Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

# Snapshot of Delaware Senior Centers: COVID-19 Restrictions, Challenges and Successes

Elizabeth Orsega-Smith, Alana Beiman, and Brianna Wolfle
Department of Behavioral Health and Nutrition,
University of Delaware, Newark, United States

**Contact**
Elizabeth Orsega-Smith
eosmith@udel.edu
Department of Behavioral Health and Nutrition, University of Delaware, Newark, United States

© 2022 Taylor & Francis Group, LLC

**Abstract**
Senior centers provide recreational and social opportunities to millions of older adults. As a result of COVID-19, many senior center directors were forced to adapt and provide new physical distancing opportunities for their members quickly. The study aimed to identify restrictions, challenges, and successes that Delaware senior center administrators faced during the COVID- 19 pandemic. Interviews with 15 senior center administrators revealed that many sites relied upon state or federal guidelines for their policies while significantly reducing their specific class and activity offerings. These senior center administrators indicated a lack of guidance on openings, financial hardships, and lack of volunteers and employees as challenges they faced. Policies and frameworks should be developed to assist these organizations when adapting to future disasters.

**Keywords**
Senior centers; COVID-19; Administration

By 2060, the number of Americans aged 65 and older is expected to nearly double, from 52 million in 2018 to 95 million, increasing from 16% to 23% of the overall population (Population Reference Bureau, 2019). In the next 10 years, the number of older adults is projected to increase by approximately 18 million with 1 in 5 Americans projected to be over the age of 65 (Census, 2021). Therefore, for the first time, the older adult population will outnumber children (Census, 2021). The number of older adults will continue to expand as life expectancy increases and this demographic shift poses a unique set of public health challenges (Christensen, Doblhammer, Rau, & Vaupel, 2009). However, with the growth of this age group, new opportunities for engagement in the community may also be presented (Dogra et al., 2022).

## Role of a senior center

With an increased aging population, there is a greater need for more health care, community initiatives, and social services to support older adults as they age (Siegler, Lama, Knight, Laureano, & Reid, 2015a). Senior centers provide a range of recreational and social networking opportunities to the local

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

community (Siegler et al., 2015a). Senior centers are recognized as one of the most widely utilized entities providing services to more than 10 million older adults across America (NCOA, 2021). These organizations offer its members a wide variety of volunteer opportunities and social activities, as well as classes and services that promote health and prevent disease. By providing opportu-nities for socialization, senior centers can increase social integration and engagement while decreasing isolation and loneliness (Aday, Wallace, & Krabill, 2019; Marquet et al., 2020). With growth in the older adult population, senior centers will play a role in reaching and supporting the increased number of older adults providing opportunities for older adults to engage in educational lectures, physical activity classes and volunteer initiatives

**Opportunities for engagement**

In the United States, mental health concerns in older adults are becoming more prevalent and may be connected to older adults' perceptions of loneliness (de Mendonça Lima & Ivbijaro, 2013). Isolation from family, deaths of spouse and friends, or physical limitations may lead to feelings of depression and sadness as well as loneliness. Literature suggests that community senior centers play a pivotal role in decreasing depression and improving quality of life in the community-dwelling older person by increasing engagement (Aday et al., 2019; Fulbright, 2009). It is suggested that the interaction and encouragement between facility staff and participants, as well as between participants in increasing motivation for physical activity and social interactions is key to the health of older adults (Aday et al., 2019; Fulbright, 2009).

**Opportunities for cognitively stimulating activities**

Many cognitive skills begin to deteriorate as individuals age (WHO, 2017). Specific strategies, such as staying socially, emotionally, and physically active, may help older adults delay cognitive decline (Hugo & Ganguli, 2014). Many of these strategies are encouraged through senior center participation as many senior centers offer mentally challenging games, mind stimulating classes (i.e. art, discussion groups, language, history), and memory-related classes (NCOA, 2020). In addition, a growing number of senior centers have specific brain health and cognition enhancing opportunities (Buitenweg, Murre, & Ridderinkhof, 2012; Byun & Kang, 2016; NCOA, 2020).

**Opportunities for physical activity**

Healthy aging can be facilitated by regular physical activity, which may delay the onset, prevent, or control chronic disease (CDC, 2019). Public recreation services and community senior centers are two specific entities that provide

these types of opportunities for older adults (Hickerson et al., 2008). Senior centers and community facilities offer a range of physical activity classes including but not limited to Zumba, yoga, or aerobics. Literature suggests that older adults will participate in physical activity classes that are accessible through their community organization (Van Cauwenberg, Nathan, Barnett, Barnett, & Cerin, 2018a). Older adults have identified senior centers as an environment to participate in physical activity where they feel a sense of belonging, surrounded by others who enhance their social support (Hickerson et al., 2008; Marquet et al., 2020).

