



US state variations in food bank donation policy and implications for nutrition

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ABSTRACT

Food insecurity has increased dramatically in 2020 as a result of the COVID-19 public health and economic crisis. Many more families in the United States are turning to the charitable food system to help meet their needs. However, little is known about the policies that influence food bank donations and whether they promote healthy food donations. The purpose of this study was to explore state variation in food donation policies and secondarily to assess whether policies promoted the donation of healthy foods and beverages. We reviewed donation policies for all states in the United States and Washington, DC (hereafter “states”) in fall 2020. Two reviewers independently assessed donation policies using two legal databases; we reconciled discrepancies via team discussion. We then grouped them into 10 distinct categories based on common purpose and theme. We identified 252 state policies from 51 states. Policies fell into all 10 categories. The largest category was “liability protection,” with all states having a policy in this category. The second largest category was date labeling; 32 states had requirements or policies restricting the donation of past-dated foods. However, across all categories, we found that only two policies explicitly promoted the donation of healthy foods and beverages. Although all states had some policies governing food donations, few promoted healthier foods and beverages. States could encourage healthy donations through policy to help ensure that all families have access to nutritious foods and beverages.

1. Introduction

Coronavirus disease 2019 (COVID-19) has created a public health and economic crisis, causing food insecurity rates to rise substantially in 2020. In March 2020, 11% of adults in the United States (US) experienced food insecurity, compared to 3.4% of adults in 2019.¹ Households with children have been even more severely affected, with one in seven (14%) reporting that they did not have sufficient food to eat (Center on Budget and Policy Priorities, 2020). High rates of food insecurity have led to a surge in demand for charitable food assistance; 98% of the 200 food banks in Feeding America’s national food bank network reported an increased demand for food assistance since the beginning of the COVID-19 pandemic (Feeding America, 2020). Furthermore, over half of food banks reported having less inventory to distribute to families in need (Feeding America, 2020).

Given the significance of diet quality for overall health

(Schwingshackl and Hoffmann, 2015) and the recent increase in demand for charitable food assistance, it is important to understand the extent to which food banks are receiving nutrient-rich foods to provide to families with low incomes. Results of a survey conducted among 196 food banks in 2017 indicated that almost one third of distributed food was fresh produce (Feldman and Schwartz, 2018). However, approximately half of the inventory of fruits and vegetables at six California food banks was onions and potatoes, which contain fewer nutrients than many other types of fruits and vegetables (Ross et al., 2013). In addition, the 2017 national survey found that approximately one quarter of foods and beverages distributed by food banks was high in added sugars, sodium, and saturated fat (Feldman and Schwartz, 2018).

In the US, the charitable food system is comprised of regional food banks, which are the primary food procurers, and food pantries, which are the primary distributors to individuals and families with low incomes (Campbell et al., 2015). Food banks acquire food from three main

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sources: 1) food from the US Department of Agriculture through the Emergency Food Assistance Program and the Commodity Supplemental Food Program, 2) donations by food manufacturers, retailers, and growers, and 3) foods purchased with food bank funds. Historically in the US, those utilizing food pantries were people experiencing short-term hardships. However, in recent years, the clientele has changed to people who experience chronic food insecurity and who rely on the charitable food system for a longer time period (Campbell et al., 2015), making the nutritional profile of donated foods even more crucial for clientele health.

Despite efforts to improve the nutrition of charitable foods, the presence of unhealthy food persists at food banks. Some suggest that this is due in part to the importance of corporate donations and financial and governance ties between food industry and food banks. For example, food industry representatives often sit on food bank boards (Poppendieck et al., 2014); and in 2020, retail and manufacturing donations were 40% of the over 5 billion meals that Feeding America provided (Feeding America, 2021). Andy Fisher, author of *Big Hunger: The Unholy Alliance between Corporate America and Anti-Hunger Groups*, argues that the charitable food system is an extension of the food industry, receiving a high volume of poor nutritional quality post-retail, post-processing food. This reliance on food industry donations and powerful positions held by food industry executives at food banks influence food banks' decisions about whether to accept and distribute unhealthy food.

