

리빙랩을 활용한 노인 커뮤니티케어 주거계획 지원방안

Living Labs: New Strategies for Community Care Housing Design for Elderly

김꽃송이 Kim, Kotsongi

양은영 Yang, Eunyoung

한수경 Han, Sukyoung

(a u r i

Living Labs: New Strategies for Community Care Housing Design for Elderly

SUMMARY

Kim, Kotsongi
Yang, Eunyoung
Han, Sukyoung

The concept of 'Healthy Aging' has emerged as more and more seniors around the world want to continue to live in their own homes. The World Health Organization (WHO) emphasize the importance of providing elderly-friendly environments and services to realize healthy aging and are urging the preparation of them on the community level.

In response to such changes in the elderly population and society, elderly care systems are gradually transitioning from 'facility-based care' to 'community care' centered on local communities, and various policies for community care are being implemented at home and abroad. The Korean government has announced the Community Care Master Plan (2018) and has been implementing the Community Integrated Care Leading Project (2018–2022) including the Care Assurance Housing. The Care Assurance Housing is a type of housing in which it provides various care services to tenants, and the government mainly supplies them as public rental housing. Recently, because of the COVID-19 pandemic, a consensus has formed that elderly people have to be able to receive care services at their home. Furthermore, there is a growing sentiment that elderly people with physical or cognitive ailments need customized community care housing.

To plan customized community care housing, it requires channels to reflect the opinions of elderly users from the design stage and to experiment/supplement ideas by allowing users to experience directly and test the services and physical environments in daily life. However, the business procedure of domestic community care housing (as public rental housing) is insufficient to effort reflecting various needs of the elderly, so in most cases, developers design housing for elderly people and supply them. Therefore, living lab can be a useful tool for planning customized community care housing since living lab can present design strategies that reflect the user's needs in each step of the project.

With this background, this study explores the possibility of using living lab as a tool to support planning senior community care housing and suggests living lab operation strategies for public rental housing providing senior community care. Especially, this study focuses on elderly people aged 65 years or older (with physical or cognitive ailments) and public rental housing.

In Chapter 2, this study analyzed the roles and concept of living lab for supporting senior community care housing and diagnosed public rental housing projects for elderly people implemented in Korea from the perspective of realizing community care. The previous studies showed that living lab carried out a role as a project operation system to reflect user's needs at each stage — exploration, experimentation and Evaluation — of projects by going a step beyond passive user participation-based methods such as public hearings and surveys. There are three advantages to use living lab when planning community care housing for the elderly. First, it is possible to apply customized design strategies that reflect the needs and characteristics of each group of the elderly. Especially, living lab can be effective when planning care housing that requires a differentiated design because of physical or cognitive impairments compared to that of general housing where healthy seniors live. Next, it is possible to reflect individual needs from the initial planning stage through co-creation processes among various experts, public officers, private sectors and elderly citizens in the community. Finally, it is possible to propose an innovative residential model by experimenting with various residential prototypes before supplying housing for the elderly.

In Korea, the concept of community care recently applied to public rental housing projects; however, such projects have had limitations because they used universal standards to multiple elderly housing units or only the minimum standards as outlined

in the legal regulations. Healthy elderly people can feel sufficiently satisfied in such a housing, but the elderly with impaired physical/cognitive abilities require more differentiated design strategies to support their independent living. To improve the welfare of elderly people at home, it is important to provide customized design and care services to suit their physical/cognitive level and individual needs. It is time to support planning senior community care housing using living lab as a tool to supplement the shortcomings of existing housing projects for elderly people in Korea.

In Chapter 3, domestic and foreign cases of senior housing projects using living lab were examined to explore the directions for introducing living lab in the planning of community care housing for the elderly. Especially, key issues and implications were derived regarding project procedures, customized design strategies, methods for understanding needs, and execution system as well as major tasks to introduce living lab in public rental housing projects for the elderly.

