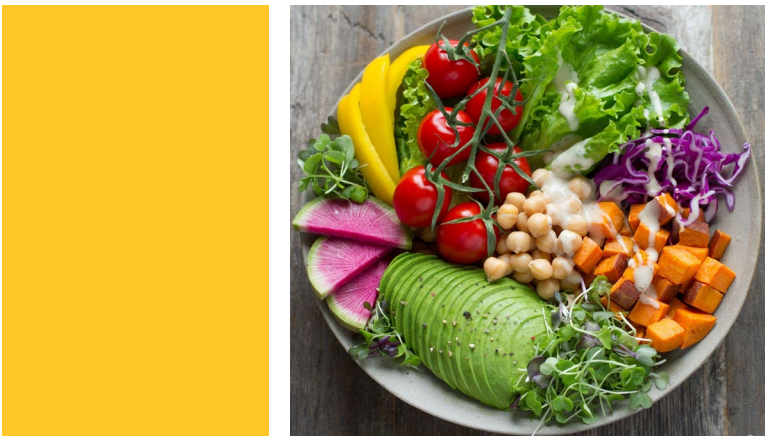


Meatless Monday Best Practices

Assessing the Implementation and Maintenance of Meatless Monday Initiatives in the U.S.



Swette Center for Sustainable Food Systems, Arizona State University

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Executive Summary

Meatless Monday is an initiative that encourages actionable steps toward the reduction of meat consumption by asking participants to eat meat-free on Mondays. Many organizations, cities, schools, and correctional facilities have implemented Meatless Monday initiatives as a push to improve environmental sustainability, human health, and the welfare of animals. Such initiatives provide an opportunity to educate consumers on the health benefits of a plant-forward diet, the environmental impact of meat production, animal welfare issues, the innovation of non-meat proteins, and to engage stakeholders in gaining more control over their food choices.

This report offers a summary of seven Meatless Monday initiatives throughout the U.S., highlighting best practices and notable challenges of implementing and maintaining such an initiative in three different contexts: local government, school systems, and non-profit or volunteer-led organizations. This report was conducted through an extensive look at previous research, news articles, and marketing materials, as well as interviews with stakeholders in six mid-sized U.S. cities.

Introduction

Meatless Monday is a global movement that encourages people to reduce meat in their diet for their health and the health of the planet. The campaign was started in 2003 by Sid Lerner, the Founder of The Monday Campaigns, in association with the Johns Hopkins Center for a Livable Future.

Meatless Monday's simple message to "skip meat once a week" works because it provides a regular cue to take action on Monday, which research shows is the day people are most open to making positive changes. Starting each week practicing Meatless Monday can lead people to eat more fruits, vegetables, and plant-based meals throughout the rest of the week.

U.S. meat reduction campaigns can be traced back to World War I, when Herbert Hoover - then head of the new Food Administration created to control production and distribution of food - initiated the "Food Will Win the War" campaign, asking the American people to forego meat consumption on Tuesdays (Avey, 2013). It was a success at the time and the campaign was even re-invigorated during World War II. Fast forward to 2022, the Meatless Monday Campaign has been adopted in over 40 countries, some with more success than others (Meatless Monday, 2021). Institutional settings like schools and universities indicated the most success in sustained behavioral change in the adoption of meatless or reduced-meat diets. It has become increasingly apparent, however, that social and cultural attitudes (and players who influence those attitudes, like the media) have a large role to play among different populations, especially as vegetarian or reduced-meat diets become more popular in the West. More importantly, engaging the targeted population in the decision-making process has proven to be a critical element of successful initiatives.

This study identifies best practices in the implementation and maintenance of Meatless Monday initiatives in mid-sized cities across the U.S. to understand the common conditions and drivers behind food systems change. We first review the literature on meat reduction initiatives, focusing on the motivations and public attitudes behind reduction of meat consumption, and detailing examples of such initiatives and components of successful Meatless Monday implementation. Second, we identify barriers and best practices associated with successful Meatless Monday initiatives by analyzing seven semi-structured interviews with community members, non-profit leaders, and school nutrition professionals across six U.S. cities in Colorado, California, Pennsylvania, and Massachusetts. Finally, our research summarizes best practices and provides recommendations for the implementation and maintenance of Meatless Monday initiatives.

Literature Review

To better understand the context of Meatless Monday initiatives, we reviewed the academic literature around four central themes: 1) the importance of reducing meat consumption for human and environmental health, 2) public attitudes towards meat consumption and reduction, 3) the landscape of meat reduction initiatives more generally, and 4) components of successful Meatless Monday implementation.

Importance of Reducing Meat Consumption for Human & Environmental Health

Reducing meat production and consumption is a worthy investment into human and planetary health. There is overwhelming scientific evidence that overconsumption of meat - that is consumption exceeding the daily recommended intake (3.3 oz. of red meat, 7.2 oz. of poultry and 6.9 oz. of fish per week (Willett et al., 2019)) - is detrimental for human and environmental health (Rust et al., 2020).

Consequences for Human Health

Red meat intake in the U.S. is 300-600% higher than the daily recommended levels, while the intake of fruits and vegetables is approximately half of the recommended level (Willett et al., 2019). Overconsumption of meat and especially processed meat has been linked with cardiovascular and respiratory diseases, cancers and diabetes (Bouvard et al., 2015; Bradbury et al., 2020; Delimaris, 2013). The industrial production of meat also affects human health. For example, the heavy use of antibiotics in non-organic industrial meat production contributes to antibiotic resistance in humans (Spellberg et al., 2016). Additionally, concentrated livestock operations produce pathogens that can be dangerous to humans (Jones et al., 2013), and create air pollution due to nitrogen and fine particulate matter emissions (Tschofen et al., 2019; Williams & Brent, 2017).

Consequences for Environmental Health

The production of meat also has negative impacts on planetary health. For one, producing animal feed is resource intensive. Currently, 22% of the global freshwater supply is used for feed crop irrigation and meat production (Hoekstra & Chapagain, 2006) and 83% of the world's farmland is used for animal agriculture, including meat, aquaculture, eggs, and dairy (Poore & Nemecek, 2018). Considering that some animal feeds are edible for humans, studies estimate that 70% more calories would be created

and could feed up to four billion people if such calories were allocated directly to human consumption (West et al., 2014).

Furthermore, raising animals, especially in concentrated animal feeding operations (CAFOs), is a leading source of freshwater pollution (FoodPrint, 2019; U.S. EPA, 2017). CAFOs often house thousands of animals and generate millions of gallons of animal waste every year, which is stored in pits or open ponds (Formuzis, 2016). These sites not only affect the health of the communities who live nearby - overwhelmingly low income and black, indigenous, and people of color (BIPOC) communities – but they also regularly leak into the environment. This situation creates devastating impacts, such as groundwater contamination and run-off into streams, leading to fish toxification and eutrophication of rivers (NOAA, 2016; 2021). Because land is cleared for feed and meat production, animal agriculture is also the leading cause of global deforestation (Steinfeld et al., 2006), a key driver of biodiversity loss (Machovina et al., 2015), and a major contributor to greenhouse gas (GHG) emissions (Poore & Nemecek, 2018) and climate change. Scientists estimate that 70-80% of Amazon rainforest deforestation is caused by cattle ranching (Nepstad et al., 2008). Notably, if we globally adopted the national recommended guidelines on weekly meat consumption, researchers estimate that global GHG emissions could be reduced by 30% (Chaudhary & Krishna, 2019; Springmann, Clark, et al., 2018; Springmann, Mason-D'Croz, et al., 2018).

Public Attitudes Towards Meat Consumption

Recognizing the need for reduced meat production and consumption, it is important to consider the cultural context of meat in the western world and how this may impact compliance with meat reduction initiatives such as Meatless Monday.

Meat and the Environment

Despite the well-established link between industrial meat production and climate change, studies continue to find a lack of understanding and awareness of this link in the general public (Macdiarmid et al., 2016; Mattson, 2020; Rust et al., 2020; Stubbs et al., 2018). Additionally, among the small minority of the population that are aware of meat production's impact on planetary health, an even smaller minority are willing to stop or reduce meat consumption based on that understanding (Sanchez-Sabate & Sabate, 2019). Those who have implemented such a change based on ecological reasons tend to be young females who eat a reduced meat diet rather than fully vegetarian or vegan, are ecology-oriented, and are more likely to live in Europe and Asia than in the U.S. (Sanchez-Sabate & Sabate, 2019).

Meat and Masculinity

In studies on perceptions of meat consumption, one of the strongest associations that has been found is between meat consumption and masculinity (Fiddes, 1991; Milford et al., 2019; Sanchez-Sabate & Sabaté, 2019; Stubbs et. al., 2018). Ruby & Heinem (2011) found that vegetarian men were perceived as less masculine than omnivorous men (Sanchez-Sabate & Sabaté, 2019). Aligned with this perception, positive attitudes towards the consumption of meat have been found to be higher among men (Rothgerber, 2013), whereas women tend to be more open to reducing their levels of meat consumption and are more likely to be vegetarian than men (Dibb and Fitzpatrick, 2014; Kwasney et al., 2022; Rosenfeld, 2020). In a 2016 scoping review of public attitudes toward vegetarian diets, Corrin and Papadopoulos (2017) found that being male has the strongest connection of any variable to the perception that the barriers to vegetarianism are too high to actually adopt such a diet.

Perceptions of Vegetarianism

Despite such perceptions towards meat consumption, rates of vegetarianism and reduced meat consumption have been growing over time in the West, (Pribis et al., 2010; Neff et al., 2018), with around 2-10% of the populations of western societies identifying as vegetarian (Corrin & Papadopoulos, 2017). A 2018 Gallup poll found that about 5% of American adults identify as vegetarian (Hrynowski, n.d.). Vegetarian diets are “generally perceived in a positive light” (Corrin & Papadopoulos, 2017, p. 40), viewed as healthy or “admirable” (Corrin & Papadopoulos, 2017; Piazza et al. 2015) and the majority of people are “interested in learning more about plant-based and vegetarian diets” (Corrin & Papadopoulos, 2017, p.46). Vegan diets, on the other hand, tend to be perceived more negatively than vegetarian ones, with some perceiving vegans as “unhealthy”, “weak”, “fundamentalist”, and “hostile or confrontational” (Corrin & Papadopoulos, 2017, p.42). However, people tend to be more open to reducing meat consumption rather than eliminating it completely from their diets (Corrin & Papadopoulos, 2017). This increased interest in ‘plant-forward’ diets and public willingness to reduce overall meat consumption shows that there are existing public attitudes that an initiative such as Meatless Monday can capitalize on to further reduce meat consumption.

