

ARTICLE

Sustaining Long-term Care Model: Green House Experiences in COVID-19

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The COVID-19 pandemic has caused heated discussion around care models within long-term care facilities, such as skilled nursing, assisted living, memory care, and continuing care retirement communities (CCRC). Are there certain design elements that are going to prevent or accelerate the spread of the virus? Has particular workforce management been shown to be more advantageous during the pandemic? What is the relationship among residents' lifestyle, staff care, and COVID? How does the culture element impact the health results of long-term care facilities during the pandemic? There are many articles on various topics such as outcomes in not-for-profit versus for-profit nursing homes, a comparison of COVID-19 statistics against Five-Star Quality Ratings, and nursing home density among other items (Ziegler, 2020).

Due to its unique design and care model, the Green House model is becoming a potential model for preventing and managing coronavirus outbreaks. In this paper, we will introduce the Green House model and discuss its experiences in the COVID.

What is the Green House?

Over 1.7 million individuals reside in the 15,600 nursing homes (NHs) in the United States (Centers for Disease Control and Prevention 2016). Despite the critical need for NHs, there have historically been poor care and lower quality of life, such as untreated pain and depression and lack of choice regarding basic daily needs (Institute of Medicine 1986). In 1987, the Omnibus Reconciliation Act, also known as Nursing Home Reform Act, was enacted to improve the quality of long-term care. A survey by Miller et al. (2014) found that the number of nursing homes implementing reform and culture change had risen to 85 percent in 2013 from 56 percent in 2008.

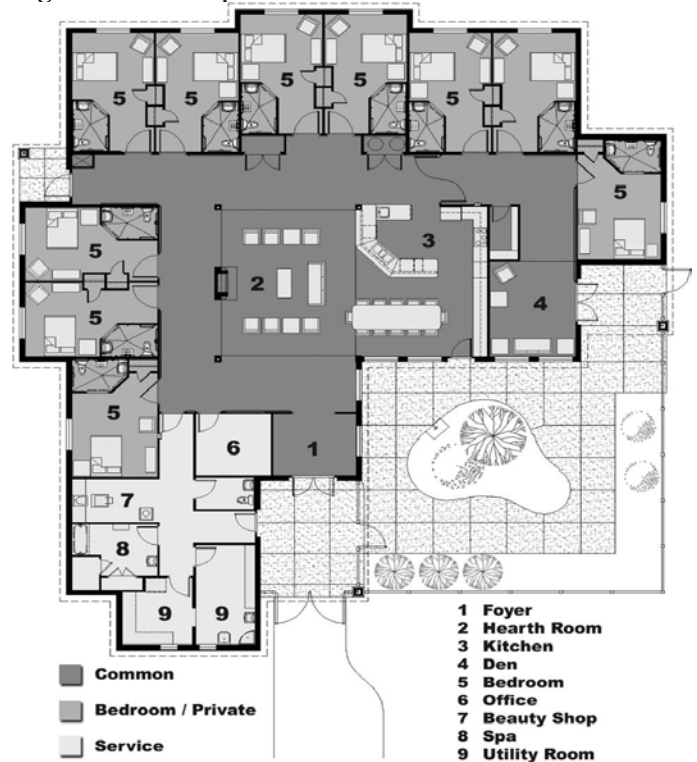
The reform of nursing homes brought the concept of the culture change movement. The culture change movement call for person-centered care service instead of an institutional model, in which, the care for older adults is following the institutional rules and schedules. The Key elements of person-centered care include resident direction, homelike atmosphere, close relationships, staff empowerment, collaborative decision making, and quality-improvement processes (Koren, 2010).

Several researchers have introduced several culture-change models in long-term

care facilities. The Eden Alternative, articulated in 1994 (Thomas, 1994), advocated that residents interact with children, pets, and plants to help older adults combat feelings of boredom, loneliness, and helplessness. The Wellspring model, also initiated in 1994, focused on clinical quality improvement and environmental culture change within a consortium of a nursing home that shared ideas and resources (Stone, 2002). The Green House project was generated by William Thomas several years before the first Green House was opened. The model emphasizes a good quality of life for residents rather than hospital circumstances (Rabinson, Thomas, Kane, Cutler, & McAlilly, 2006).

The Green House model is based on three values—real home, meaningful life, and empowered staff (The Green House Project 2012), which aims to provide the non-traditional living experience of long-term care facilities for older adults and to deinstitutionalize care services. These values are established through the creation of small, residential-style houses located in community neighborhoods. To minimize the medical atmosphere in those facilities, the Green House model intends to avoid medical signs in visible areas. The residents in Green House facilities must have private rooms with full bathrooms and share a central living space with an open kitchen, dining, and living area; and have access to outdoor space. Meals are to be prepared in the open kitchen by caregivers and are shared at a common dining table (See Figure 1).