## Opportunities to decrease food insecurity

Food insecurity refers to the disruption of food intake or eating routines due to lack of resources (i.e., finances) (Nord, Andrews, & Carlson, 2005). This can be influenced by income, employment, race/ethnicity, or disability (Health People, 2020). There are about 7.3 million older adults in the United States experiencing food insecurity in some capacity (NCOA, 2020). Researchers have found that low levels of social support, living alone, and Supplemental Nutrition Assistance Program (SNAP) participation are associated with higher levels of food insecurity (Burris et al., 2021). SNAP is the nation's largest food safety net program with about 48% of the older adults eligible to enroll (NCOA, 2020). During the COVID-19 pandemic, older adults reported phy-sical and economic barriers to food access. Specific reported challenges included lack of access or availability of preferable food choices and food assistance such as food pantries (Niles et al., 2020). Community involvement, which facilitates social support and networking, may protect older adults from food insecurity. Senior centers have the potential to offer unique ways to reach these food insecure populations both during times of crises as well as during the regular operating time (Niles et al., 2020).

## COVID-19 impact

In 2020, COVID-19 resulted in the closure of many non-essential businesses with a concurrent stay-at-home order (Moreland et al., 2020). Organizations assisting community-dwelling older adults were forced to close in-person sites (e.g., senior centers). Due to these closures, many older adults stayed at home for long periods and physically distanced themselves to prevent the contrac-tion of COVID-19. The pandemic had a disproportionate impact on older adults, with this population having more serious complications, higher mor-tality, worries about changes to their everyday lives, limited access to treat-ment, difficulties adjusting to new technology like telemedicine, and suffering mental health problems (Vahia, Jeste, & Reynolds, 2020). With the virus becoming a new barrier to meaningful social participation in the community

senior centers, the risk of physical isolation, decreased physical and mental health, and access to food in the older adult population took on a new importance. Therefore, it is important to understand how COVID-19 impacted the operations of senior centers and how those in leadership pivoted to serve this vulnerable population.

## Aims

The aims of this study were to: 1) identify COVID −19 guidelines for senior center operation and the impact on senior center administrators in the state of Delaware, 2) discuss challenges senior center administrators faced as a result of these guidelines, and 3) identify successful changes or adaptations senior center administrators implemented as a result of COVID-19.

## Methods

This was a qualitative study of senior center executive directors or activity directors in the state of Delaware. Individuals were selected based on their direct contact with the actual running of the senior center. In some cases, the executive directors were not on site at their senior center and they referred the researchers to contact the activity directors at several of the sites. Names and contact information of senior centers were accumulated and then categorized based on the county location of the center. According to the Division of Aging and Adults with Physical Disabilities, there are 24 senior centers in New Castle County (primarily urban and suburban areas), 9 in Kent County (combination of urban and suburban) 13 in Sussex County (rural area) for a total of 46 senior centers (Delaware Division of Services of Aging and Adults with Physical Disabilities, 2020). Twenty-three sites were randomly selected from the 46 total senior centers with distributions representing the number of sites per county. E-Mails and phone contacts were made to these 23 sites with 15 sites responding. All procedures were approved by the University of Delaware Human Subjects Institutional Review Board.

A series of structured and semi-structured interviews were conducted with 15 senior center administrators. This format allowed participants to both answer the question and further elaborate on their response if needed. The researchers followed an interview guide that listed the questions in the order to ask participants. Examples of the questions included: How has your role changed as a program/activity director since COVID-19?, Do you work remotely? When did your center re-open and how? If it remains closed, When do you think it will open? Where did you go for guidance in re- opening? What pandemic-related challenges have you faced as a program/ activity director? What have you done to adapt to COVID in your professional setting? What type of innovative programming have you done with COVID-

19? and What do you think are the barriers to members returning to the center? The researchers did ask specifically about attendance and meals with the following questions: How many people are attending the center pre-covid versus now? With respect to meals, did your center serve meals pre-COVID? How have you adapted in light of COVID to have meals?

The interviews were completed between October 2020 and December 2020. Participants were either at their home or onsite at their senior center with the researchers at their home offices reconducting interviews. All interviews were done virtually with participants, recorded via Zoom, and then transcribed. Three researchers conducted independent thematic analysis of the interviews specifically looking at each question and then categories were collapsed. After completion, themes were quality checked for accuracy by the lead author. After receiving transcribed interviews in Word documents, the PI coded each interview by hand, guided by inductive coding methods by Corbin and Strauss (1990). Each interview was fully reviewed multiple times; keywords were attached to statements according to Miles and Huberman (1994) processes. Next, an initial code list was created, which entailed examining and organizing keywords related to one another. Coding proceeded until saturation was reached (Miles & Huberman, 1994). The codes list was developed for each question and a code book was created. After the initial code list was finalized by the PI, two graduate assistants (GAs) were asked to evaluate the codes from the transcribed interviews, by using the check-coding method with the list of codes, their categories, and their definitions (Miles & Huberman, 1994, p. 64). This was done to reduce PI bias in reviewing and analyzing the interviews while obtaining consistent and reliable analysis of themes from multiple people. Based on frequently noted patterns among codes, the PI and GAs were able to propose overarching themes to represent the clustered codes. The themes were developed based on the analysis of each of the semi-structured interview questions. For closed ended questions, tallies of the responses were completed for each closed question, and then frequencies were reported.