Why People Eat Meat

The primary reasons given for eating meat tend to fall into four categories as summarized by Piazza et al. (2016), which are known as the “4 Ns”: Natural, Normal, Necessary and Nice. In one study, 83-91% of the reasons given by meat-eaters fell into these “4 Ns”:

1. *Natural*: “eating meat is written into our biology, and that it is what our species evolved to eat” (Piazza et al., 2016, p. 115).

For example, Corrin and Papadopoulos found that a common reason stated by men for continuing to eat meat was that humans are “meant to eat meat” (2017).

2. *Normal*: eating meat “is what most people in civilized society do and what most people expect from us” (Piazza et al., 2016, p.115).

For example, when asked about barriers to adopting a vegetarian diet, the fact that research participants had a spouse or other family members unwilling to also consume a vegetarian diet was a common reason stated for not being vegetarian (Corrin & Papadopoulos, 2017). This is indicative of the belief that stepping out of such a “norm” of meat eating would be met with resistance from people’s closest social circles.

3. *Necessary*: “that we need meat for survival or that we need to consume at least some meat to be strong, fully healthy individuals” (Piazza et al., 2016, p.115).

The idea that meat is a necessary part of a healthy diet is associated with the common perception that a meat-free diet might result in a lack of sufficient protein and iron (Piazza et al., 2016; Corrin & Papadopoulos, 2017).

4. *Nice*: eating meat is tasty and enjoyable.

Many studies have found that meat eaters identify eating meat as pleasurable, and is therefore a commonly cited reason why people don’t give it up (Lea & Worsley, 2003; Sanchez-Sabate & Sabaté, 2019).

Understanding these perceptions toward meat are important when designing and implementing any meat-reduction incentive program.

Why People Reduce Meat Consumption

It is also important to understand attitudes and perceptions as to why people decide to reduce or eliminate meat from their diets. Several major categories of motivators for reduced meat consumption can be found in the literature and are associated with different social groups (Neff et al., 2018; Sanchez-Sabate & Sabaté, 2019). The primary motivators are:

1. *Health*

In the West, health concerns are one of the main motivators for reduced meat consumption (Hopwood et al., 2021; Sanchez-Sabate & Sabaté, 2019). This has been found to be particularly true among older populations who reduce their meat intake (Pribis et al. 2010), as well as among higher-income groups (Neff et al. 2018).

2. *Animal welfare issues*

Animal welfare concerns are another primary motivator for reduced meat consumption in the West (Hopwood et al., 2021; Sanchez-Sabate & Sabaté, 2019).

3. *Environmental impact*

Along with animal welfare and health, Hopwood et al. (2021) found that environmental concerns were one of the top three motivators for reduced meat intake in the West. In the Netherlands, it was found that ecology and environmental health might influence younger people more so than older people in their decision to choose a reduced meat diet (Pribis et al., 2010). Of those who do choose to reduce their meat intake, women appear to be more likely to do so out of concerns for the environment than men (Sanchez-Sabate & Sabaté, 2019). Additionally, vegetarians with higher incomes are more likely to do so out of environmental concerns than those with lower incomes (Neff et al., 2018).

4. *Cost*

Lastly, cost often plays a role in the reasons people choose to eat less meat. It has been found that women are more likely to reduce their meat intake because of the cost of meat than are men (Neff et al. 2018).

Meat Reduction Initiatives

Effectiveness

Taking these public perceptions of meat in mind, many strategies have been implemented to encourage consumers to reduce their personal meat consumption. While there is substantial scholarly work on barriers to reducing meat consumption, effectiveness of consumption reduction interventions represent a relatively novel area of research. However, several different approaches have been tested with mixed results.

Many interventions have focused on restructuring the “physical micro-environments” that individuals encounter when making decisions regarding meat consumption, referring to making small changes to the “settings in which people may gather for specific purposes and in which they may acquire or consume food” (Bianchi et al., 2018, p.385). This includes strategies such as reducing meat serving portion sizes at restaurants, providing appealing meat alternatives, or changing the sensory properties of meat (Bianchi et al., 2018). For example, one study altered an image of a pork roast on a menu to also include the animal’s head (Bianchi et al., 2018). This simple nudge, perhaps leading consumers to consider the welfare of the animal, increased demand for

plant-based alternatives in two of three randomized control trials (Bianchi et al., 2018). Such strategies are based on findings that simply educating consumers on the negative effects of meat production and consumption is not enough to change consumer purchasing habits when the environments in which consumers operate “exert a powerful influence on behavior” to continue consuming meat (Bianchi et al., 2018, p.385).

Despite the paucity of work done on the effectiveness of such measures, some themes have emerged from the literature. One study examined the effects of a multicomponent intervention to reduce meat consumption in a group of college-aged men in Canada (Amiot et al., 2018). The four interventions utilized were: social norm (sharing information with participants on the fact that an increasing number of people are considering reducing meat intake), appealing to fear (showing videos on the negative treatment of meat-animals), goal-setting (asking participants to set a goal for reduced meat intake) and information (providing education such as the health benefits of reducing meat). Participants meticulously tracked their food intake, including portion sizes of meat. The informational component (e.g., increasing awareness of the negative impacts of meat consumption) was identified as the most effective in leading to reductions in meat consumption, when compared to the other three components (Amiot et al., 2018). Another study has examined motivation for purchasing sustainable food products in Italy. It was found that past purchasing experiences that were rewarding to consumers predicted future purchasing and consumption of sustainable foods, including those without meat (Vassallo et al., 2015).

The effectiveness of informational and emotional messaging has been evaluated in experimental settings, with the latter in particular associated with reduced meat consumption in certain contexts (Carfona et al., 2019). In a review study conducted by Kwasny et al. of published literature from 2001-2019 addressing meat reduction, the authors found that meat reduction interventions are most effective if information:

1. Is provided on health, animal welfare or environmental effects
2. Is emotionally or cognitively framed, and
3. Is aligned with consumers' information needs (Kwasny et al., 2022).

Recognizing the emotional intelligence of animals and acknowledging the connection between meat and animals triggers negative responses and, as a result, reduces meat consumption. This aligns with insights on why people choose to reduce meat consumption as outlined above. “Further, increasing the visibility and variety of vegetarian dishes in food environments decreases meat-eating” (Kwasny et al., 2022, p.1). Educating people on how to shop and cook vegetarian food can also reduce meat

consumption (Kwasny et al. 2022). Less evidence exists on the effectiveness of interventions addressing socio-cultural factors, such as social norms.

Even when meat reduction interventions are effective, they are not without their flaws, as participants may replace meat with increased consumption of products that still have significant negative environmental impacts (de Boer et al., 2014). Additionally, though existing research has investigated the influence of interventions on attitudes and behavioral intentions, it's also true that more research is needed to judge the long-term effects of interventions on meat consumption and their potential to change diet and lifestyle habits. The following table summarizes the recommendations for designing effective interventions (Kwasny et al., 2022).

Table 1: Recommendations for Designing Meat Reduction Interventions

	Type of Intervention	Recommendations	References
Targeting Policies to Specific Consumer Groups	Inform about Negative Side-effects with a Focus on Health	<ul style="list-style-type: none"> combine health and environmental appeals 	Cordts et al., 2014; Klöckner & Ofstad, 2017; Vainio et al., 2018
		<ul style="list-style-type: none"> highlight health appeals rather than environmental appeals 	
		<ul style="list-style-type: none"> provide personalized information aligned with consumers' decision stage and goal orientation 	
	Trigger Emotions	<ul style="list-style-type: none"> communicate emotionally framed messages 	e.g. Carfora et al., 2019; Kunst & Hohle, 2016; Palomo-Vélez et al., 2018
		<ul style="list-style-type: none"> relate to animal suffering or show pictures of unprocessed meat 	
		<ul style="list-style-type: none"> show pictures of living animals or cute animals in restaurant contexts 	

	Provide Competence Training and Support Habit Change	<ul style="list-style-type: none"> combine goal setting and counseling with educational materials on healthy lifestyles provide cooking courses to assist in the preparation of vegetarian food 	e.g. Carmody et al., 2008; Emmons, McBride, et al., 2005; Grimmett et al., 2015
	Increase the Visibility of Vegetarian Food	<ul style="list-style-type: none"> make vegetarian food more visible in the food environment (e.g. restaurant; supermarket) increase the visibility of vegetarian food by labeling a vegetarian meal as “dish of the day” 	e.g. Garnett et al., 2019; Kurz, 2018; Reinders et al., 2017

Reference: Kwasny, T., Dobernig, K., & Riefler, P. (2022). Towards reduced meat consumption: A systematic literature review of intervention effectiveness, 2001–2019. *Appetite*, 168. p. 12 (<https://doi.org/10.1016/j.appet.2021.105739>).

Meatless Monday as a Meat Reduction Initiative

Meatless Monday, launched in 2003, is a global initiative with a simple message to not eat meat one day a week for personal and planetary health. The movement was founded by Sid Lerner in collaboration with the Center for a Livable Future at the Johns Hopkins Bloomberg School of Public Health, as one of its Healthy Monday initiatives, which encourages consumers to make healthier choices at the beginning of each week. Starting each week with Meatless Monday can lead people to eat more plant-based meals throughout the rest of the week.

The Meatless Monday campaign has the goal of facilitating a 15% reduction in global meat consumption for both environmental and health reasons (Meatless Monday, n.d.). The movement focuses on Monday in large part due to the “fresh start effect,” which refers to the phenomenon that people are more likely to engage in aspirational behaviors following temporal landmarks, such as the beginning of a new week. Behavioral researchers at the University of Pennsylvania found evidence for this effect among such behaviors as dieting, gym attendance, and the creation of commitment contracts (Dai et al., 2014).

In a 2021 nationally representative consumer panel, 37.5% were aware of Meatless Monday. Of those who reported hearing of Meatless Monday, 26.1% tried to incorporate more meatless meals throughout their week, and 25.1% reported experimenting with new meatless recipes when they cook at home. Overall, 67.5% were reducing, had reduced, or intended to reduce their meat consumption (Meatless Monday, 2022).

While numerous surveys have been administered regarding the general effectiveness of Meatless Monday (Leidig, 2012), it does not appear that any experimental research has been conducted to ascertain the specific impacts that the Meatless Monday campaign has on individual meat consumption behavior (e.g., in the form of food diaries). This gap is due in part to the challenges of accurately tracking meat consumption and of causally attributing such behavior to Meatless Monday messaging (Chan & Ramsing, 2017). Instead, the vast majority of existing research related to Meatless Monday has been limited to qualitative descriptions of the campaign's origins, examinations of its potential generalized role in mediating climate change (Doyle, 2011), and practical tips for more effective implementation in specific dining settings (Chan & Ramsing, 2017).