The cases of overseas living lab have reflected the individual needs of the elderly and experimented with/developed various elderly housing models considering changes in physical and cognitive state. AIPA in Belgium, a case of the living lab for aging in place, has experimented with innovative design strategies in 40 existing homes and 2 test houses in the city of Aalst and has developed a variety of housing models tailored to elderly needs. The Sky Garden (a social welfare corporation) in Omuta, Japan has provided various types of care housing such as nursing homes, group homes, independent living homes with care, short-term residences, and in-home care services in the community to choose flexibly the residential environment according to the social/physical/cognitive characteristics of the elderly.

Meanwhile, the overseas cases have used a variety of methods deriving user's needs, such as face-to-face surveys, interviews, design workshops, technology-based systems, and so on. Besides, they have monitored whether the elderly needs are well reflected in housing. In Omuta Living Lab, the obstacles experienced by elderly people were identified by home visits, interviews, group discussions, and workshops. In AIPA, a technology-based system to recognize elderly life patterns was applied to catch user's needs considering the difficulties of the elderly to express their opinion, and cultural surveys were conducted to understand elderly people from various backgrounds. The Fremtidens Sølund project in Denmark held a design contest to select a suitable design proposal which derived planning elements for senior housing by considering the daily

lives of local elderly people and the opinions of residents in the community. Some of the overseas living lab projects have tried to seek innovative residential plans by combining elderly-friendly products and ICT services with residential spaces. As a result, various housing models that combine housing and medical/care services have been developed based on accumulated living lab experimental data.

In Korea, the efforts to identify user's needs regarding the physical environment of elderly housing and to develop a plan that reflects the needs are insufficient. Several offline or online (technology-based) systems for understanding the needs of elderly people have been developed, however, most of the systems have been used to develop elderly-friendly products rather than to design senior housing. Besides, unlike foreign cases, it tends to use living lab in a way that demonstrates/complements after completing the development of a trial product.

As previously discussed, the cases of overseas living lab showed having various merits when planning elderly housing. In Korea, however, there are no cases of planning community care housing for elderly people using living lab yet. Therefore, to support the senior community care housing plan using living lab, it is necessary to:

1. to select the housing type for supply and the elderly who need community care housing
2. to present methods for deriving the needs of elderly people and customized design strategies that can be used in community care housing projects; and
3. to present living lab operation strategies including project procedures, execution systems, and institutional supports

Therefore, in Chapter 4, based on the results of the literature and case studies in chapter 2 and 3, the authors conducted expert interviews, collaborative researches, and peer reviews to derive the direction of introducing living lab for senior community care housing and suggested living lab operation strategies to suit the circumstances of Korea.

[Types of Elderly People and Public Rental Housing Project for Providing Community Care Housing for the Elderly]

According to the expert interviews, the types of elderly people who need support for senior community care housing were the elderly with limited physical activity but able to live independently, the elderly with mild dementia, or the elderly living alone. Besides,

considering the domestic elderly housing policies and business trends, and the applicability of senior housing living labs, community care housing for the elderly can be preferentially applied to new public rental housing (apartment type) projects and remodeling rental housing (multi-family house type) projects.

[Identifying Needs of the Elderly and Developing Customized Housing Design Strategies]

In order to support customized housing plans according to the characteristics of elderly people, it is of utmost importance to derive the needs of elderly people, who are the users, and to induce practical participation in the early stages of the project. In the initial planning stage of community care housing, it is necessary to identify problems felt within residential spaces according to the physical/cognitive characteristics of elderly people and uncover ideas to solve such problems. The needs of senior citizens in residential spaces can be directly identified by senior citizens taking part in design workshops, interviews, self-assessment, while the caregivers (family members, carers, nursing care workers, occupational therapists, etc.) can indirectly catch the needs of the elderly by steadily monitoring senior citizens. Design elements commonly derived through various experiments are reflected in the initial plan, and after the tenants are selected, it is desirable to support customized and optional design elements in consideration of the individual needs and their physical and cognitive characteristics. When the tenants have lived for a certain time, it is possible to improve the residential spaces based on the results of real-life experiments by individual tenants. In this process, the method of identifying the needs of the elderly should be appropriately applied according to the type and procedure of public rental housing in Korea and the life cycle of the building (planning, construction, and maintenance).

