



Strategies for Safer Senior Living Communities

Overview

This report is to be read in conjunction with other AIA reports, including [Reopening America: Strategies for Safer Offices](#) and [AIA's Re-Occupancy Assessment Tool](#), both of which expand strategies for reducing risk that apply to senior living communities. For more information on public health hazards, review [AIA's COVID-19 emerging research and public health data](#), dated May 2020.

Returning to a high quality of life in America's senior living communities

More than a million Americans reside in nearly **30,000** assisted living communities, which employ nearly **453,000** administrators, caretakers, housekeepers, nurses, and other professionals. Senior living communities provide comfort, community, and shelter to the nation's most vulnerable population whose collective risk has been amplified by COVID-19. The Centers for Disease Control and Prevention (CDC) reports that eight out of 10 virus-related deaths since March have been adults 65 years of age or older, and more than half of all senior living community residents are 85 or older.

Immunodeficiencies among the elderly and the high number of hours of exposure for health care workers elevate their risk. Additionally, unlike other businesses, senior living communities had no other option than continuing operations and caring for the nation's most vulnerable population during the pandemic.

As senior living communities return to a new normal, ensuring residents remain healthy is a priority that must be observed in the most stringent way, but this could prove challenging for residents eager to socialize. While senior living communities are designed to meet ADA compliance and to address the unique needs of its residents—including reduced visual and auditory acuity, sleep challenges, incontinence, chronic conditions such as heart disease, neurological conditions, and temperature sensitivities due to poor circulation, hypothyroidism, and other conditions—adaptations for senior living communities are needed to ensure the comfort and safety of residents during the pandemic.

This is especially necessary as public health experts anticipate a resurgence of COVID-19 in this calendar year, and the risk profile of senior living communities **will continue to be** acute compared to other types of indoor spaces. Thus, the challenges of COVID-19 are amplified for senior living communities—and even more so for facilities in rural locations with limited support services and/or those that solely rely on Medicare funding.

The American Institute of Architects (AIA) established a team of architects, public health experts, engineers, and community managers to assess buildings and develop strategies for reducing the risk of COVID-19. The following report summarizes the team’s findings specifically related to senior living communities and provides insights and guidance to administrators, health care professionals, and state officials. Its authors recognize that communities have adopted best practices since March 2020 in both wholesale and tailored ways to fit exigent and specific circumstances. The aim of this report is to help senior living communities pivot toward a more sustainable set of strategies that may reduce the risk of infection for residents and staff while re-creating the fuller and comfortable life that America’s seniors deserve.

Background

Senior living communities today aim to provide residents with much more than living quarters. They provide residents with a strong sense of community through social activities and experiences, and they enrich health and well-being through exercise, diet, and learning programs. Much of the lifestyle is supported through the design of the spaces, which are intended to bring people together. Communities can include multiple dining venues, from casual to more formal, cocktail bars, gyms, swimming pools, libraries, art studios, and wellness centers.

During the pandemic, senior living communities are challenged to balance the community and lifestyle needs of their residents, who have an elevated risk profile. Older Americans, age 65 and older, represent the greatest statistical risk of contracting and **and dying** from COVID-19. Peak deaths in the US this spring occurred during the week **ending April 18**, with Americans age 65 or older accounting for 81% of all deaths. Pre-existing conditions can make older citizens immunocompromised, immunosuppressed, or generally more likely to suffer from even minor illnesses than younger cohorts. Physical activity levels among seniors are often lower than is medically advisable as a result of accumulated health issues, poor lifelong habits, or decreased mobility, leaving them at risk for cardiovascular disease, osteoporosis, and a greater sense of isolation—even before their communities banned communal activities in the wake of COVID-19. Memory-care residents also present a higher risk within an already high-risk group due to their struggle to comprehend, remember, and act on physical distancing guidelines or the use of personal protective equipment (PPE).

Achieving a balance of safety and a return to a more normal life will require adapting existing senior living communities while also redefining what “safe” means for the design and construction of future communities. While a number of factors, such as baby boomer life expectancy and affordability (after the 2008 and 2020 recessions), will transform senior living community budgets and amenities, **boomers and older generations constitute nearly 30% of the US population**. As a result, senior living communities will face greater burdens to grow and expand more than ever before.