Over the last several decades, the US federal government has enacted policies affecting food donations. In the US context, food donations refer to contributions of food from government programs, farmers, the general public, and corporations. In addition, states can establish their own laws. Several resources describing state laws exist. ReFED and the Harvard Law School Food Law and Policy Clinic (FLPC) created a policy tool that tracks and compares state laws related to food waste (ReFED). FLPC's report *Keeping Food Waste out of the Landfill* includes a 50-state survey of several of the types of laws described in this report (Broad Leib et al., 2016). Recent work by the FLPC and the Natural Resources Defense Council (NRDC), *inter alia*, reported on policies that may influence the amount of food that enters the charitable food system (Broad Leib et al., 2020; Harvard Law School Food Law and Policy Clinic, 2019; Sandson et al., 2019; Leib et al., 2018; ReFED, 2016; Broad Leib and Gunders, 2013; Harvard Law School Food Law and Policy Clinic, 2017). In addition, the FLPC published state-specific fact sheets on four categories of donation policies (liability protection, tax incentives, date labels, and feeding food scraps to animals) for 10 states (Harvard Law School Food Law and Policy Clinic, 2020). However, no identified studies have documented the full range of food donation policies covered in our scan across all 50 US states. Moreover, little is known about how existing policies shape the nutritional quality of food and beverages entering the charitable food system. Therefore, the purpose of this study was to address this research gap and explore state variations in policies affecting donations to food banks and whether any policies included language encouraging healthy food donations.

2. Methods

2.1. Overview

In this cross-sectional policy review, we collected data on state policies impacting food donation for all 50 US states and Washington, DC (hereafter "states") from two legal databases, Westlaw and LexisNexis, in October 2020. We used a predefined Boolean search string (Frants et al., 1999) to identify policies related to food banks, food pantries, food donations, and gleaning. The search strings we used were (food-bank food-pantr* glean** food-insecur*** "food donations" "donor of food") & (donat**** donor) & food (Westlaw) and ((food bank! or food pantr! or glean! or food insecur! or "donated foods" or "donor of food") and (donat! or donor)) and food (LexisNexis). We included policies that had the potential to shape the quantity or nutritional quality of foods and

beverages donated to food banks. We excluded policies that did not mention food bank donations, were repealed or expired, or were focused on food donations outside of the US. We further excluded case law, legislative histories, and secondary sources.

2.2. Review of policies

Two independent reviewers conducted the searches separately using two online legal databases (LexisNexis and Westlaw). One reviewer is an attorney whose focus is food law and policy. Another reviewer is a public policy scholar whose focus is nutrition policy. Two doctorate-level experts who are also attorneys with substantial experience conducting policy reviews trained the two reviewers in conducting the policy review. Once the scan was complete, reviewers compared results to determine which policies both databases identified and which policies only one database identified. Reviewers resolved any discrepancies in policies included via a team discussion. Next, because of their background in and familiarity with food policy and *a priori* knowledge of certain policy categories, reviewers conducted targeted online searches for specific policies not identified via the Boolean search string. Finally, we reviewed each policy and assessed whether the policy directly or indirectly promoted the donation of nutrient-rich foods, consistent with our approach in prior policy reviews (Benjamin-Neelon et al., 2017; Ayers Looby et al., 2020; Gonzalez-Nahm et al., 2017). The Institutional Review Board at the Johns Hopkins Bloomberg School of Public Health determined this study to be non-human subjects research and deemed it exempt from review.

3. Results

3.1. Overview

We identified 252 state policies, 68 (27.0%) of which were regulations and 184 (73.0%) of which were statutes and legislation. We then sorted identified policies into 10 categories based on existing literature and themes that emerged in the policy review (Benjamin-Neelon et al., 2017; Ayers Looby et al., 2020; Gonzalez-Nahm et al., 2017): liability protection, tax incentive, donation of certain food(s) that would not otherwise be eligible, donation via schools, grant program or fund, government programs, food safety, date labeling, waste diversion, and game donation. Categories were not mutually exclusive, and eleven policies fit into more than one category.

States varied substantially in both their number of total food donation policies and in their policy categories (Table 1). The median number of policies in each state was 4.5 (range: 1–16) (Fig. 1). California had the most policies related to food donation, with 16 total policies. The average number of categories across states was 4.16 (standard deviation: 2.01; range: 1–9). Policies could, however, fall into multiple categories. For example, Alaska Admin. Code tit.18 § 31.205 allowed individuals or organizations to donate traditional wild game meat, seafood, and plants if the operator of the recipient organization ensured that the food had not been processed, that the animal (if applicable) was not diseased, that the food was stored properly, and that the food would not cause a health hazard. Thus, we categorized this policy as authorizing donation of certain food (wild game, seafood, and plants, which would not be eligible otherwise) and food safety.

3.2. Policy categories

Liability protection was the largest category, with all states having at least one policy that protected the liability of food donors. These policies provided state-level liability protections in addition to the federal liability protections under the Bill Emerson Good Samaritan Food Donation Act, and protected both individuals and distributing organizations from state civil or criminal liability, provided that the food was apparently fit for consumption when it was donated, and any injury of the recipient

Table 1
Policy categories across states.