Components of Successful Meatless Monday Implementation

Levels of Implementation: Example of Universities

There are many ways and avenues in which Meatless Monday initiatives can be implemented. For example, there are city-wide resolutions, university campus initiatives, restaurant campaigns, and even individual choice at home (Chan & Ramsing, 2017; Lombardini et al., 2013; Pulkkinen et al., 2016; Zenoff, 2014). Below we discuss the example of Meatless Monday initiatives in the case of universities.

Alternatives to meat on college campuses are increasing. "In a poll of 167 college and university dining operators nationwide, [it was] found that vegetarian or vegan dishes comprise about half of the menu items served on campus, and that number appears to be increasing" (Middleton & Littler, 2019, pg. 319). Examples of initiatives include campus dining meal choices, contracting vegetarian/vegan restaurants, and educational campaigns focused on the environmental and health benefits of consuming less meat.

A 2017 review of Meatless Monday campaigns at twelve Bon Appetit Management Company sites located mostly on college campuses outlined some of the lessons learned from such campaigns (Chan & Ramsey, 2017). It was found that there was pushback from students when campaigns were implemented to exclude meat

completely from dining options, particularly among student athletes (Chan & Ramsing, 2017). However, the most successful college Meatless Monday initiatives were those that responded to this student feedback and altered the program design. They did so by partnering with student groups on education and communication around Meatless Monday (Chan & Ramsey, 2017). It was also found that reducing meatless options to only one dining station rather than completely eliminating meat from the cafeteria was more successful (Chan & Ramsey, 2017). Additionally, creating flavorful and interesting vegetarian dishes assisted in program acceptance among participants (Chan & Ramsey, 2017).

Stakeholder Engagement & Participatory Decision Making

Involving stakeholders from the community appears to be an important aspect of successful Meatless Monday campaign implementation. This includes participatory decision-making models as well as involving multiple levels of stakeholders within a community. There are a variety of stakeholders that an organization can create partnerships with to build community buy-in and expand the reach of a Meatless Monday initiative. In some cases, these partnerships allow for organizations to share responsibilities, funding, and program management.

One successful example of involving key stakeholders to help with the implementation of a Meatless Monday initiative is exhibited in the process of passing a city-wide Meatless Monday resolution in the city of Los Angeles, California. Compassion Over Killing, a non-profit animal advocacy organization, was the key stakeholder in advocating for passing this resolution. They did this through “[working] with the media and various institutions to promote the implementation of Meatless Monday” (Zenoff, 2014, pg. 6). Incorporating positive messages into Meatless Monday initiatives helps community members better understand what the change is and how to be a part of the movement. Compassion Over Killing also involved the Los Angeles Boys & Girls Club, various celebrities, food vendors, and the city government. The Boys & Girls Club helped with creating Spanish and English meatless recipes (Zenoff, 2014).

Volunteers also play a crucial role in helping shape change in a community. In the Bedford, New York community, the volunteer program was critical in their Meatless Monday initiatives. Volunteers were “responsible for soliciting the support of business partners, community members, and local media outlets...[They] also provided them with important collaborative opportunities to promote plant-forward eating within their built environment” (Ramsing et al., 2021, p. 388). They used a virtual approach through local media and local businesses to help increase the visibility of their campaign. This

multifaceted approach to promoting their message helped reach as many people as possible.

One key lesson learned from Bedford's model is the importance of connection on multiple levels of partnerships. These different partnerships can be beneficial in "approaches to dietary behavior change that can leverage latent community assets, like grassroots volunteerism, public-private partnerships, and residents' social networks, to educate audiences on how to make more informed food choices" (Ramsing et al., 2021, pg. 390). Every level of the community needs to be a part of the initiative to create a successful and positive educational campaign that will create change within the community.

Education & Information Sharing

As found in other meat reduction interventions, information and messaging is an important aspect of implementing change amongst a group of people. That is why tailored education and communication strategies are essential components of successful Meatless Monday campaigns. In some cases, campaigns face resistance from consumers due to a lack of knowledge sharing in regard to the environmental and health benefits of reducing meat consumption, as well as tasty plant-based recipes and cooking techniques (Milford et al., 2019; Chan & Ramsing, 2017). Creating an education and communication plan that addresses stakeholder needs before implementation, such as including community members in participatory decision-making, can help Meatless Monday campaigns successfully tailor their education and messaging.

One example of the importance of education comes from the Norwegian Armed forces where chefs were responsible for implementing a Meatless Monday initiative in military camps (Milford et al., 2019). Chefs were the main implementers of the initiative yet played no role in the decision-making process or implementation plan. This decision-making process was a top-down approach and faced significant challenges. In this case, chefs lacked "training or information on how to cook vegetarian meals. Few chefs and cooks had experience with cooking or eating vegetarian food, and many were skeptical toward its taste and nutritional value" (Milford et al., 2019, p. 5). The authors concluded that the biggest challenge faced was a "lack of knowledge sharing ahead of the implementation. Information about the environmental and health benefits of reduced meat consumption was not given in organized, well-prepared manners" (Milford et al., 2019). Because they had little experience with vegetarian options, many of the chefs were not in support of the initiative. It would have been beneficial to provide hands-on vegetarian cooking instruction, taste tests, or nutrition education. This may have

increased staff support and appreciation for the initiative, instead of reluctance to participate.

Importance of Stakeholder Engagement and Education

Case Study: Helsinki School District

As illustrated by the case of the Helsinki School District, enforcing policy change in the absence of stakeholder engagement and education can lead to negative outcomes such as low participation, increased food waste, and eating less (Lombardini et al., 2013). In 2010, the school district in Finland implemented a mandatory vegetarian day as a “natural experiment” in 33 schools. This policy change was adopted that year by the Helsinki City Council despite concerns from the public such as the importance of meat in school diets (Lombardini et al., 2013). Researchers examined this case to determine “whether forced choice restriction is an appropriate policy instrument for achieving the intended effects on students’ food consumption” (Lombardini et al., 2013, p. 163).

They observed three behavioral choices students made in regards to eating during the school day: the students’ choice to go to the cafeteria at all, the choice of how much food they wanted to put on their plates, and how much food they consumed or threw away (Lombardini et al., 2013). After implementation of the new policy, all three behavioral choices of students were negatively affected by this forced-choice initiative. There was a 7% decrease in participation in school lunches, 9% less food taken, and the “plate waste” went up by 60% (Lombardini et al., 2013).

An additional impact to note is that students who chose not to eat the school lunch at all after the policy change “end[ed] up not getting their nutritional requirements fulfilled from the school lunch” (Lombardini et al., 2013, pg. 165), this is particularly important for students from lower socioeconomic communities who depend on school lunch as a primary source of their daily calorie intake.

Though not every food policy is enacted in the same way, this case provides evidence of dangerous, unintended consequences that can come from forced change without stakeholder engagement / buy-in, education, and information sharing.

Methodology

An initial literature review was conducted to obtain a better understanding of Meatless Monday campaigns in the U.S. This review allowed the research team to gain insight into the Meatless Monday implementation process, learn more about public attitudes toward meat consumption and reduction, and situate Meatless Monday among other meat reduction initiatives. Additionally, we were able to identify education / information sharing and stakeholder participation as common elements of successful campaigns. With these elements in mind, we were able to organize best practices of the campaigns that we interviewed.

The second component of our research consisted of semi-structured interviews via the video conferencing software Zoom with seven key stakeholders of various campaigns across six U.S. cities. Cities were chosen based on the scale of their Meatless Monday campaigns and the variety of organizations and partnerships involved. This study was focused on mid-sized cities to obtain a realistic understanding of how such campaigns may be replicated in other similarly-sized communities, based on the understanding that techniques and partnerships utilized in larger cities such as New York and Los Angeles may not be as available in smaller cities across the U.S.

We were provided a list of cities that have or previously had Meatless Monday campaigns from Becky Ramsing, senior program officer with the Food Communities and Public Health Program at John Hopkins Center for a Livable Future, who has previously conducted research on Meatless Monday. This list included the date and method of implementation, as well as a contact for the key stakeholders for each campaign. From this list, the team reached out to the key stakeholders for each campaign. In total, we emailed and/or called stakeholders from 15 different Meatless Monday campaigns to inquire about participating in this study via an interview. Many campaigns did not respond. Of this list of 15, we were able to interview stakeholders from seven different campaigns, two of them in the city of Berkeley.

Locations of interviewees included: Aspen, Colorado; San Diego, California; Berkeley, California; Santa Barbara, California; Pittsburgh, Pennsylvania; and Needham, Massachusetts. The team interviewed stakeholders from three categories: non-profit or volunteer-led initiatives, local government, and school districts. This allowed the team to analyze the strengths and weaknesses of Meatless Monday campaigns from different perspectives and levels of implementation.

Table 2: List of participating organizations and their locations.

Organization	Location
Independent Volunteer	Aspen, Colorado
San Diego Unified School District	San Diego, California
Berkeley City Council	Berkeley, California
City of Berkeley's Division of Aging Services	Berkeley, California
Santa Barbara Unified School District	Santa Barbara, California
Humane Action Pittsburgh	Pittsburgh, Pennsylvania
League of Women Voters of Needham	Needham, Massachusetts

The team used semi-structured interviews to gather qualitative data. A semi-structured interview is meant to resemble a natural conversation, allowing for “more open-ended questions, [and] a discussion with the interviewee rather than a straightforward question and answer format” (Doyle, 2020). The interviews consisted of a list of seven questions that were designed to initiate an open discussion about the city’s Meatless Monday campaign (See Appendix A). By allowing the respondent to tell their story openly, it provided an unbiased collection of information to examine. This allowed the team to gain an understanding of the implementation process, successful partnership models, creative solutions, and challenges.

All interviews were recorded on Zoom and transcribed to analyze data and find similarities. Each interview was placed into a category of local government, volunteered or non-profits, or school systems. Those categories were then compared with one another to identify general challenges and find similarities and differences.

Analysis of Meatless Monday Initiatives in Six Mid-sized U.S. Cities

Information from key stakeholders in six mid-sized U.S. cities was used to better understand best practices, successes, and challenges of Meatless Monday initiatives. Interviewees were grouped into three categories: 1) non-profit and volunteer-led initiatives, 2) local government, and 3) school districts. This was based on the feedback we received through our interviews. Grouping them into three categories helped give a holistic view of Meatless Monday initiatives across the country and across levels of implementation. Based on our interviews and literature review, we were able to come to some recommendations that could support various levels of Meatless Monday implementation.

