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# The implications of a new paradigm of care on the built environment.

The Humanitas© Deventer model. Innovative practice.

## Abstract:

As people live longer, rates of long-term conditions such as dementia are increasing and healthcare costs are exponentially increasing. Dementia services recognise there is a need for change, this paper provides an example of how people interacting within an architectural-led care system can positively influence this need for change. The adopted method within this paper is the ‘thinking, making and living’ approach underpinned by a one-time post-occupancy evaluation.

The architectural-led care system, the Humanitas© Deventer in the Netherlands, is a good example of a new paradigm of care built on sustainable collaboration, which positively contributes to the wellbeing of the recipients of care – people with dementia.

## Keywords:

The Humanitas© Deventer nursing home, intergenerational living environment, social integration, combining health and social care models.

## Introduction:

This paper presents a critical evaluation of the Humanitas© care approach, using a Post-Occupancy Evaluation (POE) methodology. This initiative, a nursing home in Deventer in the Netherlands, embodies an innovative response to the everyday challenges of living with dementia. Living well with dementia is a global societal aspiration. To become a reality this aspiration has to support people living with dementia to be able to access good quality care and good quality living environments. A well-designed environment, which provides a therapeutic and understandable environment, and reduces condition distress, supports a person with dementia to maintain a good quality of life. Since 2012, when Humanitas© came into being, a ‘radically transforming’ and enabling care model has been adopted. This paper will present a critical evaluation of this model, discussing in detail the impact of this model. Furthermore, building upon this discussion a number of recommendations are proposed with the intention of promoting socially and economically sustainable architectural approaches within the dementia field.

## Background:

One aspect characterising this century is the notion of an aging society, a new and emerging demographic. Compared to the current global figure of 8% it is predicted by 2050 people aged over 60 will account for 22% of the world’s population (Woods Pendleton, Smith, & Parker, 2013). As a result, it also predicted the number of people with dementia would increase from the 2011 figure of 35.6 million to 115.4 million (Woods et al., 2013). Neurological disorders such as dementia for the older adult are a major cause of morbidity, having a substantial social and economic impact (Woods et al., 2013). Dementia, whatever the type, will affect people in different and very personal ways; however, at a general level dementia is a progressive condition adversely affecting a person’s cognitive and social functioning (WHO, 2012). Living well with dementia includes understanding ‘what being independent’ means to the person with dementia (Woods et al., 2013). This understanding extends to the type of environment a person with dementia chooses to live in; these environments could be a house and/or something more notional such as a household. Over time, households have moved from being shared intergenerational spaces to disconnected spaces occupied by older and more isolated parents). This change is affecting the health and social care system in most western countries including the Netherlands. Currently there is an increasing demand for higher dependency health and social care services, which is increasing treatment costs (WHO, 2012). These increasing costs are set against the shared desire among Dutch older adults to be independent and live in their own homes for as long as possible (Van der Voordt & Houben, 1993). To support this desire and effectively manage cost a different type of care model is needed (Woods et al., 2013).

## Housing and Care models in the Netherlands

Conventionally, there are four different living scenarios for older adults (Van der Voordt & Houben, 1993):

- \_ Independent housing. A low-level of care is required.
- \_ Intermediate facility. These facilities provide catered private accommodation as well as some common spaces. A medium level of care is required.
- \_ Older Adults' residential or care home. Besides the private residents' rooms and apartments, these facilities offer communal spaces as well as supported care spaces. A high level of care is required.
- \_ Nursing Home. A very high level of care is required.

In recent years, housing as an integral part of health and social care has become more flexible in order to meet new economic challenges, accommodating a wider group of older adults, providing tailored care, and reducing the necessity of moving into an institutionalised facility when the level of dependency increases. These models focus on promoting well-being and supporting older adults to live independently as long as possible, independent living includes being fully integrated as possible within 'normal society'. The quality of housing within these models plays a central role in contributing to the physical and mental well-being of older adults (Van der Voordt & Houben, 1993).

### Methodology:

#### The Post Occupancy Evaluation Framework

The Post Occupancy Evaluation (POE) focuses on a single aspect of physical settings of a building by measuring relationships and providing observations on how the building performs post-occupation. POE also reveals the activities and goals of the people using the building. POE originated through the Royal Institute of the British Architects (RIBA) (Landi, 2017). Examples of POE used within the ageing population and dementia fields include its use in a number of case studies within older adult care environments and more specifically within a dementia context (Landi, 2017). Common aspects of the POE method within the care field according to Landi (2017) include; the generality of the results - a facility's physical setting, the breadth of focus - physical settings are analysed by their specificity or wider context, and the time of application - immediate data or a long-time compilation of the data. Furthermore, the POE method produces an investigative review, which is an in-depth assessment of the building's performance based on staff and residents interviews (Landi, 2017).

