



JOURNAL OF THE NACAA

ISSN 2158-9429

VOLUME 15, ISSUE 2 – DECEMBER, 2022

Editor: Linda Chalker-Scott

Wagner, K.¹, Curtis, K.², Jewkes, M.³

¹Horticulture Faculty, Utah State University Extension, Utah, 84114

²Agriculture & Food Marketing Specialist, Utah State University Extension, Utah, 84322

³Empowering Financial Wellness Program Director, Utah State University Extension, Utah, 84114

The Impact of Free Senior Center Farmers' Markets During COVID-19

Abstract

Free farmers' markets were held at Salt Lake County senior centers to provide fresh produce to low-income and food insecure seniors during COVID-19. Master Gardener volunteers donated excess produce and were highly effective at packing and distributing food at markets. The farmers' market program was adapted by moving markets outside during the pandemic to ensure the safety of seniors and volunteers. The farmers' market program serviced 3,220 seniors with 17,000 pounds of produce during the 53 markets held in 2020 and 2021; the approximate market value of the donated produce was nearly \$40,000. Direct-to-consumer dissemination enabled the program to reach target audiences without relying on third parties. The farmers' market program provided healthy food and positive interaction which improved the lives of seniors disproportionately impacted by COVID-19.

Introduction

Approximately 5.3 million seniors, or 7.3% of the United States senior population, were food insecure in 2018 (Ziliak & Gunderson, 2020), meaning access to food was limited or uncertain. In Utah, 10.8% of adults ages 60 or older are considered food insecure (United Health Foundation, 2022). In Salt Lake County, Utah, seniors comprise approximately 11% of the population (U.S. Census Bureau, 2021). Seniors in households experiencing food insecurity are disproportionately low-income and often suffer from chronic health conditions like obesity, diabetes, and hypertension (Hartline-Grafton, 2019). In addition, older adults with chronic conditions that are food insecure have higher health care costs than older adults with chronic conditions but not food insecure (Garcia et al., 2018). Routinely consuming fresh fruits and vegetables can help prevent and manage chronic illness, but food-insecure households' ability to afford fresh produce is limited (Seligman et al., 2011). Food banks or pantries are increasingly serving as regular sources of food among low-income households (Echevarria et al., 2011), however the diet quality of food pantry users is low, with low intake of fruits and vegetables, among other diet quality measures (Simmet et al., 2017).

The COVID-19 pandemic adversely impacted Utah seniors in several ways, including further reducing food access and increasing social isolation, loneliness, depression, and fear of death. Seniors 65 and older constitute 70.8% of the COVID-19 deaths in Utah to date (Utah Department of Health & Human Services, 2022), making this group the most at risk of death. As a result, many seniors limited contact with others outside their homes, including family members. Social isolation poses a significant risk to the health of vulnerable seniors (Hafner, 2016). Senior centers provide a setting that encourages social interaction and physical movement. Many of these facilities also offer free meals to anyone over 60 and serve as a gathering place to converse, eat, and exercise. For some seniors, the lunch provided is their only daily meal (Stevens, 2020), and their access to fresh produce is limited to that meal. COVID-19 social distancing guidelines set by state and county governments in 2020 and 2021 disrupted seniors' already limited ability to access food.

Methods

The Utah State University (USU) Salt Lake County Extension Master Gardener (EMG) program began growing and disseminating fresh produce to seniors at risk of food insecurity during free farmers' markets held at senior centers in 2018. Existing senior center markets were adapted to drive-through outdoor produce stands in 2020 to safely distribute produce and positively interact with patrons during the pandemic. Other Extension programs have reported alternative approaches to adapt in-person programs in effort to preserve human connection while protecting the health of clients, staff and volunteers (Stokes et al., 2021). Distributions at senior centers ensured that fresh produce was disseminated to food-insecure seniors and food waste was minimized by efficient, direct-to-consumer distribution. Murphy (2013) and Wetherill et al. (2018) reported challenges—such as high perishability, limited refrigeration, lack of labor to sort and package produce, and lack of staff knowledge regarding the consumption and preparation of fresh produce—associated with fresh produce donations to food banks and food pantries. This program utilized EMGs to grow, harvest, process, distribute, and educate seniors at farmers' markets which limited perishability of produce and provided a rewarding volunteer experience for EMGs (Voluntad et al., 2004; Peronto and Murphy, 2009) during the pandemic.

