"The Desirable Scale", impact of scale on group mix and social quality in assisted living facilities

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In order to be able to age in place, Dutch elderly are being housed in Assisted Living Facilities (ALFs) for over 25 years. Here they can live independently and rely on care and services. The physical scale of ALFs ranges from 30 up to 300 residents. This paper presents the findings of a multiple case study of 24 projects regarding the impact of physical scale on group mix and social quality. The projects in the population included groups with heavier care need than presumed, leading to two contrary effects: a positive influence of vital elderly on social interaction and informal care, and a negative influence on vital elderly being confronted by the perspective of a more care demanding future, especially due to the inclusion of people with dementia. However, due to a changing policy and housing demands of elderly, they live longer at home, leading to a higher care needing population within ALFs. These changes undermine the concept of Assisted Living Facilities.
The location and the appreciation of scale are related as well: small scale projects are more appreciated in villages, large scale projects in cities. Safety experience is more assured by small scale. In villages there is more informal contact and social cohesion which leads to both positive and negative effects of severe social control. In city environments, a lower level of social control is one of the major drivers in the appreciation of large scale. Ultimately, relational aggression has a strong negative influence, especially in small scale projects.

***Keywords**: social quality of housing; physical scale; group mix; assisted living facilities*

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care to the very old in a prolonged, systematic en multidisciplinary way, in a intramural setting[1], have partly been replaced by small-scale housing facilities[2].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 *Figure .* An important question is whether an extensive mix of target groups leads to more or less integration and social quality of ALFs.

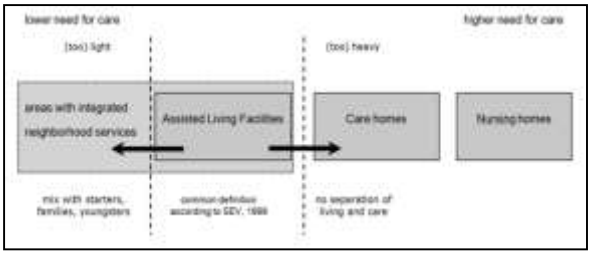


Fig. 1. Changing severity of care of ALF's

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).

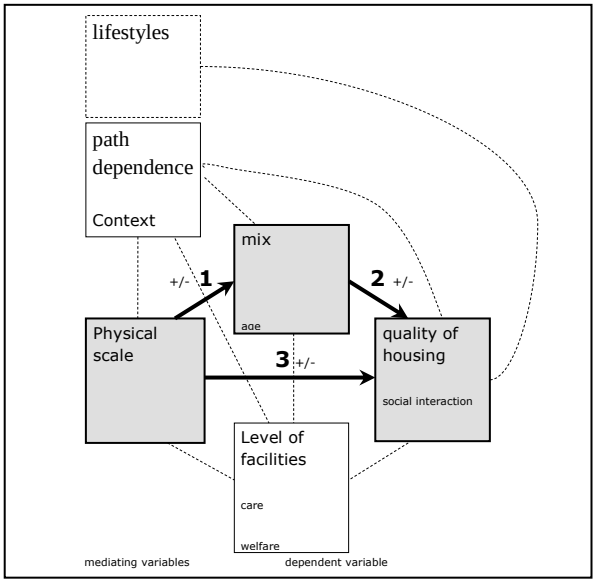


Fig. 2. Conceptual model

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* .

	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).* 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* , 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 .

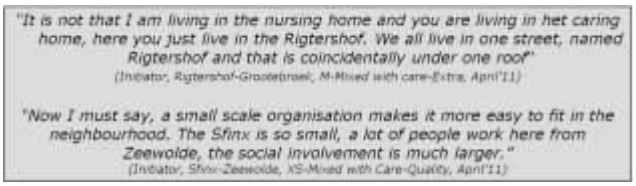
Physical scale in relation to group mix	(extra) Small < 80	Medium 81 - 130	(extra) Large > 131
55+ with no or modest care need	**De Wemel,** Wemeldinge	**Jean Sibelius,** Eindhoven **De Schermerij,** Leersum	absent
mixed with higher care need	**De Sfinx,** Zeewolde **Eilandstaete,** Arnhem **St. Annahof,** 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.

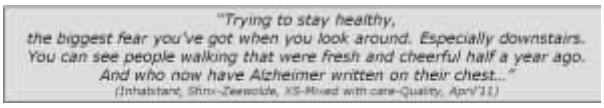


Narrative 1. Scale experience and location

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

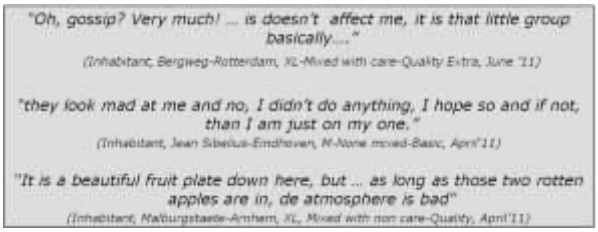
made between accommodating different people or groups and actual interaction between people or groups. Concerning the concept of informal help and social interaction in Assisted Living Facilities various results were found. Group mix in itself does not automatically lead to social interaction and does 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.*



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.



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.

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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CHOICES IN SCALE, GUIDED BY QUALITY OR LEGISLATION?

The influence of institutional factors on assisted living facilities

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Abstract
Since the eighties, Dutch residents of care homes have been housed in Assisted Living Facilities (ALFs) in order to age in place and live with higher social quality of housing. Scale, group mix and social quality of housing of these ALFs has not yet been explored. Initiators decide on experience and intuition or guided by policy and exploitation. The question arises: Are choices in scale for assisted living facilities based on quality factors or guided by institutional influences as legislation and financing? A desk research of 593 projects was made besides a multiple case study in 24 projects. Significant relations were found, partly in line with presuppositions on quality drivers, partly inexplicable. Comparing these incongruities with changes in legislation and financing, plausible relations were found. This leads to the conclusion that decisions for ALFs are based more on institutional factors and less strictly on quality choices than is avowed.

Keywords
Assisted Living Facilities, Institutional factors, Scale, Group Mix, Social Quality of Housing

Introduction

Introduction and description of the methods are based on the paper "The Desirable Scale, impact of scale on group mix and social quality in Assisted Living Facilities" for the ISG*ISARC2012 congress "Who is afraid of aging?".

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 (van der Voordt & Terpstra, 1995), have partly been replaced by small-scale housing facilities (Boekhorst et al., 2008) since the eighties, vital elderly have been housed in assisted living facilities, preferably in areas with integrated neighbourhood services (Edwards, 2001). 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 (ALFs) have been built since 1983 (Singelenberg, 1999). 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 (Singelenberg, 2005). 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 (Singelenberg & Triest, 2009). Present definitions should be stretched to cope with this change, see Figure 3. An important question

is whether an extensive mix of target groups leads to more or less integration and social quality of ALFs. The central question for this paper is: "Do quality drivers or institutional drivers prevail in the choices of initiators concerning scale, group mix, and level of facilities in ALFs?"