State	Total policies ^a	Liability protection	Tax incentive	Donation of certain food (s)	Donation via schools	Grant program or fund	Government program	Food safety	Date labeling	Waste diversion	Game donation	Total categories in state
AL	4	2	0	1	0	0	1	1	2	0	0	5
AK	4	1	0	2	1	0	0	1	0	0	0	6
AZ	5	1	1	0	0	0	2	0	1	0	0	4
AR	1	1	0	0	0	0	0	0	0	0	0	1
CA	16	4	2	1	4	0	1	1	3	1	1	9
CO	4	1	1	0	0	1	0	0	2	0	0	4
CT	5	1	0	1	0	0	0	1	2	1	0	5
DC	4	1	0	0	0	0	1	0	1	0	0	3
DE	2	2	0	0	0	0	0	0	0	0	0	1
FL	6	1	2	0	1	0	1	0	1	0	0	5
GA	3	1	1	0	0	0	0	0	1	0	0	3
HI	2	1	0	0	0	0	0	0	1	0	0	2
ID	6	2	2	1	0	1	0	0	0	0	0	4
IL	8	1	0	0	2	1	2	1	1	0	2	7
IN	7	2	1	0	1	0	0	2	1	0	1	6
IA	5	1	1	0	0	0	0	0	1	0	2	4
KS	3	1	0	0	0	0	0	0	1	0	1	3
KY	5	1	0	1	1	1	0	0	1	0	1	6
LA	3	2	1	0	1	0	0	0	1	0	0	4
ME	4	1	0	0	1	0	1	0	0	1	0	4
MD	8	3	4	0	1	0	0	1	1	1	1	7
MA	2	1	0	0	0	0	0	0	0	1	0	2
MI	6	2	0	0	0	1	1	0	2	0	1	5
MN	6	1	0	0	0	2	0	1	2	0	1	5
MS	1	1	0	0	0	0	0	0	0	0	0	1
MO	6	3	1	0	0	0	0	1	0	0	2	4
MT	7	1	0	0	1	1	2	0	1	0	2	6
NE	2	1	0	0	0	0	0	0	0	0	1	2
NV	4	1	0	0	0	1	1	0	1	0	0	4
NH	4	1	0	0	1	0	0	0	2	0	0	4
NJ	7	2	0	0	1	0	3	0	1	1	0	5
NM	2	1	0	0	0	0	1	0	1	0	0	3
NY	11	1	2	0	3	1	1	0	0	1	2	8
NC	5	1	0	0	0	0	1	2	1	0	0	4
ND	1	1	0	0	0	0	0	0	0	0	0	1
OH	3	1	0	0	0	0	1	1	0	0	0	3
OK	7	2	0	0	2	0	0	0	1	0	3	4
OR	10	1	1	0	1	0	2	2	3	0	1	7
PA	9	2	1	0	1	1	1	1	1	0	1	8
RI	2	1	0	0	0	0	0	0	0	1	0	2
SC	3	1	0	0	0	0	0	0	1	0	1	3
SD	1	1	0	0	0	0	0	0	0	0	0	1
TN	1	1	0	0	0	0	0	0	0	0	0	1
TX	7	1	0	0	2	1	1	1	0	0	1	6
UT	5	2	0	0	0	2	0	0	0	0	1	3
VT	2	1	0	0	0	0	0	0	0	1	0	2
VA	6	2	2	0	0	0	0	0	1	0	1	4
WA	9	1	0	3	0	2	0	1	3	1	0	6
WV	10	1	3	0	3	1	1	0	1	0	1	7
WI	5	1	0	1	0	0	1	1	1	0	1	6
WY	2	1	0	0	1	0	0	1	0	0	1	4
Total	251	66	24	9	29	17	23	17	42	8	28	

^aNumbers in the cells represent the total number of policies in a given category for each state. In a few instances, policies fit into more than one category. Thus, numbers in the category columns (liability protection – game donation) may not add up to the total policies.

was not due to gross negligence or intentional misconduct, with some states only protecting in the absence of negligence. Further, there is other variation in protection at the state level, with some states explicitly protecting donation of expired foods from liability.

The next largest category was date labeling, with 32 states (63%) having policies that created date labeling requirements for donated foods or restricted the donation of past-dated foods. Twenty-three states (45%) had policies that authorized or provided guidance for the donation of wild game. Twenty states (39%) had policies that created government programs that promoted or facilitated donation to food banks. Nineteen states (37%) had policies that dealt with food from schools going to food banks. These included Share Table policies (policies that allow schools to donate unserved or unopened served food to food banks) and health and nutrition standards for school foods, which are

relevant because schools may donate excess meal program food through food share programs; therefore, we captured school meal program policies that addressed program nutrition standards and authorized or encouraged schools to donate excess food. These state policies built on federal policies such as the Richard B. Russell National School Lunch Act, which allowed participating educational agencies to donate any food not consumed to local food banks.

