

Short Communication

An Examination of the Community and Environmental Impact of a Las Vegas Convention Food Rescue Program

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Project Objective

In the spring of 2017, food rescue advisory meetings occurred between Three Square Food Bank, MGM Resorts International, and UNLV School of Community Health Sciences representatives, including staff, directors, and heads of departments. These meetings inspired more focused research to be conducted on the impacts that donating rescued convention food has on the local environmental and community health. This project utilized a mixed-methods approach to explain the convention food rescue process and estimate the impact this has had on donated meals. This was done by 1) estimating the amount of recovered food from the convention center and the number of meals that have been created from this recovered food during the first year of the pilot stage 2) estimating the amount of greenhouse gas that has been diverted as a result of rescued food not being sent to landfill, and 3) detailing the perceived benefits, challenges, and client perceptions of the convention food rescue program.

Background

This is a unique pilot program, as food rescue this large-scale has not previously been attempted, not to mention successful. Participating parties included Three Square Food Bank, Aria – a major resort and convention center owned by MGM Resorts International – and agency partners that provide and distribute meals prepared from rescued convention food. Aria is one of ten major convention centers in the area, offering businesses and organizations several meeting rooms and ballrooms to hold events for thousands of people at a time. These conventions are frequently catered, serving high-quality meals.

Conventions at Aria would have untouched leftovers, and instead of sending to a landfill, a food rescue program was launched to collect the food to be shared with food pantries. This program is successful with the support of Three Square, the area's largest hunger-relief organization. This food bank is the intermediary link between the Aria and the local agency partners: non-profit and faith-based organizations such as churches, soup kitchens, or shelters, which distribute the rescued food to families in need.

Process

The duration of research stretched through November 2017. The number of pounds of prepared food that Aria donated during the first year of the pilot stage was converted into the number of meals created and distributed to food-insecure households in Southern Nevada. The number of meals created was assessed against the annual number of people and households that have been supported Three Square and agency partners.

The amount of food diverted from the local landfill was used to calculate the amount of carbon dioxide equivalent (CO₂E) that was prevented by the program using The Waste Reduction Model (WARM) created by the EPA, and the ratio of carbon dioxide, methane, and nitrous oxide has been obtained from literature.

Interviews with five convention food rescue program stakeholders were recorded and transcribed. The responses from stakeholder interviews were examined using a document analysis technique. This approach was chosen to build a statistical meaning to the answers given by community members relating to convention food donation.

Findings and Conclusions

The convention food rescue program went into effect August 2016. The duration of the program, up until July 2017, yielded 54,460 pounds (27 tons) of donated food. The USDA recommends that each meal consists of about 1.2 pounds of food, therefore it is estimated that 45,383 meals were produced from donated convention food in the 12-month time frame. About 428,900 visits to the Three-Square Food Bank's meal program occur annually. This means that meals produced from the convention food rescue program during this time period is enough to supply 10.6% of the overall meals provided by the congregate meal kitchens. This program is still in its beginning stages, and food rescue is only taking place at one convention center. As the program develops and becomes more efficient, and more convention centers join the rescue efforts, the amount of meals assembled could skyrocket. An increase in the access to low- or no-cost meals can mean decreased behavioral problems

and increased school performance in children, decreased severity of chronic diseases in the elderly and disabled, and reduced rates of stress and depression in adults. Not only are mental and physical health outcomes effected by limited food, but financial, housing, hygiene, and health care needs are more likely to be met when food limitations are alleviated, all the more intensifying the benefits of diminishing food insecurity.

The WARM program estimated that the resulting change in greenhouse gas (GHG) emissions were determined to be 108 metric tons (MT) of CO₂E annually that was avoided by diverting this portion of food waste from the landfill; the proportions of carbon dioxide, methane, and nitrous oxide of CO₂E were calculated to be 76.7 percent, 14.37 percent, and 7.9 percent, respectively. This amount of CO₂E is equivalent to GHG emissions from 23.1 passenger vehicles driven for one year, CO₂ emissions from 12,153 gallons of gasoline consumed, 16.2 homes' electricity use for one year, 250 barrels of oil consumed, or 118,162 pounds of coal burned. As this program grows and the practice of hospitality food rescue spreads, the prevention of greenhouse gas emissions makes a difference in the environment and how it impacts the community's health.

Performing stakeholder interviews and qualitative analysis gave a better understanding of the subjective experiences and observations of the convention food rescue program members. Challenges can be summarized as the inability to expand the convention food rescue program in the time and at the magnitude that all parties agree could be possible, including limited funding, a need for more food donations to meet agency partner needs and client demands, and inadequate space necessary to store food donations.

Many positive outcomes of the program were mentioned, as well as potential solutions to the mentioned barriers. The surplus food that is donated has allowed the food bank and agency partners to stretch their budgets further, significantly lowering overhead costs. The success of the program is sustained by the consistent effort to practice food safety. The enforcement of safe food handling is important to prevent clients from getting sick, potentially losing the trust of this vulnerable population and of donors. Additional benefits discussed include pride and fulfillment by the facilities' employees from being part of a noble program; they celebrate a program that is simultaneously battling food insecurity while reducing food waste and the subsequent environmental effects.

Interview responses related to client perceptions of the food rescue program express that 1) there is a high demand for congregate meals, 2) the clients favor consistency, both of meal ingredients and frequency, and 3) balanced nutrition and appealing taste are alluring. Agency partner sites can feed up to 700 clients in one hour. By using products supplemented by the convention center food rescue program, they have increased ability to assemble enough meals to fulfil this demand. Clients who utilize the congregate meal kitchens anticipate consistency, the quantities provided through the program supply enough to

steadily appease congregate meal patrons. Lastly, the agency partners insist on providing equal ratios of protein, starch, and vegetables. The support of the convention food rescue program enables agencies to provide a healthy variety of foods and offer balanced meals that can reduce the harm created by limited intake of essential nutrients.

Recommendations

Once this program is functioning more steadily, even more food donations can be acquired from the single convention center. Intentions to expand the convention food rescue program to several other properties would multiply the health and environmental effects many times over. It is recommended that the amount of donated food continues to be documented in order to measure the future impacts on the community and environment. Plans to develop the convention food rescue program in Southern Nevada, and potentially across the country, suggests funds accompany the surplus food donations.

These monetary donations to Three Square, a public charity, and to nonprofit agency partners have the potential for tax credits, recognition, and other incentives for the donor. Building a larger, or secondary, warehouse to store and prepare the convention center food rescue for distribution to the food insecure populations across Southern Nevada would result in community wide benefits. If the necessary resources are not able to be donated, then a partnership is recommended between the food bank warehouse and other freezer/refrigeration sites and transportation companies. Expanding partnerships may enable a reduced cost on the storage and distribution of the food. The convention food rescue program is already making admirable efforts and contributing to the fight against food insecurity and food waste in Southern Nevada, but there is potential to do more. Funds and space are the main limiting factors impeding the expansion of this program, and until the obstacles that prevent the program growth are tackled, the outcomes will remain steady and unchanged.

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