## Results

### *COVID-19 guidelines and impact on senior center*

There were nine sites in New Castle County, four in Kent County, and two in Sussex County, Delaware. Of the sites that were contacted, 13 were open and two remained closed as of December 10, 2020. Most senior center locations (12/15) re-opened with reduced capacity in August 2020 with one reopening in September 2020 and 2 remained closed. The senior center administrators reported utilizing many different resources when seeking guidance in re-opening their center and many cited more than one resource. The most cited resources were those disseminated by the state of Delaware (18) with

the following specific entities mentioned in the interviews: the Governor's Office (7), Department of Health and Social Services (4), Department of Public Health (3), Division of Aging and Adults with Physical Disabilities (3), and DART (Delaware Authority for Regional Transit)(1). Several centers (6) turned to other senior centers in the state of Delaware for guidance. Four centers stated they used the Centers for Disease Control (CDC) for guidelines. Other resources mentioned included the State of Pennsylvania Department of Aging, Occupational Safety and Health Administration (OSHA), National Aging Resources such as the National Council on Aging and National Senior Center website, the news, and restaurant opening criteria (see Table 1).

To adapt their center to requirements as per the state of Delaware consider-ing COVID-19, the center administrators reported implementation of COVID-19 safety protocols (27) including sanitizing and cleaning purchases (12), conducting COVID screenings (9), PPE (including masks (4)), signage (1), creating a policy and procedure document (1). Additionally, all centers that were open reported implementing physical distancing measures either in the centers or on buses and seven sites reported decreasing capacity. As reported by the senior center administrators, the center vans reduced their capacity to transport from 15 to 3 individuals per day. Other ways that centers adapted to COVID-19 guidelines included the elimination of card games, requiring pre-registration for their activities, and initiating carpools for those who did not have transportation to the center (see Table 1). One example quote retaining to adaptation was "In order to adapt to COVID-19, we decreased capacity such as fitness center limited to 8 people and pool to 10 people, preregistration ahead of time and also needed to do contact tracing, all social activities have been eliminated included card games, and fitness classes . . . art classes are on, and computer lab is open."

Senior center attendance was reduced overall as they reported the new attendance to be anywhere from 6% to 66% of the pre-COVID-19 attendance. Perceived barriers to members returning to the center included fear, health concerns/not comfortable (13), transportation issues (6), limited activities/ classes at the center (5), and family members fear (4). The following is a reflective quote from one of the senior center directors: "The barriers for members returning to the center are Family's concern, members are older with underlying health issues – fear factor, and have had so little oversight, they have not gotten guidance that is needed – members want the right guidance on what to do"

## Challenges

The leadership staff reported that their roles at the senior center changed in a variety of ways. Facilitating Zoom meetings (6), being responsible for devel-oping and implementing COVID protocols (5), being directly involved with

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

**Table 1.** COVID-19 guidelines and impact on senior center.

| Question | Responses | Example quotes |
|---|---|---|
| When did your center reopen and how? If it remains closed, when do you think it will open? | Open (13)<br>Closed (2)<br>August (12)<br>September (1)<br>N/A | |
| Where did you go for guidance in re-opening? | Delaware State Government (18)<br>Other senior centers (6)<br>CDC (4)<br>National Aging Resources (3)<br>Restaurant criteria (2)<br>Delaware Alliance for nonprofit agencies (1)<br>OSHA (1)<br>State of Pennsylvania (1)<br>News (1) | "The DHSS website was very helpful, we also talked with Newark Senior Center – very helpful with a codebook, and we had to formulate their plan to open."<br>"We met with a group of 5 other senior centers on Zoom every two weeks." |
| What have you done to adapt to COVID in your professional setting? | COVID Protocols (27)<br>Physical distancing measures (13)<br>Decreased capacity/ limiting hours (7)<br>Preregistration (2)<br>Elimination of card games (1)<br>Initiated carpools (1)<br>Zoom communication (1) | "Temperature checks, driver temp checks, we can only have 4 people on bus, therefore multiple runs on bus now, spacing in each room, exercise room taped off, disposable materials for eating, and sanitizing stations" |
| Do members have the option to continue their membership remotely? | Yes (13)<br>No (2) | |
| How many people are attending the center pre-COVID-19 versus now? | Percentage currently attending<br>66%<br>55%<br>50%<br>41%<br>33%<br>29%<br>22%<br>18%<br>14%<br>6% | " . . . Pre COVID-19 our max occupancy was 50 and now it is 15." |
| What do you think are the barriers to members returning to the center? | Fear, health concerns/not comfortable (13)<br>Transportation (6)<br>Limited activities in center (5)<br>Family members fear (4) | " . . . Not doing well health-wise; a few passed away unrelated to COVID, no access to get to the center, and not comfortable." |

activities (4), being involved with the finances of the centers (4), and contacting members via phone (3) were new roles the center leadership staff reported acquiring. This was evident by one example quote: "My role has been stressful, worrying about protocol and finances. Currently running on reserve funds.

