

KANSEI SEARCH FOR ELDERLY CARE HOME DESIGN GUIDELINES

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ABSTRACT

Design guidelines for elderly care homes promote concrete space elements and seldom describe how functional solutions create a holistic atmosphere even if the care home management tradition expresses emotional-cultural values such as coziness, friendliness and home likeness. Guidelines concentrate on denotative qualities fulfilling physical needs, not on the positive atmosphere and connotative meanings referring to psychological experiences with value judgments and feelings. Care home design needs to bridge the gap between the denotative guidelines and their possible connotations for the diverse users such as staff members with the quality of care paradigm and especially residents with homely living desires. This paper describes a preliminary study in Finland in 2009 using images from existing care homes. Focus group discussions about the space images were carried out with elderly respondents, care home staff members and interior design students. Emotional responses seem to arise through analyzing specific elements and their nature providing physical, mental and social affordances and identification. Constellations of separate elements create an atmosphere of a certain category experience such as home, hotel, hospital, school, etc. and feel described by Kansei words. Holistic concept models could be set up as design guidelines for connotative, positive atmosphere constellations. This preliminary study suggests the possibility of positive care home concepts through studies of pleasurable and familiar social-cultural and emotional experience constellations and their application for the care home design solutions and service process.

Keywords: elderly, care homes, connotation, atmosphere, interior design concepts

1. ELDERLY CARE HOME GUIDELINES PROBLEMS

1.1. Typical design guidelines for elderly care homes

Design guidelines for elderly care homes promote accessible environments and care expectations often through defining concrete space elements. However, they seldom describe how these functional solutions interact with the felt atmosphere in the care home. From an elderly care managerial viewpoint, values of care homes often express emotional and social-cultural aspects such as coziness, friendliness and home likeness in an inexplicit way built into the other sort of design guidelines, e.g. the concrete element ones.

The guidelines for care homes can be defined through the quality surveillance processes as the new ones published in Finland by the National Authority for Medicolegal Affairs in 2009 [1]. The aim of these kinds of guidelines is to ensure the minimum quality level for the residents. The Finnish quality guidelines point out the necessities of barrier free environment (passages, steps, slides, thresholds, doors and lighting), possibilities for joint activities, minimum resident room size and one person per room (if not married or relatives), adequate equipments and furniture, technical and functional safety, storage room for safety (not for aesthetics), hygienic requirements for surfaces, air conditioning, possibilities for cultural and other refreshment activities and outdoor staying. In general they describe that the environments should fulfill the demands for pleasurable, safe, home resembling and activating living environments, which make privacy possible and support functionality. This is described more concretely as activity equipment and activities, joint happenings, possibilities to eat together and making the visits and participation of the relatives possible. Self regulation, privacy and participation (human rights even when weak functional abilities) are also emphasized. Finnish private care home owner- managers' own earlier constructions for facility quality guidance have also in addition to functional qualities referred to pleasurable, comfortable and activating environments with joint gathering room, resting places on the corridors, enough space to move, plants, preventing draft or light reflections, and joint rooms furnished with home resembling way, calm patterns and colors in the textiles, suitable room temperature, the hole atmosphere being calm and without noise. [2]

InformeDesign (US.) interior designers supported database presents elderly care home guidelines from 1999-2009 through data mining of research articles. [3] The result is a collection of guidelines that provide general guidance such as home resembling conditions, small enough households, meaningful objects, home-like feeling, informal furniture pieces and fabrics and removing symbols of institutional care. Specific areas of guidance include safety (fire extinguishers, smoke detectors, flashlights, planned escape routes, falling and hazard prevention with non-skid floor solutions, handle rails or glare from lighting), lighting (bright light, sunlight, motion sensor lights for dark, accurate work lights), avoidance of distracting sounds, barrier free solutions with assistive devices and furniture. The guidelines emphasize mobility and active behavior possibilities, walking space, environmental signage, places to rest and stimulating changeable features in social areas (bird watching, aquariums, pets, artwork, bulletin boards, music, family videotape). Outdoor and nature involvement and areas, outdoor seating and outdoor activities are also seen as important. Everyday necessities should be supported by easy bathroom conditions and small ratios of people per bathroom. Privacy is supported by rooms with personalization possibilities (furnishings, art, memorabilia) and own control possibilities. Socialization supported with shared communal

space, joint but intimate eating and semi-private areas for visits or activities. The guidelines also mention considering differences in resident cultures and personalities, cognition and fatigue.