The Food and Drug Administration Food Code provides federal-level food safety guidance, but it does not address food donations. Seventeen states (33%) had food safety policies that specifically addressed donations to food banks. Sixteen states (31%) had tax incentives, policies which complement the federal deduction available under 26 U.S.C. § 170(3)(C). Fourteen states (27%) had policies that authorized grant programs that can support healthier food banking. Ten states (20%) had

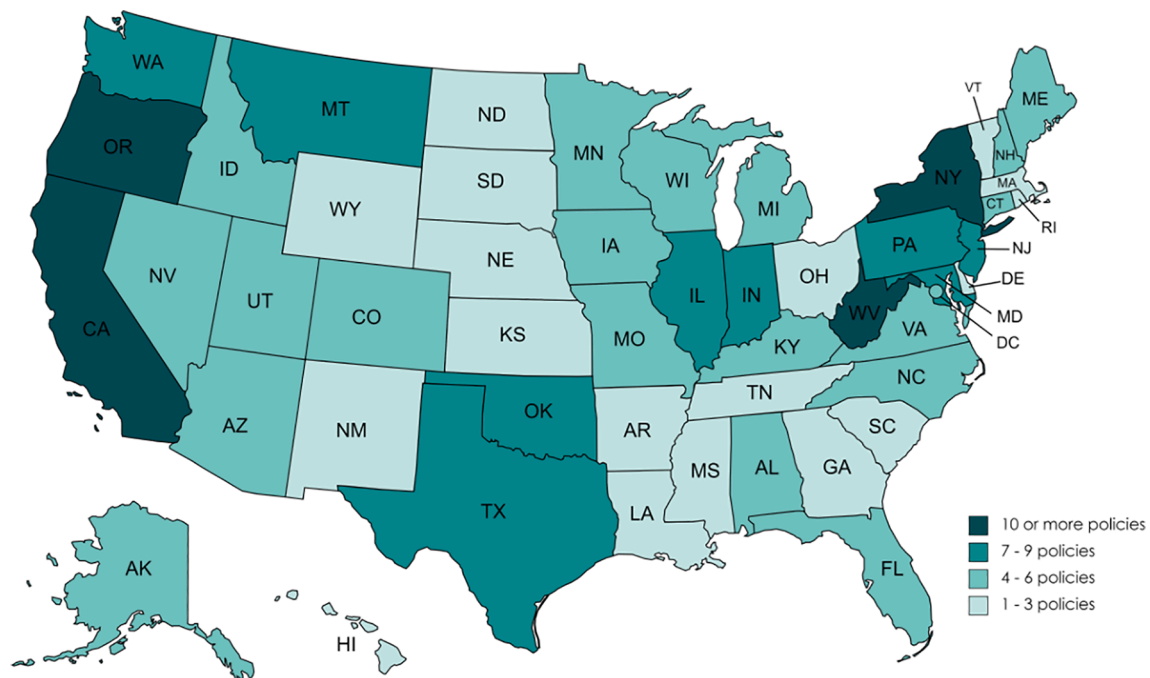


Fig. 1. Number of food donation policies across states.

policies that required producers of waste over a certain tonnage in a designated time period to divert the waste instead of sending it to a landfill. Finally, eight states (16%) had policies that authorized the donation of specific food(s) that would not otherwise be eligible for donation.

3.3. Promotion of nutritious food donations

Next, we assessed whether each policy encouraged the donation of healthy foods and beverages. We identified 18 policies that prioritized nutrition (Table 2). Two policies used language that made it explicit that promoting nutritious food and beverage donation was a priority. Nevada Rev. Stat. § 561.495 established a Supplemental Food Program under the state's Department of Agriculture. As part of this program, a key duty of the director was to purchase and distribute "nutritious food," including fruit, vegetables, tuna fish, and dry milk to people with low incomes.

Next, 72 Pa. Cons. Stat. §§ 8904-A, 8905-A, 8902-A established the Charitable Food Program under the Neighborhood Assistance Act. This program offered a 55% tax credit to businesses that donated money or food to eligible charitable food organizations or projects. Food with "nutritional value" was the only type that qualified for the program's tax credits. The program explicitly excluded items such as candy, snack foods, and soda from eligibility (Pennsylvania Department of Community and Economic Development, 2020).