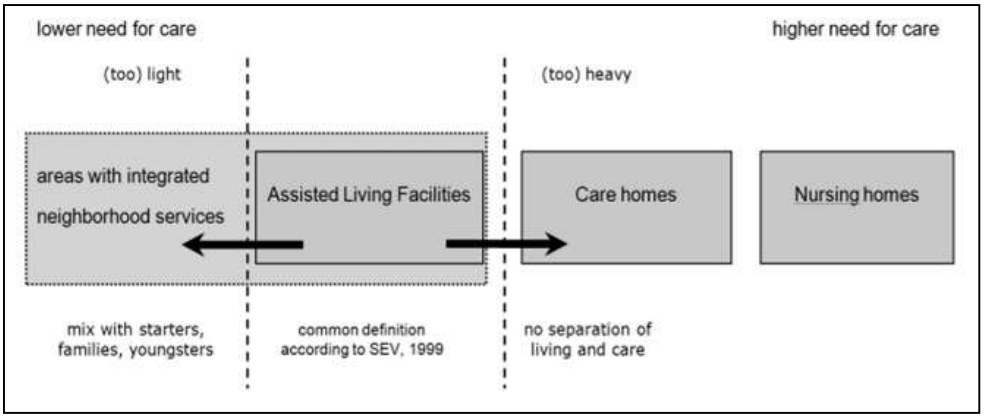

Figure 3. Changing severity of care of ALF's

Within the field of care for dementia, studies on-scale (Hamel, 2005; Liempd, 2010) 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 (Geelen, 2005).
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, level of facilities, and social quality, see Figure 4. The context is assumed to affect decisions on scale, group mix, level of facilities and social quality as well. The central question is this paper in which way decision makers weigh the quality drivers compared to the drivers legislation and financing.

The study is split in two parts: a desk research and a casestudy. The purpose of the part worked out in this publication is to analyze the assisted living facilities in the period 1998-2008 on the variables physical scale, group mix and facility level. After that we will investigate the possible influence of legislation and financing as well as path dependency and following hypes. The hypothesis on this matter is: if scale related decisions are based on factors of social quality of housing, one would expect a rather gradual evolution of scale. If institutional factors prevail, one would expect a more marked, 'jumpy 'development of scale, with the jumps related to institutional changes that can be identified in nature and in time. Path dependency will tend to 'flatten' the jumps.

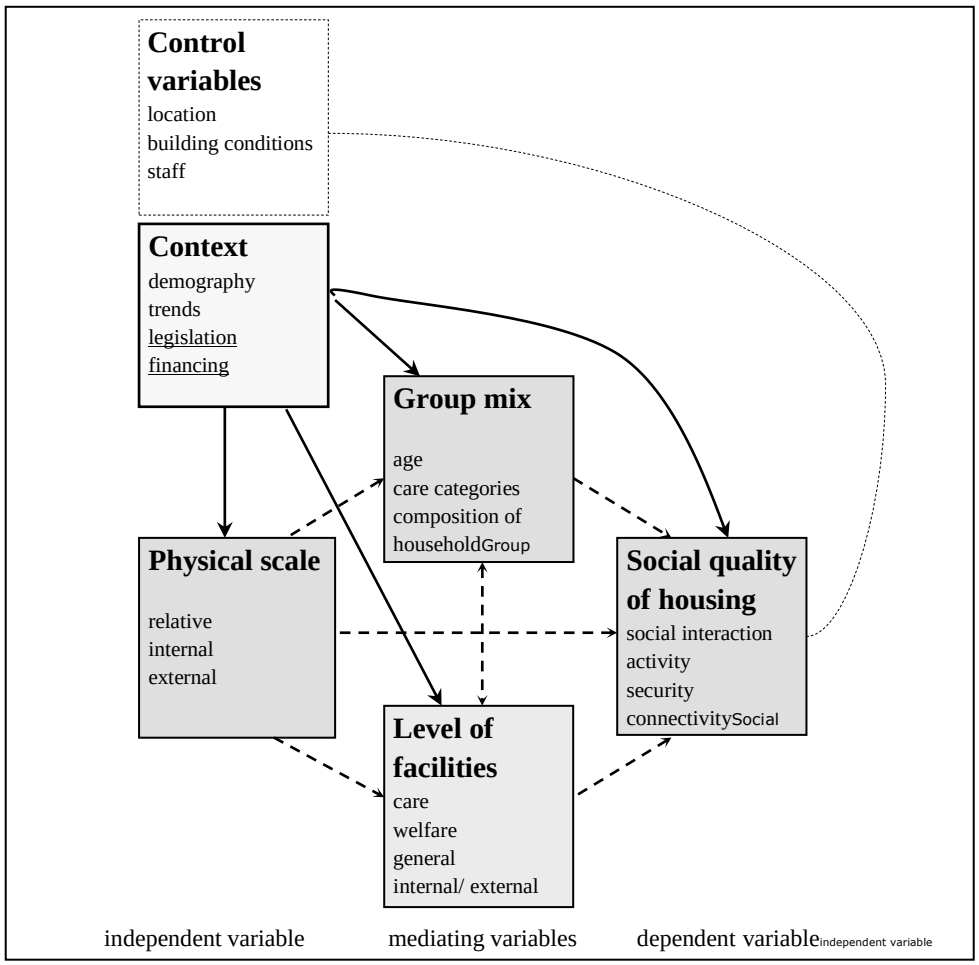

Figure 4. Conceptual model

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 (van Zijp, 1997) 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 (Boudon, 1978) defines scale as the ratio between a building and an element, and proportion as the mathematic expression of the mutual ratio between elements. Ching (Ching, 1979) 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 (2009) 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 (1979) 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 (1989) 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 (1987) 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.

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 (te Boekhorst et al., 2008).
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 (de Kam & Needham, 2003) and is stimulated by the government to avoid strong spatial segregations (Vromraad, 1999). But they may also have an institutional background, which is the question in this paper. .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' (de Kam & Needham, 2003): bonding capital is dominant and bridging capital is lacking. According to research of Holt-Jensen (Holt-Jensen, 2001), 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 (Duyvendak, 2002). 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.

Table 5. Different levels of care need

	Categories AWBZ (Volksgezondheid, 1967)	Profiles TNO (TNO, 2010)	Groups databank KWCZ (KCWZ, 2010)	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 & 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

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 (1968).
Jacobs (1993) 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 5.

Level of Facilities

Initiators often proudly present their new projects with lots of facilities and activities. The decision which facility to create inside or should be present outside the complex is directly scale related: a smaller complex houses fewer facilities and needs more facilities in the direct surroundings. Sometimes, the complex plays a role as a centre for the neighbourhood and could be a *chess piece* as Jacobs (1993) says. She states that four factors are crucial for diversity; two of them are hard to create when missing: sufficient concentration of dwellings and primary diversity.

To order the facilities of the projects, we divided the facilities in internal and external and regarding to category into general, welfare, and care. To rank the level of internal facilities we used an order defined by Tazelaar (2008). He defined 'basic' facilities as facilities that are basically needed, 'quality' facilities as a higher standard of these facilities and 'extra' facilities as complementary. Examples in the welfare category are respectively a meeting space, a restaurant, and a swimming pool. We modelled these three levels comparable with the hierarchy of needs in the pyramid of Maslow (2009), see Figure 5 in horizontally divided in external and internal and the other axis the three categories.