1.2. The problems and contradictions with the guidelines

There has been a lot of thinking, research and tryouts around the guidelines or quality assurance evidence for elderly care homes because the matter has so much urgency in societies where the elderly demographic is growing fast. However, developing guidelines for the better design and public quality regulation of elderly care homes seems to be a challenging task. Many problematic or controversial issues arise from the elderly care home environments, making clear and unified guidelines almost impossible. These environments have different stakeholders, such as elderly clients, care personnel, cleaning and facility caretakers, elderly clients' relatives and friends and either private or public care home owners. This diversity sets even conflicting demands as the care environment should at the same time resemble the home but also provide assisting, barrier free functionalities and help the care personnel operating with regulated health care and hygienic demands. Luxurious solutions cannot be applied in the pressure of a restricted economy, thus good guidelines should also help to apply existing spaces, equipment and furniture in a positive way and take into consideration limited staff resources. With the elderly clients' socialization and life enriching demands are important as well as privacy, personalization, peace and freedom that may require quite opposite solutions. Many quality demands propose client centered thinking as the most important in the elderly care facilities. The client dependency, however, sets a very interesting problem space for the guidelines since the elderly are not at all a homogenous group. The clients with dementia or Alzheimer's disease require different solutions from those who are cognitively intact but physically fragile or disabled. The notions of home and everyday life can vary immensely through different life experience, education, work history, lifestyle, religion and other cultural heritage and concepts.

An extremely interesting challenge is presented on the point that design guidelines and regulation is mostly stating separate elements and functional demands for the elderly care homes through the above presented fuzzy demand background. In a semantic environmental analysis denotation refers to concrete elements and how they fulfill physical needs. However, all elements also contain connotation, i.e. they refer to psychological needs and wants associated with emotional experiences in a product environment. They are often expressed as value judgments or feel attributes. The positive atmosphere for the care home residents includes connotative meanings and holistic experiences of the place. Some descriptive concepts or adjectives are given as to how the holistic atmosphere should be created or assessed representing the publicly accepted care homes' values and emotional and social-cultural aspects such as pleasurable, safe and home likeness. As guidelines these usually remain rather vague and their application is left to the mercy of the designers' and assessors' cultural concepts and preferences. The guidelines seldom describe how the functional solutions interact or compose the constellations for the felt atmosphere in the care home and what are, for example, the style choices of the separate elements that then produce the emotional and atmosphere experience or preferences and dislikes in the care environment. The denotative meaning and the practical, functional outcomes are taken into consideration

but the connotative references to psychological needs and wants associated with emotional experiences are easily left unexplained.

1.3. Tryouts for the connotative constellation assesement

More holistic assessment tools, developed especially in the US., have focused the research attention on the notion of resident quality of life: autonomy, dignity, privacy, meaningful activity, enjoyment, relationships, comfort, security, functional competence for being as independent as possible and desired and spiritual well-being. [4] Instead of mere separate functional elements this can point, for example, to the long distances between individual rooms and bathrooms, corridor clutter and noise, and the general absence of life-enhancing features. The assessment has turned to building from the concretely observable elements environmentally relevant constructs such as function-enhancing or life-enriching features, resident environmental controls and personalization. Life Enriching Features construct, for example, includes features such as outdoor views, chair(s) in sleep area, telephones, flowers, living plants, movable chairs in lounge, own/shared TV, radio, CDs, religious items, games, animals, pictures, newspaper, flat work spaces, computers, exercise and skill equipment or even a popcorn machine. The aim has been to assess the environments from the individual residents' points of view: their rooms, their nursing units, nursing facilities and aggregating data elements into composite indices relevant to quality of life. The used checklist items have been based on the literature and expert rating exercises. The developers point out that other rating experts might have suggested different or additional items, and consumers diverse ones. Findings show how a separate item can influence several quality-of-life domains: inadequate ventilation, low light, or poor controls are relevant to dignity, privacy, comfort, security and functional competence. [5]