Other policies encouraged the donation of nutritious foods (e.g., fruits, vegetables, or other whole foods) without signaling this with phrases such as "nutritious" or "nutritional value." These included 13 farm-to-food bank policies. Farm-to-food bank tax credits can incentivize the donation of fruits and vegetables (e.g., N.Y. Tax Law §§ 606(n-2), 210-B(52) and Iowa Code §§ 190B.104 - 0.106). Eligible farmers who donated food that they grew or produced to a charitable food organization were eligible for this specialized tax credit. To illustrate, Cal. Rev. & Tax Code §§ 17053.88.5, 23688.5 allowed a 15% tax credit for qualified donation items, most of which were whole food items, e.g., fresh fruits and vegetables, poultry, eggs, and fish. Although packaged foods such as bread, pasta, and canned seafood also qualified for the tax credit, items such as candy, snack foods, and soda were not included.

Finally, three policies, in the categories of government programs and grants/funds, promoted nutritious food donation in different ways. For

example, Fla. Stat. § 595.420 established a connection between the state Commissioner of Agriculture and food recovery programs that solicited, collected, packaged, and delivered surplus fresh fruit and vegetables for distribution to people with low incomes. The Commissioner of Agriculture could coordinate the establishment of food recovery programs, support the programs by loaning facilities and/or staff resources, and promote food recovery programs to the public.

Relatedly, gleaning policies allowed individuals or organizations to solicit and collect surplus fresh fruits and vegetables from farms or orchards and deliver them to food banks or low income populations. However, unlike Fla. Stat. § 595.420, which gave the state a greater role in food recovery, gleaning policies were generally focused on making gleaning legal and/or protecting anyone who participates in gleaning from liability. Some also explicitly protected the charitable organizations receiving gleaned foods—though they would already be protected by general federal and state-level liability protections for food donation—and the owners or tenants of gleaned land. We identified 25 gleaning policies (Supplementary Table 1), all of which were statutes. However, we did not include them in the list of policies that prioritize nutritious food donation because they do not promote nutrition as actively as other policies. To illustrate, often these policies included gleaners in a list of entities granted liability protections but did not extend beyond that.

4. Discussion

In this cross-sectional policy review, we identified 252 state policies related to food bank donations. States varied widely in the number of total policies that they had, with five states (Arkansas, Mississippi, North Dakota, South Dakota, and Tennessee) having a single policy and California having the most with 16. The most common category for policies was liability protection, with all 51 states having a policy in this category. Eighteen policies encouraged healthy food donation, such as farm-to-food bank policies. However, only two of these policies used language that made it clear that promoting nutritious food and beverage donations was an explicit priority of the policy.

State policies exist within a broader context of federal policies. Recently, there have been federal efforts to increase fresh foods in the charitable food system and expand infrastructure to store these foods,

Table 2
Policies that promote nutritious food donation.

Farm-to-food bank and venison tax credits	Description
Cal. Rev. & Tax Code §§ 17053.88.5, 23688.5	§ 17053.88.5 allowed a 15% tax credit against individual taxes for qualified donated items. § 23688.5 allowed the same against corporate taxes. Qualified donated items were mostly whole food items, e.g., fresh fruits and vegetables, poultry, eggs, and fish. Although packaged foods such as bread, pasta, and canned seafood also qualified for the tax credit, items such as candy, snack foods, and soda were not included.
Colo. Rev. Stat. § 39-22-536. Credit for food contributed to hunger-relief charitable organizations.	Provided a 25% tax credit claimable by an individual or corporate taxpayer for a food contribution of livestock, game, eggs, milk, or an agricultural crop to a hunger-relief charitable organization.
Iowa Code § 190B.101 - 0.106. From Farm to Food Donation Tax Credit.	Provided a 15% tax credit against corporate and personal taxes for donating a food commodity produced by the taxpayer to an Iowa food bank or emergency feeding organization.
Iowa Admin. Code r. 701-42.51, 52.45	Administrative regulations related to the Iowa From Farm to Food Donation Tax Credit.
Md. Code Ann. Tax-Gen. §§ 10-745 to 746, 10-208	Md. Code Ann. Tax-Gen. § 10-745 allowed a 50% tax credit claimable by a qualified farm for the value of donated fresh farm products, and a 75% tax credit claimable by a qualified farm for the value of donated organic fresh farm products.Md . Code Ann. Tax-Gen. § 10-208 allowed a subtraction from federal adjusted gross income used to determine Maryland adjusted gross income of the difference in value between farm products raised or grown primarily to be sold that are instead donated to a gleaning cooperative and the amount that the donor claims for the farm products under the Federal Enhanced Tax Deduction for Food Donation.Md . Code Ann. Tax-Gen. § 10-746 allowed a credit of up to \$50 for expenses incurred to donate processed deer meat to a venison donation program.
Md. Code. Regs. 15.01.12.01 - 0.07	Administrative regulations related to the tax credit for donated fresh farm products available under Md. Code Ann. Tax-Gen. § 10-745.
H.B. 403, 2019 Leg., 440th Sess. (Md. 2019)	Bill that altered the tax credit for donated fresh farm products available under Md. Code Ann. Tax-Gen. § 10-745.
H.B. 7, 2018 Leg., 439th Sess. (Md. 2019)	Introduced the tax credit for donated processed deer meat available under Md. Code Ann. Tax-Gen. § 10-746.
N.Y. Tax Law §§ 606(n-2); 210-B(52). Credit for farm donations to food pantries.	N.Y. Tax Law 606(n-2) provided a 25% tax credit against personal income tax claimable by an eligible farmer for donation of grown or produced food. N.Y. Tax Law § 210-B(52) provided the same credit against corporate income tax.
Or. Rev. Stat. § 315.154 - 0.156. Crop donation credit.	Allowing a 15% tax credit against personal and corporate taxes for crop grower donation of an agricultural crop.
Va. Code Ann. § 58.1-439.12:12. Food crop donation tax credit.	Provided a 30% tax credit against corporate taxes for donation of grains, fruits, nuts, or vegetables by a person engaged in the business of farming.
23 Va. Admin. Code § 10-110-142(9)	23 Va. Admin. Code § 10-110-142(9) allowed qualified agricultural contributions included in calculating

