“The Desirable Scale”: Weighing social quality of assisted living facilities

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Purpose In order to age-in-place, Dutch older adults have been housed in Assisted Living Facilities (ALFs) for over 25 years. Here they live independently but can rely on services and care facilities. The size of these ALFs ranges from 30 up to 300 residents. They are often considered to be outdated. Nevertheless, they continue to be built but their character is changing by housing a greater mix of people. In contrast with the field of housing and care for dementia, the impact of scale on social quality of housing has not yet been explored. This paper discusses the relationship between scale, social interaction, the facilities offered to the tenants, and the perceived quality of living conditions. **Method** We reviewed the literature on concepts of scale, mix of functions and groups, and quality of social environment of housing for the elderly. After this desk research, a strategic selection was made from the database of the Expertise Centre Housing-Care. This paper presents the results from the multiple case study of the selected 24 projects. Observations were made on each of them. Around 196 inhabitants, 48 initiators, and 48 professionals were interviewed using a narrative method, qualitatively analysed in ATLAS ti. **Results & Discussion** The projects were far more mixed than presumed, resulting in two contradictory findings: a positive influence on social interaction and informal care but a negative influence on perceptions of confronting a more care-demanding future. Government and initiators intentionally presume informal care: healthy elderly support other groups. This is directly related to the mix of the independency among inhabitants. Where present, this mix encourages social interaction and quality. However, due to reductions by government and changing demands for housing, more people can age at home. This results in more limited mutual informal care and so undermines the concept of Assisted Living Facilities. Depending on the situating, scale influences this precarious balance directly: small-scale projects are more appreciated in villages, large-scale projects in cities. Safety experience -an important social quality of housing- is better assured at small scale. Regarding social interaction, in villages there is more informal contact and social cohesion; this social control has both positive and negative effects. In city environments however, the lack of the negative aspects of social control are a major factor in appreciating the large scale. Moreover, a good mix of people is more easily obtained in a large scale setting: diversity, liveliness, and activity are all more appreciated in cities. Ultimately, aggression within social relations has a strong negative influence on social activity and bonding: elderly avoid communal activities within the ALFs. The influence of scale on relational aggression will be analysed in the final phase of this research during the first half year of 2012.

Keywords*: social quality of housing, scale, group mix, assisted living*

INTRODUCTION

Housing and care for the elderly in the Netherlands are changing constantly. In the last decades, previously appraised care in elderly homes has been substituted by home care. Nursing homes that provide care to the very old in a prolonged, systematic en multidisciplinary way, in a intramural setting[1], have partly been replaced by small-scale housing facilities[2]. Since the eighties, vital elderly have been housed in assisted living facilities, preferably in areas with integrated neighborhood services[3]. The goal of these changes is to support aging in place with better social quality of housing and to reduce the costs.

Assisted living facilities (ALF) have been built since 1983[4]. They accommodate elderly people that live independently but can rely on care and services within the project when needed. The latest survey on ALFs goes back to 2005[5]. Nowadays ALFs are often considered to be outdated because of the need for cutbacks on care and the strong ‘care mark’ that discourages younger seniors to choose for this concept. This may explain why ALFs are less popular as a research subject. Nevertheless, they are still being built and, more importantly, they are changing in character since a larger variety of target-groups is being housed nowadays, including both people with a low need for care and with a very high need for care[6]. Present definitions should be stretched to cope with this change, see *Fig. 1.* An important question is whether an extensive mix of target groups leads to more or less integration and social quality of ALFs.