To assist assessment the environment has been broken into separately observable areas. The Near Environment observation has looked at 62 features related to resident rooms including the entry, resting/sleeping space, personal/social space, toilet, the furnishings, decoration, personalization, lighting, functionality and environmental control. The Far Environment observation included 136 attributes of the nursing unit "available" from the resident perspective. The Composite Environmental Indices has taken into consideration the differences in near/far features organized into 18 composite indices capturing environmental constructs. Of these 7 indices capture features of the resident room and bath, 6 capture features of the unit and 5 capture features of the facility common space. The Other Environmental Characteristics encompasses structural features: whether the unit had a "cluster" configuration of rooms or along a corridor, the number of stories and the configuration of the nursing station. [6]

The results of these kinds of observations have been obtained through cluster analysis, joint presence and absence of each variable also with a linkage to residents' cognitive and physical function scale. Attributes and elements were found in combinations that cluster together and 4 types of near environments and 4 types of far environments can be detected from the studied American care homes. There is a pattern between resident characteristics and their near environment: the least disabled residents seem to occupy the environments with most supportive features and vice versa. Trade-off possibilities in the environment exist. Life-enriching features in the far environment may substitute the lack of these features in the

near environment if the residents are capable of reaching them. The similar trade-off does not work in terms of function-enhancing features. The resident-environment match is important because if the environment provides too little of a challenge (press) this can lead to deterioration, while the converse can lead to stress. In addition to the physical environment the staff can also compensate for environmental barriers or life-enrichment. [7] The support functions of the staff point to the importance of the service process in connection to the experienced environment and the combinations that the service and environment offer together as total experience affordances.

The American holistic approaches have even led to such practical solutions as the Green House concept which is a total solution towards individualized, person-centered planning empowering the front-line staff so that they can empower residents. The ideal is to maximize each resident's individually defined quality of life, personal autonomy and daily functioning. The whole concept and the following design and service solutions are being built from the resident good life and lifestyle point of view rather than from the efficient care point of view. Already the preliminary comparison results show that the quality of life measures for the residents are higher in this kind of an environment than in a conventional nursing home. The measurements have been made in the domains of physical comfort, functional competence, privacy, dignity, meaningful activity, relationship, autonomy, food enjoyment, spiritual well-being, security, and individuality. [8]

2. CONNOTATIVE STAKEHOLDER MEANINGS

2.1. Preliminary visual study description

The American-based development results seem to point out that the care home design teams and quality assessors need to look at the care home design from a more holistic and resident centered approach that can capture the pleasurable experience of the care home difficult to describe in separate elements. For example, environmental psychology presents how the pleasurable living environment is composed of physical, social and emotional environmental offerings divided into community feeling, aesthetics, safety, recreation, activities and needs of the different resident groups. [9] To capture all these areas of influence the designers need to bridge the gap between denotative guidelines, real environmental, functional elements and their possible manifold connotations to build up meaningful and positive concept solutions covering these issues that build the pleasurable living environment. A preliminary study for the possibilities of the bridging was conducted in Finland year 2009 with an approach based on qualitative holistic concepts and adjective analysis rather than on the separate element research approach and quantitative analysis described in the previous chapter. This Finnish study used photographs from public spaces of existing care homes and focus group type of free discussions about the preferences and qualities observed in these environments. The advantage of this approach compared to separate item research is that it can capture also the substance of style and following connotative experiences arising from the visual constellations.