Table 2 (continued)

Farm-to-food bank and venison tax credits	Description
W. Va. Code §§ 11-13DD1-7. West Virginia Farm-to-Food Bank Tax Credit.	Federal adjusted gross income (FAGI) to be subtracted from FAGI in determining Virginia taxable individual income. Provided a 30% tax credit against personal and corporate taxes for donation of edible agricultural products by farming taxpayers.
Other Fla. Stat. § 595.420	Established a connection between the state Commissioner of Agriculture and food recovery programs that solicited, collected, packaged, and delivered surplus fresh fruit and vegetables for distribution to people with low-incomes. The Commissioner of Agriculture could coordinate the establishment of food recovery programs, support the programs by loaning facilities and/or staff resources, and promote food recovery programs to the public.
Pa. Unconsol. Stat. P.L. 1134, No. 113. Pennsylvania Agricultural Surplus System Act.	Created system for Pennsylvania food producers to donate, sell, or otherwise provide food assistance to Pennsylvania charitable food organizations.
72 Pa. Cons. Stat. §§ 8902-A, 8904-A, 8905-A	Established the Charitable Food Program under the Neighborhood Assistance Act. The program offered a 55% tax credit to businesses for donating money or food to eligible charitable food organizations or projects. Only food with “nutritional value” qualified.
N.J. Rev. Stat. § 4:1-48. Farm Liaison.	Directed the New Jersey Secretary of Agriculture to designate a “Farm Liaison” to coordinate with farmers to encourage participation in state agricultural programs, including by distributing information about food donation programs and anti-hunger initiatives, and coordinating between farmers and gleaning organizations.
Nev. Rev. Stat. § 561.495	Established the Supplemental Food Program to supplement Nevada’s supply of charitable food. Not less than 95% of the money in the program’s account must be used to purchase nutritious foods which are infrequently donated or which will supplement the food which is donated, including, but not limited to, peanut butter, tuna fish, fruit, vegetables, dry milk and stew.

for example, the Farmers to Families Food Box Program between May 2020 and May 2021 ([USDA Farmers to Families Food Box, 2022](#)), \$100 million in infrastructure grants for food banks in June 2021 ([U.S. Department of Agriculture, 2021](#)), and establishment of a Farm to Food Bank Fund (TEFAP FTFB) within the federal Emergency Food Assistance Program in 2018 ([115th Congress, 2018](#)). Although the number of total meals donated has increased steadily since 2018 ([Feeding America, 2021](#); [Feeding America, 2018](#); [Feeding America, 2019](#); [Feeding America, 2021](#)), no identified studies have used designs that would help isolate these programs’ impact on the total quantity or quality of foods donated. Regardless, state policies and programs supporting healthy food donation are still crucial to meet current needs of low-income families. For example, TEFAP FTFB funding is limited and requires states to match the funding amount they receive from the federal program ([7 CFR 251.10 – Miscellaneous Provisions, 2022](#)). To illustrate, Maine received \$19,630 from the fund in 2021 to harvest and donate frozen blueberries ([US Department of Agriculture, 2021](#)). However, Maine’s charitable food needs were far greater, and the state legislature appropriated \$1 million to the state’s largest food bank to purchase over