**Table 2.** COVID-19 impact on senior center administrators.

| | | |
|---|---|---|
| How has your role changed as an activity director since COVID-19? | Using Zoom (6)<br>COVID protocols (5)<br>Finances (4)<br>Classes/Activities (4)<br>Not changed much (3)<br>Contacting members (3)<br>Stressful (2)<br>Delivering food/baskets (1)<br>Staff assignments (1) | "It is extremely challenging to keep members involved . . . Communication is hard."<br><br>"Taking temperatures of everyone, asking screening questions, closing early to clean and sanitize, setting up rooms and layout for social distancing." |
| Do you work remotely? | No (8)<br>Yes (7) | "We worked remotely during the shutdown but came in twice a week." |
| What pandemic-related challenges have you faced as an activity director? | Finances (7)<br>Technology (4)<br>Lack of members/ participation (4)<br>Staffing issues (4)<br>Lack of volunteers (3)<br>Communicating with members (3)<br>Capacity restrictions (3)<br>Implementation/ education about COVID protocols (2)<br>Classes/activities (1)<br>Physical isolation (1)<br>Transportation (1)<br>More tedious (1)<br>Not many challenges (1) | "Communication with members, being shut down for 5 months, and limiting the number of people who want to come back, we are only at 30% capacity."<br><br>"Educating clients on technology, safety of distancing, keeping masks on, and temperature checks, Additionally, WIFI issues – extending services were not available . . . " |

Need to get more members in. We are going to petition government to get programs to 60%." One individual reported that delivering food to members and coordinating new staff assignments became additional new roles. Only three senior center administrators reported that their roles did not change significantly (see Table 2).

The top pandemic related challenges that the leadership staff mentioned included finances (7), staffing issues including lack of volunteers (7), technology problems (4), lack of members or member participation (4), capacity restrictions (3), and implementation of COVID-19 protocols (2) (see Table 2). The centers reported that their activity offerings had changed in the following ways. There were 16 reports of alterations in classes and center hours. Many reported changes in the class format such as having remote classes, offering both remote and in-person classes, and using multiple cameras for the remote classes. Others mentioned having required registration for classes. There were limitations to the activities such as reducing BINGO to once per week, having only one activity at a time at the center, and shortening the operating hours at the center. There were many activity cancellations (11/13 centers mentioned) such as elimination of trips, card games, in person guest speakers, fitness center activities, grand opening parties, and medical trans-portation (see Table 3).

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

**Table 3.** Challenges and success.

| | | |
|---|---|---|
| What types of online classes/activities have you incorporated at your facility? | Exercise (9)<br>Bingo (8)<br>Health and wellness (6)<br>None (3)<br>Art classes (3)<br>Bible Study (2)<br>Ted talks/You tube site (2)<br>Book club (1)<br>Zoom card games (1)<br>Support groups (1)<br>Social Hour (1) | "We did obtain a grant for 25 iPads and instructors can be paid from these grants, and we would like to have a zoom instructor . . . "<br><br>"Exercise, Bible study and rosary group. Bingo, and Nutrition education – a city fair dietician holds sessions with a Facebook page." |
| In light of physical distancing and remote work, what tools or practices have you implemented to continue activities to run smoothly and safely?/ How have your activity plans changed in response to COVID-19? | Alteration in classes and center hours (16)<br>COVID Protocols (12)<br>Activity/class cancellations (11)<br>iPad grant (3)<br>Mailed newsletters (1)<br>Reduced fees (1)<br>Constantly changing (1) | "We are at 30% of max capacity and have measured each room and put X's on the floor where people could stand. The restrooms are closed at every other stall, and we purchased 2 foggers: 1 for vans/ buses and a handheld device . . . ." |
| What type of innovative activities have you done with COVID-19? | Outdoor activities (6)<br>Walking club (outdoor)<br>Community trunk or treat<br>Outdoor craft show<br>Cornhole<br>Parking lot events (2)<br>Physically distanced activities in center (6)<br>Movie showings (2)<br>Food delivery (4)<br>Deliveries to members (4)<br>Toiletry bags delivery<br>Created activity bags<br>Pet food delivery<br>Holiday Delivery<br>Drive by /drive through activities (3)<br>Food services (3)<br>Grab and go lunches (1)<br>Dining room changed to food pantry (1)<br>Grocery shopping for seniors (1)<br>None (2_)<br>Remote classes (2) (i.e., Zoom bingo 1) | "Our dining room was changed into a food pantry and grants for purchasing and distribution were acquired. In addition, currently tables in the basement and people pack bags and drive to seniors at their homes. Bus drivers take some bags and 80 bags to seniors." |

## Successes

However, centers did show the ability to adapt and pivot while faced to comply with COVID-19 guidelines with 12/15 sites offering online activities. The most common types of online opportunities were exercise classes (9), BINGO (8), health and wellness-related classes (6), and art classes (3). Many of the centers also reported innovations such as food (4) and other special deliveries such as toiletry bags, activity bags, pet food (4) to members. In addition, several sites (6) described hosting opportunities for outdoor walking clubs, community trunk or treat, outdoor craft fair, holding exercise classes outside, and cornhole games. Other unique offerings included grab and go lunches, doing grocery shopping for older adults and turning the dining hall into a food pantry (see

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

Table 3). One administrator had the following quote discussing innovative programming: "For innovative programming, our Dining room was changed into a food pantry, Virtual BINGO on Facebook live, Line dancing via ZOOM, ZUMBA GOD via zoom, and Worked with freedom center to get 20 iPads, 16 distributed but need to show member s how to use technology."

Meals were also impacted at these senior centers. Prior to COVID-19, nine of fifteen served congregate meals to their members. To adjust to recommended guidelines, sites reported serving meals but using paper products and implementing non-cash sales. In addition, eight sites reported their Meals on Wheels or home delivered meals increased. Five sites reported providing grab and go lunches and two reported Thanksgiving or soup sales. In one center, the bus driver was repurposed and was delivering six meals per day to at-risk individuals. Only one site reported not doing any type of food service. (see Table 4).