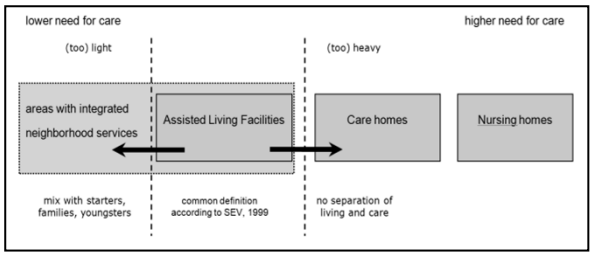

Fig. 1. Changing severity of care of ALF's

Within the field of care for dementia, studies on-scale[2, 7] showed that small scale group living has a positive effect on work satisfaction of professional caregivers and, to a somewhat lesser extent, on wellbeing of residents. Inhabitants living in projects with less or smaller groups are more active and go outside much more, but are visited less frequently. These results have led to revaluation of small scale in legislation. Objections arise as well, pointing at the less opportunities to find favourite tenants and the adaptations to this new approach for the staff[8].
The impact of the physical scale of assisted living facilities on social quality of housing – directly and indirectly via its impact on the number and heterogeneity of tenants - has not yet been explored. Initiators have to decide on the basis of previous experiences, intuition and good intentions, and are usually guided by policy letters and a focus on exploitation costs. Due to a lack of data "evidence based choices" using quality indicators are not well possible. For this reason a PhD-research project was started on "The desirable scale". In addition to a scientific thesis with sound conclusions and recommendations to support evidence based decision making, a web based tool and a hardcopy atlas showing findings and best practices of small, medium and large projects will be produced to contribute to this end.

Preliminary interviews showed that many initiators of ALFs are lacking knowledge about the optimal scale of the facility, which groups should be accommodated regarding to age, need for care, and social origin, and which supporting facilities should be included if not present nearby. Generally, the aim is to establish maximum quality, but regulations and budgets create tight boundaries. Besides decision making is often supply driven and not primarily directed at demands and user participation.
On the basis of a review of literature and these preliminary interviews a conceptual model has been developed, that connects the physical scale of ALFs with group mix and social quality (Figure 2).

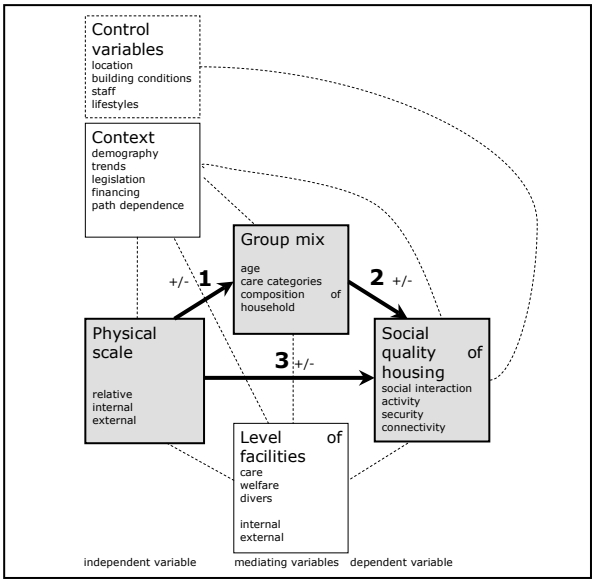

Fig. 2. Conceptual model

Furthermore the context is assumed to affect both decisions on scale and group mix and social quality as well. Furthermore it is assumed that the scale also affects the number and capacity of facilities and as such also the social quality of living in an ALF. These connections will be explored in another paper.

Scale and social quality of housing
Scale is an important variable in management theory as well as in architectural theory. For this study both disciplines are relevant. From management theory three concepts of scale that were introduced by De Groot[9] are being studied: the physical, the structural, and the mental scale. The physical scale is the number of social and spatial units. In ALFs, physical scale regards the number of houses in a project. The structural scale is the scale of the organisation process, in this case the process of care and service. Finally, the mental scale is the cultural pattern and the emotional bond of a group, in this case the inclusion or exclusion of target groups. Of these three concepts, physical scale is the independent variable, whereas structural scale and mental scale are perceived as intermediary variables that are affected by the physical scale and affect social quality of housing.
The architectural theorist Boudon[10] defines scale as the ratio between a building and an element, and proportion as the mathematic expression of the mutual ratio between elements. Ching[11] states that scale alludes to the size of a reference. He defines generic scale as the size of an element in comparison to the size of other elements in its context. In line with these theories, three concepts have been defined for this study with regard to the measurement of physical scale: the external, relative, and internal scale. The external scale, comparable with the generic scale of Ching, refers to the size of the service area of the ALF. The relative scale is the size

in comparison to other projects. Finally, internal scale, similar to proportion, is the partition with respect to internal groups.