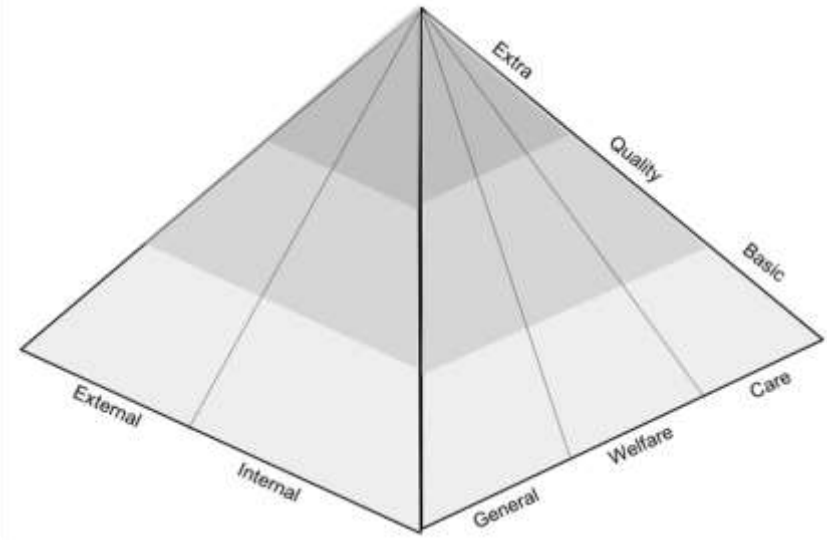

Figure 5 Level, location, and categories of facilities

Preliminary conceptualisation Institutional Factors as part of the context

Context influences decision making, especially regarding public real estate. The relevant contextual factors in this study can be divided into three groups: influences of the changes within our society (including developments in regional (sub) markets, influences of governmental policy and influences of the involved initiating parties.

The influences of the changes in society concern demographic changes and trends. In this case, demographic changes lead to a strong increase of aging, which leads to a larger demand on housing for the elderly and, initially, a large scale action. One the other hand, trends like individualism and user driven thinking lead to small scale and tailor made solutions. Concerning scale in housing for people with dementia, these arguments are opposite inducements (Geelen, 2005; Liempd, 2010; te Boekhorst, et al., 2008). For assisted living facilities they are relevant as well.
Legislation and financing in healthcare building are strongly influencing factors as well. They frame the freedom of movement in decision making. Moreover, since laws on healthcare building change rapidly and they did so even more strongly during the last ten years, long term decisions are more difficult to make. This causes a major tension between the long term focus, needed and therefore more common in real estate investment and the short term focus, accustomed in care organisations.
Finally, influences of the involved initiating parties in this case care organizations and housing associations are the primary involved parties. Path dependency and walking on hypes the initiating parties are two, partly contrary, characterisations of organizations in this field. Path dependency is the ingrained tendency of a organisation to react in the way they are used to react (North, 1990). Institutions will not adjust themselves continuously and flexibly regarding to contextual developments (Edwards, 2001). Previous made choices, small as they can be, determine in an important way future choices. When we look at care organizations, we see that their approach is almost unilateral driven by demand mediated through institutions such as the health care system (Helderman, 2007). In contrast with the housing associations, who despite their public task to provide housing for lower and middle incomes and their contribution to social cohesion (de Kam, 2012) are probably because of their short period of enlarged independency still primary supply driven, intern focused (Dreimüller, 2008) and reactive (Gruis, Nieboer, & Brown, 2003).

Regarding hypes, especially the care sector is influenced being the most dynamic sector in this case (Helderman, 2007). The sector seems to react strongly on hypes (Vroon, 2009). Examples are the revaluation of small scale group living for people with dementia and the introduction of domotics. This may seem inconsistent with path dependency. However, Hamel (2005) states that hypes in care are frequently bases on impotence, people don't have grip on specialised knowledge or costs. This can lead to generalisation of a specific appealing solution. The housing associations became independent in the nineties and with a position in between public authorities, market, and society a so called hybrid organization following 'best practices' (Koolma, 2009). The main hype for this sector was the financial and real estate hype that made them become real estate concerns (Vulperhorst, 2004) risk-taking by buying plots whether or not ready to build (de Kam, 2012).
Being the focus of this paper we will elaborate the influence of legislation and financing more deeply and explore its effects on the basis of the quantitative data within the research period. For an analysis of the path dependence and following hypes we will use the qualitative results from the interviews with initiators.

We will first have a short look at the history of elderly housing after WOII. After the modernization of elderly housing in the fifties and the grow in the untroubled 'golden years' of the sixties did the introduction of the AWBZ in 1968 led to a boom in the building of care homes (Mens & Wagenaar, 2009). In the eighties the 'nursing' model was exchanged by the 'housing model'. With the start of the separation of housing and care the first ALFs were built around 1985 (Singelenberg, 1999). Regarding the financial system of health care, a major change was that insurance companies became responsible for delivery and quality of care in the nineties. At the same time, the already mentioned shift to independency and a hybrid character of the housing associations took place (Koolma, 2009).

An overview of the changes in legislation and financing of healthcare building in the research period 1998-2010 is given in Figure 4. We can observe a quickly changing healthcare system in general with relatively more changes in the last years of the research period: 2005-2009. We will look at the four most important changes in legislation and financing in these years concerning healthcare building. The most radical change is the change in the Exceptional Medical Expenses Act (AWBZ) with the separation of housing and care, since 1995. This caused a major shift in financing of housing with care. No longer is became obvious that people who need a certain care could count on a paid solution

for their housing as well. Housing for the group with the lowest care need is already no longer financed. The group with middle care need will probably follow in the next years. This leads to a great uncertainty concerning the financial bases, amplified by the general financial crisis in these years.

Another strong influencing factor is the Social Support Act (WMO), 2007. This law regulates the budget role of the local communities in care and welfare. With increasing demands and decreasing budgets it also strongly appeals to the independency of elderly and other vulnerable groups. The role of local government as facilitator and director for the social and care infrastructure is expected to get much larger (de Kam & Needham, 2003). This shift from supply driven towards demand driven is not easily incorporated (van de Wijer, 2012; VNG, 2012). The role of inhabitants will have to get larger because of the stronger relay on self reliance. Besides that, future elderly generations will demand more inclusive ways of thinking (van Biene, 2010; van Regenmortel, 2009).
Concerning the licensing system in building for (residential) care, a major change took place in 2008 with the disappearance of the task as licensing authority for the Netherland Board for Healthcare Institutions (CBZ). Finally concerning scale, the small-scale housing Act in 1990, concerning group living for people with dementia can be mentioned. Maybe not as a direct influence but more in a general appreciation and stimulation of small scale solutions. More financial stimulation for group wise, small scale living of people with dementia. The years 2003 en 2008 will be used to analyze legislation related changes in the applied and built ALFs.
The question is with which retardation or forward thinking these changes in legislation are traceable incorporated in decision making? Is there a time-lag between institutional changes and the actual behaviour of initiators of a number of years? Or act initiators in advance, aware of future changes in legislation or financing.