## Discussion

Upon review of the interview data, there were some consistencies amongst the senior center administrators in how they operated and provided activities during COVID-19. Leadership at these senior centers turned to a variety of resources, not necessarily all specific for guidance related to senior centers to prepare their center for re-opening during COVID-19. Most of these centers relied upon general resources set forth by the State of Delaware (i.e., Department of Health and Social Services, Division of Public Health) for guidance in re-opening. These resources were general COVID-19 resources for all businesses or education sites. Some administrators turned to the National Council on Aging (NCOA) resources for recommendations for sites serving older adults. Although there seemed to be quite a few resources

**Table 4.** COVID-19 impact on meals in senior centers.

| | | |
|---|---|---|
| With respect to meals, did your center serve meals pre-COVID? | Self-serve congregate meal (7)<br>Large birthday meals (2)<br>Hot meals served: self-serve and now meals taken to each member in center (2) | "We served lots of meals pre covid. Now, we have grab and go lunches twice per week and are serving about 20 meals per time . . . We may switch to curbside pick-up." |
| How have you adapted to COVID-19 to serve meals? | Meals on wheels/city fare increased (8)<br>Congregate meals still being served (7)<br>Served grab and go lunches (5)<br>Paper vouchers instead of cash and disposable (4)<br>Thanksgiving and soup sales (2)<br>Serving snacks/refreshments (2)<br>Bus driver delivering 6 meals per day (1)<br>Not serving meals (1) | " . . . Now we have kitchen staff take a cart to each member (i.e. table service) and are using plastic wear." |

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

pertaining to guidance in operating community-related sites, few were specific to senior centers which may encompass transportation, restaurant, commu-nity center, and fitness center guidelines. Several of the center directors reported that they created their own alliances with other senior centers and met regularly to assist each other in creating their own policy manuals and developing safety procedures. These directors formed their own alliance as they expressed the need for support and that the general guidelines were difficult to apply and implement in senior centers. It may be that this pan-demic forced the center administrators to band together and work toward a common goal, specific to trying to successfully operate a senior center that provided much needed services to the older adult population.

Early in the pandemic, NCOA along with the National Institute for Senior Centers collected information from several states to put together guidelines for re-opening (NCOA, 2020). However, the updated information according to their website shows that only a few states provided their guidelines. Therefore, it may be that states or national agencies may need to consider creating panels/ advisory boards to provide a more structured framework to assist senior centers in developing policies and guidelines to follow in times of future pandemics, epidemics, or other public health emergencies. Additionally, it is worth mentioning that senior centers are not mandated by one entity to comply with any federal or state regulations (Administration for Community Living, 2022). During 1973, an amendment to the federal Older Americans Act (OAA) required states to separate their aging planning services and to designate Area Agencies on Aging (AAAs) to implement programs and services for older adults in the surrounding communities (Administration for Community Living, 2022). However, this pandemic has left many senior center administrators in the state of Delaware looking for official guidance during these uncertain times.

In many instances, administrators modified their spaces to conform to the restricted capacity and physical distancing. Examples included reducing the capacity of rooms, opening up larger spaces (i.e., dining rooms) for general programs, and using outside spaces for center activities. For example, in several sites exercise classes were held outside (weather permitting) instead of indoor, indoor classes were cut in terms of size, and many activities were canceled. The reported similarities of ways to operate and opportunities across sites may be the start of a roadmap or guidelines for centers to operate in times of emergency situations. It may be that a potential roadmap or guide could provide realistic ideas that could be easily implemented in senior centers.

These center directors and administrators faced several challenges during COVID-19. Some of these challenges (i.e., lack of guidance for opening centers, financial hardships, lack of volunteers/employees) hampered the ability for centers to easily provide services to these older adults. Some of these agencies and community centers may need to create new partnerships to

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

decrease the financial burdens, increase the pool of volunteers and employees, and ultimately provide the services to this older adult population during times of crises.

Once these community senior centers re-opened, the directors of these sites in Delaware reported that their members were hesitant in returning to these sites for services. Often, those members who remained away were often the ones who needed the services and social engagement that these sites provided. Some older adults did not return due to fear of contracting COVID-19 or health concerns associated with COVID-19. Additionally, family members of these older adults often persuaded the members to not attend the center as they were fearful for their older adult relative's safety. The reduction class offerings, limited capacity for classes, and need to pre-register for activities were deterrents for many members to attend to the center. Another barrier to returning to the center was transportation or the inability for members to obtain transportation to the senior center. Transportation is a common barrier to attendance in community-based programs in the older adult population (Fields, Adorno, Magruder, Parekh, & Felderhoff, 2016; Papageorgiou, Marquis, & Dare, 2016a). In many cases, public transportation was limited, and the regular use of senior center vans was dramatically reduced due to physical distancing measures. These results are similar to previous literature suggesting a link between risk of social isolation and lack of transportation in older adults (Lamanna, Klinger, Liu, & Mirza, 2020). Individuals who relied upon public- or center-provided transportation were those who most needed the services provided by the center as these individuals were often living alone, were isolated, and at risk for food insecurity.