Figure 1. Floor plan of first Green House.



Resource: Radical redesign of nursing homes: applying the green house concept in Tupelo, Mississippi The care in a Green House be provided by Shahbazim, who are responsible for the range of personal, clinical, and home care activities. The Green House model prescribes that Shahbazim attends not only to elders' care needs but also to cooking, cleaning, laundry, ordering, scheduling, and other tasks. In a typical Green House, each unit has three Shahbazim, two of them take the first and second shifts and the last one for the third shift (Bowers & Nolet, 2014). Shahbazim do not report to a director of nursing or clinical supervisor but are supported by a Guide who coaches and supervises them. The clinical staff is to visit frequently, and a nurse is to be available 24 hours a day. To reinforce the implementation of these components, Green House receives ongoing support from the national office, which includes national meetings, webinars, a peer

network, and other forms of communication (Zimmerman & Cohen, 2010; The Green House Project, 2012). The Green House intended to be person-centered, meaning that elders decided their daily schedules, activities, and meals by themselves.

Five key words of Person-centered care in Green House:

1. *Autonomy*: The elderly have their private bathrooms and rooms, and they are not subject to schedule. They can enter the sharing and social areas of the house at any time to make it feel like home.

2. *Green life*: In this case, "green" means living in nature. The green house project residence allows plenty of sunlight, including garden areas, plants, and outdoor activities.

3. *Intimacy*: The Green House project is not a traditional collective housing, but is composed of 6-10 elderly residents.

4. *Smart technology*: The green house community uses smart technology, such as adaptive equipment, computers, and ceiling lifts.

5. *Warmth*: This is one of the core values of the Green House project. The cozy living environment encourages social activities, as well as decorations and furniture that provide a sense of comfort.

The evaluation for the Green House model has mixed results. Family satisfaction, lower resident depression rates, and lower levels of social isolation or helplessness have been reported to improve through many studies (Bergman-Evans, 2004; Kane, Lum, Culter, Degenholtz, & Yu, 2007; Lum, Kane, Cutler, & Yu, 2008). However, issues have also been reported including the risk of falls, and higher staff turnover (Bergman-Evans, 2004). An evaluation of Green House

Project care found it provided higher direct care (23–31 minutes more per resident per day) than traditional nursing homes and more than four times as much staff engagement with elders outside direct care activities (Sharkey, Hudak, & Horn S, 2014). In November 2008, Senate Finance Committee Chair Max Baucus (D-MT) said The Green House Project model has shown improving the quality of life and care in these settings (Senate Finance Committee, 2011). At present, 68 organizations in 32 states are in various phases of developing 347 Green Houses (The Green House Project). This successful model of early collaboration with the state health departments has been repeated in many states where Green Houses are now being developed, including New York, Ohio, Arizona, Georgia, Nebraska, North Carolina, Florida, Michigan, Kansas, Hawaii, and so on.

Green House experiences in COVID19

The Green House Project partnered with the University of North Carolina to conduct official data collection on the coronavirus after positive reports within nursing homes. The study tracks the number of COVID-19 cases and deaths among both staff and elders in Green House homes and compares those statistics with national nursing home data. Green House homes are reporting fewer cases of coronavirus and fewer deaths than other nursing home models.

Ninety-five percent of Green House homes reported zero cases of COVID-19 among residents or staff, according to a study of coronavirus data gathered from February 1, 2020, through May 31, 2020 (see Figure 2).

This information reflects 306 Green House Homes and 3,295 seniors residing in those homes (The Green House Project COVID Study Report, 2020). The data below

provides additional perspective on these findings.

Figure 2.

Green House Homes and Small Homes with Confirmed COVID-19 Cases & Deaths and Homes without Cases, Across All License Types

Reporting Period 2/1/20—5/31/20

License Type	No. of Orgs	No. of Homes	No. of Elders served on 5/31/20	No. of Homes with Positive cases	No. of confirmed COVID-19 Positive Cases for Elders	No. of COVID-19 related deaths	Percent of COVID Free Homes
GH SN	45	229	2,384	11	32	1	95%
Small House SN	10	47	404	7	15	3	85%
Green House and Small House Combined (SN)	55	276	2,788	18	47	4	93%
Assisted Living	13	24	218	2	15	3	92%
Family Care	2	3	24	0	0	0	100%

Resource: The Green House Project COVID Study Report

https://www.thegreenhouseproject.org/application/files/2415/9526/8890/GHP_COVID19_Study_Report_Two_Pager_Jul_1.pdf

Not only were cases among residents lower but among staff as well. A similar pattern was found with deaths among residents living in Green House homes. In all, its data from January through July 26 show 2.84 deaths per thousand

residents, compared with 38 deaths per thousand residents in all certified skilled nursing homes (see Figure 3). The organization will continue to collect data from Green House homes each month until December 2020.