Considerations for senior living communities

Many seniors try to “age in place” at home. For those who move to senior living communities, there are many types of care and support systems available, including active adult, independent living, congregate homes, assisted living, memory support, rehabilitation/short-term care, skilled nursing/long-term care, hospice care, and intergenerational care. Long-term care communities sometimes also include housing for the disabled, regardless of age, together with seniors. Many communities offer several or all of these levels of care on one campus. Some of these levels of care are licensed by each individual state and are subject to more stringent regulations. Licensed care types, like skilled nursing, are guided by federal requirements from the Centers for Medicare & Medicaid Services; active adult and independent living are not regulated by state authorities. Each level of care represents, generally, different levels of ability and flexibility to apply COVID-19 mitigation strategies.

Administrators should consider the following when planning to carry out new protocols, retrofitting buildings, adapting spaces for social distancing, or creating new circulation and wayfinding at senior living communities.

- Community staff working across multiple sites in either a rotation or on an ad-hoc basis could be at greater risk for contracting and spreading COVID-19. Consolidating operations or grading communities from least to most risky, based on their layouts, can help create criteria for reassigning workers.
- Thousands of senior living communities reported PPE shortages in mid-June, according to the [Washington Post](#) and other outlets. The demand for gloves, goggles, gowns, respirators, and shields has never been higher nationwide, and shortcuts or poor substitutes can not only endanger the most vulnerable, but create an infection cascade among those who tend to them. Consider how operations are (and are not) dependent upon the proper equipment.
- Seniors who have memory or cognitive limitations, and who depend on familiar signs, circulation patterns, spaces, or objects within care communities, will likely require special attention in order to comply with new ways of living and working.
- **Seniors are at increased risk for loneliness and social isolation because they are more likely to face factors such as living alone, the loss of family or friends, chronic illness, and hearing loss.** Seniors who are prone to depression, memory issues, or physical issues, either as a chronic matter or specific to geriatric issues such as limited mobility or injury, may deteriorate further in isolating conditions or with limited options for exercise.
- Great care should be taken with not only implementing new public health protocols, but also explaining them to residents and staff.
- Visitors are an important part of residents’ lives and well-being. Finding ways for residents to connect safely with prospective visitors, family, and friends, however provisional those ways might be now, may help them maintain vital emotional and social bonds.

General hazards for senior living communities

Step-by-step Risk Management Plan for Buildings

When considering strategies for making senior living communities safer, administrators can use a seven-step **Risk Management Plan for Buildings** to assess hazards and apply architectural and engineering strategies (controls) to reduce risk.

There are several general hazards that administrators need to consider when adapting senior living communities to be safer.

- The primary risk of transmission is currently considered to be **close personal contact**, which could occur among residents, staff, and visitors in gathering areas, such as dining rooms or common areas, and during group activities.
- Another risk is surface transmission, which includes touching shared surfaces that are contaminated, including door handles, books and magazines in the library, shared computers and printers, and equipment in the fitness center.
- **Aerosolized transmission of virus droplets** through HVAC systems could occur.
- **Fecal-oral transmission** of COVID-19 via shared restrooms could occur.
- Long periods of isolation among residents sheltering-in-place, in a restricted-access area, or deprived of something as small as having their hand held or the embrace of a grandchild can negatively impact mental health and, by extension, physical well-being.
- Reduced access to meaningful activities that provide social connection, personal fulfillment, and exercise can degrade one's physical, emotional, and mental well-being.



General strategies to reduce these risks include:

- Where possible, provide touchless access at common doors. Other common equipment and accessories, such as toilets, paper towel and soap dispensers, and sanitizing stations, can be made touchless.
- Evaluate heating, cooling, and air exchange and filtration systems, particularly those in common areas (versus individual systems in apartment/dwelling units). Review the [AIA Re-occupancy Assessment Tool](#) for more detail.
- Find ways for residents to connect with neighbors, visitors, family, and friends to help them maintain vital emotional and social bonds. Arrange virtual visits on laptops or smartphones. Incorporate testing protocols for prospective visitors and arrange small gatherings in outdoor areas like gazebos or where there are benches.
- Provide alternatives for meaningful activities that present risk. When the communal risk is low enough, seating can be arranged so small-group conversations can be heard through masks when physically distanced. Accommodations for the hearing impaired should be made.
- Temporarily postpone large group programs or those with high-touch equipment and provide alternative programming that may include small groups (two to three people) that do not include voice projection or labored breathing.
- Implement increased cleaning and maintenance protocols to reduce virus transmission.
 - » Building community staff should frequently disinfect all high-touch surfaces, such as switches and controls, hardware, furnishings, and hand and lean rails.
 - » Sanitizing stations can be included at the main entry to the community for visitors, at service entries for deliveries, and at entry points to large amenity spaces, such as the dining room, multi-purpose rooms, fitness room, physical therapy room, and salons.
 - » Provide areas, supplies, and assistance for disinfecting wheelchairs.