Non-Profit & Volunteer-Led Initiatives

There are many non-profit organizations across the U.S. that have decided to take on a Meatless Monday initiative for various reasons, such as improving the health and/or sustainability of their community and increasing animal welfare and protection. This form of implementation is often born out of a passion for wanting to make a positive difference in local communities. It typically involves dedicated volunteers or “champions” who are enthusiastic about taking on a Meatless Monday initiative. These types of initiatives can easily build trust and interest in the movement since they are run by individuals who are usually already quite active in their community. In order to gain more insight into the strategies of Meatless Monday initiatives run by non-profit organizations and volunteers, we interviewed stakeholders from Needham, Massachusetts; Pittsburgh, Pennsylvania; and Aspen, Colorado.

Needham, Massachusetts: The League of Women Voters of Needham

The Meatless Monday initiative in Needham, Massachusetts began in June 2020 with the help of the League of Women Voters of Needham. Our research team spoke with board member Karen Price, who gave us insight into their Meatless Monday strategies. One of the major areas of action for the League of Women Voters of Needham is environmental protection and combating climate change. The idea for a Meatless Monday campaign was introduced in their environmental committee as a pathway to involve the community with their organization’s work while raising awareness of the impact of meat production on the planet.

The League created a website dedicated to their initiative which includes a sign-up for a 12-week pledge to participate in Meatless Monday. Participants simply sign their name and pledge to eat only vegetarian meals every Monday for 12 weeks. After they sign up, their email is added to a list of recipients for a monthly newsletter created by the League that contains plant-based recipes, upcoming events, summarized academic journal articles, and additional local resources related to Meatless Monday, such as upcoming farmers markets. They also invite participants to sign up for the official national Meatless Monday organization newsletter which comes out weekly and the monthly virtual vegetarian cooking class hosted by the Sierra Club.

By having their participants sign a pledge, the organization collects specific data on the number of participants and the ebb and flow of sign-ups as it relates to their promotion efforts. Just over a year since the program's onset, as of July 2021, Needham Meatless Monday efforts reached around 450 individuals, across 185 households, who signed their 12-week pledge to go meatless every Monday.

Though initiated by the League of Women Voters, it is a joint effort between three local organizations: The League of Women Voters of Needham, Green Needham, and Needham Community Farm. Most stakeholders involved in these organizations participate across groups. All of the people involved in managing the initiative are volunteers, they do not have any staff dedicated solely to Meatless Monday. Around five to six people are managing the program, with two conducting the bulk of the work. The League of Women Voters and Green Needham fund the website, which is the only aspect of the initiative that requires financing. The initiative also has ten participating organizations, and it is endorsed by the Needham Board of Health.

Education and Information Sharing

At the launch of the program, the three founding organizations released an article in their local newspaper, created a Needham Meatless Monday Facebook page, and networked to partner with other community organizations. Being a fairly small town with around 30,000 residents, these were easy and effective ways to reach the community. When promoting the Meatless Monday initiative and events, Needham Meatless Monday emphasized the benefits for both personal and environmental health. Additionally, the website focuses on how reduced meat consumption connects to the health of people and the sustainability of the planet. This focus on personal and environmental health has proven to be effective messaging in the Needham community. This case shows the importance of tailoring information to the target community, and doing so through multiple avenues, such as print, social media, and organizational networking. Ten organizations have agreed to become participating organizations, all of which are listed on the program website. The three founding organizations prepare

information about the program and/or upcoming events and send it out to the participating organizations who then share it with their respective members. This method has helped to reach more people than any of their other outreach and promotion methods. This highlights the importance of engaging multiple stakeholders in education and information sharing, to capitalize on the networks of a diversity of involved organizations.

The COVID-19 pandemic has prevented many in-person events, but Karen Price noted that “the most popular and exciting event [they] have had so far was with a local chef named Dave Becker.” He cooked plant-based take-out meals that people picked up and took home to eat. Participants had to purchase tickets in advance to be able to pick up a meal, and they also received the immersive experience of a live Zoom-hosted cooking class with the chef. The 200-ticket event was sold out. Though tickets were inexpensive, participants could go beyond the ticket price to donate to the Needham Community Council Food Pantry. The event produced a profit of \$4,000, which all went to the food pantry. This creative event demonstrates the importance of hands-on educational engagement to enliven Meatless Monday campaigns, and how such community engagement can continue safely and remotely.

In a 2021 survey sent to program participants via the monthly newsletter, respondents were asked about the resources provided through the program that were the most useful. The top three resources reported were the monthly newsletter, the event with local chef Dave Becker, and the Needham Meatless Monday website. This indicates the importance of providing a variety of education and information, from hands-on to remote resources.

Respondents also provided suggestions for other resources that would be useful in the comments of the survey. These suggestions included requests for recipes, cooking classes, restaurant suggestions, hosting meatless potlucks, a Meatless Monday club at Needham High School, and more information on the health and environmental aspects of plant-based food choices. This demonstrates the eagerness of willing participants to be engaged in Meatless Monday campaigns via multiple channels.

Stakeholder Engagement

Although the founding organizations chose not to involve the local municipality in program management, they saw value in seeking endorsement from a government entity to further the reach of the program. They successfully obtained such an endorsement from the Needham Board of Health. The Board of Health’s endorsement, as an elected body, had the capacity to build trust in the community and served as a beneficial precursor to beginning pledge efforts.

Additionally, through involving ten different organizations in program implementation, the League ensured that they were not operating in a silo, but rather were expanding their reach to many more participants than they may have been able to alone.

This initiative also excelled in seeking feedback from program participants themselves. The 2021 survey yielded 49 responses, which is 27% of all their participants. Out of those respondents, 31% reported a lasting reduction in meat consumption when comparing their consumption before and after the pledge, with none reporting an increase. These findings indicate some success of the primary goal of the Needham Meatless Monday initiative: to have a permanent impact on their community by continuing to reduce meat consumption even after the 12-week pledge period. Price explained that “having a permanent impact is the gold standard” for their initiative and it’s how they measure their success. These responses provide data that suggest this Meatless Monday initiative is making a difference in reducing meat consumption in Needham, which has encouraged them to continue the program and expand their outreach. Should the program incorporate suggestions from participants, it should be expected that the program will only increase in effectiveness, as has been found in other successful Meatless Monday campaigns (Chan & Ramsing, 2017).

“Having a permanent impact is the gold standard.”

According to our interviewee, the Needham Meatless Monday initiative has gained the community’s support with no disputes. The approaches of tailoring education and information sharing to the demographic make-up of the town, as well as engaging multiple stakeholders appear to be vital to this success. Also important is that the town’s ideological and demographic makeup are likely reasons for program acceptance as well. The average income in Needham, at \$165,000 (U.S. Census Bureau, 2021a), is more than double the national average of \$67,000 (U.S. Census Bureau, 2021b). Norfolk County, where Needham is located, is majority Democrat, as demonstrated in 2020 presidential election results when 67% of votes went to Democrat Joseph Biden (WBUR, 2020). This aligns with research showing that higher income and liberal populations are more likely to reduce meat consumption, especially due to environmental reasons (Corrin & Papadopoulos, 2017; Neff et al., 2018). Therefore, barriers to reducing meat consumption were already lower in this community, leading to high program acceptance rates.

Pittsburgh, Pennsylvania: Humane Action Pittsburgh and the City of Pittsburgh

Pittsburgh is a mid-sized city in western Pennsylvania that has a population of about 300,000 (U.S. Census, 2020). It is known for its industrial-age history, popular art museums, and for hosting Major League Baseball's first-ever Vegan Night.

Humane Action Pittsburgh (HAP) is a volunteer-run organization working to advance animal protection through education, policy, and community action. They have built great relationships in their policy and legislative work with different members of the Pittsburgh City Council, employees in the mayor's office, and other members of the City administration to protect animals statewide.

In 2017, HAP initiated a Meatless Monday campaign, one of their first policy initiatives focused on the protection of farm animals through reducing animal product consumption. The City of Pittsburgh's Climate Action Plan included a goal to "reduce meat consumption by 50% by 2030" (Pittsburgh Legistar, 2017). HAP used this clause to enhance the priority of the Meatless Monday campaign at the City Sustainability Department and build relationships with employees there. According to Natalie Ahwesh, Executive Director of HAP, at each city council meeting, she observed that about ten proclamations were passed. Because of this high volume, there is not often media attention or pushback on such proclamations. Combined with the city's existing climate action goal to reduce meat consumption, HAP viewed this as a good strategy to seamlessly get Meatless Monday onto the agenda of the city.

HAP's team of volunteers "sent out cold-call letters to members of the City Council explaining that they wanted to pass a Meatless Monday resolution and asked them to let them know if any of them were interested in leading it" (N. Ahwesh, personal communication, July 7, 2021). They received a response from the City's Head of Human Resources Department, Richard Butler, who was eager to spearhead the movement. Butler turned out to be their "champion" in the City Council that not only cared about reducing meat consumption for health, environment, and animal welfare, but also had the power to make decisions at a policy level. Because the HR department deals with city employees' wellness plans, HAP decided to focus on emphasizing the benefits of eating a plant-based diet for human health, rather than animal welfare issues or other benefits. In other words, HAP recognized the goals of their partner organization in tailoring their messaging.

In July of 2017, the Pittsburgh City Council passed Proclamation 1790 stating, "Therefore be it resolved that I, William Peduto, Mayor of the City of Pittsburgh, do hereby declare August 14, 2017 'Meatless Monday' in the City of Pittsburgh" (Pittsburgh Legistar, 2017).

This resolution led to seven out of ten of the council members taking on the Meatless Monday pledge, as well as the creation of Pittsburgh VegFest, an annual event that promotes transitioning to a vegetarian lifestyle and celebrates vegetarian dishes. The City of Pittsburgh also offers a City Fit Lean and Green Program, which includes Meatless Monday and encourages a plant-based diet.

Education and Information Sharing

Because of their relationship with the City of Pittsburgh's HR department, HAP was able to host a Lunch & Learn Program with city employees as part of their Meatless Monday initiative called Lean and Green. The program consisted of a series of monthly sessions meant to educate city employees on the benefits of plant-based eating. Every session grew (the first one was about 10-15 people) until people were "standing out in the hall to hear what Humane Action Pittsburgh had to say during their last session," according to Ahwesh. "They attracted a very diverse group of people interested in hearing about going plant-based." This engagement with city employees in the course of their work day was a popular and effective way to get employees committed to such a campaign (N. Ahwesh, personal communication, July 7, 2021).

"Every lunch-and-learn session grew until people were standing out in the hall to hear what Humane Action Pittsburgh had to say..."