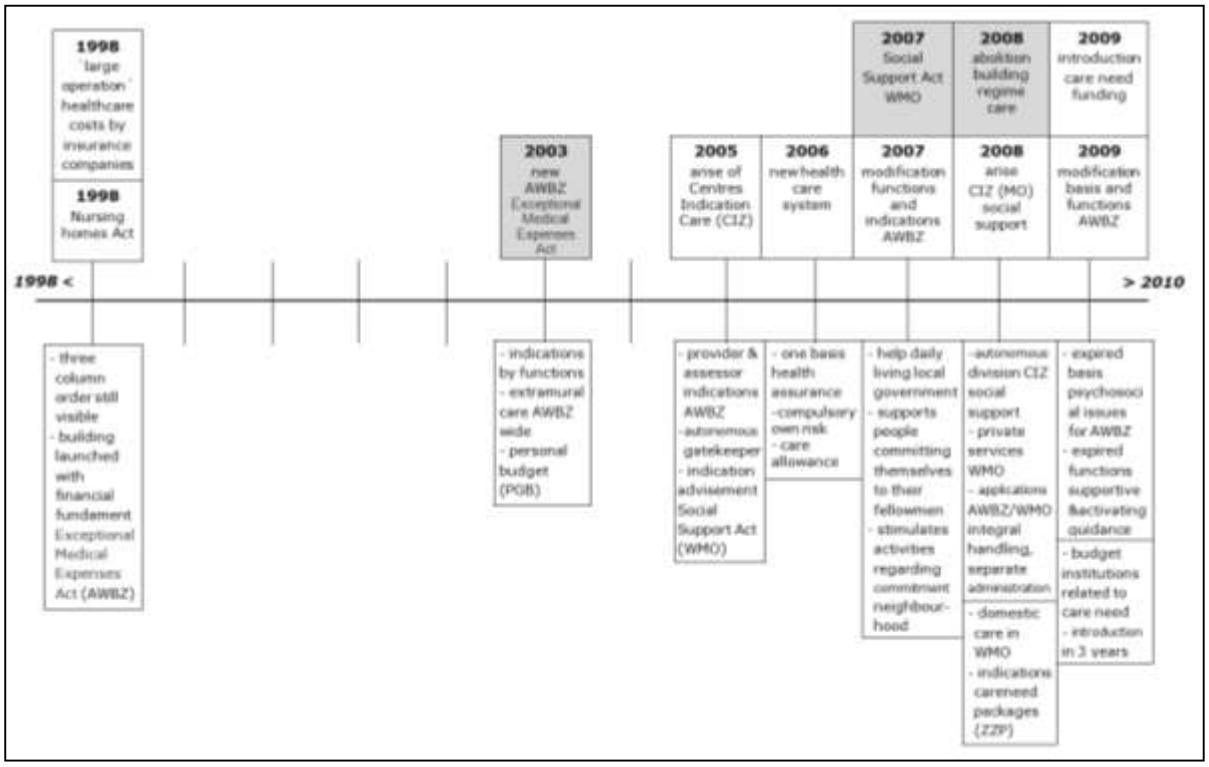

Figure 6 Timeline changes in legislation and financing in healthcare building 1998-2010

In this paper we will test the following hypotheses concerning decision making for ALFs:
- in the research period, ALFs changed in group mix: older elderly and more care needing groups were accommodated
- these changes can be related to changes in legislation and financing
- the arguments for this change were more financial and legally driven than quality driven
- the professed quality drivers have also negative effects that undermine the original concept of ALFs

Methods

The PhD-study is split in a desk research and a multiple casestudy, see Fig. 7. In this paper we will discuss the findings from the quantitative analysis of the 266 selected projects from two meaningful Dutch databases as well as the qualitative analysis of the interviews with initiators. In another publication we will present the findings regarding the experienced social quality of housing of the inhabitants.

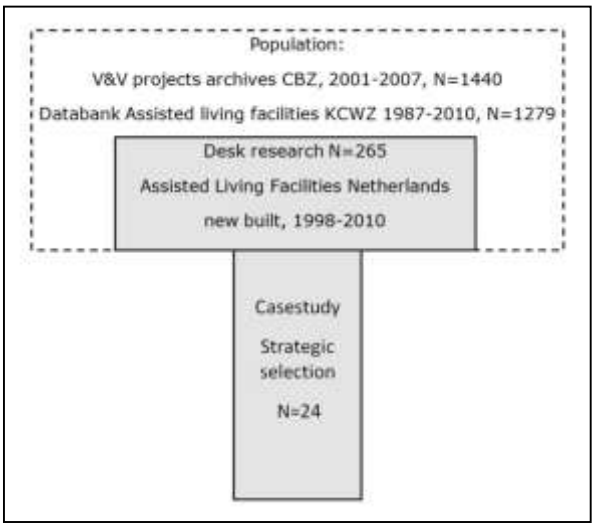

Fig. 7. T-model with desk research and case study

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 these variables. We used two data bases: the archives of the CBZ (2001-2007) which includes all applies for healthcare buildings from care and nursing homes (V&V) until 2008 in which year their task as licensing authority stopped, and the Assisted Living Facilities databank of the Expertise Centre Housing and Care (KCWZ, 2010) existing of voluntary reported actually built ALFs. The time period 1998-2010 was analysed with regard to the institutional factors legislation and financing. Finally, the significance in the relations between the data and the institutional factors were combined to determine probable connections. The program used for the analysis is SPSS, in particular the Spearman's rho correlation coefficient.

We have chosen a second data base because of a possible bias in the Archives of CBZ. We presumed that with regard to group mix the projects would be housing a percentage around 20% of care demanding inhabitants. After analyzing 45% of the projects from the first data base: the archives of the CBZ, this percentage turned out to be more than 80. The second data bank was found in the online databank of assisted living facilities of the KCWZ (2010). We compared both databases on the research variables. The databank of CBZ consists of 1440 applications in the period 2001-2007. We screened 1108 projects of which 396 turned out to be applications for new built projects for housing with care. 94 of them answered to our definition of ALFs. The total of registered projects in the databank ALFs of KCWZ was 1280. 399 projects were built in the period investigated in this study, 195 were new projects. To avoid any influence of existing buildings, these 195 are the projects that were analyzed. 24 projects turned out to consist merely of care needing groups and therefore not within our definition of ALFs. In the end 171 projects were used for the quantitative analysis.

After the desk research a strategic selection was made for the multiple case study. The sample was selected from the 195 projects that are included in the Assisted Living Facilities databank KCWZ, being the most representative of the two data bases, 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, see Table 6. To establish data triangulation, in each project both

inhabitants, staff members, and decision makers were interviewed. 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 (Robson, 2002). In this paper we discuss the results of the interviews with initiators and their decision making. The respondents were selected by the care institution or housing association related to the project. The inclusion criteria for the selection of initiators were: representation of care institution and housing association; minimal 2 years related to the project; and where possible, involved with the initiative.

Table 6. Optimal strategic selection, number of projects, and interviews by stakeholder group

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 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers
mixed with higher care need	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers
mixed with higher and no care need	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers	4 projects: 6-8 inhabitants 2 staff members 1-2 decision makers

36 interviews with decision makers were conducted in 20 to 75 minutes (average 46 min.), generally at their office, recorded with explicit approval of each respondent. 64% of these interviews were conducted by the researcher himself. Using the narrative method (van Biene, 2008) was trained by an expert and first some pilot interviews were carried out. Generally, the interviewers worked in couples with a junior researcher or a student. 28% of the interviews were carried out by 1 person, all but one by the researcher himself. A topic list with the research variables and their indicators were used as a guideline. All the recordings were transcribed and subsequently coded in Atlas ti. 51 codes were used, see Table 7, all derived from the conceptual model and aligned in four meetings with the coding team to improve its reliability and validity.

Table 7. Type, number and indicators of the codes

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, satisfied, problem, solution
Personal radius	3	Own, next, far
Environmental radius	4	Dwelling, project, street, village/city

In order to test the hypotheses, the following variables and indicator codes are investigated in Atlas ti: the indicators of the quality drivers Scale, Group mix and level of facilities; indicators of the institutional drivers Legislation and Finance, and the indicators of the control variables.

