A Dutch framework for housing models to age in place

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Abstract
The global population is ageing at a rapid pace and *ageing in place* policies are implement in various countries. Under influence of the increase of heterogeneity within the group of elderly in relation to housing and disagreement on what 'place' is are suitable to age, the coordination between demand and supply of supportive 'places' to age becomes a complex task. This paper presents a framework for housing models to age in place that supports the match between demand and supply of models on the Dutch market. Based on the analysis of 13 well-known established housing models, quantitative data was collected and a framework as to reflect what a housing model to age in place entails. The paper describes three applications of the framework in order to support the coordination between demand and supply of *housing models to age in place*. Future research can be done on how to develop a 'shared' vision based on the framework for *housing models to age in place* in order to support municipalities and stakeholders to develop policy in order to develop supportive 'places' for the elderly.

Keywords: *Ageing in place, housing pathways, housing models, framework, Netherlands*

1. Introduction

The global population is ageing at a rapid pace, accordingly many countries implement *ageing in place* policies to prevent unmanageable growth of costs of institutionalised care settings (Wiles, Leibing, Guberman, Reeve, & Allen, 2012; World Health Organization, 2007). *Ageing in place* is aimed at allowing the elderly to live independently and stay part of the community (Wiles et al., 2012). Like many other countries, the Dutch government also shifted towards *ageing in place* policies to reduce the costs of institutionalised care settings (Hooimeijer, 2007). Therefore, policies and services are increasingly aimed at supporting the elderly in 'place', where 'place' consists of the dwelling and its surrounding environment (Van Bilsen, Hamers, Groot, & Spreeuwenberg, 2008). Thereby the interaction between the ageing body and the built environment becomes increasingly important, where it is the challenge to develop a supportive 'place' (Gilroy, 2008).

In the Netherlands, the *ageing in place* policy gradually transferred the task of providing a supportive 'place' for the elderly towards the municipalities (VNG, 2014). The Dutch Ministry of Health, Welfare and Sport (2018) presented an action program for municipalities and stakeholders to contribute to the quality of life of the elderly with an action point aimed at the development of a supportive 'place'. The action point calls for co-ordination between municipalities, care organisations, housing associations, market parties and the elderly to map out housing preferences of the elderly and translate them into a municipal housing vision, and performance agreements between

municipalities and housing associations (Ministerie van VWS, 2018). Houben (2001) typifies this form of co-ordination in relation to the implementation of ageing in place policy as 'managed co-ordination', where municipalities are responsible for inter-sectorial co-ordination and develop a shared vision on *ageing in place*. The goal of this shared vision in relation to the supportive 'place', is that the elderly are housed into dwellings that fit their housing preferences, but are also 'suitable' to *age in place* (Ministerie van VWS, 2018). Furthermore, literature suggests that the current dwelling may not always be the best option in relation to the quality of life for the elderly (Hillcoat-Nallétamby & Ogg, 2014). Due to the change in policy and care legislation, the elderly have been given a wide choice of freedom with regard to where they want to *age in place* (Elp, Zaal, & Zuidema, 2012). Despite the increased choice of freedom for the elderly, housing market research shows that the largest part of the elderly want and tend to stay put (Eskinasi, Groot, Middelkoop, Verwest, & Conijn, 2012; van Dam, Daalhuizen, de Groot, van Middelkoop, & Peeters, 2013; Van Iersel, Leidelmeijer, & Buys, 2010). As a result, some elderly can occupy unsuitable 'places' that could have a negative effect on the prevention of deterioration of health and ageing with infirmities. Eventually, this could lead to potential higher public care costs for in the future (Martens, 2018). However, what place is ideal for elderly to grow old? Wiles et al. (2012, p.365) answers this question by stating that there is no "one-model-fits-all". Literature shows that researchers and experts have their own definition of what 'places' are suitable for the elderly (Atrive, 2016; Leidelmeijer, Iersel, & Leering, 2017; Pop, Heijs, & Meerman, 2014; Post, Poulus, van Galen, & van Staalduinen, 2012; Van Galen & Willems, 2011). Municipalities also have their own interpretation on what 'place' is suitable for the elderly to age (Ipso Facto, 2012). The European Union (2016) indicate that further research is needed to develop a framework that creates 'shared language' in order to support the elderly to find adequate places to age or *housing models to age in place*.

For this paper the following research question has been formulated:

"How can a framework support the coordination between demand and supply of housing models to age in place?"