Eventually, this grew into a campaign called GetHealthy Pittsburgh, which is a challenge open to the whole city, not just city employees, to eat a plant-based diet for two weeks. The goal of this program is to improve overall health by reducing consumption of animal products.

All of these initiatives happened organically by networking with employees of the city in the Sustainability Department and Wellness Department. All of the work of the program is run by volunteers, but typically funded by the City of Pittsburgh or outside funders. In terms of scale of participants, Get Healthy Pittsburgh is the biggest campaign HAP has ever implemented and it has the potential to help the most animals. However, Ahwesh acknowledges that what allowed success with their city level programs has been emphasizing the personal health component of Meatless Monday, though HAP's main organizational focus is improving animal welfare. As in the case of Needham, Massachusetts, the importance of tailoring the messaging of Meatless Monday campaigns to the target audience is clear in this case.

HAP has also successfully adapted the program based on feedback. The organization made a point of dropping the term "meatless" from the names of their programs because they were told by multiple people, within the city government and elsewhere,

that it had a negative connotation. The Lunch & Learns, the first extension of their Meatless Monday initiative, were named Lean and Green to reduce hesitation. This shows the importance of designing programs capable of adapting to feedback, and aligns with findings of increased resistance to messaging that emphasizes meat *elimination* on the one hand, and more openness towards meat *reduction* on the other (Corrin & Papadopoulos, 2017; Ramsing, 2021).

Stakeholder Engagement

HAP highly values relationships and partnerships with the city and non-governmental organizations. For HAP, success is reaching as many people as possible through partnerships. As a result of those relationships and programs, Ahwesh hopes that people will adjust their diets, reduce their meat consumption, and protect more animals.

Apart from their work with the City of Pittsburgh, HAP also worked with Major League Baseball's Pittsburgh Pirates and hosted the first ever MLB Vegan Night, as mentioned previously. According to Ahwesh, "it was the best-selling first-time special event in Pittsburgh Pirates history, and it was even featured in the Game Changer show on Netflix." For participating in the Vegan Night, The Pirates won an award from the Green Sports Alliance for their commitment to sustainability.

HAP also partnered with University of Pittsburgh Medical Center, the largest hospital employer in the Pittsburgh region. They worked to incorporate vegan and plant-based food into the Medical Center's cafeteria. They also worked with schools in the area to add more meatless items to the school lunch menu.

The success of HAP proves the importance of building relationships, whether it's with city officials, local sports teams, or schools. An important lesson learned when approaching potential partners was to avoid leading with the attitude of, "We're trying to change how you eat." Ahwesh acknowledged that if they had tried to start as an organization talking about farm animal welfare or giving up meat, they may not have been able to come as far as they have. This shows the importance of approaching potential partners with a spirit of collaboration, understanding partners' goals, and recognizing potential avenues for organizational alignment.

In their programs, HAP calculated an estimate of how many gallons of water, acres of rainforest, and animals were saved, based on the number of participants and how many plant based meals they were eating before and after the challenge. According to the Executive Director of HAP, they estimate their impact with 500 participants in Get Healthy Pittsburgh will save 8,000 animals in just two weeks.

Aspen, Colorado: Volunteer-led Initiative

In Aspen, Colorado, Meatless Monday initiatives were implemented and coordinated by volunteer Dawn Shepard for seven years, who introduced the idea of Meatless Monday to her book club. This created connections within the community and encouraged engagement, which helped Shepard with the success of the Meatless Monday campaign in the small mountain town.

In 2011, the Huffington Post reported Aspen, Colorado as “the Nation’s First Meatless Monday Community,” due to its all-inclusive initiatives compared to other cities at the time (Elam, 2011).

Stakeholder Engagement

Shepard made her first connection with a local chef, Martin Oswald of Pyramid Bistro. Together they brainstormed dishes they could feature for Meatless Monday. Shepard brought attention to the campaign through advertisements in the weekly newspaper, which gave readers weekly recipes to cook for Meatless Monday and announced free events the local community could attend.

There was no local government involvement in this Meatless Monday initiative. Shepard made connections with the hospitals, schools, restaurants, health facilities, and the University of Colorado to pursue the mission of Meatless Monday. One key factor that helped this campaign was the fact that there was, “a team of people from different segments of [the] community like the hospitals. [...] The restaurant community [was] very important as well” (D. Shepard, personal communication, August 3, 2021). Having different stakeholders in the conversation helped with creating the dialogue necessary for the Meatless Monday campaign. The campaign was supported by volunteers, community members, and key stakeholders in schools, hospitals, and restaurants.

Education and Information Sharing

The group held monthly potlucks to help bring people together to celebrate Meatless Monday initiatives, recipes, and information. They hosted speakers, sometimes provided by the Humane Society of the U.S. (HSUS), a non-profit organization that aims to further animal welfare and provide animal protection. Utilizing credible and respected speakers and partnerships allowed Aspen’s Meatless Monday initiatives to gain more respect and credibility within the community.

Joe Maxwell, a past lieutenant governor from Missouri and fourth generation hog farmer passionate about small farmers, once came to a potluck to speak. He spoke about local

ranches, which Shepard identified as particularly powerful because “it’s one thing having somebody, a little small farm local rancher talked about Meatless Mondays that carried a lot more credibility, you know, in terms of why it’s so important” (D. Shepard, personal communication, August 3, 2021). Bringing in different perspectives to share information and shape the conversation helped with getting people to engage in the Aspen Meatless Monday campaign.

This example is particularly important because it shows how powerful one person or “champion” can be in a community. The campaign ran for seven years and had great engagement.

Best Practices

The above cases demonstrate several best practices that can be applied in the design of Meatless Monday non-profit and volunteer-led campaigns. In all three cases, the importance of involving multiple stakeholders and including organizations, local government, sports teams, and community “champions” to spearhead the initiatives is clear. By tailoring their message to highlight certain benefits of Meatless Mondays over others, these initiatives found both a receptive audience and successful buy-in. These initiatives also excelled in creating community around their programming by engaging participants through multiple avenues including print, social media, newsletters, and hands-on learning experiences. Additionally, two of the three campaigns ended up emphasizing meat reduction rather than elimination, at times softening the branding around “meatless” to include “lean and green” or “plant-based” messaging. Finally, these campaigns sought participant feedback and adjusted their programming accordingly, highlighting the importance of two-way communication in creating effective campaigns.

Local Governments

Berkeley, California

Sitting just across the bay from San Francisco, the city of Berkeley has a population slightly over 124,000 (U.S. Census Bureau, 2022). A college town at heart, the city is greatly influenced by UC Berkeley, the largest employer in the area (Cooper, 2014) and a liberal epicenter for the 65% of the population registered with the Democratic Party (City Manager, 2013). Berkeley has been a spearhead for sustainability initiatives at the city level, and there are numerous programs around transit, energy, and food that demonstrate the municipality’s commitment to the environment. Energy consumption (electricity and natural gas) has declined since the early 2000s, and solar photovoltaic

systems and solar hot water systems are increasingly being adopted (City of Berkeley, 2011). A large portion of the population walks or bikes to work, likely a result of the 36 miles of designated bike routes in the city (City of Berkeley, 2011). Car share locations have increased tenfold since 2002 (City of Berkeley, 2011). The city also claims the “highest food-recycling participation in the county, reducing landfill waste by 19% since the collection program began” (City of Berkeley, 2011).

Since 2015, there have been three distinct moments in Berkeley’s history with Meatless Monday. The first incarnation came on February 24, 2015, with a city council resolution that declared Mondays to be “Meatless Mondays” in the City of Berkeley. The initial effort was catalyzed by the work of Mara Guccione, a Berkeley resident and member of the Animal Care Commission and the Humane Society of the U.S., who pushed community residents, city staff, commission, and council members to commit to a pilot run of Meatless Mondays (City of Berkeley, 2015). The next phase came in October of 2018 when the city adopted the Green Monday campaign. Much like the previous Meatless Monday initiative, Green Monday encouraged people to eat more plant-based food and less meat. It also declared that facilities and programs managed, owned, or run by the city would have to serve up one meat-free day a week. The third phase started in July of 2021. The city committed to decrease the animal-based food products it serves by 50%, and replace them with plant-based options by 2024 (Webber, 2021).

For this research, we spoke with two stakeholders from Berkeley about the Green Monday initiative in 2018: Natalie Krelle-Zepponi, Registered Dietician and Nutritionist for the City of Berkeley’s Aging Services Division; and Soli Alpert, Legislative Aide for District 7 and former staffer of Councilmember Kate Harrison.

Aging Services Division

A part of the Berkeley Health, Housing & Community Services Department (HHCS), the Aging Services Division provides invaluable insight into the successes and challenges of implementing the city’s Meatless Monday initiatives. Natalie Krelle-Zepponi, who has been involved with the department since the late 1990s, played a key role in the genesis of meatless items for the city’s senior centers and Meals on Wheels program. Working in conjunction with the HHCS, the Aging Services Division began serving meatless items every Monday in 2015. Krelle-Zepponi’s motivation was mostly driven by health considerations and the potential for food to act as preventative medicine, although the reduced cost of meatless items and environmental benefits were also appreciated. This focus on nutrition was reflected at the city level as well, with a Sugar-Sweetened Beverage Product Tax that went into effect in January 2015.

Green Monday

The Green Monday Resolution in Berkeley, California was initiated in 2018 by Amy Halpern-Laff, a lawyer and animal rights activist. Halpern-Laff created a draft resolution in conjunction with legislative assistant Soli Alpert stating that any Berkeley institution or any Berkeley sponsored event happening on Monday would be meatless, including city council meetings. Originally, the work of Halpern-Laff on the resolution was motivated by animal rights issues and ethics, but sustainability increasingly played a bigger role. To get the council members on board, she used a holistic approach, looking at how U.S. meat consumption affects the health of the farmworkers, the land that is altered by animal production, and the climate in general.

Best Practices and Lessons Learned

Seniors have specific dietary needs - “You’re not going to fill them up with beans... that’s just not going to work for that [person’s] digestive system” (Krelle-Zepponi 2021) - but this did not get in the way of Meatless Monday. The implementation of meatless menus in senior centers was facilitated by two main factors. First, handling meat products in food services entails additional precautions (e.g. using separate utensils while preparing meat and vegetables to limit cross-contamination) and Meatless Mondays were an appealing way to reduce that extra labor. Second, the meatless items were paired with enticing dishes to encourage the residents to try the new entrées. For example, cheesy mashed potatoes are served with the vegan ratatouille, or fruit cups and desserts are offered on meatless meal days. Early on, they also featured ice cream cups, although Krelle-Zepponi says they’ve now moved away from many sugary desserts. As a result, a large majority of the participants welcomed the meatless meals, with Monday sometimes having the highest number of meals served.