two million pounds of locally grown food (Maine State Legislature, 2022). Therefore, state policies and programs that promote the donation of nutritious foods are essential, even in the presence of existing federal policies. Our prior policy review found that federal donation policies spanned just six categories, and none encouraged the donation of nutritious foods and beverages (Hudak et al., 2020). A recent report by the FLPC and the Global Food Banking Network provided an overview of federal policies in four categories (food safety, date labeling, liability protection, and taxes) and recommended policy actions (Broad Leib et al., 2020). In contrast with our review, their report emphasized increasing the quantity of donations to mitigate food waste and food insecurity but did not address the healthfulness of food donations. Some prior reports, however, also examined state policies. In *The Dating Game*, FLPC and NRDC described federal and state policies that regulated date labeling and their implications for food waste (Broad Leib and Gunders, 2013). The review found that laws in 42 states regulated the sale — and sometimes donation — of foods beyond their date label or required date labels on at least some food products (Broad Leib and Gunders, 2013). In comparison, we found that 28 states had date labeling laws that addressed food donation. We excluded general date labeling laws (e.g., those that regulated the sale of past-dated food) and those related to raw shellfish, which is unlikely to be donated. The FLPC and NRDC review, therefore, examined a broader range of date labeling policies than the present study.

Our findings that only two policies explicitly promoted the donation of nutritious foods and beverages is concerning. A state policy tool that holds potential to improve the quality of donations is tax incentive policies. That is, rather than simply legalizing an activity (e.g., gleaning or authorizing the donation of certain foods), tax incentives offer tangible payoffs to food producers, retailers, and individuals (Schneider and Ingram, 1990). Currently, federal tax policy allows businesses to claim deductions based on either the basis value or the expected profit margin of the food (Harvard Food Law and Policy Clinic, 2016). Most state-level policies work similarly and are also based on the basis value or profit margin of a given food. However, there is potential for policymakers to refine tax incentives to better serve as a “carrot” for nutritious food donation. For example, in Pennsylvania, only foods deemed to have nutritional value were eligible for tax credits. The Department of Community and Economic Development, who oversaw the tax credit, determined whether a food item had nutritional value. The criteria the Department used to make this determination were not specified. Even so, the Department explicitly stated that candy, soda, and snack foods did not qualify for the tax credit (Pennsylvania Department of Community and Economic Development, 2020). Although this policy would benefit from clarification as to what foods do qualify as nutritious, it serves as a useful model of how to modify tax incentives to encourage the donation of nutrient-rich foods.

4.1. Public health and policy implications

Diet quality is a key predictor of a host of chronic diseases, including cardiovascular disease, stroke, diabetes, and cancer (Chiuve et al., 2012; Sotos-Prieto et al., 2015; Schulze et al., 2018). Low-income populations are significantly more likely to have chronic conditions when compared to higher-income populations (Shaw et al., 2016; Freid et al., 2012). In addition, food insecurity has been associated with multiple chronic conditions and their risk factors, including decreased nutrient intakes (Dixon et al., 2001; Seligman et al., 2010; Ziliak and Gundersen, 2011). Food insecure families may deal with inadequate food supplies by reducing their food intake or changing the types of foods they purchase (Kendall et al., 1996; Olson, 1999).

In addition to the importance of a healthy diet for overall health and disease prevention, evidence suggests that food pantry users also preferred healthier, fresh foods (Campbell et al., 2011; Maryland Food Bank Inc., 2019; Verpy et al., 2003). Campbell et al. (2011) found that New York food pantry clients preferred fruit, vegetables, and meat/

poultry over candy, soda, and processed snack foods. A survey of Baltimore food pantry clients revealed that a sizeable portion of clients was unsatisfied with the amount of protein (e.g., meat and seafood) and produce available (Maryland Food Bank Inc., 2019). However, even if food donation policies successfully incentivize the donation of fresh, nutritious foods and beverages, organizational issues within food banks or food pantries may present barriers to accepting and disturbing these foods (Campbell et al., 2013; Handforth et al., 2013). Among food banks that completed a national survey in 2013, almost half (44%) cited limited storage space as a barrier to procuring and distributing nutritious foods and beverages, and 26% listed lack of refrigerated storage as a barrier (Campbell et al., 2013). Even so, the majority of surveyed food banks reported a considerable level of commitment to nutrition, and there is evidence that food banks were taking steps to overcome barriers to the procurement and distribution of fresh, nutritious foods (Campbell et al., 2013; Handforth et al., 2013).

