

## How will Senior Living Facilities Change After COVID-19?



By [Antonio Pacheco](#)

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The Architectural Team's Maplewood at Brewster assisted living residences in Massachusetts. Photo courtesy of Mary Prince.

[Senior living facilities](#) and nursing homes have become a critical vector during the [COVID-19](#) pandemic and have contributed to a large number of deaths from the disease, both within the United States and around the world.

This typology, along with shopping malls, [offices](#), schools, [airports](#), restaurants and others, are among the many types of everyday buildings that will need to be reconsidered from a design perspective in the aftermath of the pandemic.

To discuss potential coming changes for the senior and assisted living building types, Archinect connected with Michael Liu, Vice President and Principal, and Anthony Vivirito, Senior Project Manager, at Boston-based The Architectural Team ([TAT](#)) to discuss the potential futures of these facilities. The pair discuss designing new approaches for shared living and family visitation spaces, as well as adaptations being made to existing buildings, and new horizons for senior living buildings in a variety of arenas.

**What are some of the short-term design and programming strategies that can make senior living facilities safer during a pandemic?**

**Michael Liu:** In terms of design and programming strategies, we're exploring ideas such as utilizing smoke compartments in order to physically segregate resident populations into groups of eight to ten residential units. Within each smoke compartment, we can program spaces to limit exposure for the entire resident population—for example, by creating an en-suite dining space within each smoke compartment. Owners and

operators should also consider building isolation rooms for residents who may be ill and contagious, and efficient bi-polar ionization HVAC systems should be considered for all facilities.

Obviously, enhanced sanitary measures are also critical during any pandemic, and the creation of dedicated washing stations is another valuable short-term strategy.

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From a specification perspective, it’s important to use touchless faucets, paper towel dispensers, soap dispensers, etc. for common area bathrooms. In general, we recommend reducing touch points—leverless door hardware and touchless elevator controls will become a more common solution going forward. Materials matter too, and we like anti-microbial and copper-based products. Limiting the use of porous surfaces, such as carpets and woods, is also valuable for reducing disease transmission.

Aside from these technical enhancements, we also see a return to and enhancement of the “neighborhood” planning model of assisted living facilities in which a large facility is organized into clusters of 10 to 16 residents in a compartmentalized suites with their own dining and amenity areas (the “country kitchen”), en-suite laundry, and caregivers who stay assigned to the particular neighborhood.



Residence at Melrose. Photo courtesy of Joel Howe.

**What are some of the long-term changes that may be coming to these facilities in the future?**

**Anthony Vivirito:** One of the most visible long-term changes will be an increase in deliberately programmed visitation rooms, as the current pandemic has forced operators to eliminate outside visitation from families and loved ones.

On several current projects, we’ve started to create dedicated rooms for safe resident visitation. In one instance, we converted a residential unit into a dedicated area for visitors, separated by a glass wall and with its own HVAC system. We created an exterior door specifically so the visitor is able to enter the suite directly.

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**What are some of the HVAC, air flow, and air pressure considerations that are particular to senior living facilities during the pandemic, and how are HVAC approaches changing as a result?**

**ML:** Managing humidity levels within the building is paramount in limiting virus exposure. Bi-polar ionization systems are quite effective in limiting the airborne spread of a virus. Split variable refrigerant flow (VRF) systems are significantly more effective than a traditional central system design.

Also, in general the progressive adoption of sustainable design principals is moving building design towards more healthful, less disease-transmissible indoor environments. [Passive House](#) and other systems of building evaluation—as well as the quickly improving efficiency of energy recovery systems—are allowing buildings to get closer to 100% outside air circulation and more rapid indoor air exchange.



TAT's Residences at Salem Woods. Photo courtesy of Andy Ryan.

**How is the design of bathroom facilities in these buildings being reconsidered?**

**ML:** [Bathroom facilities](#) are being rethought to include a greater emphasis on touchless systems and anti-microbial surfaces. From an operations standpoint, there's a new recognition for more frequent cleaning protocols, and owners and operators are more interested in creating dedicated bathrooms for each residential neighborhood to limit exposure and use.

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**How can the design of senior living facilities shift to provide for the emotional and social well being of residents while also adhering to social distancing standards?**

**AV:** Interaction is critical for residents' emotional and social well being, so it's important for architects and designers to find ways of preserving the possibility of social gatherings—for example, by creating flexible breakout spaces where the resident population can congregate in smaller groupings for activities.

Outdoor areas will become more important than ever, so these spaces should be enlarged or designed to allow for multiple safe groupings of the resident population. Designers can vary the sizes of these spaces and create dedicated program areas for different resident activities—such as outdoor eating, games, including bocce and putting green areas, a bar-b-que station, gardening areas, and so on.

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In addition to visitation rooms, dedicated Skype rooms with robust technology platforms will become standard program elements as the need to virtually connect becomes normalized.

We might also see an increase in concierge wings within a senior living facility, where the level of services can be tailored to specific resident needs. Some of our clients, including LCB Senior Living, already offer these services.



Outdoor patio space at the Residences at Salem Woods. Photo courtesy of Andy Ryan.

**A recent report** found that over 40% of COVID-19 deaths involve senior living facilities. Are any fundamental changes being considered for senior living facilities as a typology to make these spaces less likely to spread COVID-19 and other diseases?

**AV:** We've seen a paradigm shift in assisted living over the last decade which essentially moves away from the institutional model of care to a boutique-style environment in which the needs of the resident can be customized and tailored to their specific age and physical and cognitive abilities. This model could be helpful in promoting the safety and psychological well being of the residents during a pandemic.

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Where feasible, smaller clusters of individual buildings—an approach known as “[Green House design](#)” where the resident population and their day-to-day activities can be decentralized—will also likely become more

common. Though this model is difficult to pencil in for most typical assisted living developers (because these sites require larger land parcels and more operational staff), the model does provide for individual autonomy, including individual dining, laundry, and cooking.

**ML:** I would add that ultimately, it should be possible to adopt the compartmentalization of the classic Green House design within a single large building, rather than the Scandinavian model of discrete cottages. The other key aspect of the Green House approach that may be useful is the idea of the Universal Worker, who would stay with the subgroup of residents through the day and perform a variety of duties which would limit transmission from staff to the rest of the facility.

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