Even though the initiative started as Meatless Mondays, senior centers' meatless meals are served Monday through Friday due to the production cycle, and the Meals on Wheels participants receive their frozen meatless meal on Tuesdays. This logistical nuance has led to the city’s dropping of the “Monday” from their promotional language over time.

When the Green Monday Resolution was passed in 2018, the city used two approaches for its implementation. One of them was to create a certification program for businesses and restaurants to get a badge for being Green Monday friendly. The second approach used the catering for city council meetings, making sure to systematically provide meatless options. Originally, the city manager was in charge of both

“It is really about limited people with limited time and they have to choose which thing they’re gonna work on.”

implementation strategies, but eventually the catering of city council meetings became the prerogative of the city clerk.

With the COVID-19 pandemic, the meatless efforts of the city came under pressure as more urgent issues such as homelessness and food insecurity came to the fore. In the senior centers, the combined increase in participants and decrease in volunteers created a new set of challenges and the meatless meals became less of a priority, however they are still ongoing. In the case of council meetings, the shift to remote meetings removed the need for catering all together.

Stakeholder Engagement

Stakeholder engagement was a critical part of the success of the meatless strategies in Berkeley senior centers and city council.

As discussed in the previous section, the success of meatless options in senior centers benefited from bringing forth solutions meeting the unique needs of the food consumers, handlers and administrators. Seniors still had tasty options to choose from, and administrators were able to reduce the labor involved in meal preparation. Also, it's important to note that participants were able to opt out of the meatless menu, so they did not feel forced to go with that program which reinforced their engagement. As a result, only 8 out of 200 participants chose to opt out.

In the case of the city council, animal rights organizations played a strong role. In general, civil society engagement can have a strong impact on what council members support when passing legislation. When Green Monday was introduced to the council members, there was little to no opposition because animal rights organizations frequently advocate in Berkeley. The implementation of the resolution also benefited from the support of the national Meatless Monday campaign for education.

Education and Information Sharing

The national Meatless Monday campaign provided support and marketing materials to help convince the community of the health, environmental, and humane benefits of a meatless diet. Similarly, Krelle-Zepponi attributes part of the senior center's success to the marketing materials provided early on. Additionally, she notes that the cooking demonstrations and the availability of quality plant-based caterers helped lift doubts on the feasibility of the initiative.

School Systems

The Meatless Monday campaign has seen great success in schools, including K-12 institutions and universities. Schools are a perfect environment to impose or suggest significant changes to diets and to get the attention of a large number of people.

Initially, it was thought that Meatless Monday initiatives would find more traction at colleges and universities due to a perceived awareness among older students about the implications of meat on human health and sustainability. However, the actual success of reduced-meat menus varies widely and is influenced by a number of factors not limited to age (King, 2013). In fact, more K-12 school districts have “no meat” days than do universities. In California, San Diego Unified School District, Santa Barbara Unified School District, and Los Angeles Unified School District have all implemented meatless days. Following in California’s footsteps, New York City Mayor Bill de Blasio announced in 2019 that the Meatless Monday initiative would expand to all NYC public schools and their 1.1 million students for breakfast and lunch items (Buzalka, 2019).

The success of K-12 initiatives in California and New York has been mixed, and adoption of meatless meals or reduced meat meals have been attributed to several factors. Whitsons Culinary Group, based in New York, expanded their Meatless Monday initiative to 95 school districts starting in 2017, and have noted a number of best practices such as using creative recipes, collaborating with chefs, and utilizing signage sent to schools describing the environmental implications of meat consumption (Fitzpatrick, 2018). These practices all play an important role in their Meatless Monday promotion. Whitsons also attributes the success of the initiative with younger students to communications efforts like a newsletter for parents and educational engagement activities like taste tests. For older students, customization is important and a connection to popular retail items, such as acai bowls, plays an important role in adoption.

In her 2013 dissertation at Johns Hopkins School of Public Health, researcher Amber C. Summers suggests that some of the major obstacles preventing the successful implementation of vegetarian meals in a school setting include increased food waste, drop in participation rates, negative public and parent/personnel attitudes, and preexisting food preferences. Indicators of successful adoption of vegetarian meals or reduced meat options include community support, involvement in school nutrition initiatives, providing choice and variety, presentation of vegetarian items, and flexibility of meal plans.

To gain a better understanding of best practices, successes, and challenges with Meatless Monday initiatives in real world school settings, our research team spoke with

representatives from two California school districts: San Diego Unified School District and Santa Barbara Unified School District.

San Diego Unified School District

The second largest school district in California, San Diego Unified School District (SDUSD), includes more than 226 educational facilities with 13,559 employees that serve 121,000 students in preschool through grade 12. The Food and Nutrition Services (FNS) department, with a staff of approximately 1,400 team members, provides around 135,000 meals and snacks to students and staff every day (San Diego Unified School District, n.d.).

The school district's FNS department boasts a number of nationally recognized meal programs including Farm to School, California Thursdays, Breakfast in the Classroom, and many others. Meatless items have been a part of the menu since 2013 and now every elementary school serves an entirely meatless menu on Mondays in addition to providing at least one meatless item every other day of the week. We spoke with Melanie Moyer, Menu Systems Development Dietitian, and Tara McNamara, Marketing Coordinator, to gain a better understanding of the implementation and genesis of San Diego Unified's meatless initiatives.

Stakeholder Engagement

Partnership with an outside organization has been a part of SDUSD's meatless campaign since its inception in 2013, being the result of a collaboration between the Humane Society of the U.S. (HSUS) and the district's Marketing Coordinator who preceded McNamara. HSUS's involvement

"We really like to be innovative and forward thinking."

with SDUSD was part of a larger nationwide effort to encourage school districts to adopt meatless items onto their menus. The program first began at elementary schools with a veggie burger and then expanded to every grade and increased in its regularity. HSUS helped usher in meatless menu items at SDUSD through presentations and hands-on cooking demonstrations with FNS staff, and they continued to engage the district with meatless recipes and promotional events.

Motivation for implementing meatless items came from SDUSD's emphasis on innovation. The district and its FNS department are known for being on the cutting edge, and incorporating Meatless Monday practices into their programs was yet another instance of their willingness to try new things. Leadership often provided the incentive, as they were behind the effort to adopt meatless items. HSUS also provided a number of talking points. These ranged from appeals to animal welfare to the environmental

effects of meat production. One aspect that SDUSD's representatives found surprising, but also quite effective in convincing FNS staff to adopt Meatless Monday practices, was the reduction in costs by eliminating meat from their menus.

Best Practices

Maintenance of the Meatless Monday initiative has shifted over the years to include more of an emphasis on plant-forward or plant-based options. Part of the impetus for this change lies in the different eating habits for different age groups. As well, the HSUS has handed off the initiative to the school district, allowing for the district to make the program its own.

SDUSD's former Marketing Coordinator, who was originally involved with implementing the initiative, is no longer with the district. Now Tara McNamara holds that role, and she has continued with meatless options, albeit with a somewhat shifted focus. The official Meatless Monday branding has been used less in recent years, with the emphasis now being placed on plant-forward and plant-based options. Of course, the extent to which the official Meatless Monday logo is used is largely determined by the composition of the menu and the age group that is being served. At SDUSD, Meatless Monday branding is used more often at the elementary school level, where an entirely meatless menu is served every Monday. At middle and high schools, where they may only have one or two meatless options, they like to use the terms plant-based or plant-forward because many of the students are actually vegan.

Another caveat of the older grade levels is the addition of customizable menu items. SDUSD has built some customizability into the menu by rolling out "build your own" concepts. This often takes the form of a salad bar, where students are provided with the main components of a meal and then given the freedom to add various other toppings. Depending on the final composition of these meals, students could easily end up with a meal that may or may not include meat.

Education and Information Sharing

While not directly tied to the Meatless Monday initiative, another strategy that has proven to aid the adoption of plant-based menu items in the district is the nutrition education and promotion conducted by SDUSD's Farm-to-School Specialist, Janelle Manzano. Although the focus is often on local food, her lesson plans and school assemblies incorporate a lot of education around increasing student consumption of fruits and vegetables. Her work is also crucial to getting the message home to parents, as she works closely with school principals to highlight the great things happening at the district's FNS department. McNamara also takes steps to make sure that information

about the school menus get back to parents by notifying them of menu changes and highlighting certain items throughout the year.

Lessons Learned

As with all school meal programs throughout the country, the COVID-19 pandemic significantly disrupted SDUSD's FNS department. The change from a school setting to home distributed meals often meant that meatless initiatives took the backseat to the urgent food insecurity created by the pandemic. Nevertheless, meatless items were a well ingrained part of the process at SDUSD before the pandemic, and the FNS department has continued to serve entirely meatless meals at all elementary schools through the district on the first day of the week.

Other challenges identified by Melanie and Tara include different degrees of adoption among FNS staff and the constraints around school food, especially with regards to time and money. Some staff were more likely to incorporate meatless items in their menu due to their own personal beliefs around meat consumption. The size of a school feeding program and the budgetary restrictions of that program also came into play. Large schools with razor thin margins and little time to try something new were understandably hesitant to adopt Meatless Monday initiatives.

Even in schools where meatless menu items are regularly featured, participation rates are often low. Elementary, middle, and high schools all face challenges with collecting data on the success of meatless initiatives. For elementary schools, the entire menu is meatless on Mondays, in effect putting participation at 100%. For the upper grades, customization proves to be one of the reasons meatless items are hard to track. Food service staff largely lose their ability to know what is on each plate by giving the option of choice to students. Both Moyer and McNamara expressed a desire to conduct a detailed assessment of meatless items in the future.

Santa Barbara Unified School District

200 miles up U.S. Route 101 from San Diego is the Santa Barbara Unified School District (SBUSD). A much smaller district than San Diego Unified, SBUSD serves around 14,000 students with 23 educational facilities. Their Food Services (FS) department is currently offering free breakfast and lunch for the 2021/22 school year. Other programs include from-scratch cooking with an emphasis on procurement of ingredients from local farmers and businesses, and a vegetarian/vegan entree offered daily (Santa Barbara Unified School District, n.d.). We spoke with Chef Nancy Weiss, former Director of Food Services at SBUSD, about the district's meatless initiatives under her tenure.

Chef Nancy played a big role in the implementation and maintenance of the Meatless Monday initiatives at SBUSD. A professional chef by trade who used to run her own restaurant, she was able to bring culinary skills and business experience along with her as Director of Food Services. Coming out of the restaurant industry, she viewed her time with school food as an opportunity to educate school kids about the connection between health and food.