Results

Regarding the results we can split them in the two parts of the research: the quantitative results from desk research to be compared with the timeline of legislation and financing in the discussion paragraph and the qualitative results from the multiple casestudy, especially the interviews with decision makers.

The quantitative results from the desk research

In SPSS we have analyzed the frequencies of Scale, Group mix, Level of facilities by the year of application (Archive CBZ) respectively year built in (Database KCWZ). First we will look at the frequency of the projects in the two databases, see Figure 6.

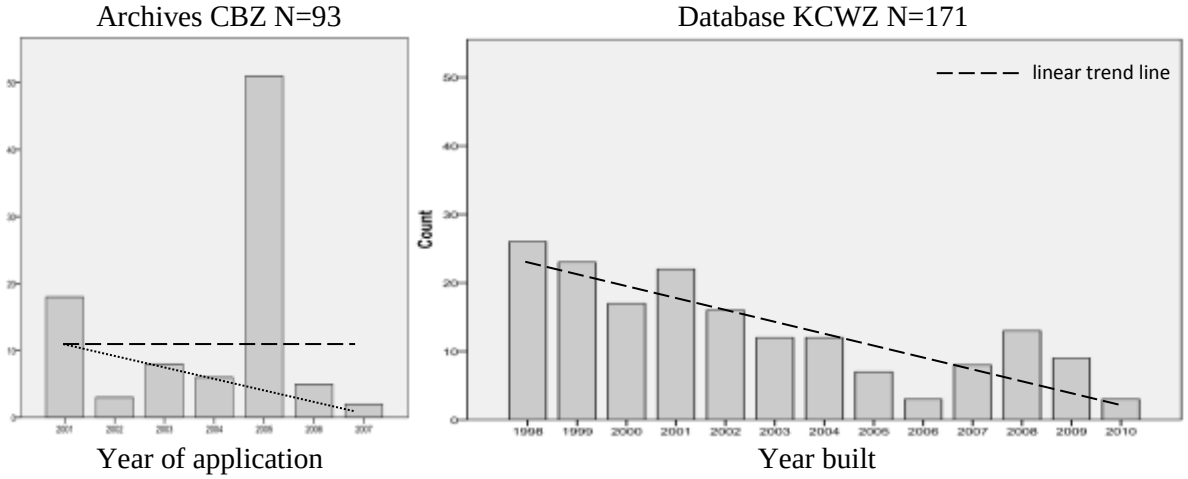

Figure 8 Number of ALFs by year

Regarding the data from CBZ, there is a extreme high number of applications in the year 2005. We will look for an explanation of this in developments in legislation or financing. Leaving this year out, a declining dotted trend line is visible in this period. (The total of all applications for V&V projects was 215-297 applications in the years 2001-2006 in 2007 it dropped to 13). Regarding the data form KCWZ, a similar declining trend line is visible with a short 'dip' in the year 2006.

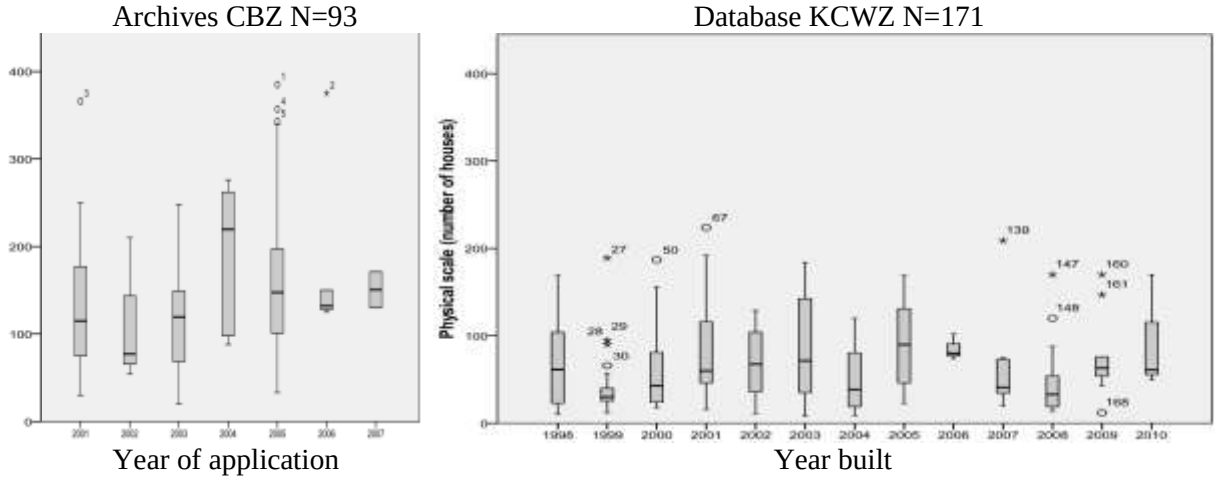

Figure 9 Physical scale by year

Looking at the trends regarding scale in the research period we can come to some clear findings, see Figure 7. Scale in the compilation of CBZ ranges from 20 up to 385 dwellings/complex. 50% of the projects have a scale between 70 and 260. There is a very wide range in 2005, the year with an

exceptional large number of applications. Smaller projects are absent after 2005. In the compilation of KCWZ scale ranges from 8 up to 224 dwellings/complex. 50% of the projects have a scale between 25 and 140. The range in scale is much smaller in the years 2006-2008. Small projects are almost absent after 2008.

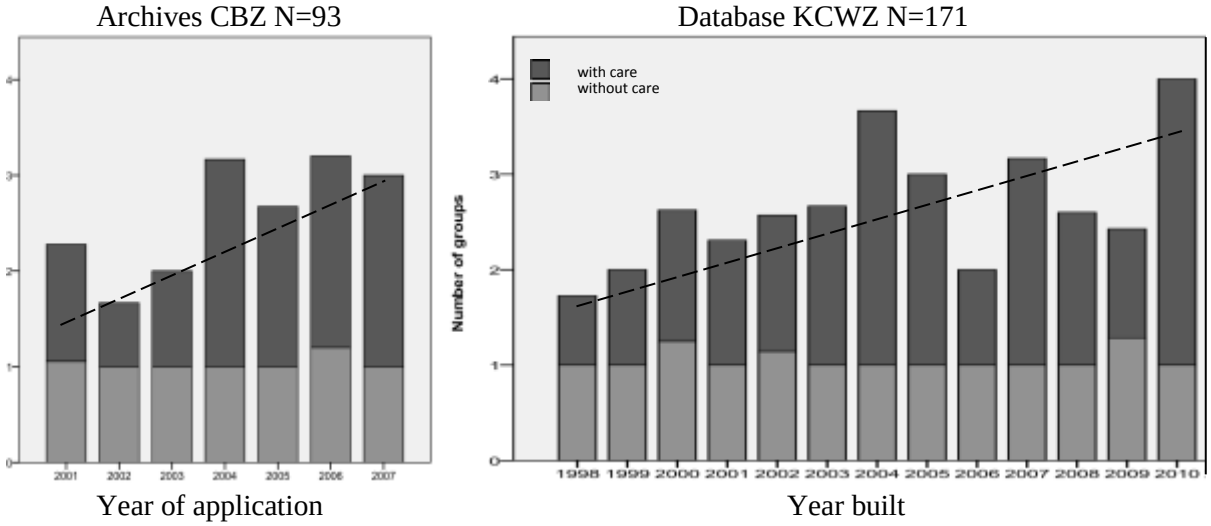

Figure 10 Group mix by year

Concerning group mix, Figure 10 shows the average numbers of groups with and without care, the latter being vital elderly with no or a light care need, the primary target group of ALFs. The number of groups without care is almost constant 1 during the whole period. The years in which other non care groups than the vital elderly are represented are rare and show no trend. The average number of heavier care groups is 1 to 3. The data of CBZ show a slight ascending line. The data of KCWZ a likewise ascending line, with a 'dip' in 2006 (coinciding with the number of projects). The data shows an exceptional highest average in care needing groups in 2010, possibly biased by the few projects present in the database in that years.