Programmatic hazards and tactics to mitigate risk

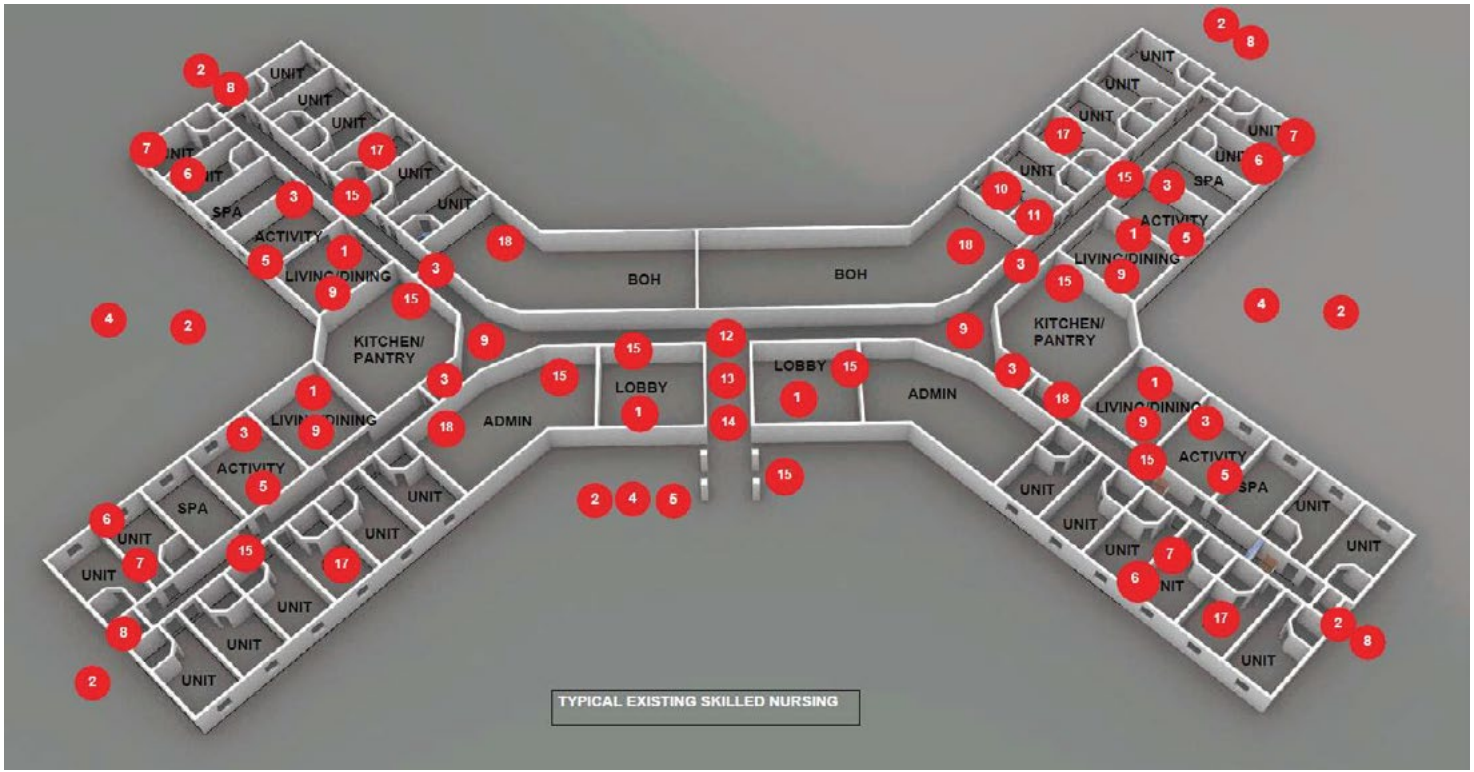
Housing designed for seniors is increasingly appealing due to the robust programs and amenities provided, including multiple dining options, fitness centers, business centers, game rooms, libraries, community kitchens, outdoor amenities, and more. In addition, these facilities may provide different levels of care and comfort to residents. Several tactics may be employed to reduce risk in these spaces, including clear signage about physical distancing, adopting no-exception PPE usage per CDC guidelines, rearranging or removing some of the furniture, imposing occupancy limitations for each room depending on how the space is being used, increasing air filtration and the fresh air of open windows, and stringent entry requirements for visitors and deliveries.