The senior center farmers' market program is a partnership between the USU EMGs, Salt Lake County (SLC) Parks and Recreation, and SLC Adult and Aging Services. Volunteers grow and harvest produce at the Wheeler Historic Farm in SLC and at home gardens, then disseminate it directly to seniors during free farmers' markets held at the senior centers. Markets were held at senior centers in 2018 and 2019; however, as a safety precaution during COVID-19, the program was adapted in 2020 to provide outdoor/drive-through produce stands. Seniors remained in their cars to maintain social distancing while masked and gloved volunteers packaged their choice of produce. Senior centers reopened in 2021 and markets were once again held inside during lunch hour.

Studies show that social interaction contributes to a lower likelihood of health decline, increased happiness, and higher quality of life in older adults (Sen et al., 2022). Positive social interaction and access to nutrient-rich food are both very important for older adults, so this program focused on social exchange with seniors and fresh produce distribution. Many seniors enjoyed interacting with the volunteers, who shared nutritional qualities, preparation tips, and preservation methods with patrons. Center coordinators commented on the seniors' excitement about their engagements at the markets and the positive changes in their day-to-day routines. Seniors often selected unfamiliar produce and would sometimes request more of those items at later markets. Food waste was minimized because dissemination of produce was direct to the consumer which decreased consumer demand for 'perfect' foods. Consumer preference for unblemished food is well documented for traditional food outlets such as grocery stores (McCoy, 2019).

The primary audience for this program was low-income, food-insecure seniors. With assistance from SLC Aging and Adult Services, we selected senior centers based on their client's level of food-insecurity risk. For example, some senior centers are located near low-income housing units. The units often have kitchens but rarely have garden spaces and may be located far from grocery stores. Some seniors are also unable to drive, either for financial reasons or physical limitations, making it more difficult to shop for healthy foods. This is particularly true for low-income older adults that live alone. Factors that impact transport and mobility include housing, transport availability, transport accessibility, transport affordability and transport safety (Lin & Cui, 2021). Another study by Sideris & Wachs (2018) found factors such as physical health, perceptions of safety, availability of transit, and proximity of shopping and social opportunities impacted travel patterns for low-income, inner-city adults in Los Angeles. The study concluded that low-income older adults are one of the most mobility limited groups in the United States and low-income seniors are less likely to own personal vehicles, or even use public transportation. Furthermore, mobility is connected to personal independence, well-being, and quality of life (Lin & Cui, 2021). By targeting centers with low-income seniors located in areas distant from grocery stores, the

program was able to routinely restock the pantries of patrons who might otherwise face food acquisition barriers, with fresh and nutritious produce.

Results and Discussion

The SLC Adult and Aging Services conducted a voluntary survey among seniors who picked-up produce at two centers that were routinely serviced by EMGs in 2021. Survey questions were reviewed by the State of Utah Department of Human Services for IRB approval. Survey respondents provided their household monthly income (Table 1) and reported impacts experienced immediately after markets (Table 2).