This paper will explore the above-mentioned research question by developing a framework based on the Dutch market of housing for elderly. The design of the framework will be based on combination of the analysis of the *demand side* and *supply side of housing models to age in place*. The next section will discuss housing theory in order to formulate a theoretical basis for this paper. In the third section, the method to develop and validate the framework will be discussed. The fourth section will discuss the results and the fifth section will focus on answering the research question. Section six will conclude the paper with a discussion. For the literature a combination of scientific literature, business reports and other sources were used to get a good overview of ageing in place in relation to housing. Scopus, Science Direct and Google Scolar were used to find literature. In these databases search terms or combination of terms like ageing in place, housing for elderly and housing models were used.

2. Theory

Housing theory argues that the development of a household and its corresponding housing preferences are predictable (Schilder & Conijn, 2013). The series of dwelling a household occupies during a certain timespan can be defined as a *housing career* (Schilder & Conijn, 2013). The concept of a *housing career* is built on the assumption that a household has a free choice on the market and opts to climb the housing ladder (Abramsson, 2012). In contradiction to the concept of a *housing career,* is the concept of *housing histories*. The concept of *housing histories* also focuses on the free will of households on the housing market, but emphasises on how constraints, for instance, position on the labour market, can limit the free will of households (Beer, Faulkner, & Gabriel, 2006). Both approaches attempt to uncover the housing outcome of households using different perspectives. The approaches emphasize on different factors that can influence the housing outcome of households, therefore providing an incomplete picture of how housing outcomes are formed (Beer et al., 2006).

The *housing pathways* approach by Clapham (2002) attempts to embrace a broad spectrum of factors on the housing market that can influence the housing outcome of households. Clapham (2002) introduces the concept of *housing pathways*, focussing on creating a link between the objective spectrum and subjective spectrum of housing. *Housing pathways* research takes all elements of the *housing career* and *housing histories* approach into account but expands its approach on the subjective definition of home in relation to personal events and interaction with the environment (Clapham, 2002). With this approach, the possibility exists that housing circumstances can change even when there is no change in dwelling or tenure (Clapham, 2002). The *housing pathway* approach supports the researcher to order the housing market incorporating physical characteristics of the dwelling as well as other factors such as changes in housing policy. Clapham (2002) build on the concept of housing pathways in relation to the ageing population, stating that the 'new' ageing population will have a strong desire to structure his/her own identity in relation to housing transition in later life than the previous ageing population. The potential complex behaviour of the elderly on the housing market therefore needs to be taken in order to efficiently coordinate the demand and supply of *housing models to age in place*.

3. Method

In this study, several research methods are applied in order to design an instrument that can support stakeholders to coordinate the demand and supply of *housing models to age in place*.

First, a descriptive analysis of demographic and housing data in combination with the *housing pathway approach* are applied in order to uncover the demand side of *housing models to age in place*. The descriptive analysis consists of showing the frequencies of different groups, for instance, age groups, or household groups. The goal of the analysis was to give an indication of the dimensions of different groups. In addition, a descriptive analysis of housing data was performed. This will give an indication of the dimensions of groups related to aspects of housing. Both descriptive analyses can help to uncover the demand side of *housing models to age in place*. The target