In this preliminary stage of the bridging from denotative to connotative meanings several care home stakeholders were of interest. The respondents in this preliminary study consisted of elderly people of different activity level, care home staff members and interior design

students. The preliminary research discussions were held in four small focus group interviews with each stakeholder sector as a separate group. Two of the discussions were held together with elderly people so that these groups were divided by difference in activity level. The images were showed to the participants and thus a stimulated discussion was tape recorded. The separation of different stakeholders was based on the presumption that the residents or elderly as collaborators see the environment form the good everyday life and home concept point of view and, for example staff members look at the environment from a functionality point of view and emphasize the quality of care paradigm. The focus group sessions were conducted in the spring and summer of 2009 in the eastern Finland by the different members of the Academy of Finland research project Constructing Well-being in Elderly Care. The aim was to find out how the existing care home spaces were conceived holistically.

2.2. Acquiring the images and supporting research observation

The photographs presented environments from four different care homes in the eastern North Karelia region of Finland. Two of them were privately owned and two were public. The selection of these four target environments was made through a larger observational and managerial information collection of 17 care homes in the same region in the spring of 2008. The larger care home tour was conducted by one of the health care professional research member together with two interior design students. The selection of the target homes was based on the private-public dichotomy and the selected ones being representative of diverse qualities found out in the 17 homes.

The focus group interviews were also supported by research visits to these real target environments by the research group members with two separate visits in each of the premises in research member pairs. The researchers represent both social and health care and design research. The purpose of the research visits was to observe and experience the atmosphere and real life action in the care home environments and to add to the visual interview results aspects of the atmosphere that would be otherwise missed. The visits helped the research group to discuss about the interview procedure and select the images showed for the respondents. The following two images show a target living room solution in one of the private and one of the public care homes. In each of the four selected care homes a picture of the public living room, dining, bathroom and corridor facilities was presented.



Figure 1: Two examples of the living room solutions

2.3. Respondent analysis of the images

The focus groups' discussions were analysed via content analysis. The elderly as one respondent group saw beauty and design through good materials, comfort and practical living solutions providing a welcoming and joyful atmosphere. Natural elements, such as plants and pets and light were considered important as the elderly stayed much inside. In addition also care and design professionals stated lighting, plants and oven as positive elements. Disturbing fuzziness was experienced through variety in furniture, colors and clutter in the environment. The interior atmospheres and elements reminded the participants of certain category experiences such as home, hotel, hospital, school and their feel specified by Kansei words describing this feel. For the elderly the home living room was presented through a sofa, TV, rocking chair and a bookshelf with real books on it. Design guidelines seldom refer to any wider category descriptions, and in specifying items required in the care homes they do not describe how these items inevitably form some holistic combinations and concepts. The purpose of visual response exercises was close to Kansei Engineering translations between feelings, impressions and products parameters, in this case environmental elements, their style and constellations. In the search for home resembling quality with home furniture the end result may be weird rather than successful when randomly chosen home furniture is scattered in a former hospital ward environment. The guidelines might benefit from holistic concept models as tools to design consciously positive atmosphere constellations. Suitable concepts and feel can be created through social-cultural and emotional experience that were in case studied through the experiences, reactions and discussions that the pictures of the existing care homes promoted.

2.4. Focus group results as connotative concept suggestions

The interviews revealed physical, mental and social affordances and identification that reminded the respondents of certain environmental categories that could be used as positive or negative concepts for care home design. These categories represent both private and public, even very institutional environments. They are presented here as the respondents

stated them in the focus groups stimulated by the real care home facilities images and how they saw these facilities built certain concept feel from their earlier experience. Private space concepts were home, living room, home garden, cellar and animal barn. Public space reminders were hotel, motel, shop, kiosk, health spa, school, industrial or other workspace restaurant. Institutional connotations were healthcare centre, hospital ward, army courtyards or even a jail.