It is important to recognize that clients have food preferences that may be influenced by culture, traditions, health needs, and time constraints. The charitable food system should be flexible to accommodate varying preferences and needs; yet, shifting the types of foods donated from less healthy to more nutritious food is not inherently at odds with that flexibility. Matching client preferences with food bank offerings underscores a broader issue: charitable food system clients typically have little opportunity to select what they want, which can contribute to the lack of dignity that they report feeling (Sweet, 1999; Garthwaite, 2016; Middleton et al., 2018). Allocating more resources to the social safety net, e.g., the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the Temporary Assistance for Needy Families (TANF), would help circumvent this challenge and provide more autonomy. Furthermore, it is important to contextualize the charitable food system's relationship to the broader safety net program. Many people experiencing food insecurity turn to the charitable food system when other social safety net benefits fall short, or they do not qualify for them. A recent study found that approximately half of the families that use both SNAP and the charitable food system used all their SNAP benefits within 10 days of receiving them (Fan et al., 2021). Although the USDA recently increased SNAP benefits by adjusting the basis for calculating them (U.S. Department of Agriculture, 2021), when current pandemic boosts to SNAP end, monthly benefits will only average \$169 per person (Dean). Providing additional benefits through programs like SNAP would reduce families' need for charitable food aid. Additionally, program eligibility requirements prevent certain groups from applying. For example, besides income and nutritional risk requirements, undocumented immigrants are not eligible for SNAP or TANF, and only pregnant or breastfeeding women, infants, and children up to age 5 years are eligible for WIC (Broder et al., 2021; U.S. Department of Agriculture, 2017).

Furthermore, it is essential to consider the ability of distributing organizations and clients to store and use donated products. Processed foods, and certain vegetables like potatoes and onions, are often easier to prepare and have a longer shelf life compared to most fresh fruits and vegetables. First, as noted above, food banks and/or pantries may not have the necessary facilities (e.g., refrigeration) to properly store fresh foods. The federal government is taking steps to help address this problem. In June 2021, the US Department of Agriculture announced \$100 million in infrastructure grants for food banks in under-resourced communities, which will expand the capacity of recipients to accept and store fresh foods (U.S. Department of Agriculture, 2021). Second, families with low incomes may not have the resources needed to prepare fresh foods. To mitigate this problem, food banks throughout the US may offer “kettle boxes” which can be prepared using only hot water, or “cold boxes” which do not require hot water or other heating mechanisms (Pandemic Hastens Food-Bank Push Into Meal Prep - Food Bank News, 2020).

Some food donation policies – farm-to-food bank tax credits and

gleaning policies— implicitly promoted the donation of fruit and vegetables. However, there is evidence that these policies may do little to incentivize producers to donate crops, and that gleaning has too many logistical challenges to be effective (Kinach et al., 2020; Chiu et al., 2012). And while tax incentive policies theoretically offer a monetary payoff, tax incentives must be high enough to cover any additional costs associated with food donation (Kinach et al., 2020). Future research should evaluate the efficacy of these policies at increasing fruit and vegetable donations, as well as the optimal structure for tax incentives. If these policies are found to be effective, additional states could offer farm-to-food bank tax credits or adopt gleaning policies.

Although this is the first study to offer a state-by-state perspective, it also has limitations. We report on the presence of a policy, which does not consider policy implementation, enforcement, or take-up – all of which are key factors in determining a policy's effectiveness. A second limitation is the complexity, and occasional duality, of a policy. That is, three policies that plausibly incentivize food donation also had a clause that could serve as a donation barrier. For example, N.Y. Agric. & Mkts Law § 71-z generally encouraged donations by providing liability protection. However, its third clause required charitable organizations to provide liability insurance to gleaners, which could deter organizations from working with gleaners. Finally, this review is current through October 2020, and state governments may revise their policies regularly – especially in light of high rates of food insecurity due to COVID-19. As a result, this review may already be partially outdated. Nonetheless, the potential to revise and improve policies can make them more effective at achieving a desired goal, including increasing the nutritional quality of foods that enter the charitable food system.

5. Conclusion

It is critically important to evaluate the current policy environment that could affect the nutritional quality of foods entering the charitable food system and identify avenues for improvement. The number of families turning to the charitable food system has increased dramatically as a result of the COVID-19 pandemic. Rates of unemployment and food insecurity are expected to remain above pre-COVID-19 levels, driving continued high demand at food banks (Congressional Research Service, 2020; Feeding America, 2020). As such, the charitable food system is uniquely positioned to help families with low incomes experiencing food insecurity access nutritious foods. Improving the nutritional quality of donated food and beverages and ensuring that families in need have access may help promote health and protect against chronic, diet-related diseases.

CRedit authorship contribution statement

Katelin M. Hudak: Methodology, Validation, Formal analysis, Writing – original draft. **Emily Friedman:** Methodology, Validation, Formal analysis, Writing – review & editing. **Joelle Johnson:** Conceptualization, Methodology, Validation, Writing – review & editing, Supervision. **Sara E. Benjamin-Neelon:** Conceptualization, Methodology, Validation, Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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