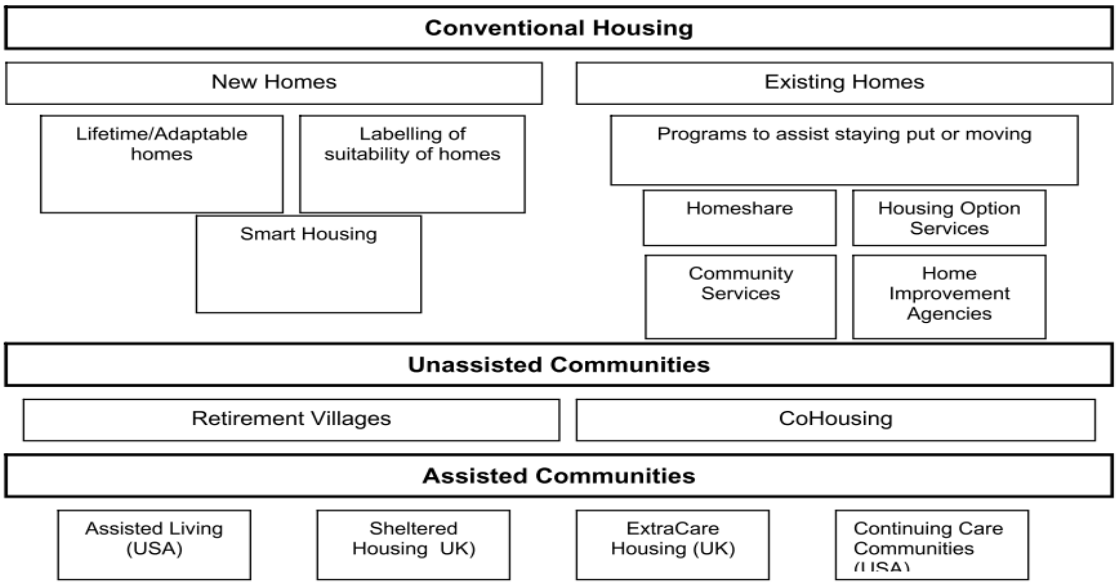

Figure 1: Housing models by Faulkner (2006, p.15)

group of this analysis are the over-55s in the Netherlands.

Second, empirical research will be applied to gather qualitative data on the supply side of *housing models to age in place*. The method used in this research is comparable to the method of structured, focused comparison by Yin & Heald (1975). The method is based on formulating general questions that are answered for every case selected for the research in order to collect qualitative data that can be systematic compared. The objective is to collect data in order to frame existing housing models to age in place. In this case there are two topics where data has to be collected for. First, it is important to know in what way the housing model supports the elderly. Second, information has to be gathered on characteristics of the housing model that are separate from supporting the elderly. To gather information on both topics two questions are asked for each existing housing model. First, *how does the housing model support the elderly in to age place?* Second, *what notable remaining characteristics does the housing model have?* This method grants the researcher the possibility to uncover common patterns that are applicable for multiple cases, which could remain undetected when analysing a single case (Yin & Heald, 1975). Once the data is collected, the researcher will search for distinctive variables within the data based on 'open coding'. Open coding is based on comparing the data for similarities and differences and develop conceptual labels (Corbin & Strauss, 1990). The labels are used to create variables that form the framework for *housing models to age in place*. Based on the age-friendly homes framework of the European Union (2016) a structure for the framework was designed in order to organise the variables. In line with the framework of age-friendly homes, the researcher will make use of dimension to organise building blocks. As mentioned by European Union (2016, p.19) '*sharing success stories*' can be as important as quantified evidence of exiting housing models. In addition, why would one try to reinvent the wheel? However, the researcher cannot decide whether an existing housing model for the elderly is

successful or not. Moreover, the aim of this analysis is not to make a judgement about the function of the existing models, but it is aimed to find out how the existing models are built up. Therefore, thirteen globally known and established housing models for the elderly presented by Faulkner (2006) will be used a 'coat rack' as a starting point to gather data. The housing models by Faulkner (2006) will be described and connected to Dutch cases, other international cases and international literature. See Appendix I and II for the gathered information on housing models and the formation of the building blocks.

For the *framework of housing models to age in place,* two dimensions have been chosen that correspond with the two questions asked each case. The first question regards how the housing model supports the elderly to age in place. This could exist of options that the psychical dwelling has to offer, but also exist of other options. Building blocks that are distilled from the data found with the first question will be placed within the *internal dimension*. The second question regards what remaining characteristics the housing models holds. This could exist of options that define the model, for example, the financial accessibility of the models, but do not support the elderly to age in place. Building blocks that are distilled from the data found with the second question will be placed within the *external dimension*. For the framework, two dimensions have been chosen, namely the *internal dimension* and the *external dimension*. The *internal dimension* will hold building blocks that are (in) directly connected to the *residential object*. Building blocks within the *internal dimension* have the ability to directly or indirectly offer support to the elderly. An important feature of the building blocks is that they are dynamic in nature, which means that the elderly have the opportunity to interact with them if so desired. The *external dimension* will hold remaining building blocks that are connected to the residential object and/or building blocks in the *internal dimension*. The building blocks in the *external dimension* do not possess any abilities to offer support to the elderly but do possess information about the remaining characteristics of the models in general. See figure 2 for the structure of the initial framework.