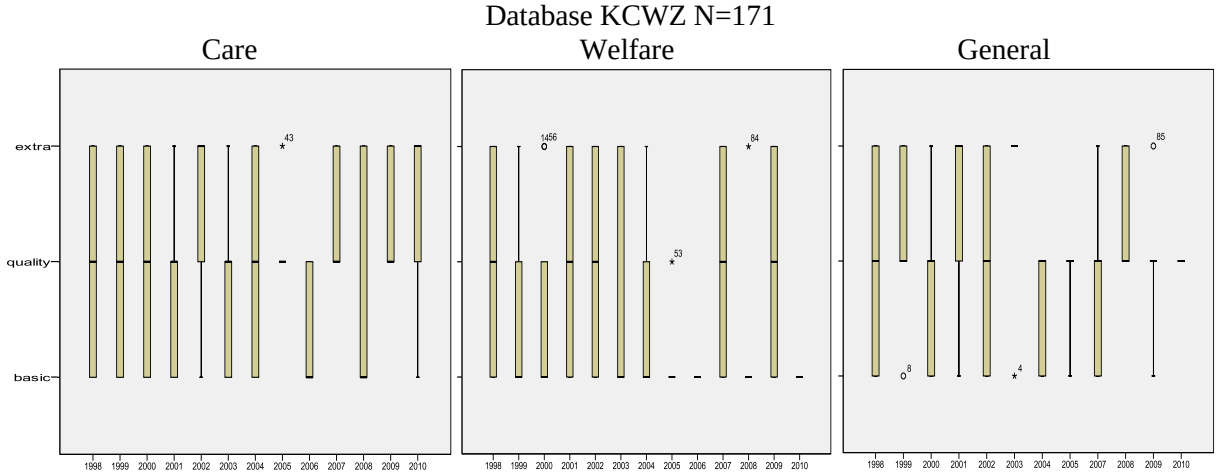

Figure 11 Level of facilities by year

The archives of CBZ don't included substantial information about level of facilities. The spread in this research variable is therefore merely collected in the database of KCWZ, being the base for the multiple casestudy. The facilities are split up in care, welfare, and general facilities and ranked from basic, quality, to extra. The average level of care facilities is 'quality, but with a spread of 50% of the projects to 'basic' and 'extra'. The average level of welfare facilities is quite steady at 'quality' until 2004, later on bouncing between 'basic' and 'quality'. The average level of general facilities is 'basic' to 'quality'.

Correlations research variables within the projects

After the frequencies in these research variables, we have looked at the correlations between them and periods of changes in legislation. For the group mix we ranked the projects with 55+ with no or modest care need inhabitants as the lowest mix, followed by mix with higher care need and mix with higher and no care need, as described see Table 5. For the correlation with changes in legislation in the research period, we use the major changes as described in Figure 4.
The data were correlated in SPSS with Spearman's rang correlation coefficient (rho). In Table 5 and Table 4 the results are presented. Found significance (2-tailed) is indicated by light grey (significance level 0.05) and middle grey (significance level 0.01). Interpretation of the correlations will elaborated in the discussion paragraph.

Correlation ALFs archive KCWZ Spearman's rho N=173		Legislation Period	Physical Scale	Group Mix	Level care facilities	Level welfare facilities	Level general facilities
Legislation period	Correlation Coefficient	1,000	,040	,290**	,003	-,123	,014
	Sig. (2-tailed)	.	,605	,007	,974	,216	,898
	N	171	171	85	129	103	89
Physical scale	Correlation Coefficient	,040	1,000	,184	,274**	,240*	,285**
	Sig. (2-tailed)	,605	.	,092	,002	,015	,007
	N	171	171	85	129	103	89
Group mix	Correlation Coefficient	,290**	,184	1,000	-,023	-,138	-,122
	Sig. (2-tailed)	,007	,092	.	,848	,295	,374
	N	85	85	85	69	60	55
Level Care facilities	Correlation Coefficient	,003	,274**	-,023	1,000	,451**	-,066
	Sig. (2-tailed)	,974	,002	,848	.	,000	,571
	N	129	129	69	129	90	77
Level welfare facilities	Correlation Coefficient	-,123	,240*	-,138	,451**	1,000	,225*
	Sig. (2-tailed)	,216	,015	,295	,000	.	,046
	N	103	103	60	90	103	79
Level general facilities	Correlation Coefficient	,014	,285**	-,122	-,066	,225*	1,000
	Sig. (2-tailed)	,898	,007	,374	,571	,046	.
	N	89	89	55	77	79	89

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8 Correlations ALFs database KCWZ

The projects from the database KCWZ shows three correlations on a 0.05 level and three correlations on a 0.01 level. This database includes more indicators, in particular level of facilities, to which five out of six correlations are related. First there is a significance at the 0.01 level between year built in and group mix. Furthermore there is a significance at the 0.01 level between scale and level of care facilities, and at the 0.05 level between scale and level of welfare facilities and scale and level of general facilities. Scale is related to level of facilities in all three categories. Finally, level of care facilities has a strong correlation with level of welfare facilities.

In the projects from the archives of CBZ we see only one correlations at the 0,05 level between the research variables. The positive correlation between physical scale and group mix: a larger scale correlates with a larger group mix. Comparing the corresponding correlations of both data bases, none of the correlations are similar.

Correlation ALFs archive CBZ Spearman's rho N=93		Legislation period	Physical scale	Group mix
Legislation period	Correlation Coefficient	1,000	,185	,201
	Sig. (2-tailed)	.	,076	,053
	N	93	93	93
Physical scale	Correlation Coefficient	,185	1,000	,255*
	Sig. (2-tailed)	,076	.	,014
	N	93	93	93
Group mix	Correlation Coefficient	,201	,255*	1,000
	Sig. (2-tailed)	,053	,014	.
	N	93	93	93

*. Correlation is significant at the 0.05 level (2-tailed).

Table 9 Correlations ALFs archive CBZ

Narrative Interviews with Initiators in the Multiple Casestudy

After the desk research the case study was executed. Starting from the optimal strategic selection as presented in Table 6, the achieved range in projects visited were fairly divergent, see Table 10. The intended range in scale is successfully completed with 8 projects in each scale related group. However, the range in group mix is not completed at all. Projects strictly existing of inhabitants with 55+ with no or modest care need were quite rare or incorrectly described in the database. Amazing considering this group to be the originally presumed target group of ALFs.

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 10. Studied projects classified to physical scale and group mix

Nevertheless, 24 projects were visited in which 36 initiators were interviewed, 30 interviews were analyzed for this paper representing 22 of the 24 projects visited regarding their quality driven or institutionally driven decisions concerning physical scale, group mix and level of facilities.

1450 quotes were recorded in these interviews. In the following tables the analysis of the queries regarding scale, group mix, and level of facilities are summarized. The most clear extracted findings are presented with the number of related quotes and illustrated by the most representative or remarkable narratives.