The center administrators who participated in this study indicated they needed to continue to connect with their members to provide much-needed services (i.e., meals) even if the center was closed. Some centers pivoted and determined that food distribution was a key to the health of many of these older adults who attended senior centers. As Niles et al. (2020) reported COVID-19 increased the risk of food insecurity while simultaneously decreased access to food for older Americans. Many of the center administrative staff reported that they pivoted to provide some type of food distribution to the older adults served by their center. Gallo, Wilber, and Meeks (2021) suggested that area agencies on aging pivot and determine ways to reach the older adult population during COVID-19. Examples of this pivot included having grab and go lunches or quart sales of prepared food at a nominal fee for members of the center. Across multiple sites, there was an increased request for home-delivered meals in many of the centers that supplied those services. Some sites obtained grants to purchase food and then offer these purchased food quantities to be available for older adults to package themselves. One center initially turned their dining hall and later their front porch into a food pantry and individuals were encouraged to select food at that pantry. In

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

addition, several centers repurposed their van drivers and had those drivers deliver food to the individuals who they serviced on the transportation route. As Wilson, Scala-Foley, Kunkel, and Brewster (2020) suggested, there needed to be a rapid shift in both resources and plans to provide the basic food needs to these older adults to reduce food insecurity. Some of these shifts may include serving meals seven days per week and looking to pool volunteers to assist in the delivery of meals outside of the traditional weekday delivery.

The COVID-19 pandemic forced senior centers to re-think some of their current activities. Traditionally, many of these centers offered activities such as BINGO or cards. Considering physical distancing measures, many of these games and activities had to be curtailed. However, providing opportunities for social engagement while offering cognitive and physical stimulation to older adults is important. During COVID-19, perceived isolation and loneliness were reported in a majority (56.4%) of older adults with the potential to be associated with further physical isolation and COVID-19-related anxiety (Gaeta & Brydges, 2020). Some centers did provide some unique opportunities on site to ensure that social engagement could be maintained while adhering to COVID-19 protocols for physical distancing. Several sites held parking lot events in the early fall months such as corn hole games, community trunk or treat, line dancing in the parking lot, craft fair, or just a parking lot social gathering. Others provided activities via zoom or Facebook live with the most popular being exercise classes, BINGO, art classes, and health and wellness classes.

The use of online platforms may also be an effective way to decrease isolation among older adults during times when it is difficult for older adults to gather in person. Positive, high-quality social interactions, social reinforcement, and social connectedness that occur online are all negatively associated with symptoms of depression and anxiety (Seabrook, Kern, & Rickard, 2016b). Individuals may use online channels to remain connected to communities through streaming live services, as well as to search out and make new connections. Technology may also be used to administer physical and mental health initiatives offered by senior centers, resulting in decreased health inequalities among those hard-to-reach populations. As Hajek and König (2021) suggested, there should be further examination of the use of online social media or video calling apps to allow older adults to keep in touch. This pandemic revealed deficits in technology use in the older adults and exacer-bated the digital divide in this population of older adults (Hajek & König, 2021; Hoffman, Webster, & Bynum, 2020). Furthermore, the pandemic also brought to light the need to maximize the use of technology to both connect individuals to services, but also to provide some social interactions (Hoffman et al., 2020).

In this study, a parallel theme in the interviews highlighted the difficulty of online classes that may have been due to the immediate shutdown resulting in

insufficient preparation to move to online formats. Because of this, many participants may not have been familiar, and few received training on the use of online platforms. In addition, there is a known problem of internet connectivity and access to technology in many of the neighborhoods and areas where some of the older adults who were members of the senior centers reside. Although the senior centers worked tirelessly with the time and resources available, a policy-level plan for disaster-type situations is needed. For future pandemics, it is imperative to have a thorough action plan that has been evaluated to offer successful alterations of services, which may include some type of technology as its core.

## Conclusion

### *Strengths*

The aim of this study was to identify resources, restrictions, challenges, and successes Delaware senior center administrators faced during the COVID-19 pandemic. The mix of structured and semi-structured interview methods helped to gain a greater understanding of senior centers administration attitudes and perspectives, which are difficult to evoke through a cross-sectional survey. This study utilized several centers in varied geographic locations (rural, urban, and suburban areas) in the state of Delaware. This mix of sites across the state allowed the researchers to see how centers serving individuals with multiple income levels with diverse ethnic backgrounds. To our knowledge, this is the first study that aimed to understand the effects of COVID-19 on senior centers and specifically senior center administration. Therefore, this study filled an important gap in the literature by addressing aspects to consider when effectively planning for emergency type situations in vulnerable popula-tions including older adults.

## Limitations

There are several limitations to this study. One limitation is that was a snapshot as the data was collected from one small state, Delaware over a two-month period. It may be beneficial to consider a longitudinal study and examine changes in several center practices and the impact these changes have on its members. Future studies should look at the impact of COVID-19 and community centers across multiple diverse states. Another limitation is the presented data that only provide a two-month snapshot of the pandemic as interviews were conducted between October and December 2020. Senior center administrators may have forgotten or only reported certain challenges based on the current situation at their center therefore resulting in not capturing some activity and site-related changes. Additionally, there was a

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

lack of previous literature on the topic of community center response to COVID-19 making it difficult to relate our research findings to published literature.