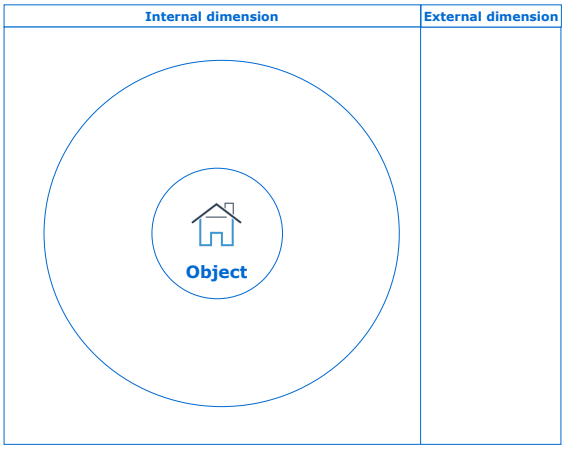

Figure 2: Structure of framework

Third, an expert review will be conducted among five experts in the field of housing and care in order to clarify the findings of the previous research method and collect empirical evidence in order to enhance the instrument for *housing models to age in place*. The interview consist of a structured interview with questions regarding the changes in the Dutch field of housing and care, and questions regarding the instrument for *housing models to age in place*.

4. Result

The result of the first analysis on the development of the demand to age in

place, through the housing pathway approach, shows that the elderly are -consciously and unconsciously- searching for housing models that can support them in the process of ageing. The housing pathway approach displayed that the behaviour of the elderly on the housing market has become complex and less straightforward under influence of different interaction factors. The analysis shows that the demand for dwellings with supportive functions is still present, but also that a large portion of the elderly prefers to stay put. As a result, the heterogeneity of the (potential) demand for *models to age in place* has increased. This means that the new spectrum of ageing in place has an unknown number of possible options, which can result in an unknown number of -currently unexplored- housing pathways. Furthermore, the analysis of the housing data holds too little information on the 'look and feel' of housing models to age in place. Therefore, the framework is mainly based on the analysis of existing housing models, as presented next.

The result of second and third steps of the methodology are incorporated in the final framework for *housing models to age in place,* as presented in figure 3. The basis functioning of the framework is as follows. The combination of the *residential object* and the building blocks in the *inter- and external dimension* reflect what a *housing model to age in place* entails. Within each building block, several options or combination of options are available to define the building block, where the *prerequisites* can be predefined options that need to be included in the model, see Appendix III for an overview of the options. The predefined options can be based on vision documents, results of research or agreement between stakeholders. The diverse blocks are able to 'built' a variety of housing models within the new spectrum of ageing in place. This places more emphasis on the interaction between the spatial component and the other building blocks in the *internal dimension.* All building blocks in the *internal dimension* will be placed