But, there are also tactics specific to different spaces that should be addressed, which are tied to the function of that space, foot traffic patterns, or daily cycles of usage.

SOLVING FOR ISOLATION

Areas of assembly				Family visitation			Pets	
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| <p>1.
Open assembly areas with restricted occupant loads.</p>  | <p>2.
Provide more exterior activities in limited groups.</p>  | <p>3.
Control access to areas to limited small groups assigned to each area.</p> | <p>4.
Limit areas of public visitation.</p> | <p>5.
Add handwashing stations.</p>  | <p>6.
Provide exterior entrance to some units to limit public access to all residents.</p>  | <p>7.
Provide in-room dining area for family visitation.</p> | <p>8.
Open up wing entrances to limit location of outside visitors.</p> | <p>9.
Increase building pets.</p>  |
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REDUCING INFECTIONS

Multiple occupancy units				Non residents			
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| <p>10.
Add in-room dividers in cleanable and antimicrobial finishes. Consider level transparency for daylighting.</p> | <p>11.
Replace shared finishes with antimicrobial finishes.</p> | <p>12.
Increase cleaning protocols, use antimicrobial continual cleaners.</p>  | <p>13.
Decrease staff working at multiple sites, buildings, and wings.</p> | <p>14.
Increase temperature checks with infrared scanners.</p>  | <p>15.
Provide handwashing stations—temporary, until permanent retrofits can be installed.</p>  | <p>16.
Increase cleaning protocols for high touch staff areas.</p> | <p>17.
Add decontamination/PPE changing and disposal locations near resident rooms and entrances for staff.</p>  | <p>18.
Partition off long wings into smaller households, with separate dining and activity areas.</p>  |
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Entryways, lobbies, circulation spaces, and restrooms

The following strategies can help mitigate risk in the most highly trafficked and arguably riskiest areas of a senior living community.

- Decrease quantity of staff working at multiple sites, buildings, and wings.
- Add hand hygiene stations at all entrances.
- Conduct temperature checks, using non-touch body temperature detection through Infrared Fever Screening System (IFSS) and symptom screening, for staff and visitors at outdoor campus entry or at other entrances separated from residents.
- Maintain a log of visitors, staff, and delivery people with their time of entry to support contact tracing.
- Allow visitors to remotely check in by phone/video without coming to front desk/reception. Place socially distanced markers on the floor at reception.
- Designate a separate entrance and holding area for deliveries.
- Provide signage and floor markings throughout the building to encourage physical separation of residents, staff, and visitors. Separate seating and other work surfaces a minimum of six feet or further, depending on the activity.
- Install transparent sneeze guards in the reception area. Provide accommodations for those who are hearing impaired, such as passive talk ports or intercoms.
- If possible, replace water fountains with touchless water dispensers.

For more information on public restrooms, see [Reopening America: Strategies for Safer Offices](#).

Dining and food service

Some senior living communities include multiple dining opportunities, including chef tables, open kitchens, casual or pub dining, bistros, and grab-and-go prepared foods. Some communities may also welcome food trucks in the forecourt or barbecue outdoors. Such congregate dining may provide the only social engagement a senior has in their day. Thus, creating a safe dining environment is critical. Staff in dining areas include chefs, sous chefs, a maître d' or host, and waitstaff.

During the pandemic, many communities have restricted meals to in-unit or in-room dining only. Food safety is already incredibly important for seniors, who possess a **far higher risk** of hospitalization and death because of foodborne illness than their younger cohorts. As their risk is heightened during a pandemic, precautions to protect residents must also be strengthened:

- Place groups of diners and staff into cohorts based on apartment location and use of adjacent spaces for temporary dining to reduce the number of people dining together while still providing social engagement.
- Eliminate cafeteria-style dining and remove buffets, salad bars, and self-serve beverage options.