Social quality of housing is related to existing definitions of quality in general and quality of housing in particular. Van der Voordt[12] refers to a widely used definition of quality as the extent to which a product fulfils the requirements set for it. In architectural theory Alexander[13] defines a 'central quality' in each city or building, which is on the one hand objective and precise, but on the other hand not exact at all, mentioning liveliness, flexibility, wholeness, comfort, safety. Zwart[14] distinguishes the building quality and the quality of housing and decomposes both in the technical and economical quality on the one hand , and the functional, social, psychological and cultural quality on the other hand. Finally de Vreeze[15] defines social, esthetical, and technical quality, which is very much in line with the Vitruvius concept of utility (Utilitas), beauty (Venustas), and reliability (Firmitas).
For this study we define the social quality of housing within an assisted living facility as the quantity and quality of social interactions between inhabitants and groups, the variety in leisure and activities, and the degree of safety and experience of being connected.
The assumptions concerning physical scale and social quality of housing are:
- in general, small scale is preferred because of the more homelike situation and tailor made solutions
- large scale will benefit care and services, social interaction, diversity in activities and leisure and will support a larger group mix
- concerning the social quality of housing, the desirable scale is different in a village than in a city.

Mix of groups with different levels of care need
The mediating variables deduced from preliminary research were mix of groups with different levels of care need and level of facilities. In this paper the level of facilities is not elaborated. Group mix has a scale-related influence. For example, regarding housing for people with dementia, quality of life on the one hand, and the availability and variety of staff and activities on the other hand are directly influenced by the physical scale of the accommodation[2].
In the last fifteen years, more target groups have been housed in assisted living facilities: elderly people with a higher need for care like dementia or a somatic problem but also younger people with a mental handicap (CBZ, 1998-2010). On the other side of the spectrum, groups without a care need are integrated and as such reduce the character of a care based housing concept (i.e. Malburgstaete, Arnhem; Meulenvelden, Doetinchem). Both developments are easily explained from a social integration point of view, a notion that has been incorporated for a long time in Dutch social housing[16] and is stimulated by the government to avoid strong spatial segregations[17]. Looking at integration of groups, we distinguish the principles of bonding social capital, the forces of alliance within a group, and bridging social capital, connections towards other groups. If a complex or facility is built with a focus on supporting social security, this can result in a 'gated community'[16]: bonding capital is dominant and bridging capital is lacking. According to research of Holt-Jensen[18], the tipping point in integration of new groups in a neighbourhood is around 7%; will this be similar in an assisted living facility? Housing severe care demanding groups is even more complicated, see the studies of Duyvendak on integrating people with psychiatric problems[19]. On the scale of the neighbourhood he detected strong believers in the curing side of integration and those who try to avoid confrontations and conflicts. The influence of the social and physical environment on people's ability to cope with complex environments is larger when the competence of an individual is smaller, known as the environmental docility hypothesis of Lawton[20].
Jacobs[21] states that four factors are crucial for urban diversity: several mixed primary functions; dense pattern of streets; mix of age and condition of buildings, and sufficient concentration of inhabitants.
For the partition of groups in this research we looked at age, level of care need and composition of household. For the distinction of levels of care need (from no care till nursing home level) we used the definitions of Dutch legislation (AWBZ), TNO Health Assets, and the databank Assisted Living Facilities of the Expertise centre housing and care (KCWZ), see *Table 1*.