Stakeholder Engagement

Chef Nancy highlighted how the introduction of meatless items at SBUSD was the result of a coalition of forces. One of them came in the form of philanthropy with Paul Orfalea and the Orfalea Fund School Food Initiative. The School Food Initiative hired chef educators and hosted boot camps where SBUSD staff were trained on from-scratch cooking techniques. With support from the Orfalea Fund and her own background in the restaurant industry, Chef Nancy was in a prime position to initiate new programs into SBUSD's Food Services department. The atmosphere of Michelle Obama's Let's Move campaign and increased availability of USDA grants were also mentioned as key motivators.

Best Practices and Lessons Learned

Chef Nancy identified three major components to SBUSD's successful maintenance of meatless menu items in the district:

- financial sustainability
- administrative support
- creative menu items that are driven by student participation

Citing her experience as a restaurateur, she was able to turn from-scratch cooking and increased fruit and vegetable consumption into a money maker. She realized that her staff were integral to the support of a robust Food Services (FS) department, so she worked to get more employees hired full-time. This benefited the employees by giving them access to benefits and increased wages, but also improved the quality of the food being served, as full-time staff were able to invest their time and skills into more involved cooking methods. She was also able to negotiate sound contracts with local farmers and thereby keep costs manageable. Additionally, she creatively harnessed USDA programs like the National School Lunch Program and Child and Adult Care Food Program to develop partnerships with the local Boys & Girls Clubs that put more money into the FS department.

“It’s not hard, but it takes the superintendent.”

None of this would have been possible, Chef Nancy notes, without administrative support at the superintendent and school principal level. Supplemental programs like school gardens and Breakfast in the Classroom helped reinforce many of the things Chef Nancy was pursuing during lunch and afterschool. Many of the creative ideas she was coming up with would have unrealized potential without the support and trust of the superintendent and other school leaders at the time.

That trust was reinforced by high participation rates -- the gold standard of every school food service department. Painfully aware of the direct relationship between participation rates and funding, Chef Nancy made sure that the meatless items she was serving would be palatable for students who may not be used to eating plant-based diets. Multiculturalism was incorporated into her menus and plant-based meat substitutes like Impossible Burgers and soy chili were featured.

Many of the reasons for the success of meatless initiatives at SBUSD proved to be a double-edged sword, and eventually became challenges. When the COVID-19 pandemic hit the district, Chef Nancy was no longer with the school district. Without her steadfast support and creativity with the program, Meatless Monday has fallen by the wayside. A change in key administrative roles and a different vision by the new FS Director have meant that priorities have shifted away from the meatless initiative.

As discussed above, the dietary preferences of schoolchildren are one of the main challenges SBUSD faced when implementing meatless items into their menus. Participation in school meals is what drives the FS program, and few food service directors are willing to tolerate low numbers for long. Introducing menu items that are too unfamiliar for students is a common pitfall that Chef Nancy identified. One parent’s negative criticism can derail the whole thing if participation numbers aren’t there to justify a meatless item. A great program can fall apart much faster than it was put together. Chef Nancy believes that the model she fashioned for her FS department really worked because kids were enjoying the food, their numbers were good, and they were making money.

Recommendations and Best Practices

The purpose of this report was to analyze best practices for Meatless Monday implementation in three different settings in mid-sized U.S. cities: 1) non-profit and volunteer-led initiatives, 2) local governments, and 3) schools. The ultimate goal was to generate recommendations for best practices of Meatless Monday implementation strategies.

Advocates for reducing meat consumption can utilize these recommendations to harness the national Meatless Monday campaign in the overall goal of reducing society's meat consumption and ultimately meat production. We hope these recommendations inform methods to create a holistic approach to reducing overall meat consumption while laying the groundwork for best practices moving forward.

After examining Meatless Monday initiatives in three different institutional settings across seven different case studies, we derived key recommendations for a successful initiative.

Table 3 summarizes the best practices observed across the Meatless Monday case studies. Many of these best practices apply to all three settings explored and are highlighted in blue. However, additional best practices for each setting are also listed in the table and are coded by color.

Table 3: Meatless Monday Best Practices in U.S. Mid-Sized Cities: Three Different Settings

	Stakeholder Engagement	Education & Info Sharing	General
All Categories of Implementation (Non-profit and volunteer-led, local government, and schools)	Engage multiple organizations for increased reach & impact, connection to the national Meatless Monday campaign, education & info sharing: <ul style="list-style-type: none"> • Non-profit/civic organizations • Animal welfare groups • City government • Sports teams • Hospitals • Schools • Universities • Restaurants 	Consider the ideological makeup of target community; tailor messaging accordingly, emphasizing various benefits (health, environment, animal welfare, cost savings, etc.)	Seek participant feedback, respond and adjust programming accordingly
	Understand partners' organizational goals, tailor relationship building and messaging accordingly	Use multiple communication avenues: <ul style="list-style-type: none"> • Print • Social Media • Newsletters • Hands-on cooking events & classes • Recipe ideas 	Have enticing, creative, appealing, tasty meatless menu items and pair non-traditional items with more popular ones
	Engage local chefs <ul style="list-style-type: none"> • Recipe development • Campaign promotion • Cooking demos & events 	Educational & social events encourage participation: <ul style="list-style-type: none"> • "Lunch and learns" • Various voices highlighted as presenters: farmers, chefs, experts, etc. • Potlucks • Cooking demonstrations 	
	Successful campaigns engage Meatless Monday "champions" at multiple levels	Emphasize reducing meat consumption rather than eliminating completely	
	Ensure participants' specific needs are respected (food handlers, administrators, consumers)		
	Collaborate with the national Meatless Monday campaign		

Non-profit & Volunteer-led	Obtain endorsement from an elected body (city council, board of health, etc.)		Time-bound challenges encourage high participation rates (e.g., eating a plant-based diet for two weeks, 12-week Meatless Monday challenge, etc.)
Local Government	Animal rights organizations campaigning at city-council encourages councils to adopt city-wide resolutions	Provide marketing materials to highlight the benefits of reduced meat consumption (environmental, health, animal welfare, etc.)	Dedicated staff in charge of food purchasing
			Dedicated Meatless Monday budget from the city council
Schools	Engage farm-to-school professionals in promotion <ul style="list-style-type: none"> ● Lesson plans ● Communicating with parents on benefits of plant-based menu items 	Communicate environmental benefits of reduced meat consumption via signage in cafeteria	Consider the dietary preferences of school-aged children when developing menu items: <ul style="list-style-type: none"> ● Plant-based meat substitutes are a good transition ● Develop menu items in-line with cultural make-up of student population
	Engagement with food service directors and staff: <ul style="list-style-type: none"> ● Provide presentations, trainings, recipes, and demonstrations in vegetarian cooking ● Emphasize the reductions in cost from meatless meals 	Younger Students: <ul style="list-style-type: none"> ● Newsletter for parents emphasizing the benefits of meatless ● Notify parents of menu changes and highlight such changes at “back to school” nights and other school events ● Educational engagement activities such as taste tests (Fitzpatrick, 2018) 	Full-time food service staff can invest more time into from-scratch recipes
	Engage students in developing creative menu items	Older students: <ul style="list-style-type: none"> ● Link meatless options to popular retail items such as acai bowls (Fitzpatrick, 2018) 	Allow for meal customization, particularly with older students

	Successful campaigns have school administrations' full support	Promote Meatless Monday in school assemblies	
		Tie Meatless Monday messaging to existing school nutrition initiatives (Summers, 2013)	

Overall

Defining and Measuring Success

Whether it is raising awareness about the impact of eating meat, or actually decreasing meat consumption in the community, each organization must define success of their Meatless Monday campaign early on so that they can measure the progress of their programming. This definition may evolve over time, but always having an agreed upon way to measure success enables organizations to check in periodically to ensure they are on the right track. This definition of success can inspire implementation strategies by considering the goal and working backward from there.

When defining a “successful” Meatless Monday initiative, our research team developed themes to ground the findings. A successful initiative is still active, receives funding, raises awareness about benefits of plant-based diets, and is making a measurable impact. These criteria measure success and can be applied to all initiatives, no matter the form of implementation.

More Than Passing a Resolution

In the case of Berkeley, California, the City Council passed a Meatless Monday resolution and agreed to partner with the national Meatless Monday campaign to utilize marketing materials and set up a certification program for businesses and restaurants. This case therefore shows the importance of not just passing a resolution, but also including language about who, or what entity, will be responsible for program management to ensure that there are actions attached to such a resolution. This highlights the need to have a system in place, staff members responsible, and/or a budget involved for successful campaign implementation.

Stakeholder Engagement

Organizational Collaboration and Network Building

It is critical for an institution or organization leading a Meatless Monday initiative to collaborate with other organizations that have aligned goals or are operating similar meat consumption reduction initiatives. Connections allow groups to pool resources, share their successes and failures with one another, and expand the network of participants. This can come in the form of connecting across cities or connecting with groups locally.

For example, HAP made it a priority at the beginning of their initiative to form relationships with members of the City Council. All it took was one connection in the city's Human Resources Department to introduce them to more people working in the city and widely expand their outreach. By recognizing the value in building networks and partnerships, campaigns can reach as many people as possible and make a significant impact on community meat consumption habits.

Community Involvement

Not only are connections an important part of a successful Meatless Monday initiative, but community collaboration is essential. For example, collaboration with Meatless Monday "champions" or other well-known and respected members of the community is an effective strategy for attracting participants and growing interest in Meatless Monday. Creating community within the initiative is critical in building the foundation of the movement. This element contributes to longevity and increased participation rates.

This outcome was demonstrated in the case of Aspen, Colorado, where one local community champion was able to grow the campaign to the point of recognition as "The Nation's First Meatless Monday Community" (Elam, 2011). Collaborating with the community will help the initiative build a name for itself, develop an understanding of the values of the community, and learn the most effective ways to grow participation rates in the initiative. Another example of this is seen within the Meatless Monday initiative in Needham, Massachusetts where the leading organization collaborated with a well-known chef in the community for one of their events. This turned out to be their most popular event, attracting new participants who then became involved in the Meatless Monday initiative and learned more about the impact of reducing meat in their diet.

Education and Information Sharing

Values Assessment

Understanding the values and perceptions that a community holds helps shape the approach of Meatless Monday initiatives to yield success. In the Norwegian Armed Forces initiatives explored in the literature review, the soldiers' values of power and masculinity were challenged by removing their choice to eat meat, resulting in very little support. In the case studies explored in this report, the values of the target communities were often already in line with reducing meat consumption and therefore it was easier to implement the Meatless Monday initiatives. For example, Berkeley, California and Needham, Massachusetts are both cities known for their liberal political leanings, high average incomes, and commitment to sustainability.