Table 1. Survey respondent monthly income data ($n = 74$)

\$0	< \$1K	\$1K- 1,999	\$2K- 2,999	\$3K- 3,999	\$4K- 4,999	\$5K- 5,999	\$6K- 6,999	\$7K- 7,999	\$8K- 8,999	\$9K- 9,999	> \$10K
11%	9%	22%	17%	14%	3%	5%	2%	5%	3%	3%	6%
Poverty level (PL) for individual		PL 2-3-person household	PL 4-6-person household	Above poverty level for household with 6 or more individuals							

Table 2. Survey respondent market impact data ($n = 74$)

Impact Indicator	"yes" responses	"no" responses	"no answer" responses
Did the market save you time?	89%	7%	4%
Did the market save you money?	94%	3%	3%
Did the market increase your consumption of and access to fresh produce?	99%	0%	1%
Did the market improve your overall well-being?	98%	1%	1%

In 2020, 2,500 seniors received nearly 10,000 pounds of fresh produce, with an estimated market value of \$23,000, during 40 free farmers' markets held outside seven senior centers (Table 3). Market values were determined from specialty crop reports

published through the United States Department of Agriculture (USDA) Agriculture Marketing Service (AMS). The number of markets increased in 2020 from an average of 34 markets between 2018 and 2019, in response to increased number of seniors who picked-up free meals during the initial spread of COVID-19 in Utah. In 2021, distribution shifted to fewer manned farmers' markets (13) and 7,448 pounds of donated produce was dropped off at senior centers and in the lobbies of low-income senior housing complexes.

Although there were fewer planned farmers' markets in 2021, it is likely that as many or more seniors were served compared to previous years due to the increased number of drop-off locations. It is also likely that in 2021, donated produce reached a disproportionately impacted population since food insecurity increased significantly from 2020 for elderly people living alone (Coleman-Jensen et al., 2022). Drop-off outlets ensured minimal food waste since produce left over from the senior center markets was available for client pick-up in complex lobbies as residents returned to their apartments. McCoy (2019) reported consumer food waste comprises 61% of total food waste so allowing seniors to self-select types and quantities of produce to take minimized potential food waste stages such as food loss from bulk purchasing and food processing. The increased number of drop-off locations also decreased reliance on limited refrigeration space because perishable produce was delivered to air-conditioned drop-off locations which often had available cold storage.

Table 3. Overview of market outputs prior to and during COVID-19

Year	Pounds of Produce	Number of Seniors Serviced	Number of Markets	Market Value
2018	12,700	1,929	36	\$20,000
2019	6,278	1,621	32	\$14,467
2020	9,610	2,500	40	\$23,000
2021	7,448	720 ^z	13	\$16,366
Total	36,036	6,770	121	\$73,833

^z Those attending manned markets only. Actual number likely closer to 2,500.

The program had many positive results. One senior center manager stated,

“Our seniors already fall into a low-income bracket, but some are also homeless. The farmers’ market helped supplement many seniors healthy produce at home, which also during this pandemic helped them not have to go into a grocery store, as you probably noticed most of our participants do not drive, so you can imagine what this meant to them. Not only did it give them something to look forward too, but it also provided a service that was able to fulfill a need that a lot of our seniors deal with at the senior center.”

One senior said,

“I am so grateful for the opportunity I have had this summer to obtain real, fresh produce. This has allowed me the opportunity to eat in a healthy, nourishing way. I have been struggling with for some time due to financial challenges. Yes, when I consume nourishing foods in the end, my soul is affected in a positive manner.”

Additionally, the program benefited from existing partnerships that were active prior to the pandemic, allowing the Extension program team to rapidly adapt the farmers’ markets for seniors with COVID-19 safety precautions. Many seniors were surprised to learn the farmers’ markets were open in 2020, even though senior center buildings were closed. Seniors collected hot lunches via drive-through services, and we were able to use outdoor produce stands at the same time. The farmers’ markets enabled volunteers to contribute to an impactful program during the pandemic. Many EMGs opted to “grow-a-row for a senior” in their backyard gardens and donated the produce for volunteer service time. Collins (2013) also reported the value of volunteers for Extension program delivery to seniors. Several EMGs informed us that they were themselves high risk or interacted with high-risk individuals, and many expressed gratitude for the opportunity to safely participate in the program. Volunteers were instructed on food safety protocols, for example, to wash hands prior to harvest, use clean containers and donate unwashed produce. Seniors were reminded at markets to thoroughly wash produce prior to consumption.