	Categories AWBZ[22] legislation	**Profiles TNO[23]**	**Groups databank KWCZ[24]**	**Groups in this research**
Care	psycho geriatric patients	profile dementia	people with dementia	people with dementia
	mentally handicapped		people with a mental handicap	people with a mental limitation
	psychically handicapped --- sensory handicapped --- somatic patients	elderly with large physical limitations --- elderly with mobility and personal care limitations --- elderly with mobility limitations	people with a physical handicap	people with a physical limitation
	psychiatric patients		people with psychiatric problems	people with psychiatric problems
Non-care		elderly with few or no limitations	elderly	55+ with no or modest care need
			all (other) district inhabitants	families
				starters
				juniors

Table 1. Different levels of care need

In this paper we will test the following hypotheses concerning group mix and social quality of housing:
- groups with a lower care need will easier and better

mix with vital elderly than groups with a high care need
- a limited group mix will have a positive effect on feelings of safety and social cohesion and therefore on the social quality of housing[16]
- a group mix with not easily integrating groups beyond a certain "tipping point"[18] will have a negative impact on the social quality of housing
- as a result, there is a optimal group mix concerning the effect on social quality of housing.

METHODS

The PhD-study is split in a desk research and a multiple casestudy. The desk research was used to get a view of the variety of ALFs regarding their physical scale, group mix, level of facilities and the influence of legislation and financing on these variables, and to analyse the connections between scale, mix of tenants and level of facilities. This paper focuses on the second part of the research i.e. the multiple case study. The sample was selected from 197 projects that are included in the Assisted Living Facilities databank of the Expertise Centre Housing and Care (KCWZ) and were built in the period 1998-2010.
Primary criteria for selection were a variety regarding physical scale - (extra) small, medium and (extra) large – and a variation in group mix: 55+ with no or modest care need, mixed with higher care need, and mixed with higher and no care need *(Table 2).* To establish data triangulation, in each project both inhabitants, staff members, and initiators were interviewed. Besides, we conducted non-participating observations by walk-throughs, using an observation protocol. A narrative method was applied in the interviews to get more reliable information on the experience of the social quality of housing. The number of interviewed inhabitants should be approximately 30 in each level of the strategic selection (both rows and columns in *table 2*) to reach saturation[25].

Physical scale in relation to group mix	(extra) Small < 80	Middle 81 - 130	(extra) Large > 131
55+ with no or modest care need	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators
mixed with higher care need	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators
mixed with higher and no care need	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators	> 4 projects: 6-8 inhabitants 2 staff members 1-2 initiators

Table 2. Optimal strategic selection, number of projects, and interviews per stakeholder group

The respondents were selected by the care institution or housing association related to the project, and in one case by the research group itself. The inclusion criteria for the selection of respondents were: independently living (light or no care indication); between 65-75 years of age; variety of marital status; and minimal 1 year living in the project. For the staff members: minimal two years working in the project; and involved with the vital inhabitants. For the initiators: representation of care institution and housing association; minimal 2 years related to the project; and were possible, involved with the initiative.
The interviews were conducted in 30 to 60 minutes. Generally, the inhabitants were interviewed at home, the initiators at their office, and staff members at their work spot. The interviews were recorded with explicit approval of each respondent on tape and on paper.
A junior researcher and two student interview teams conducted the interviews; 23% of the interviews were conducted by the researcher himself. Interviewing by using the narrative method[26] was trained by an expert and first some pilot interviews were carried out. Generally, the interviewers worked in couples, as mixed as possible concerning gender and discipline. 14% of the interviews were carried out by only 1 person, half of them by the researcher himself. A topic list with the research variables and their indicators were used as a guideline. All the recordings were transcribed en subsequently coded in Atlas ti. 51 codes were used, see *Table 3*, all derived from the conceptual model and aligned in four meetings with the coding team to improve its reliability and validity.

Code type	Number	(example of the) Indicators
Biographic information	8	Civil status, age, children, vitality,…
Research variables	6	Scale, group mix, level of facilities, social quality of housing, context.
Indicators	22	Physical scale, …;mix with…, legislation, …; social interaction,….
Control variables	4	Functional, economic, technical and esthetical quality.
Quality	4	(Non) satisfied, problem, solution.
Personal radius	3	Own, next, far.
Environmental radius	4	Dwelling, project, street, village/city.

Table 3. Type, number and indicators of the codes

In this paper we will discuss the findings from a qualitative analysis of the interviews and our own observations. In another publication we will connect the qualitative data with the quantitative data.

