well. They also began shifting their food distribution contracts from small and medium-sized contractors like Fresh Approach to larger corporations that offered lower bid prices (Bitker 2020; Broad Leib et al. 2021).

In addition to federal help, California's state government offered its own emergency food boxes and funding for capacity building. The state partnered with the California Association of Food Banks (CAFB) to deliver the first food boxes in under two weeks, delivering a total of over one million in the nine months following the state's shelter-in-place order (CAFB 2021). The funding came from the California Department of Social Services (CDSS), eventually totaling $75 million. By building on an existing state food box program, the effort ramped up quickly: "We were really grateful at the speed and the scale of the state's response. Honestly, it's government at its finest." In addition to food and staffing support, the state also provided California food banks with funding to purchase food and expand operational capacity.

At the local level, many food banks established or strengthened relationships with county governments, with some receiving direct financial contributions for the first time. Interviewees believed that the county's support reflected a new appreciation for the services they provide. Some received help from police departments whose officers provided security services at food distribution sites.

Food banks adapted quickly

Though confronted with multiple, cascading challenges — including unprecedented food demand, volunteer shortages, declining food donations, supply chain disruptions, limited operational capacity, and occupational safety risks — food banks adapted quickly. As one respondent put it: "I'm going to say this with humility. We thrived." In addition to government support, respondents credited their success to organizational flexibility, collaboration with partners, and the ability to draw on lessons learned from previous disasters. Further, they believe the pandemic provided them with silver linings, including the impetus to pursue larger strategic visions and a chance to reduce the stigma associated with receiving food assistance.

Organizational flexibility

Flexibility required staff who were open to innovation and a board of directors who trusted food bank leaders to make sound decisions. Some food bank employees who failed to adapt ended up leaving the organization (either voluntarily or not). Remaining staff were enlisted in brainstorming needed changes, creating buy-in that sustained them through long hours and considerable uncertainty. Frequent communication, including daily or twice-daily team meetings, provided a way to share information, problem-solve, and make collective decisions. "Honestly, that was the only reason we were able to be so flexible — because we had everybody in the room."

Prior to the pandemic, food banks in California had systems in place to provide mutual aid during disasters. If one food bank was overwhelmed or shut down, neighboring food banks would step up. This system did not prepare food banks for a disaster that affected the entire state at once. Food banks nevertheless found ways to support each other through information sharing and emotional support: "We cannot share food; however, we can share information. Hey, this is where I'm getting bags from; I'm going to be ordering mesh bags and if I order 1.6 million mesh bags, I get a discount — who wants to buy them with me?" Food bank leaders made personal calls to professional contacts and made frequent use of electronic mailing lists composed of members of Feeding America or the CAFB. Respondents also mentioned two ad hoc groups of food bank leaders who met weekly during the pandemic: "That strategy of communication on a grassroots level saved us."

Learning from past disasters

Several interviewees reported that they drew on lessons learned from previous experiences with disaster response. For example, their experiences distributing shelf-stable foods to wildfire victims helped prepare them to operate larger-scale food box distributions. One respondent cited the 2019 federal government shutdown as a "test run" in how to rapidly mobilize resources to assist individuals who suddenly lost their paychecks. Previous experience also enabled the state to rapidly deliver food boxes to every county in California: "It's interesting how quickly our state support changed almost overnight from these tiny drought or fire boxes to 75 million dollars' worth of food boxes."

The pandemic provided an opportunity to align daily operational practices with broader strategic visions, acting as an "accelerant for change": "It wasn't just the facility; it was also our organizational capacity, our HR capacity, our cultural capacity — it was training ourselves to embrace change and to be innovative." Others described how the resources and visibility they received during the pandemic helped raise public awareness of broader social issues, such as federal anti-hunger policies, community food systems, and racial justice. The pandemic became an opportunity to view the work of providing temporary hunger relief within broader systems of social inequality and government assistance:

> *From the very beginning, our question was: How can whatever intervention we come up with now strengthen the food system long-term? Our traditional understanding is that a dollar going to a food bank pretty much stays at that food bank. But a dollar supporting a locally sourced food box, though it pays for fewer calories, it pays for higher quality, nutrient-dense calories, offering food with dignity, and simultaneously, it sends that dollar through the food system more effectively.*

Interviewees also reported that media attention during the pandemic raised their visibility, providing a once-in-a-lifetime opportunity to increase donations, enlist new volunteers, and reduce the stigma associated with food assistance: "I think it really brought out a lot more people who may have been very intimidated about going to a pantry, or felt it's only for the homeless or mentally ill. But this was affecting everybody."

Creativity and collaboration

Our research focused on two essential elements of food banks' adaptive responses to the food insecurity crisis during the pandemic. The first element was the creative work done at the local level to meet operational challenges. Food banks dealt with these challenges by building on their existing assets and working with the particularities of their regions to develop creative and effective solutions. No two food banks responded in precisely the same way. What the food banks had in common was their commitment to persevering despite the many obstacles. Flexibility, collaboration, communication, learning from the past, and keeping the big picture in mind were vital to their success.

The second element of the food banks' adaptive responses was their successful partnerships with federal, state and local government. No matter how creative food banks might be, the best defense against food insecurity is to keep individuals and families out of poverty in the first place. So, in addition to the



Line of customers waiting for food distribution in West Sacramento. The pandemic created an unprecedented demand for emergency food assistance; many food banks reported serving double or triple the numbers they had served previously. *Photo*: Yolo Food Bank.

specific programs mentioned by our respondents, the federal economic relief and stimulus packages were essential, as was the USDA's decision to provide the maximum SNAP benefit to all recipients on a temporary basis (Gundersen 2021). A recent report by the CAFB provides an extensive list of further actions that federal, state, and local decision makers might take in order to build on what was learned during the pandemic (De Faria 2021). Particularly important in California are policies that would ensure that all eligible individuals can access SNAP/CalFresh benefits.

Programs that put cash or its equivalent in the hands of eligible individuals can help them bypass food banks or other food distribution sites. The gift card experience of one food bank demonstrated the win-win nature of this approach. It lessens the burden placed on food banks, provides clients autonomy and choice in meeting their food needs, and circulates money in the local economy. Ideally, policies and programs that strengthen the safety net through cash assistance programs will make this happen more frequently.

A USDA report in September 2021 showed that the percentage of households experiencing food insecurity nationwide held steady at 10.5% between 2019 and 2020 (Coleman-Jensen et al. 2021). If this surprisingly small effect of the pandemic is accurate, our research suggests it was due to a combination of timely support from all levels of government, along with the ability of food banks and their partners to rapidly adapt to changing circumstances. To address food insecurity, Californians must forge a broad civic coalition, united by the common purpose of bringing together local knowledge and the collaborative capacities of food banks and their partners with the substantial resources managed by government agencies. CA

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