As a result of lessons learned in 2020, we expanded the “grow-a-row for a senior” portion of the broader senior center farmers’ market program in 2021. About 1,600 pounds of produce were donated by master gardeners from home gardens. The program team also discovered that knowledge of produce distribution locations and identification of relevant partners was useful for other community partners seeking to donate fresh produce. Because traditional outlets—such as farmers’ market booths and cafeterias—were temporarily disrupted, multiple community partners sought USU Extensions’ help in locating distribution locations for their produce during the pandemic. Not only was USU Extension managing delivery of produce from our own program, but our team also played a key role in keeping produce dissemination channels functioning for community partners.

Conclusions

The senior center farmers’ market program modeled an approach that Extension, senior center personnel, farmers, and gardeners can adopt to decrease food insecurity in their communities. For example, gardeners who grow edible produce can donate extra produce to a household in need. This “neighbors feeding neighbors” approach can effectively disseminate fresh produce when traditional food distribution channels are stressed during high demand and/or uncertain times. Programs that donate fresh produce to food banks and food pantries should also consider direct-to-consumer outlets like senior centers. Food-insecure households have a strong need for high-nutrient foods (Hartline-Grafton, 2019, & Seligman et al., 2011), but it is important not to place too much burden on food banks and food pantries as the sole distributors of fresh produce to avoid certain food waste stages (Murphy 2013, & Wetherill et al., 2018). Specific populations, for example low-income older adults living alone, may be at increased risk of food insecurity but also experience mobility and transport challenges accessing food, thus direct to consumer outlets are ideal for these populations (Lin & Cui, 2021, & Sideris & Wachs, 2018). EMGs are an effective workforce for produce dissemination because they have gardening knowledge, often grow, and consume an

array of fruits and vegetables themselves, have time to sort and package donations, and are interested in contributing their service, expertise, and excess garden produce. Finally, seniors are an important target population for Extension programs, and as shown here, programs centered on healthy food and positive interaction can improve the well-being and quality of life for these individuals.

Literature Cited

Coleman-Jensen, A., M.P. Rabbitt, C.A. Gregory, and A. Singh. (2022). Household food security in the United States in 2021. *Economic Research Report* 309, U.S. Department of Agriculture, Economic Research Service.

<https://www.ers.usda.gov/webdocs/publications/104656/err-309.pdf?v=363>

Collins, C. (2003). Volunteers: The key to expanding Extension programming for older adults. *The Journal of Extension* 41(5):Article v58-5iw1.

<https://archives.joe.org/joe/2003october/iw3.php>

Echevarria, S., R. Santos, E. Waxman, E. Engelhard, and T. Del Vecchio. (2011). Food banks: Hunger's new staple. *Feeding America; Chicago, IL*.

<https://www.feedingamerica.org/sites/default/files/research/hungers-new-staple/hungers-new-staple-full-report.pdf>

Hartline-Grafton, H. (2019). Hunger is a health issue for older adults: Food security, health, and the federal nutrition programs. *Food Research and Action Council (FRAC)*.

<https://frac.org/wp-content/uploads/hunger-is-a-health-issue-for-older-adults-1.pdf>

Garcia, S.P., A. Haddix, and K. Barnett. (2018). Incremental health care costs associated with food insecurity and chronic conditions among older adults. *Preventing Chronic Disease* 15. <http://dx.doi.org/10.5888/pcd15.180058>

Hafner, K. (2016, September 5). Researchers confront an epidemic of loneliness. *New York Times*. <https://www.nytimes.com/2016/09/06/health/loneliness-aging-health-effects.html>

Lin, D., and J. Cui. (2021). Transport and mobility needs for an ageing society from a policy perspective: Review and implications. *International Journal of Environmental Research and Public Health*, 18(22). <https://doi.org/10.3390/ijerph182211802>

McCoy, L.H. (2019) Extension's role in the United States' campaign to reduce food waste. *The Journal of Extension* 57(2):Article 26.