Query Physical scale – Social quality of living (co-occur) **18 quotes to analyze**	**number of quotes**
A high physical scale is needed for liveliness and a proper range of activities and groups.	5
Anonymity requires a high physical scale	1
On a low scale the fact that everybody knows each other has positive influence. Social control and social cohesion are more developed than on the higher physical scale	3

Decision maker – Onderwatershof, Medium large - Mixed with higher care need – Quality

When we thinks upwards … they say: a minimum of 350 is needed, not because of financing but for a certain liveliness and mix and the fact that you can enter with a certain anonymity ... with merely 60 inhabitants you can't run a restaurant. At least 120 are needed. We wanted a restaurant anyway ... Quality above financing.

Decision maker - De Berken, Extra small, Mixed with higher care need –Basic

O yeah, de atmosphere is very much 'like knows like'… When there is a activity intramural as well as extramural joins in. People know each other, you see…

Query Physical scale – Finance / Legislation (co-occur) **115 quotes to analyze**	**number of quotes**
A certain physical scale and an amount of ZZP hours is necessary to make ends meet for care organisations. People with a low care need are financially not lucrative. Services like, a restaurant, grocery store or night shift require a particular scale to be profitable.	4
Change in law: people should have a health indication in order to enter an ALF	5
Organizations have become more aware of the actual cost of housing	1

Decision maker – Onderwatershof, Medium large - Mixed with higher care need – Quality

My mother lived with 6 in a small scale housing project ... and then it became 7 and after that 8 … This is invented behind a desk. Small scale doesn't work, 14 neither... when you start night shifts and demands getting crazier and crazier …

Decision maker De Wemel, Extra small, 55+ with no or modest care – Basic

We own the new project I mentioned before. With 150, 155 dwellings ... In 4 little towers but on one lot. That was the final project the province would approve at that time regarding large scale building.

Table 11 Query Physical scale – Quality and Institutional drivers

The decision makers in the interview spoke far less of quality drivers regarding choices in physical scale (18 quotes) than institutionally drivers (115 quotes), see Table 11. Scale as subject in the interviews is generally traded as a aspect of organisation, as the impact of physical scale on structural scale. Initiators primary speak of limitations of small scale solutions for their exploitation. Financial arguments are prior, directly or via legislation such as the ZZP related financing. The mentioned quality drivers of scale are the liveliness and anonymity of large scale ALFs in contrast with the higher social control and social cohesion of small scale ALFs. The most striking narratives state the minimum of 350 inhabitants needed for liveliness and the desk made theoretical concept of small scale living.

Query Group mix –Social Quality of Housing (co-occur) **35 quotes to analyze**	**number of quotes**
Wish to become a point of social interaction in the neighbourhood: in order to increase the liveliness of the ALF. In general all contacts with the outside world are stimulated	8
Shared activities results in more social interaction between groups.	2
Cutbacks on welfare related activities and services result in a need for new solutions. The care organisations want to attract vital elderly people from the neighbourhoods.	3
Vital elderly do not want to mix with disabled people, especially those with dementia because the confrontation. According to staff members it can lead to more unrest/stress.	5
The ALF mirrors the neighbourhood: In a big city there are many different care levels, different cultures etc. This is essential to a big city.	1
Safety is very important for the elderly. They are often suspicious for strangers, different (social) groups, and afraid of burglary and robbery.	3
Decision maker L, Rigtershof, Medium large - Mixed with higher care need - Quality Being an organisation, we would like to be the centre of the neighbourhood. But that is very difficult. Not us but the financing and the possibility for people to come by foot are the problem … advantage of this place is meeting people to prevent loneliness.	
Query Group mix – Finance / Legislation (co-occur) **14 quotes to analyze**	**number of quotes**
Group mix is mainly important for welfare/wellbeing at this is not properly funded anymore. Changed legislation and cutback has led to a focus on care and not on welfare	2
Since the ALFs do not get money for activities, they increasingly try to attract activities to their centre. They provide the space and people, other organizations the know-how and a little money as well, but this collaboration is very difficult.	2
Decision maker Bergweg, Extra large - Mixed with higher care need - Extra And precisely within elderly care welfare is now being cut back ... You will have to bring in that in other ways ... and we will manage it, okay? It demands creativity… it means you will have to look at such a neighbourhood like: gosh … many things are happening here.	

Table 12 Query Group mix – Quality and Institutional drivers

The decision makers in the interview spoke more of quality drivers regarding choices in group mix (35 quotes) than institutionally drivers (14 quotes), see Table 12. This is important difference with the balance in drives regarding scale. Obviously, group mix is a more quality related issue.
The positive mentioned quality drivers of group mix concern the social interaction, the liveliness. The negative quality drivers mention confrontation of groups of people with limitations especially dementia and the importance regarding safety feeling possibly disturbed by a larger group mix. Mix with the vital (elderly) from the neighbourhood is also a common theme.
Looking at the institutional drivers concerning group mix, the main issue is the cutbacks in financing of welfare and separation of housing and care. They are undermining respectively the financing of the welfare component and the housing component for vital elderly in ALFs. The most illustrative narrative concern the ALF as mirror of the neighbourhood and all the pearls within.

Query Level of Facilities – Social Quality of housing (co-occur) **50 quotes to analyze**	**number of quotes**
Level of facilities increases social quality of housing especially for house bound people	10
ALFs as the service centres of the neighbourhood with activities, restaurant etc.	4
Shift from the idea: we offer everything towards; a client should be independent as long as possible. Elderly have their own responsibility	2
Some ALFS offer an activity card for external clients	2
Experimenting with hotel like approach and hospitality	1

Decision maker De Berken, De Berken, Extra small, Mixed with higher care need -Basic

En een activiteitenpas betekent dat intramurale bewoners die betalen al in hun pakket voor het welzijnsdeel en de anderen bepalen na rato dat ze afnemen eigenlijk….De ervaring leert als we hier een kerstavond hebben… zit bijna de hele Berken aan het diner, zowel intramuraal als extramuraal.

Decision maker Onderwatershof, Medium large - Mixed with higher care need – Quality

Het hotelaspect is belangrijk en het moet in de zorg…met aandacht en liefdevol, warme zorg krijgen. …Ook degene die verzorgd wordt, is verantwoordelijk... Dat zijn nieuwe begrippen.

Query Level of facilities – Finance / Legislation (co-occur) **47 quotes to analyse**	**number of quotes**
Due to new legislation, the care organisations are forced to go back to basics: They offer the statutory minimum, if a client wants more, he or she has to pay	3
People with a low care need are financially not lucrative since welfare is cut back. People have to pay for welfare. It is often not funded by their health insurance	8
Due changes in legislation, there is a lot of uncertainty for the decision makers	4
More efficient care services are still possible. Not all services are based on efficiency	1
Night service/shift is very expensive for the care organisation.	1
Services that stick together can share costs (economies of scale)	1

Decision maker Menno Simons, Extra large - Mixed with higher care need – Quality

Every member of staff has a list: showering people, dressing people, okay? … Some inhabitants need extra care and as nursing staff we cannot always deliver that.

Decision maker Onderwatershof, Medium large - Mixed with higher care need – Quality

When the pharmacist can deliver that, and can stand in for all the quality demands concerning medication, it is no longer of my concern and I don't need to hire expensive people for night shifts and more … it is awfully efficient: it just makes care cheaper.

