

Service Design Application for Dementia Service Strategies: Focusing on the UK

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치매 서비스 전략 도출을 위한 서비스디자인 활용: 영국사례를 중심으로

한정원

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Abstract South Korea, a rapidly ageing country, faces increasing dementia rate as the incidence of dementia increases with ageing. Service design is an effective method to develop dementia service by visualizing and specifying intangible forms of service. The Design Council in the U.K. carried out dementia solution projects such as 'living with dementia' in 2011 and 'transform aging' in 2016, introducing successful services and innovative products. Seeking useful implications, this paper explores the concept and method of service design focusing on the U.K. cases. To suggest solutions on dementia, effective strategies should be set up on the basis of service design, which embodies various stake holders' cooperation and partnership.

Key Words : Service design, Dementia service, Living with dementia, Transform ageing, Double diamond

요약 한국은 급속도로 고령화되고 있는 국가로 치매 유병률 또한 증가하고 있다. 치매는 노화로 인해 주로 발생하고 있고 연령이 높아질수록 심각해진다. 서비스 디자인은 무형의 서비스를 가시화하고 구체화하는 방식으로 치매 서비스를 개발하기 위한 효과적인 방법이다. 영국은 디자인위원회에서 치매프로젝트를 진행하여 2011년 '치매와 함께 잘 살기' 프로젝트를 진행하고 2016년 '나이들을 전환하기' 프로젝트를 통해 다양한 서비스와 혁신제품을 소개하였다. 본 연구에서는 치매 서비스 전략 도출을 위한 서비스디자인의 개념, 방법 및 영국을 중심으로 한 사례를 소개하고 주요 함의를 찾는다. 점차로 심각해지는 치매 문제를 해결하기 위해 다양한 이해관계자들과 기업, 전문가들이 협력과 파트너십을 기반으로 서비스디자인을 활용하여 효과적인 전략을 도출해내는 것이 필요하다.

주제어 : 서비스 디자인, 치매 서비스, 치매와 함께 잘 살기, 나이들을 전환하기, 더블 다이아몬드

1. Introduction

South Korea is one of the countries with the fastest rate of becoming an ageing society. The share of people aged 65 or older was 15.5

percent out of the total population at the end of 2019, up from 14.2 percent in 2018[1]. A study by Statistics Korea showed that Korea would become the world's most aged society by 2067, with the senior population making up 46.5

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percent of the population[2]. One of the problems with an ageing society is that the number of dementia patients increases rapidly. Dementia is one of the most feared and undesired diseases of aging. According to medical terminology, dementia is used to describe a gradual decline in cognitive function that usually causes severe memory loss combined with other symptoms such as impaired judgment, personality change, inappropriate behavior, difficulty with language, and/or confusion[3]. The prevalence of dementia, as Table 1 indicates, crucially increases with age. The increasing incidence rate of dementia emerged as a big social issue these days, yet MCI(mild cognitive impairment) is more problematic with its ever-increasing number[4].

To figure out dementia care, efforts have been made in various ways: multi-dimensional dementia strategies are introduced and various social services in which the public and private realms are combined have been attempted. In terms of research and field methods, convergence methodology has been constantly implemented as well. Service Design method is the representative one amongst them.

Table 1. Dementia/MCI Prevalence(2021)

Gender	Age	Dementia Prevalence	MCI Prevalence
Male	60-64	1.13	25.78
	65-69	1.85	9.46
	70-74	4.66	25.13
	75-79	9.23	6.84
	80-84	17.09	50.67
	85+	53.99	19.88
Total		6.26	21.1
Female	60-64	0.11	4.39
	65-69	0.96	25.79
	70-74	3.16	18.52
	75-79	13.76	20.86
	80-84	23.26	46.06
	85+	32.97	23.25
Total		8.04	19.55

Sources: [4-6].

Therefore, this paper explores the concept,

method, process, and important implications of service design in order to set up the proper dementia strategies. Service design - not only from the point of the service provider, but also from the perspective of the service receiver - should be quite a useful and effective method in setting up precise services and products.

2. Visualizing Dementia

2.1 Norm of Dementia

Dementia, well known as Alzheimer's disease, affects the brain and causes cognition impairment progressively. The disease slowly and gradually affects one's life capacity to live independently. Table 2 shows early signs of dementia in judgment, orientation, memory, emotions, and thinking: forgetfulness and difficulty in executing complex tasks as well. However, every symptom is different depending on each individual. Each individual's needs are, therefore, different. This fact leads to person-centered care during the care process, which is positively taken in the practice field. The personality, character, and background of a person are taken into account[7].

These days, dementia affects approximately 10% of the population over the age of 75 years and this percentage steeply increases in those 85 and older[5]. In the very early stages of dementia, a person slowly develops changes in their abilities and behaviour. They may not know about problems happening in their brain. An early indicator is a difficulty in remembering recent events. People often forget recent conversations. Recurring confusion can be another sign but symptoms can be so subtle that they might be limited to occasional lapses that only a close friend, companion, or relative might notice.