<https://tigerprints.clemson.edu/joe/vol57/iss2/26>

Murphy, B. (2013). From garden to recipient: A direct approach to nutrition education. *The Journal of Extension* 51(5):Article 13.
<https://tigerprints.clemson.edu/joe/vol51/iss5/13>

Peronto, M., and B. Murphy. (2009). How master gardeners view and apply their training: A preliminary study. *Journal of Extension* 47(3):Article 3RIB2.
https://archives.joe.org/joe/2009june/pdf/JOE_v47_3rb2.pdf

Seligman, H.K., B. Laraia, and M. Kushel. (2011). Food insecurity is associated with chronic disease among low-income NHANES participants. *Journal of Nutrition* 140(2):304–310. <https://doi.org/10.3945/jn.109.112573>

Senn, K., V. Prybutok, G. Prybutok, and W. Senn. (2022). Mechanisms of social interaction and virtual connections as strong predictors of wellbeing in older adults. *Healthcare* 10(3):553. <https://doi.org/10.3390/healthcare10030553>

Sideris, A.L. , and M. Wachs. (2018). Transportation for an aging population; Promoting mobility of equity for low-income seniors. *Mineta Transportation Institute*, Project 1704, San Jose State University. <https://transweb.sjsu.edu/sites/default/files/1704-Sideris-Transportation-Aging-Population-Equity-Mobility.pdf>

Simmet, A., J. Depa, P. Tinnemann, and N. Stroebele-Benschop. (2017). The dietary quality of food pantry users: A systematic review of existing literature. *Journal of the Academy of Nutrition and Dietetics* 117(4):563-576.
<https://doi.org/10.1016/j.jand.2016.08.014>

Stevens, T. (2020, April 5). Salt Lake County works to foster connections with seniors amid the coronavirus. *Salt Lake Tribune*.
<https://www.sltrib.com/news/politics/2020/04/05/salt-lake-county-works/>

Stokes, B., E. Lynn, and T. Belt. (2021). Adapting to provide innovative in-person Extension programming during a pandemic. *The Journal of Extension* 58(5):Article 1.
<https://tigerprints.clemson.edu/joe/vol58/iss5/1>

Utah Department of Health & Human Services. (2022). Hospitalizations & mortality, mortality summary statistics [Database record]. <https://coronavirus.utah.gov/case-counts/>

United Health Foundation. (2022). America's health rankings, senior report.
https://www.americashealthrankings.org/explore/senior/measure/food_insecurity_sr/state/UT

U.S. Census Bureau (2021). Quick facts: Salt Lake County, Utah.
<https://www.census.gov/quickfacts/saltlakecountyutah>

USDA Agriculture Marketing Service (2022). Specialty crops custom reports.
marketnews.usda.gov/mnp/fv-home

Voluntad, A., P. Dawson, and M. Corp. (2004). The Pendleton community garden project—More than just planting seeds. *Journal of Extension* 42(6):Article 6IAW2. <https://archives.joe.org/joe/2004december/iw2.php>

Wetherill, M.S., K. Castleberry White, C. Rivera, and H.K. Seligman. (2018). Challenges and opportunities to increasing fruit and vegetable distribution through the US charitable feeding network: Increasing food systems recovery of edible fresh produce to build healthy food access. *Journal of Hunger and Environmental Nutrition* 14(5):593–612. <https://doi.org/10.1080/19320248.2018.1484315>

Ziliak, J.P., and C. Gunderson. (2020) The state of senior hunger in America in 2018. *Feeding America; Chicago, IL*. <https://hungerandhealth.feedingamerica.org/wp-content/uploads/2020/05/2020-The-State-of-Senior-Hunger-in-2018.pdf>.