- Provide full wait service in dining rooms or in-room meals.
- Ensure all tables and chairs are separated a minimum of six feet. Create multiple, smaller seating groups by combining tables to allow a minimum six-foot distancing.
- Reduce occupancy in dining rooms by staggering meal seatings.
- Institute a reservation system to manage the number of diners and eliminate queuing at entry.
- Utilize one-way circulation and entry/exit for diners and servers.
- Place floor markings to indicate physical distancing and signage for one-way directional movement.
- Increase sanitation and PPE in dining rooms.
- Encourage outdoor dining by adding portable heating and/or cooling for longer use; outdoor seating can be in addition to the indoor dining area.
- Provide grab-and-go items for additional food options.
- Utilize touchless payment systems.

Dining room

The numbered strategies below reference the [AIA Re-occupancy Assessment Tool](#) framework.

3.6.3 & 3.6.8 Monitor relative humidity and check filters.

3.9.8 Enhance acoustic treatment so occupants can hear/be heard through masks.

3.5.4 & 3.9.5 Hand sanitizing station with touchless soap and paper towel dispenser (behind bar)

4.4.1 Designated bartender work area; alternatively, only serve prepared or bottled beverages

3.4.3 Bartender stationary spot

4.3.7 Menu on chalkboard on the wall and/or disposable menu and braille menu; alternatively, provide menu on reservation system

3.3.4 TV screens for facility safety reminders, program schedule and entertainment

4.2.14 Provide regular seating for couples and shared households if desired. Tables reserved for those not in the same household should provide additional distancing.

3.3.4 Sliding doors: Elbow-to-push plate activated



3.4.3 Implement floor markings to locate tables

3.2.2 Reduce amount of equipment to provide more spacing

3.6.2 Ensure ventilation systems operate properly and provide acceptable indoor quality for current occupancy

4.4.3 Reservations or seating assigned via app or reception desk to reduce interaction with the host, waiting, and overcrowding of bar area

3.2.1 Retrofit dining room layout to increase spacing between tables and limit number of seats to allow for adequate spacing between people; spacing is especially important because diners won't be able to eat and drink with a mask on.

Amenity spaces

Many senior living communities are small cities unto themselves, on par with luxury resorts and offering a range of amenities to make residents feel as connected as possible to lifelong routines. Art studios, libraries, business centers, lap pools, game rooms, greenhouses, pubs, and salons are not uncommon, and lounges and media/tv rooms are nearly universal. Such spaces often provide an opportunity to gather with visitors as well. Amenity spaces must be reopened with great care; the tactics to mitigate risk are similar for any other high-touch, communal space and follow common sense.

- Create smaller assembly rooms. Limit the number of people allowed in at any one time.
- Provide opportunities for family and friends to visit using in designated spaces with adequate physical separation measures.
- Designate rooms for family visits that are large enough to accommodate social distancing and have ample fresh air.
- Create outdoor spaces for family visits that are large enough to accommodate physical distancing and space furniture accordingly. Provide ground markings for physical distancing and signage with rules.

Fitness center, pool, and locker rooms

Gyms and fitness centers were among the first businesses to close during the early stages of the COVID-19 public health emergency in March, even before stay-at-home orders were implemented—for reasons that should be obvious. Yet, the fact remains that physical fitness and physical therapy are important to the overall health and pain management of individuals, particularly as they age. Aerobics classes, strength training equipment, swimming, hot tubs, and saunas in senior living support health and well-being, and like in commercial fitness centers, they are some of the riskiest aspects of a public health crisis. But when these spaces are properly maintained and cleaned, the risk can be reduced; however, the number of both staff members and users should be limited to reduce the chance of both contamination and transmission. Activities with more than one individual are best limited to those without heavy breathing, such as stretching, yoga, strength training, and tai chi. Physical distancing should almost certainly be more than the minimum six feet, and using the outdoors for physical activity is preferred. Strategies for these areas include:

- Eliminate or reduce shared exercise equipment.
- Commission the HVAC system to provide the **recommended air filtration and air changes**.
- Sanitize equipment between each user.
- Provide handwashing and hand sanitation station(s).
- Reduce class sizes to accommodate physical distancing appropriate for the activity level.
- Utilize a reservation system for equipment or space use.

- Hold group classes outside when weather and air quality permits.
- Consider providing or partnering with a gym to provide fitness equipment, such as a stationary bike, in resident units or outdoors.
- Require showering before and after using the pool.
- Require residents to schedule time in the fitness center to control access and use
- Build time into the schedule for cleaning and disinfecting between users.