Memory lapses and confusion become more

obvious in the mid-stages of dementia. They may be anxious about the events taking place around them, become more forgetful and develop difficulties in finding words or remembering names.

Table 2. Early Signs of Dementia

	Early Signs of Dementia
Judgement	<ul style="list-style-type: none"> -impaired judgement -poor planning and organizing ability -deterioration in appearance and hygiene
Orientation	<ul style="list-style-type: none"> -difficulty remembering year, date, day, month -difficulty remembering names of friends, loved ones, own address
Memory	<ul style="list-style-type: none"> -repeating the same questions and stories -absent-minded, or forgetful generally -loses valuables, keys, wallet -gets lost easily in a once familiar environment
Emotions	<ul style="list-style-type: none"> -easily aroused, readily changeable in mood -cannot handle stress or noise and may become agitated -social withdrawal -loss of drive, and interest in things that might have mattered to the person before the onset of dementia -reduced interest in former hobbies
Thinking	<ul style="list-style-type: none"> -less flexible, more rigid -difficulty mastering new tasks -word finding difficulties, reduced language fluency -difficulty starting new topics, thinking beyond the 'here' and 'now' -mundane conversation, repeated phrases, words, ideas

2.2 Design for Dementia

To challenge dementia, multiple aspects should be considered, including design[7]. Design makes invisible ideas visible and tangible[8]. In Europe, adaptation design method dealing with dementia has been positively carried out in many fields such as medicine, engineering, and care homes[6,9]. In 2001, the Netherlands took a highly iterative and pro-active design approach to combine the competencies of user-focus, technology, and business to create products, systems, and services[7]. In 2010, in RCA, Britain, the project titled 'design for dementia' started to improve existing care homes. The design ideas from both care providers and designers are combined and developed to challenge cognitive decline and

physical impairment. Stakeholders from diverse fields participate in the project. In the project, three key areas are focused on the convenience of residents and staff:

1. Address the cognitive difficulties people experience as a result of dementia by creating environments and products that build on the remaining strengths and abilities that residents have.
2. Create a social environment that allows residents and staff to participate and complete care tasks together.
3. Provide a physical environment that accounts for the multiple changes that care home residents will experience as a natural part of the ageing process. [9, p.20].

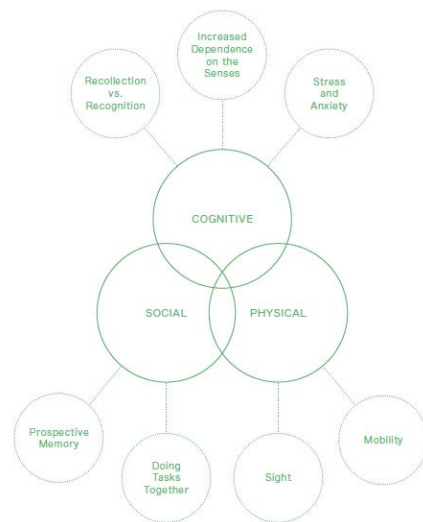


Fig. 1. Outline of Design Strategy[9, p.21].

With the three principles above, Timlin and Rysenbry[9] simplify dementia into three stages: early, mid, and late, setting up the outline of the design strategy seen in Fig. 1. Regarding the context of the disease named dementia, it affects the individuals themselves and their families. Either informal carer in the family or formal care staff at the care facility are under

the influence of the disease. Therefore, design for dementia aims to cope with cognitive, physical, and surely social challenges.

3. Service Design

3.1 Concept and Process

Overcoming the intangibility of services, service design aims to create specific services that customers can experience[10]. During the whole process of designing and delivering services, it also enhances user-centered research in order to improve user experience[11].

Double Diamond, which was developed by the British Design Council in 2005, is the most well-known service design methodology. Four phases - Discover, Define, Develop and Deliver - help to visualize ideas, services, and intangible concepts. Each explanation is as follows:

Discover helps people understand, rather than simply assume, what the problem is.

Define helps to define the challenge in a different way.

Develop encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of different people.

Deliver involves testing out different solutions at small-scale, rejecting those that will not work and improving the ones that will[12].

After developing the traditional double-diamond methodology, in 2019, Design Council introduced a more complicated double diamond methodology with four design principles as shown in Fig. 2. The four principles are 'put people first,' 'communicate visually and inclusively,' 'collaborate and co-create' and 'iterate, iterate, iterate'[12]. These core principles help to solve the problems and create innovation.