To enhance the chosen method a living-lab approach was applied, this approach enhances the participatory element with a particular focus on user-led co-creation, building on the European funded work of the Innovate Dementia project (Woods et al., 2013). This co-creation activity consisted of people living with dementia being centrally

involved in developing the POE including validating questionnaires/interviews' questions.

### Thinking, Making and Living

To ensure the project is grounded within an architectural context the POE was divided into three parts: "thinking, making and living" (Landi, 2017).

Thinking phase - investigates the conceptual design process including the case study care model. A systematic study of all the available publications related to the Humanitas© Deventer was carry out. Qualitative interviews and semi-structured questionnaires to managers and architects were undertaken. In addition, the physical elements of the environment including its use was analysed.

Making phase - aims to describe the actual physical setting through a case study encompassing fieldwork. This phase generates video and photo archives. It reveals the relationship between the built, the surrounding context, and the people. The fieldwork visit examined care activities and programmes, and their spatial implications. Post-field work analysed the case study through the available design tools such as plans, sections, schemes configurations, etc.

Living phase - aims to document the interactions within the case study through a number of activities. The first activity was behavioural mapping, which interpreted residents' daily activities occurring in a specific period of 4 hours. The second activity was interviewing. Qualitative interviews and semi-structured questionnaires (4 older adults and 4 students), and caregivers (4 professional caregivers) were undertaken.

### Participants

These included:

Older Residents - Inclusion criteria for interviews/semi-structured questionnaires were (a) male or female aged over 65 years old; (b) a diagnosis of dementia (early stages). Exclusion criteria included a lack of full mental capacity.

Young Residents Inclusion criteria for interviews/semi-structured questionnaires were (a) a male or female aged over 18 years old; (b) an enrolled student at the Saxion University (Deventer).

Staff/Manager - Inclusion criteria for interviews/semi-structured questionnaires were (a) a male or female aged over 18 years old; (b) a professional caregiver/manager at the Humanitas© Deventer for more than one year.

### Results:

The findings from this study are presented in four sections, thinking, making living, and mapping. The new care model is examined within the thinking section.

## Thinking

The Humanitas© nursing home was designed by the Architectenbureau Wim Knuppel. In 2012, the Humanitas©, the association which manages the nursing home, wanted to create a forward-looking care model. This model aims to optimise the use of the available economic and social resources; an adaptable care model tailored to the residents' requirements and developed in partnership with Academia: the TIALS, the school of Business and Sociology. This care model, based on the quality of life and wellbeing, assists older residents to maintain their independence. Initially the building did not fulfil the minimum requirements for new building regulations for older adults, therefore, the building underwent a refurbishment process in which two single rooms were joined together, and the number of communal spaces increased. During this process a few apartments/rooms were left unoccupied. Aware of the Dutch Government's struggle to fully provide affordable student accommodations, the Humanitas© agreed to provide student accommodations. This initiative was the genesis for a new care model.

Currently the number of students living in the Humanitas© is six, a ratio of approximately one to every twenty-five older residents. The admission process is quite simple and involves a brief interview. The only requirement is that students must not be studying nursing or medicine because the organisation aims to promote a natural environment. Once selected, the students are asked to attend a course in first aid, fire security, and other applicable courses.

## Making

The Humanitas© is a 'large institutional building', which is typical of the scale of typical Dutch residential blocks present in the surrounding area. The principal shopping area is opposite to the nursing home and the University campus is 10 minutes' bike ride away. The refurbishment of the building allows for the hosting of events. Each floor can reduce its corridor length to maximise interaction. Additionally, the central wing of the ground floor has been converted into an interior shopping boulevard. Aligned with the idea of being open to the community, the north-west wing has been opened to external local entrepreneurs, which provides additional income. Each floor has collective spaces at the beginning, in the middle, and at the end of the corridors, linking the apartments. The building is surrounded by a garden, which has two different characteristics. On the southern part, there is the formal garden. It is used for recreational and collective activities during spring and summer. On the northern part, there is the vegetable garden. The grown vegetables are used for preparing the meals in the nursing home or sold in the local market. Abundant natural light is provided inside the apartment units through big windows in the living rooms. This helps the residents perceive the passage of time, it also preserves an outside visual connection especially where a resident is unable to interact physically with the outside space. The south-west wing has the highest percentage of residents with dementia. These apartments are directly connected to a social/collective central space. There are no corridors and the number of residents on each floor is lower than other wings. Each floor of each wing has a dedicated team of professional caregivers, and volunteers who are in charge not only of the care services but also in the management of the economic annual budget.