It is also important to suggest design strategies that can reflect the needs of elderly people and their physical or cognitive characteristics. Therefore, this study presents visualized design guidelines regarding customized design methods applicable to senior community care housing projects in Korea to help project managers and residing elderly people understand better. The design guidelines present common/customized/other (optional) design elements by spatial units.

[The Operation Strategy of Senior Housing (New Public Rental Housing & Remodeling Public Rental Housing) Living labs]

This study focuses on ‘new public rental housing (apartment type)’ and ‘remodeling public rental housing (multi-family house type)’ as public rental housing projects for senior community care. In living lab, the process of co-creation between participants is important, and the needs of elderly people and aging-related characteristics should be reflected in the planning stage of community care housing. In new public rental housing, the minimum BF standard (common design elements) is applied to all dwellings in the planning stage, and then the customized/other (optional) design elements are selected to reflect the needs of each elderly person when the tenants are selected in the design development stage or early construction stage. After some time (about 6 months) has passed since tenants have lived in the community housing, feedback on the design strategies of community housing is implemented. During this process, it is judged whether it is possible to apply changes proposed by residents who wish to change the customized/other (optional) design elements.

To apply living lab in the remodeling public rental housing project procedure, it is desirable to establish a remodeling plan by reflecting the needs of the elderly and physical/cognitive characteristics after selecting the tenants. When establishing a remodeling plan, it is efficient to identify the needs of tenants after grasping the design elements that can be changed through on-site examination by experts. Furthermore, as the physical/cognitive characteristics of the tenants change after some time has passed, it is necessary to provide a housing matching service for senior residents who want to move to other community care housing or facilities.

Meanwhile, senior housing living labs can be implemented primarily with governance. This study proposes the governance led by local governments (public sector) considering the public rental housing project procedure. Since public rental housing projects for elderly people go through setting and placing orders for the total annual supply to the public, local governments should assume the role of a project manager in charge of living lab projects. The local governments are able to consider signing the MOU with public rental housing project operators, industry/academia/research experts, and the residents for customized housing plans for senior community care.

[The Institutional Support to Stimulate Senior Housing Living labs]

This study suggests the following four institutional supports to stimulate senior housing living labs. Firstly, the local governments should include physical/cognitive

characteristics in the criteria for living in senior housing based on relevant laws. In addition, it is necessary to select tenants before the design is completed so that the customized design strategies can be realized through co-creation with the elderly.

Secondly, it is important to promote a pilot project based on the living lab model in the public rental housing projects proposed in this study. To this end, the government will be able to use senior housing living labs in conducting existing related projects (public rental housing projects, care assurance housing projects, senior support housing projects, smart challenge projects, etc.).

Thirdly, governance should be established for local governments to operate senior housing living labs. At the same time, it is necessary to establish measures (such as social investment funds and design competitions) to activate the participation of private sectors. Lastly, it is important to support the accumulation and use of data through senior housing living labs. In the future, a data platform to share experiences related to living lab experiments will be necessary. Those data can be used as useful sources when planning public rental housing for the elderly.

This study examined the possibility of using a living lab as a tool for planning senior community care housing and suggested operating strategies of the living lab applicable to new or remodeling public rental housing projects. If data on senior housing living lab accumulate, using the data, design strategies for physical and cognitive characteristics of the elderly can be categorized, and eventually, evidence-based community care housing design will be possible.

The living lab operating system presented in this study is based on literature surveys, case studies, and interviews with practitioners/experts, so it needs to be supplemented through the results of pilot projects in the future. Additionally, since the application of living lab to all elderly community care housing projects has limitations in manpower and budget, it is necessary to further specify the scope of application and to prepare operating strategies in the short, medium, and long term.

Key word

Community Care Housing for the Elderly, Living Lab, Customized Senior Housing, Public Rental Housing for the Elderly