In addition to giving this above listed set of private and public environmental concepts, the interviews revealed a set of describing words, adjectives and attributes that explained the reasons for either a positive or negative reaction to a certain care home image. The responses in this preliminary analysis are not connected to certain images but are the general collection of the whole interview material content showing what feel issues were considered as positive and what as negative. The responses are not, of course, consistent with the different respondent groups or even inside one user group. The following lists describe in a path leading way what rises from the several stakeholder group discussions as the positive and negative feels.

Positive qualities: home resembling, homey, comfortable, cozy, spacious, social, clean, neat, light, colorful, warm, soft, cute, old fashioned, stylish, valuable, dignified, genuine looking. Negative qualities: institutional, clinical, for disabled, rough, cold, fuzzy, conflicting styles combined, restless, too much stuff or clutter, small, tight, empty, boring, plain, not multisensory, colorless, dark, uncomfortable, fake, meaningless.

3. REQUIREMENTS FOR FURTHER RESEARCH

3.1. The further study of the positive concepts and their definition

This preliminary study opened up possibilities for concepts and Kansei feel descriptions that could be helpful in creating holistic atmosphere solutions for the care homes rather than looking at the guidance of design only from the separate element point of view. For the further development and real design application the concept approach requires in depth studies of the possible positive concepts for the care home environment. Many of the concepts presented in the previous chapter could be seen either as positive or negative. The public and institutional concepts were seen as more negative and the private ones more positive but not as a thoroughly consistent dichotomy. Different environmental concepts can cover different areas such as aesthetics, social or activity of the necessary pleasurable environment offerings. So the question is what of these or some other environmental concepts firstly could be positive concepts for care home environments and what are the factors or conditions making them positive: element constructs, style solutions and compositions that provide the positive experience?

The elderly respondents' notions of what makes a home living room environment included a carpet, TV, couch, flowers, plants, rocking chair, oven, curtains and a bookshelf with books. However, not even all the environments that have these elements were seen as home resembling since some composition, style or color features were considered alien to the home atmosphere and unpleasant. Yet these element, style, space and compositional constructs from the possible positive environmental concepts should be researched for the purpose of

the atmosphere feel guidance in care home design especially from the resident point of view. These are of course things that vary a lot culturally

Some of the focus group participants presented also their personal pleasurable environments and these kind of research exercises would be beneficial in the future for enforcing the cultural knowledge of the pleasurable visual constellations for the suitable concepts.

3.2. Personification and service process requirements as new guidelines

With the guidelines the problematic questions arise also from the personal differences between the elderly. Common guidelines cannot take into consideration the personal taste and lifestyle requirements of all the different residents. One suggestion could be to guide the process of resident intake and the tools of getting to know the resident identities and their personal requirements and environmental taste. This could include a set of pictures from the residents' own homes and surroundings, real life situation and family constellation, everyday life habits, tasks and timetables, occupational background, hobbies, institutional bonds, religion, roles, personal symbols, family roots, important things for identity and values, meaningful issues in life, dreams of pleasurable life and environment, lifestyle inclinations (e.g. for security or adventure), social networks, identification and interaction habits. [10] These issues should be included in the service process of rehabilitation in a new care home environment. This seems to be one of the important points in the service process found out in the care home resident interviews in Finland. [11] The elderly residents have a long life history and the staff should be interested in getting to know this experiential past life and they should be able to support the elderly to continue their traditional and preferred life style at least in some sense even when moving in the care home. The individual life style solutions are materialized in the environmental solutions.

The general positive concepts for the creation of the care home atmosphere should be supported and integrated with the personal life history and life style concepts of the residents. Tools should be developed for encapsulating both of these concept structures as a means to promote the residents' wellbeing through the care home facilities. The positive concepts for the other diverse stakeholders such as the care personnel should be also considered but only as secondary in importance. The newest business development research has emphasized the importance of the service process as a means to capture the real positive client experience. The environment and service outputs act form the touch points for the clients as they experience their individual service journey. These touch point possibilities could also form a platform for the customized resident co-creation in addition to the generally positively constructed concepts for the holistic elderly care home atmosphere experiences.

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