Outdoor spaces and activities

Access to nature is salubrious and necessary, especially for individuals with limited mobility, conditions that require a high degree of medical maintenance, or those suffering from a range of psychological or emotional conditions, such as degenerative mental diseases or even seasonal depression. However, nature isn't always kind to vulnerable populations, and even mildly hot or cold temperatures can affect them in dramatic ways, as can too much direct sun, uncomfortable outdoor seating, or uneven pathways or pavement. All of this must be considered in addition to the threat of pathogens, making the enterprise of creating outdoor opportunities for senior living residents seem challenging. Yet, there are ways to mitigate risk in outdoor spaces to support activities vital to physical and mental health.

- Provide heating or shading to improve opportunity for comfort.
- Encourage outdoor dining when possible.
 - » Utilize one-way circulation and entry/exit for diners and servers.
 - » Reconfigure tables and seating to allow for physical distancing.
 - » Institute a reservation system to manage the number of outdoor diners and eliminate queueing at entry.
 - » Put groups of outdoor diners and staff into cohorts based on their apartment location.
- Require a reservation for all outdoor activities to limit the number of people in one area.
- Include small-scale farming as an on-site activity and for consumption.

In addition to the strategies noted above, a more extensive list of controls for reoccupying senior living communities and other buildings is available in [AIA's Re-occupancy Assessment Tool](#).

Conclusion

These strategies are meant to be a starting point for adapting policies and procedures during the pandemic for senior living communities as they relate to the physical spaces where our elders sleep, socialize, eat, pray, play, and recuperate. Senior living communities have steadily grown in number, square-footage, and amenities in the last two decades, and, even without the specter of COVID-19, experts predict modest increases in these facility types. After all, the American population “boomed” with the arrival of the baby boomer generation, and that boom will echo for years to come. However, reducing the risk of COVID-19 for this vulnerable population is an urgent need today and suggests a longer-term strategy for protecting America’s seniors from future pathogenic threats. This report, authored by AIA in conjunction with the [AIA Design for Aging Advisory Group](#), architects, public health experts, engineers, and community managers, is a first step to articulating such a strategy. Architecture’s capacity to improve the lives of its inhabitants has never been more important than now.

References

- The Journal of the American Medical Association*. Preventing COVID-19 in Assisted Living Facilities—A Balancing Act. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2766447>
- National Center for Health Statistics. Residential Care Communities. <https://www.cdc.gov/nchs/fastats/residential-care-communities.htm>
- Bureau of Labor Statistics. Current Employment Statistics. <https://www.bls.gov/web/empsit/cesebla.htm>
- Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): Older Adults. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html>
- National Center for Assisted Living. Facts and Figures: Residents. <https://www.ahcancal.org/ncal/facts/Pages/Residents.aspx>
- The New York Times*. One Third of All U.S. Coronavirus Deaths are Nursing Home Residents or Nurses. <https://www.nytimes.com/interactive/2020/05/09/us/coronavirus-cases-nursing-homes-us.html>
- Statista. Population distribution in the United States in 2018, by generation. Published by Erin Duffin, Jul 1, 2019. The statistic depicts the distribution of the U.S. population in 2018, by generation. <https://www.statista.com/statistics/296974/us-population-share-by-generation/>
- Centers for Disease Control and Prevention. Weekly Updates by Select Demographic and Geographic Characteristics. https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm
- The Washington Post*. Hundreds of nursing homes ran short on staff, protective gear as more than 30,000 residents died during pandemic. <https://www.washingtonpost.com/business/2020/06/04/nursing-homes-coronavirus-deaths/>
- Centers for Disease Control and Prevention. Public Health Guidance for Community-Related Exposure. <https://www.cdc.gov/coronavirus/2019-ncov/php/public-health-recommendations.html>
- ASHRAE. ASHRAE Issues Statements on Relationship Between COVID-19 and HVAC in Buildings. Press release. April 20, 2020. Accessed May 21, 2020. <https://www.ashrae.org/about/news/2020/ashrae-issues-statements-on-relationship-between-covid-19-and-hvac-in-buildings>
- Clinical Gastroenterology and Hepatology*. Diarrhea during COVID-19 infection: Pathogenesis, epidemiology, prevention and management. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7141637/>
- FoodSafety.gov. People at Risk: Older Adults. <https://www.foodsafety.gov/people-at-risk/older-adults>

Acknowledgements

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