It is recommended that Meatless Monday campaigns run a values assessment on the target community to see where the dominant values line-up with such campaigns, and where a conflict of values might be. Consider the reasons why people choose not to eat meat (health, environmental impact, animal welfare, cost, etc.), as outlined in the literature review. Focusing on shared values will help with Meatless Monday implementation, communication, education, and program longevity. This can be seen in the case of HAP. Though HAP as an organization is primarily interested in animal welfare, they chose to emphasize the health benefits of going meatless, recognizing the goals of the city's Human Resources Department that ended up being their biggest champion at the city level.

Tailoring Messaging

Based on the values assessment, it may be strategic to use different branding than "Meatless Monday" that is more suitable to the organization, audience, or location. Depending on the community, however, the recognition that comes along with Meatless Monday branding may be beneficial. As was demonstrated in the case of Pittsburgh, there was some backlash to the "meatless" branding, which was interpreted as having a negative connotation. In response, HAP altered their branding to "Lean and Green," though the programming remained intact. A review of the literature around Meatless Monday campaigns also found that some groups resist such campaigns (Chan & Ramsey, 2021; Milford & Kildal, 2019; Lombardini et al., 2013). Campaigns can preempt potential resistance through being clear with communicating the intentions behind the campaign and why Meatless Monday is being pursued, whether for environmental, health, animal welfare, or other reasons. Additionally, a focus on *reducing* meat

consumption rather than *eliminating* it was also found to be strategic in several of our case studies.

Engaging Educational Activities

Hands-on education can improve engagement by teaching participants the importance of reducing meat consumption, how to prepare vegetarian meals, and build a community that supports the Meatless Monday initiative. For example, HAP hosted several Lunch & Learns for city employees to better understand the benefits of Meatless Monday. We also saw the importance of engaging activities with Aspen, Colorado's community potlucks.

Conclusion

The purpose of this report is to analyze best practices of Meatless Monday initiatives in six mid-sized U.S. cities across three different levels of implementation: 1) non-profit and volunteer-led initiatives, 2) local government-initiated campaigns, and 3) schools, to produce recommendations that further enhance current Meatless Monday efforts. Through a literature review, interviews with past and current stakeholders, and case studies, our research team developed a set of best practices for Meatless Monday campaigns in six mid-sized U.S. cities. Overall, this research helped give a holistic view of current stakeholders' points of view, which helped to shape these recommendations.

Organizational collaboration, community involvement, and intentional and tailored Meatless Monday messaging were all important aspects of successful campaigns and are strongly encouraged for a successful initiative. Connection with other Meatless Monday initiatives and collaboration between local stakeholders is also an essential part of the foundation for a Meatless Monday campaign. Additionally, coming up with innovative ideas, events, and messaging can strengthen such efforts. Having intentional messaging that matches the values of the target population helps to build buy-in with the local community and create trusting relationships.

Though we were able to glean relevant best practices from our research, it also became clear that the landscape of attitudes towards meat reduction in the U.S. has shifted since the creation of the Meatless Monday campaign in 2003. These shifts have implications for how Meatless Monday initiatives might evolve to remain relevant in the current social and political landscape around meat reduction. These are explored below.

Rise of Meat Alternatives

With the proliferation of plant-based “meat” such as those produced by the Beyond Meat and Impossible Foods in grocery stores and fast food chains, such alternatives are becoming mainstream (Darmiento, 2020). Sales of the Beyond Burgers at Ralph’s grocery store chain increased by 40% from 2019 to 2020, becoming the grocer’s number one packaged burger patty in sales (Darmiento, 2020). Today, the plant-based burgers are served in fast food chains around the U.S. and some McDonald’s locations in Canada (Darmiento, 2020). Impossible Foods has similarly made headlines for making a deal with Burger King to serve the Impossible Whopper (Burger King, 2021). This shows that dominant attitudes towards meat reduction may be shifting, and quickly. Cultivated meat products, which are created in a lab utilizing animal meat cells, is also a growing industry (Good Food Institute, 2022). Such meat-alternative products are not in fact meatless, as they are grown from animal cells (Good Food Institute, 2022),

however they may offer a more sustainable option to traditional industrial meat products. Therefore, term “meatless” may be becoming less relevant as meat alternative products are innovated. Meatless Monday campaigns, consequently, may be at a disadvantage in these trends with such branding. However, Meatless Monday may also be able to capitalize on these alternative meat products for increased program impact, for example, through partnering with meat alternative companies. Such a strategy may help to bring meat enthusiasts who *want* to reduce meat intake but have a hard time doing so, to a reduced meat diet. For example, a switch to plant-based meat alternatives was found to be an important strategy in the case of the Santa Barbara Unified School District as a means to serve familiar and culturally-appropriate recipes with a meatless twist. This was key for building program acceptance among students.

Reducetarianism

Whole Foods has named “reducetarianism” – “reducing consumption of meat, dairy and eggs without cutting them out completely” – as one of its top ten food trends for 2022 (Whole Foods, 2021). Blogs and newspaper articles abound with advice for would-be vegetarians to make the transition to reducing their meat consumption, including from the Reducetarian Foundation (Clark, 2019; Rose-Edwards, n.d.). This fits into the literature that has found that people tend to be more open to reducing their personal meat consumption than they are to eliminating it entirely from their diets (Corrin & Papadopoulos, 2017). Meatless Monday campaigns can align with and be an active voice for this trend through messaging to increase program impact.

Policy

Encouraging progress has been made in the public policy realm to nudge consumers towards reduced-meat intake. Wilde et al. (2019) outline the four main policy options available to governments, including local, state, and federal, that may support reduced processed meat consumption at the population level:

1. Taxation of meat products.

Excise taxes levied on meat products have been modeled after the sugar sweetened beverages or tobacco taxes that many states have already employed. This has been done, for example, through including processed meat products in snack food taxes, as Maine did in 2017.

2. Nutrition standards in child nutrition programs including the National School Lunch Program (NSLP).

Federal nutrition standards for such programs have a measured impact on food consumption among the nation's children, though standards specifically limiting meat levels have not yet been implemented.

3. Public service announcements (PSAs).

Such announcements have been utilized in encouraging tobacco cessation, as has been implemented in California by the Department of Health Services.

4. Warning labels.

Because of the well-established link between processed meat products and cancer, warning labels on meat products may be a path forward for incentivizing reduced consumption of such products.

Additionally, several of our case studies included a city-wide resolution declaring Meatless Mondays as a priority for cities. Though non-binding, such resolutions lend legitimacy and incentive for participating in campaigns. Understanding such existing policy tools will be important for encouraging reduced meat consumption going forward. Meatless Monday campaigns should seek to align with policy makers who may be making progress on this front already when implementing programming.

Given this broader landscape of “reducetarianism”, the increasing availability and popularity of meat-alternatives, as well as policy-level strategies, the Meatless Monday campaign has the opportunity to evolve its programming and messaging alongside such progress. America's attitudes toward meat reduction have evolved and the Meatless Monday campaign is well-poised to be a leading voice in this arena.

Further research should be conducted examining the outcomes of Meatless Monday initiatives on the long-term meat consumption habits of participants, as data is still lacking in this area. Additionally, a common theme found throughout our research was the strategy of changing the messaging of “Meatless Monday” to be more palatable for participants, including focusing more on “plant-based” or “green” diets. Taking this evidence into account, further research could be conducted regarding effective messaging for encouraging long-term reduction in meat consumption.

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Appendix

Interview Guide

1. Who can be credited with initiating or introducing Meatless Monday to the City Council/city management?
2. What was the motivation for participating in Meatless Monday (e.g., health, environment, climate, animal welfare)?
3. Were there any issues or arguments raised in opposition to participation? Can you tell me more about them? How did you address them?
4. What actions has the city taken (now or in the past) to reduce meat consumption and encourage people to practice Meatless Monday (e.g., events, programs, or partnerships such as Vegan Fest, community dinners, pledges, city leadership involvement, institutional outreach such as schools, hospitals and corporations, etc.)?
 - a. How were/are they promoted/communicated?
 - b. In your experience, what was the most effective communication tool used for getting the word out to your community?
 - c. Are these actions still taking place?
 - d. Is there any data that assesses the effectiveness of these actions?
5. Are there any dedicated staff or a dedicated budget to Meatless Monday in your city?
6. Who are the key stakeholders involved in Meatless Monday in your city (e.g., city council, schools, hospitals, restaurants, NGOs, communities)? How were they involved? Are they still involved? Have any joined since the Meatless Monday initiative began?
7. Aside from Meatless Monday, has the city adopted any other policies aimed at improving nutrition or encouraging shifts toward more sustainable diets?

About the Authors

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Fran Alvarado is a Sustainability Coordinator with Sodexo for Campus Dining at Northern Arizona University. As a recent graduate from NAU with a Master's in Sustainable Communities, her thesis focused on addressing plastic waste in Flagstaff, AZ. She researched national policies, limitations in public education and outreach, case studies, and state and local political relationships to create a recommendation of policies. She spent the past year as a FoodCorps Service Member in a local elementary school. There she created a garden program, piloted a composting collection system, and started a fresh produce weekly pick-up program.

Jane Coghlan

Jane Coghlan is an undergraduate student majoring in Sustainable Food Systems and minoring in Nutrition and Healthy Living at Arizona State University. She is particularly passionate about regenerative agriculture and sustainable biological systems. She is the Vice President for the Gardens at ASU Club and a student worker for the ASU Swette Center for Sustainable Food Systems. Jane hopes to pursue a career in food and agriculture research and policy, or sustainable food production.

Dory Cooper

For the past decade, Dory Cooper has been involved with a variety of food focused non-profit organizations working towards improving access to healthy foods for children and families. Her passion for food policy grew during her role as a FoodCorps Service Member where she partnered with the School Nutrition Department in Carrollton, GA to promote the use of local foods, scratch cooking, and consumption of fruits and vegetables. She received her undergraduate degree in Public Communication from the University of Vermont.

Cam Petersen

Cam Petersen is a Capitol Hill staffer currently working for Congresswoman Sara Jacobs, who represents his home district of CA-53. He discovered a deep-seated passion for food systems, community development, and civic engagement while serving as a U.S. Peace Corps Volunteer in Ghana. Since then, he's worked at non-profit organizations, helped carry out a regional farm to school campaign, taught nutrition and gardening curriculum at a rural primary school as a FoodCorps service member, and briefly lived on a coffee farm in the mountains of Nicaragua. All of these experiences have taught him how central food is to society and driven him to help advance communities and build resiliency around issues concerning food security and the environment.



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