RESULTS

From March 2011 until January 2012 all 24 projects were visited and studied. Two projects were slightly older than the criterion 'new build after 1997': 't Derkshoes (1995) and Bergweg (1996). Being advanced at that time and representative for the generation of ALFs, we did analyze them any way. Three projects turned out to be partly new build and partly expended: Mercator (1999), Huize St. Francisus (2000), and Huis ter Leede (2006).
The intended range of physical scale was fulfilled as well as the intended variety in location. The variety in

group mix was far less than intended. Projects with strictly no or modest care need were rather exceptional and showed to be absent among the larger projects. In three cases the actual group mix deviated from the data in the KCWZ-database. Projects mixed with higher and no care need were extremely exceptional and only one of them was willing to cooperate. So only the sample of projects mixed with care reached full saturation, see the dark grey fields in *Table 3*.

Physical scale in relation to group mix	(extra) Small < 80	Medium 81 - 130	(extra) Large > 131
55+ with no or modest care need	**De Wemel,** Wemeldinge	**Jean Sibelius,** Eindhoven **De Schermerij,** Leersum	absent
mixed with higher care need	**De Sfinx,** Zeewolde **Eilandstaete,** Arnhem **St. Annahof,** Uden **De Berken,** Millheeze **Domus Bona V,** Nederweert **Huize St. Franciscus,** Veendam **Nij Dekama,** Weidum	**Rigtershof,** Grootebroek **Onderwatershof,** Rijswijk **BaLaDe,** Waalwijk **'t Derkshoes,** Westerbork **Het Reggedal,** Enter **Het Spijk,** Eefde	**Bergweg,** Rotterdam **De Pleinen,** Ede **Reinaldahuis,** Haarlem **Parc Imstenrade,** Heerlen **Menno Simons,** Amsterdam **Mercator,** Groningen **Huis ter Leede,** Leerdam
mixed with higher and no care need	absent	absent	**Malburgstaete,** Arnhem

Table 4. Resulting strategic selection, studied projects classified to physical scale and group mix

With respect to the projects mixed with care, the interrelationships between physical scale, location, group mix and social quality of housing could be well analysed. The other projects were analyzed as well, illustrating the exceptional kinds of group mix.

Scale experience and location

The data showed some clear patterns in the experience of scale. Small scale projects were higher appreciated in villages, large scale projects in cities. Inhabitants as well as initiators often mentioned the more assured experience of feeling safe in small scale projects, related to more informal contact and social cohesion in villages, see *Narrative 1.* In contrast, in cities large scale was higher appreciated because of a more assured mix of tenants bringing more liveliness and a larger variety of people and facilities.

"It is not that I am living in the nursing home and you are living in het caring home, here you just live in the Rigtershof. We all live in one street, named Rigtershof and that is coincidentally under one roof"
(Initiator, Rigtershof-Grootebroek, M-Mixed with care-Extra, April'11)

"Now I must say, a small scale organisation makes it more easy to fit in the neighbourhood. The Sfinx is so small, a lot of people work here from Zeewolde, the social involvement is much larger."
(Initiator, Sfinx-Zeewolde, XS-Mixed with Care-Quality, April'11)

Narrative 1. Scale experience and location

Interaction and reclusion

As was already mentioned before, we saw far more extensively mixed projects than we assumed in advance. Groups with higher care need were present in 20 out of 24 projects, presenting 10-50% of the inhabitants. People with dementia and physical limitations were most present, people with mental limitations only rarely, people with psychiatric problems not at all. Regarding group mix a distinction should be made between accommodating different people or groups and actual interaction between people or groups. Concerning the concept of informal help and social interaction in Assisted Living Facilities various results were found. Group mix in itself does not automatically lead to social interaction and does evidently not prevent reclusion. Common activities, when connected to the needs of the diverse inhabitants, could reduce reclusion. However, a mix of groups can be confronting; when vital elderly are daily confronted with very frail elderly with disabilities and a high need for care they might get frightened about their likely future, see *Narrative 2.*

"Trying to stay healthy,
the biggest fear you've got when you look around. Especially downstairs. You can see people walking that were fresh and cheerful half a year ago. And who now have Alzheimer written on their chest..."
(Inhabitant, Sfinx-Zeewolde, XS-Mixed with care-Quality, April'11)

Narrative 2. Frightening future

Relational aggression

In most projects the different groups live next to but apart from each other. In one project one might even speak of 'a little war' between the groups with modest and higher care need. Relational aggression on personal or group scale was widely spread and had a strong negative influence. Elderly keep away from activities to avoid encountering certain persons or groups.