Decision maker Parc Imstenrade, Extra large - Mixed with higher care need - Extra

You have to have sufficient volume of possible candidates, clients to earn in this place a living as an entrepreneur.

Table 13 Query Level of facilities – Quality and Institutional drivers

The decision makers in the interview spoke in similar numbers of quality drivers regarding choices in facility level (50 quotes) as of institutionally drivers (47 quotes), see Table 13. Obviously, level of facilities is threaded equally as an quality as well as a institutionally related issue.
The quality drivers of the level of facilities that are mentioned are the positive influence for especially house bound people, the impact of the own responsibility of people for their care, and the shift towards more hospitality in care and welfare facilities.

Concerning institutional drivers, there is a lot of uncertainty for the decision makers. They speak of going back to basic level and offering the statutory minimum. Groups with low care need are as a result financially not lucrative.
Most illustrative narratives are the upcoming hotel aspect with love and attention but also a responsibility of the person who is taking care of. And the sufficient volume of possible clients.

Discussion

Research limitations

One of the limitations of this research concerns the bias in the databases. The archive of the CBZ was biased strongly by care focussed applications resulting in only 93 of the 1440 applications to be useful. The database of the KCWZ was biased by the voluntarily basis, a reduced attention in the later years by KCWZ as well as in the field is likely to have an effect on the number of reported projects. Probably as a result of professed outdating of the concept of ALFs.
Another limitation was the statistic diversity of the data which made correlations between nominal, ordinal, and rational data hard to demonstrate. Also the spread in data in combination with low numbers of projects made forced grouping of the variables necessary.
A final limitation is the selection of respondents for the interviews. The decision makers were selected by the care organisation or housing association. In spite of the inclusion criteria, the intended spread in representation of the housing respectively care field has not been realized. And especially under the care respondents, most of the decision makers weren't involved in the initiative as preferably intended.

Nevertheless some new and interesting insights came to the fore regarding the relations between physical scale and group mix on social quality of housing, their development in the research period and the balance in decision making between quality drivers and institutional drivers.

Scale related outcomes

The results of this part of the study 'The Desirable Scale' are partly in line with the literature review and the hypothesises formulated at the outset. The range in physical scale is as wide as presumed but more balanced: not only small scale and large scale projects were found but a homogeneous spectrum from 30 up to over 300 units per complex. The number of projects in the archive of CBZ was directly influenced by the end of this building regime in 2008. The reservoir of applications in 2005 is most likely a result of that, the declining linear trend in the research period a logical result. The fact that there is also a declining linear trend line in the database KCWZ cannot entirely be explained by the elimination of the application task of the CBZ. Maybe the concept of ALFs focussed on vital elderly was outdated after all?
The relation between scale and facility level turned out to be highly predictable: large scale projects do accommodate more facilities and small scale facilities lean on existing services in the neighbourhood. There was no or a too weak correlation between scale and localisation in cities or villages.

More mix with care needing groups

The relations between the variables scale and group mix were highly surprising. Analyzing the databank of CBZ analysed first, over 80% instead of the presumed 20% housed one or more extra care demanding groups. This can be seen as a strong indicator for the influence of institutional factors, especially legislation and financing: merely with a care focussed project was application and as a result a certain financial basis assured. Moreover, it also led to the confirmation that another databank should be included in our analysis: the one of the KCWZ. In this database only 25% housed one group: the vital elderly. The definition of assisted living facilities seemed no longer sufficient, since

many inhabitants do not live independently. How can this result be explained? By quality driven decisions, aiming at integration and inclusion? By laws that prohibit building otherwise? Or by financial incentives or constraints?
After comparing the specific changes in legislation on healthcare building in this period, we concluded that the major change 'separation of housing and care' is responsible. The separation mentioned is the separation of the financing of housing and care, after which the government was no longer responsible for the housing component. The result was that strictly independent housing projects were no longer a task of the CBZ, and only projects with a care component were accepted, controlled, advised, and financed.
Care organisations still advocate group mix because it improves the social quality of life. They want to be the centre of the neighbourhood, although it is difficult to cooperate with other organisations in the neighbourhood. Moreover, it is hard to get the locals into the ALF, since it is associated with old people. On the other hand, in big ALFS, like Humanitas Bergweg in Rotterdam, separate groups for migrants are very successful. Older people, in particular with dementia go back to their cultural roots. However such groups are only feasible in large scale ALFs.

Handling the changes

Three majors changes in the research period could be responsible for shift in decision making: the most important is the change in the AWBZ in 2003, followed by the WMO in 2009 and the application shift for healthcare buildings in 2007.
A certain physical scale and an amount of ZZP hours is necessary to make ends meet for care organisations. People with a low care need are not lucrative and make it difficult for the care organization because they receive less money from the fund/health insurance. Night service/shift is very expensive for the care organisation. Services like the restaurant or grocery shop have difficulties to be profitable within the ALF. Moreover welfare related services are no longer financed as well. Initiators however predict that the need for care will raise if people do not get attention via welfare activities. Attention makes people happy and healthier on the long term. On the long turn, cutbacks on welfare related services are expected to increase the care needs of elderly people.
Summarizing, wanted are diverse and lively assisted living facilities with multiple social groups but this is very difficult to realise from a financial point of view.

Conclusion and recommendations

The central question in this paper was: Do quality drivers or institutional drivers prevail in the choices of initiators concerning scale, group mix, and level of facilities in ALFs?" Therefore we first defined the relevant decision issues for ALFs: Scale, Group mix, and Level of facilities; the quality driver: Social quality of housing and the institutional drivers: Legislation and Finance in order to compare the frequencies and correlations between these variables and there trend in the research period 1998-2010. Finally, we compared these outcomes with the actual emphasis in the interviews with decision makers from the multiple casestudy.
We have found a slightly declining number of ALFs over these years presumably caused by changes in the care and welfare legislation. And a far more larger group mix than presumed plausibly caused by the changes in legislation. Decisions about group mix are more and more affected by the changed legislation (AWBZ). In order to make ends meet, a certain amount of elderly with high care needs (high ZZP) is needed. Healthy people are not very profitable and are not sufficient to finance overhead costs. The funding based on health legislation changed. In this way, legislation and finance are core drivers of group mix.
Decision makers profess their choices only rarely compared to financial and organisational arguments. Professed argumentations concern the quality of integrated community, the explicable actual drivers are the institutional drivers: financial and legislation.

Recommendations

The findings of this research can be used in decision-making for initiators of Assisted Living Facilities. Choices in scale can be more evidence based with relation to group mix and facility level, leading to more quality based decisions rather than decisions which are simply driven by institutional factors such as legislation and financing.
ALFs remain a meaningful effective solution in between lighter home care and heavier care and nursing homes. Attention for a balanced group mix and a balance between welfare and care are important, concerning facilities as well as overall character.
Two parties that are limited respectively barely involved are the local government and the inhabitants themselves. The local government could take a larger role as director especially regarding social infrastructure. Inhabitants could play a much larger role in a inclusive way of thinking which allows demand driven and integral supported concepts.

The actual impact of the choices regarding Scale, Group mix and Facility level on the Social quality of housing experienced by the inhabitants will be elaborated in a publication of another part of the research The Desirable Scale.
Interesting insights would be given by an international comparison of Assisted Living Facilities and by a financial comparison of evidence based choices.

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Literature

A large part of the reviewed literature is Dutch. Partly, due to our data sets, government sources, and partly to former Dutch research of Assisted Living Facilities.

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