## Policy implications

Pandemics such as COVID-19 impacted one important community service for older adults, senior centers. Future research should investigate the most effective ways of reaching community-dwelling older adults and modifying community engagement centers in the scenario of natural disasters. Although the effects of COVID-19 may diminish, future disasters/closures of senior centers may occur. This study highlighted key factors for future efforts to address the disproportionate effect of epidemics on older adults. Senior center directors and policymakers can use these findings to evaluate their service and plan. Researchers found that generally senior center directors did not have a central resource to go for guidance when the pandemic erupted. Therefore, having a framework in place will help ensure community centers, agencies, and other similar facilities have the proper resources available to quickly adapt and modify services while still meeting the needs of the population. Using state level committees or advisory boards, it will be important to build upon these lessons and create frameworks or guiding policies for senior centers. Subsequently, these community centers servicing older adults can quickly turn to these guidelines to modify their operations and classes to continue to provide services for older adult populations most at need/risk.

Little research has been conducted to investigate the restrictions, challenges, and outcomes of COVID −19 on senior centers according to the adminis-trators,' perspective. The aims of this study were to identify restrictions and the subsequent changes senior center administrators in the state of Delaware made to their facilities and activity offerings to adapt to COVID-19 guidelines. This also results in further investigation of challenges and successes that senior center administrators faced as a result of COVID-19. These senior center administrators reported having access to a variety of general guidelines to operate under COVID-19 restrictions but found the difficult to apply to their site. These administrators discussed the challenges they faced including staff and volunteer shortages often impacted the running of the center. However, many also stated that they adapted to the new restricted environment and discovered creative ways to reach this vulnerable population of older adults. Future research may investigate the development and application of policies specific to senior centers or community sites serving older adults during times of emergency health-related situations.

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## References

Aday, R. H., Wallace, B., & Krabill, J. J. (2019). Linkages between the senior center as a public place and successful aging. *Activities, Adaptation & Aging*, 43(3), 211–231. doi:10.1080/ 01924788.2018.1507584

Administration for Community Living. (2022). Older Americans act. Retrieved from https:// acl.gov/about-acl/authorizing-statutes/older-americans-act

CDC. (2019). *Adults need more physical activity*. https://www.cdc.gov/physicalactivity/inactiv ity-among-adults-50plus/index.html

Buitenweg, J. I., Murre, J. M., & Ridderinkhof, K. R. (2012). Brain training in progress: A review of trainability in healthy seniors. *Frontiers in Human Neuroscience*, 6, 183. doi:10.3389/ fnhum.2012.00183

Burris, M., Kihlstrom, L., Serrano, K., Prendergast, K., Dobbins, J., McGrath, E., . . . Himmelgreen, D. (2021). Food insecurityloneliness, and social support among older adults. *Journal of Hunger & Environmental Nutrition*, 16(1), 29–44. doi:10.1080/19320248.2019. 1595253

Byun, J.-E., & Kang, E.-B. (2016). The effects of senior brain health exercise program on basic physical fitness, cognitive function and BDNF of elderly women - a feasibility study. *Journal of Exercise Nutrition & Biochemistry*, 20(2), 8–18. doi:10.20463/jenb.2016.06.20.2.2

Census. (2021). *Older people proj ected to outnumber children for first time in Older people proj ected to outnumber children for first time in*https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html

Christensen, K., Doblhammer, G., Rau, R., & Vaupel, J. W. (2009). Ageing populations: The challenges ahead. *Lancet (London, England)*, 374(9696), 1196–1208. doi:10.1016/S0140-6736 (09)61460-4

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1), 3–21. doi:10.1007/BF00988593

Delaware Division of Services of Aging and Adults with Physical Disabilities. (2020). *Guide toServices for older delawareans and persons with disabilities*. https://www.dhss.delaware. gov/dhss/dsaapd/files/aging_and_disabilities_guide.pdf

de Mendonça Lima, C. A., & Ivbijaro, G. (2013). Mental health and wellbeing of older people: Opportunities and challenges. *Mental Health in Family Medicine*, 10(3), 125–127. Dogra,

S., Dunstan, D. W., Sugiyama, T., Stathi, A., Gardiner, P., & Owen, N. (2022). Active aging and public health: Evidence, implications, and opportunities. *Annual Review of Public Health*, 43(1), 439–459.

Fields, N. L., Adorno, G., Magruder, K., Parekh, R., & Felderhoff, B. J. (2016). Age-friendly cities: The role of churches. *Journal of Religion, Spirituality & Aging*, 28(3), 264–278. doi:10. 1080/15528030.2016.1155526

Fulbright, S. (2009). *Rates of depression and participation in senior center activities in community -dwelling older persons* (Order No. 3374223). Available from ProQuest Dissertations & Theses A&I: Health & Medicine; ProQuest Dissertations & Theses A&I: Social Sciences. (304847640). Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.pro quest.com/dissertations-theses/rates-depression-participation-senior-center/docview/ 304847640/se-2?accountid=10457

Gaeta, L., & Brydges, C. R. (2020). Coronavirus-related anxiety, social isolation, and loneliness in older adults in northern california during the stay-at-home order. *Journal of Aging & Social Policy*, 1–12. doi:10.1080/08959420.2020.1824541