## Living

The informality and the openness of Humanitas© is based on the concept of social reciprocity and collaboration generating a strong communal sense, in which there is an equal relationship amongst all. This care model focuses on what people can still do. There are currently 166 residents; 50 older adults have dementia, 80 older adults have serious physical conditions, 20 older adults have social difficulties, 10 older adults have a short stay placement, and there are six students with their own apartment. The students reside for an average period of 3 ½ years until the completion of their studies. The university students living in the nursing home are residents; they are not ‘tokenistic caregivers’. The students have free accommodation in exchange for 30 hours per month of social-type work, 1 hour per day.

The students can interact with the older residents in any way they prefer. Usually, they teach the residents how to use existing technology. Most of the older adults’ relationship with technology is completely revolutionised. The Humanitas© has a Youtube channel, a TV show on the local television in which the residents are active participants. However, some of the older residents do not use any form of technology. On the other hand, the older adult residents tell the students their life experiences or teach them traditional hobbies. In this mutual relationship, the older adults do what they are still able to do and the students increase their awareness of old age. Although these mutual relationships are not formally shaped by professional competences, they include some of the most relevant such as communicating therapeutically (Woods et al., 2013).

## Behavioural Mapping

Behavioural mapping illustrates how the older residents use the indoor and outdoor spaces and how they interact with others. The observation period was scheduled between 11.00 AM to 3.00 PM. Systematically, it described the locations and activities of residents, staff, and volunteers during the specified timeframe.

As an example, at 11 am, there was an older resident and young volunteer sitting and talking on a bench beside the main entrance. Between 11.15 am and 12 pm, in the entrance room where it is possible to find the reception, a small library and some sofas two of the older residents together with two of their relatives/volunteers were sitting on the couches by the small library shelves. At 12.10 pm, an older resident was buying sweets in the supermarket; another resident was leafing through a book in the nearby library.

## Discussion:

Societies are struggling to make social and financial sense of the ageing society phenomenon in particular where people have dementia. Despite the increasing availability of older adult care services, they appear not to be able to fully address the challenges of an ageing society. Additionally, older adult care can be a challenging. Families describe caring as being emotionally and physically consuming (Ayres, 2000).

The integration of different care systems and competences is fundamental. The World Health Organisation (WHO) published a report in 2012 emphasizing the need for collaboration between care providers and professionals to address the challenges dementia can present (WHO, 2012). This new way of integrative working clearly applies to the Humanitas© Deventer. However, this way of working has its challenges, after the decision of the Dutch Government to reduce economic support to older adult care, the Humanitas CEO at the time, had to dismiss a number of professional caregivers. To address this challenge there was a move towards working closer with academia and research in order to evolve a new care model.

The social and professional networks that surround older adults can have a positive effect on their well-being (Berkman & Kawachi, 2003). Relevant is the informality of relationships. Spontaneity and freedom from relational obligation promotes older adults' participation and reduces their vulnerability. Supportive and social encounters directly positively affect older adults' mental health (Berkman & Kawachi, 2003). Social ties and engagement directly and positively influence memory and its decline and produces a certain "cognitive resilience" (Berkman & Kawachi, 2003). The simple presence of the students at Humanitas© could positively contribute to slowing down the advancement of dementia (Dijkstra, Pieterse, & Pruyn, 2006). Additionally, a diverse social network may contribute in preserving or developing certain kind of abilities such as the use of public transportation and technology. Most of the older residents have developed a constructive interaction with technologies through the interaction with the younger residents. Furthermore, the built environment indirectly affects the mental wellbeing of users (Kerr, Rosenberg, & Lawrence, 2012). Indirect factors such as proximity and gathering points maximise interaction (Kerr et al., 2012).

Together with the outdoor green areas and the external commercial activities have generated a robust social pattern in which older adults are centrally embedded.

This new way of working has created a new paradigm of care and a new way of sharing care responsibilities. The Humanitas© is a caring community, which captures the relational nature of caregiving. It also provides an architectural framework that potentially addresses the care challenges of an ageing population.

### Limitations

The results reported in this paper acknowledge the geographic limitations of the study. Furthermore, the adopted methodology is based on a one-time methodological approach. Consequently, generalisability may be an issue. Therefore, a more extended investigation may reveal findings vary from the ones described.

### Conclusion:

This study suggests a care model and its environment are interdependent. The emergence of a new model of care is not a simple process. The Humanitas© Deventer is an expression of a "self-adjusting unconscious culture" one that aims to redefine a new equilibrium (Alexander, 1973). This emergence process is informal and at times difficult



to identify, however a model of care has now emerged which is more inclusive and democratic (Blackman et al., 2003).

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