Confirmed Elder Cases and Deaths Green House/Small House Skilled Nursing to National Nursing Home Data (1/1/20—7/26/20)

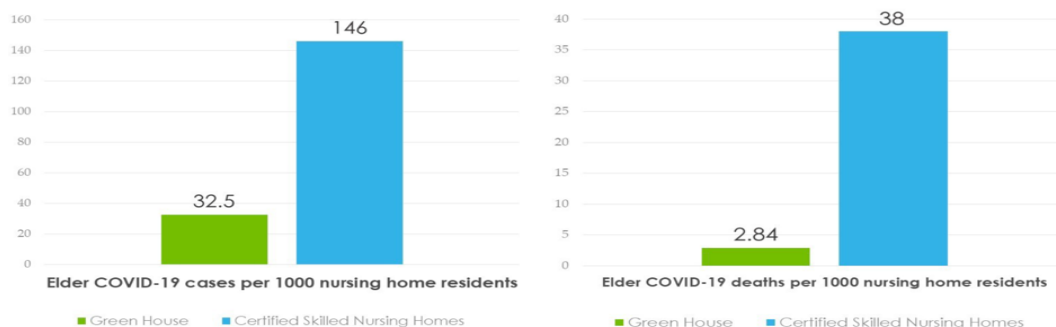


Figure 3. Resource: The Green House Project COVID Study Report

(https://www.thegreenhouseproject.org/application/files/2415/9526/8890/GHP_COVID-19_Study_Report_Two_Pager_Jul_1.pdf)

It is important to affirm that the Green House model is designed for single rooms with full bathrooms. It has been generally understood that this design element helps reduce the spread of the virus. And also, it is not a privilege for high-income older adults to reside in the Green House with private payment, some low-income older adults are eligible to take care of the Green House with subsidies. For example, in the original Green House Home in Tupelo, MS, there are roughly 65% Medicaid residents. Nationally, roughly 4 out of 10 Green House residents are covered by Medicaid.

For years, experts have called for rethinking the U.S. nursing home model, replacing large facilities containing hundreds of beds with smaller facilities and fewer residents. And now with COVID-19 death in nursing homes nationwide, another look is being given to these alternative housing options.

Implications: Smaller is Better?

On the one hand, the smaller, self-contained, autonomously functioning residence of Green House is better than long hallways, semi-private rooms, or even three- and four-person rooms in traditional nursing homes. On the other hand, the universal worker concept means the communities have fewer workers coming and going, and caregivers can develop much closer relationships with residents, it is easier to detect resident's behavior. Hence, from the physical environment to the staff workplace, small-house models can provide more person-centered care for residents to deal with COVID.

Green House is one of the small-house models. There are also numerous other senior house providers that are

creating their own household models. Though varying in size and scope, most house no more than one or two dozen residents, and many provide higher-acuity care, such as assisted living or memory care. Some of these small-house senior living models have reported minimal levels of Covid-19. Assured Assisted Living in the Colorado State reported just three positive cases of Covid-19 among residents across its 10 small-home communities. All three residents didn't show symptoms when they had the disease and have since recovered. Francis LeGasse Jr, president of Assured Assisted Living, thinks this is an example of what the small packages are, and what is the advantage of the small model through Covid-19. According to CEO Brandon Schwab, Shepherd Premier, an Illinois-based senior housing provider with five small homes, there is no case of Covid-19 among its residents or workers. He believes the small-house model which is 10-15 beds is much more responsive to infection control compared to 150-200 beds (Regan, 2020). Bee-Hive Homes has 216 small-home seniors living across the U.S. The company has only seen a small number of positive Covid-19 cases among staff and one case among residents, with no deaths reported. The model's flexibility, coupled with its more person-centered care, helps with infection control measures (Regan, 2020).

However, there are some obstacles to making the model work. One is the affordability of small-house communities, which often high cost than their traditional nursing home counterparts, especially if they focus on a service like memory care and assisted living. And planning for small-house construction projects can be more complicated, given that resident

rooms are spread farther apart than traditional facilities, requiring more creative land uses and design considerations. Another challenge is that small-house communities can be harder to license for senior living services, as regulators don't always understand the small-house as a long-term care facility. We hope that the talented designers are willing to participate in senior living small-house and plan a more diverse senior community. We recommend that Medicaid and Medicare could cover the cost in small-model for those who cannot afford the service of small-house, at the meantime, the federal and local government should help these small-house get their long-term care license to better serve the senior residents

We believe that senior living providers will navigate the post-COVID world in a manner that helps long-term care maintain sustainable development. Green House and other small models are the trends, and traditional nursing homes may welcome the trend sooner or later.

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