Gallo, H., Wilber, K., & Meeks, S. (2021). Transforming aging services: Area agencies on aging and the COVID-19 response. *The Gerontologist*, 61(2), 151–158. doi:10.1093/geront/ gnaa213

Hajek, A., & König, -H.-H. (2021). Social isolation and loneliness of older adults in Times of the COVID-19 pandemic: can use of online social media sites and video chats assist in mitigating social isolation and loneliness? *Gerontology*, 67(1), 121–124. doi:10.1159/000512793

Health People 2020. Food insecurity. Retrieved fromhttps://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/food-insecurity#1

Hickerson, B., Moore, A., Oakleaf, L., Edwards, M., James, P., Swanson, J., & Henderson, K. (2008). The role of a senior center in promoting physical activity for older adults. *Journal of Park and Recreation Administration*, 26(1), 22–39.

Hoffman, G., Webster, N., & Bynum, J. (2020). A framework for aging friendly services and supports in the age of COVID-19. *Journal of Aging and Social Policy*, 32(4–5), 450–459. doi:10.1080/08959420.2020.1771239

Hugo, J., & Ganguli, M. (2014). Dementia and cognitive impairment: Epidemiology, diagnosis, and treatment. *Clinics in Geriatric Medicine*, 30(3), 421–442. doi:10.1016/j.cger.2014.04.001

Lamanna, M., Klinger, C. A., Liu, A., & Mirza, R. M. (2020). The association between public transportation and social isolation in older adults: A scoping review of the literature. *Canadian Journal on aging/La Revue Canadienne du Vieillissement*, 39(3), 393–405. doi:10.1017/S0714980819000345

Marquet, O., Maciejewska, M., Delclòs-Alió, X., Vich, G., Schipperijn, J., & Miralles-Guasch, C. (2020). Physical activity benefits of attending a senior center depend largely on age and GENDER: A study using GPS and accelerometry data. *BMC Geriatrics*, 20(1). doi:10.1186/s12877-020-01527-6

Miles, M. B., & Huberman, A. A. (1994). *Qualitative data analysis: AN expanded sourcebook*. Los Angeles: Sage Publishing.

Moreland, A., Herlihy, C., Tynan, M. A., Sunshine, G., McCord, R. F., Hilton, C., . . . Popoola, A. (2020). Timing of state and territorial COVID-19 stay-at-home orders and changes in population movement. *Morbidity Mortality Weekly Report*, 69(35), 1198–1203. doi:10.15585/mmwr.mm6935a2externalicon

NCOA. (2020). *Senior Centers Reach the Hard to Reach*. Retrieved fromhttps://www.ncoa.org/article/senior-centers-reach-the-hard-to-reach

NCOA. (2021). *Get the Facts on SNAP and Senior Hunger*. Retrieved fromhttps://www.ncoa.org/article/get-the-facts-on-snap-and-senior-hunger

Niles, M. T., Bertmann, F., Belarmino, E. H., Wentworth, T., Biehl, E., & Neff, R. (2020). The early food insecurity impacts of COVID-19. *Nutrients*, 12(7), 2096. doi:10.3390/nu12072096

Nord, M., Andrews, M., & Carlson, S. (2005) Household food security in the United States, 2005 Washington, DC: USDA Economic Research Service; 2005. Report No.: ERR-29. 2005: https://www.ers.usda.gov/webdocs/publications/45655/29206_err29_002.pdf?v=41334 [PDF–880KB]

Papageorgiou, N., Marquis, R., & Dare, J. (2016a). Identifying the enablers and barriers to community participation amongst older adults. *British Journal of Occupational Therapy*, 79 (12), 742–751. doi:10.1177/0308022616656195

Population Reference Bureau. (2019). *Fact sheet:aging in the United States*. Retrieved from: https://www.prb.org/aging-unitedstates-fact-sheet/

Accepted Manuscript
Version of record at: https://doi.org/10.1080/01924788.2022.2160687

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016b). Social networking sites, depression, and anxiety: A systematic review. *JMIR Mental Health*, 3(4), e50. doi:10.2196/mental.5842 Siegler, E. L., Lama, S. D., Knight, M. G., Laureano, E., & Reid, M. C. (2015a). Community-Based Supports and Services for Older Adults: A Primer for Clinicians. *Journal of Geriatrics*, 2015, 678625. doi:10.1155/2015/678625

Vahia, I. V., Jeste, D. V., & Reynolds, C. F. (2020). Older adults and the mental health effects of COVID-19. *JAMA*, 324(22), 2253–2254. doi:10.1001/jama.2020.21753

Van Cauwenberg, J., Nathan, A., Barnett, A., Barnett, D. W., & Cerin, E. (2018a). Relationships between neighbourhood physical environmental attributes and older adults' leisure-time physical activity: A systematic review and meta-analysis. *Sports Medicine*, 48(7), 1635–1660. doi:10.1007/s40279-018-0917-1

WHO. (2017). *Mental Health of Older Adults*. Retrieved fromhttps://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults

Wilson, T. L., Scala-Foley, M., Kunkel, S. R., & Brewster, A. L. (2020). Fast-track Innovation: Area Agencies on Aging Respond to the COVID-19 Pandemic. *Journal of Aging & Social Policy*, 32(4–5), 432–438. doi:10.1080/08959420.2020.1774313