"Oh, gossip? Very much! ... is doesn't affect me, it is that little group basically...."
(Inhabitant, Bergweg-Rotterdam, XL-Mixed with care-Quality Extra, June '11)

"they look mad at me and no, I didn't do anything, I hope so and if not, than I am just on my one."
(Inhabitant, Jean Sibelius-Eindhoven, M-None mixed-Basic, April'11)

"It is a beautiful fruit plate down here, but ... as long as those two rotten apples are in, de atmosphere is bad"
(Inhabitant, Malburgstaete-Arnhem, XL, Mixed with non care-Quality, April'11)

Narrative 3. Relational aggression

Limited informal care

In several projects we saw vital elderly giving support to other groups, which encourages social interaction. The inhabitants in the projects were by majority over 75, with a higher care demand, leaving only very limited opportunities to mutual informal care.

"We start around 63 years running up to 99"
(Initiator, Rigtershof-Grootebroek, M-Mixed with care-Extra, April'11)

"No, no, again the elderly ... put in some youngsters. They can do the voluntary work, you can help each other."
(Inhabitant, Jean Sibelius-Eindhoven, M-None mixed-Basic, April '11)

Narrative 4. Limited informal care

DISCUSSION

One of the limitations of this research concerns the selection of respondents. Most inhabitants were

selected by the care cooperation or housing association. In spite of the inclusion criteria this may have led to a certain bias by selecting easy approachable, possibly positive persons or members of residents committees. Another limitation is the staggering of interviews throughout almost a year. The influence of the seasons probably leads to different social behavior and different activities and as such different levels of satisfaction. Nevertheless some new and interesting insights came to the fore regarding the impact of physical scale and group mix on social quality of housing.

Revaluation of scale

The impact of physical scale on social quality of housing showed to have a different effect in connection to the location. The difference in appreciation of physical scale between villages and cities is not surprising but much stronger and pronounced than expected. Small scale satisfaction is well known and one of the drivers in present policy. However, we saw that specific large scale satisfaction in the cities was widely present. Thus, a choice for a larger scale has not just to be a result of management indicators. This postulates that the contemporary unilateral appeal for small scale facilities has to be revalued in connection to location characteristics.

The threat of mixing with high care need

Assisted Living Facilities were initially meant to accommodate vital elderly with a modest need for care. This tight definition was already criticized by Singelenberg[6]. The data of the population of Dutch ALFS showed that projects without tenants with a higher need for care are quite rare and almost absent in large scale projects. The newer generation of Assisted Living Facilities is characterised by a mix of vital elderly and elderly with a high(er) need for care, in particular people with dementia or somatic limitations. The expected mix with people not needing care at all, in order to prevent an atmosphere of an elderly people's home, is only seen in few pilots. There seems to be no small or medium scale project mixed with higher and no care needing tenants yet. The mix of low and (very) high level of care needing people brings opportunities as well as threats. With the aspiration of creating integrated groups within a project, in some projects a mix of people with physical limitations, mental limitations and dementia is being accommodated. However, the aim of stimulating informal care and social interaction depends heavily of the right balance between less and more dependent inhabitants. In projects were too many people are dependant from care and professional support, or an unbalanced mix due to a growing number of dependent people over the years, people are unable to contribute to the necessary informal care. Besides, the more care demanding group has a confronting impact to the vital elderly. This might lead to resistance to move to the project because of the severe 'care mark'.

The ongoing aggravation of a disproportional percentage of high care needing people may undermine the original concept of Assisted Living Facilities and requires reconsideration. There is a risk of losing the particular value of an ALF as a welcome solution between aging at home and aging in a hospital-like institution.

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