3.2 Participatory Design

Despite the varying definitions of service design, the common factors can be summarized in terms of cooperation and participation. First of all, it is important that multiple stakeholders participate in the service design process to solve the problem. Service design considers not only text but also context to understand user needs. Second, to develop a simpler service, many stakeholders should get involved in complex networks. Service design encourages many people to interact with each other to reflect their needs. Third, data and ideas shall be expressed visually, which helps people understand easily and instantly. Lastly, prompt and repetitive specification of innovative ideas could be produced into visible goods, helping people experience, communicate and interact with each other[14].

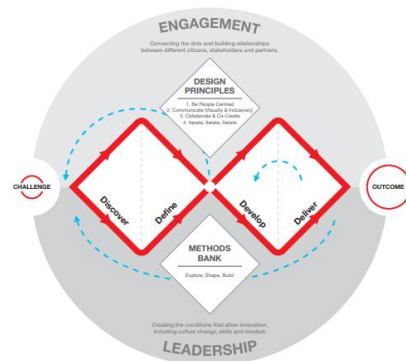


Fig. 2. Double Diamond Method[13].

4. Service Design with Dementia

4.1 Living Well with Dementia

In 2011, the project 'Living well with Dementia' was run by the Design Council and Department of Health in the U.K. Designers, innovators, service providers, and health care experts got together to create practical product and service solutions[15]. It was a successful

project to demonstrate design's potential to solve the crucial social issue of dementia. Design was proved as an effective method to change people's life positively. The creation of products and services can help to maintain the quality of life and to reduce the burden of care-givers.

During the service design process, three main questions are repeatedly asked: how can we make their lives easier? How can we help them prepare so as to maintain their quality of life and deal with crises? How can we enable them to make the most of life?[15]

With various research results, the project team produced a wristband personal alarm for people with dementia. Digital devices have been effectively used for people with dementia[16]. For the project, multiple stakeholders considered three problems: changing batteries, many falls and emergencies during bath time, and progressive characteristics of dementia. Therefore, the innovative band is found to be comfortable, discreet, and waterproof, with the function of manual emergency alert, automatic fall alert, lifestyle monitoring, and online monitoring.

To solve the problem of disruption and disorientation of dementia, the service of dementia dog is suggested to be implemented. The dog is taught to support the individual's patterns of eating, sleeping, and taking medicine, and also to provide orientation outside the house. Being able to get outside more often, the person with dementia can expand one's life boundaries with confidence.

4.2 Transform Ageing

After finishing the project of 'Living with Dementia', in 2016, Design Council began the project of 'Transform Aging' in the southwest of England. The project started from the insight of accepting the whole process of aging itself,

beyond the partial ageing of dementia. The aims were to prevent all possible diseases in the process of aging, and to strengthen the community care system [17].

The specialty of the project lies in the interactive partnership, and design-led active teamwork[18]. The interesting part of the project is 'Memory Matters'. Dementia Cafe, which aimed to delay the individuals' loss of memory, was set up for all residents in the community for them to meet and chat together. Reflection therapy was also introduced with the help of an app developer, gathering old past photos and music for the person with dementia[17].

Transform Ageing is a new, cross-sector partnership bringing together people in later life, social entrepreneurs, and health and social care leaders to define, develop and deliver new, people-centred solutions that better support the needs and aspirations of our ageing communities.

Initially, the project brought together local people in later life as well as their friends and families, leaders, and experts in health and social care. Even with social entrepreneurs and technicians in South West England, this programme explored the challenges that these communities experienced with ageing[17,18].

5. Implications

In Korea, service design or design thinking has been adopted in the areas of communication[19], medical service[20], and even dementia service[21-24]. There have been a few research challenges with service design; design approach for preventing dementia[21], assistive product design guidelines for patients with dementia[22], dementia healing design project on cognition and social engagement[23], and personalized reminiscence therapy digital

service design[24]. Some researches on ICT design scenarios[25] and service design in public art implementing AR[26] were also discovered.

However, the real-life projects using service design hardly tried to solve the problem of dementia. The Service design method is quite an effective way to suggest useful solutions for people with dementia; first, this method encourages various stakeholders to participate in the development of services and products; second, as it is directed toward common use, it develops proper and easy techniques; third, the developed service or products are thus easily accepted. In terms of cooperation and partnership, service design shares the essence of the living lab method.

As South Korea introduced community care plan in 2017 and started a person-tailored service under the long-term care insurance, service design method could be used to solve the social risk effectively: multiple participants such as social workers, nurses, carers, IT developers and other expertise could create services and goods.

Dementia is a global social risk nowadays. To cope with the emerging problems, the innovative method of service design has been actively experimented in Europe, especially in the U.K. As Korea appears to experience social risks, care burdens, and serious blind spots within dementia care, the cooperative and participatory way of creating an innovative solution should be consistently pursued.

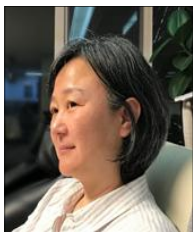
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