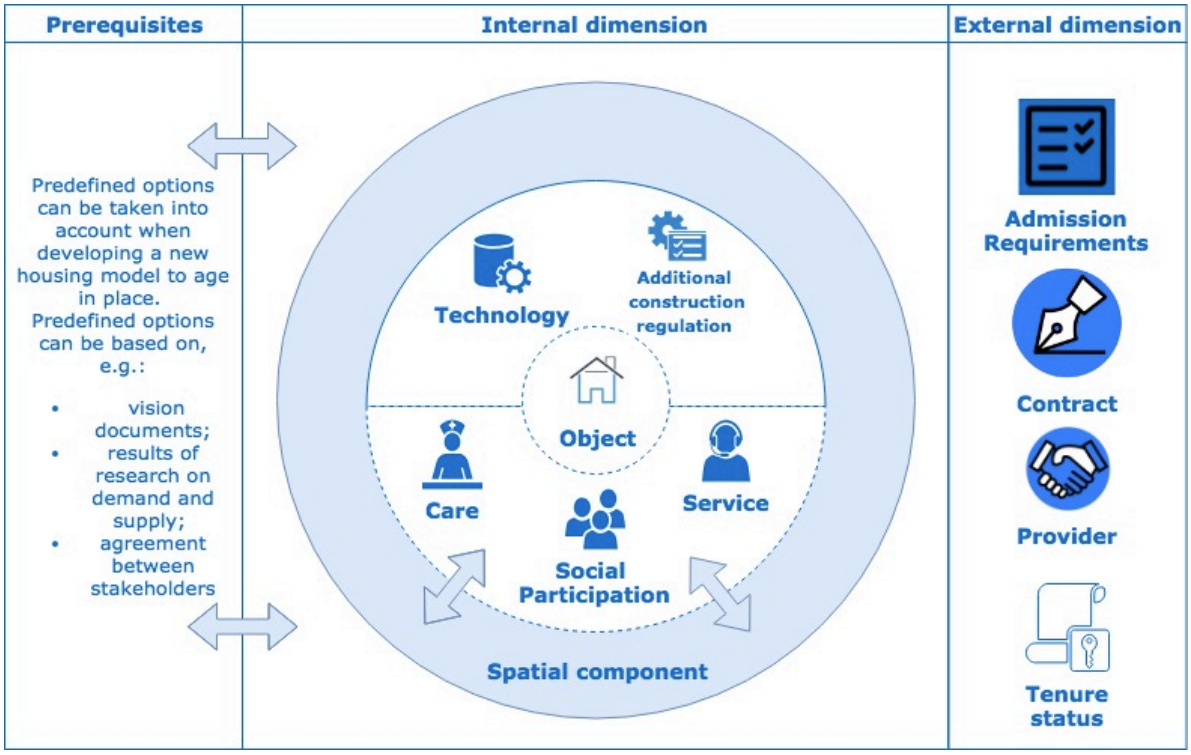

Figure 3: Framework for housing models to age in place

within the *spatial component The spatial component* still serves as a building block that is able to support the elderly, however it could hold *care, service* or *social participation* options that do not necessary have to be in place directly at the *residential object*. This creates a dichotomy in the *care, social participation* and *service options*, namely *direct options* and *indirect options*. *Direct* options are directly connected to the *residential object,* while *indirect options* are available within the *spatial component*. This does not account for *technology* and *building regulations*, because the options within these building blocks directly apply to the *residential object*. Based on the main findings, three applications of the framework have been defined in order to support the coordination of the demand and supply of housing models to age in place in the Netherlands.

5. Conclusion

The research question formulated for this paper was:

"How can a framework support the coordination between demand and supply of housing models to age in place?"

The designed framework provides the combination of three applications to support the coordination of demand and supply of *housing models to age in place* in the Netherlands.

The first application of the framework is focussed on structurally collecting data on preferences of the elderly on local scale in relation to *housing models to age in place*. The framework can be used as a tool to gather data of the preferences of the elderly in relation to *housing models to age in place.* Findings based on the data collected on the preferences of the elderly in relation to *housing models to age in place* can be used to define *prerequisites,* which can be taken into account when developing a *housing model to age in place*. By exposing the demand for *housing models to age in place* through the use of the framework, the municipality is provided with data that can be used for both housing and ageing in place policy.

The second application of the framework is aimed at creating a frame of reference for municipalities on *housing models to age in place.* Currently, the new spectrum of ageing in place is mostly unexplored and therefore municipalities have an incomplete frame of reference on *housing models to age in place* within their municipality borders. Therefore, the framework can be used to enhance the frame of reference on *housing models to age in place* by analysing existing housing models within municipality borders. The framework offers a 'template' for municipalities to structurally organise information on existing *housing models to age in place*.

The final application of the framework is focuses on the guidance of stakeholders in relation to the discussion on what a supportive 'place' is for the elderly. The framework provides a starting point for 'shared language' on *housing models to age in place* in order to guide the dialogue between stakeholders involved with the development of *housing models to age in place*. The framework can be used as a guidance in order to break the 'dialogue of the deaf' that frequently occurs between stakeholders, because of different interpretations of what 'places' are suitable for the elderly. This application of the framework can be compared to a structured interview with

the same questions asked in the same order each interview. In this case, the same building blocks are discussed in the same order each consultation round between stakeholders. Through repeating the process the occurrence of the 'dialogue of the deaf' will decrease.

6. Discussion

The housing pathway approach displayed that a part of the over-55s in the Netherlands are 'leaving' their traditional housing pathways and more unique housing pathways are forming towards the new spectrum of ageing in place. The findings based on the housing pathway approach are in odds with traditional housing theories. For example, the *housing career*, which claims that households have a free choice on the market and opts to climb the housing ladder. In contrary, the housing pathway approach indicates that these housing pathways are not as linear as the traditional housing theories claim. Therefore, unexplored housing pathways gradually replace the traditional straightforward housing pathways of the elderly.

During the development of the framework, qualitative data was collected by means of desk research. This was done by one researcher and based on a 'coat ranch' of 13 internationally known models. Additionally, cases and literature were connected to the 13 internationally known models based on the knowledge of the researcher and available relations in his network. Therefore, other models could be unintentionally left out entailing that the data collection was incomplete. In addition, the two questions asked per models were formulated and answered by one researcher. Therefore, one could argue that the answer given to the questions are not completely objective.

Although the framework has been developed for municipalities on a local scale, the demographic data and the housing data have been analysed on a national scale. Future research can be done on how to develop a 'shared' vision based on the framework for *housing models to age in place* in order to support municipalities and local stakeholders to develop policy in order to develop supportive 'places' for the elderly.

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Appendix II: Forming building blocks

Based on the qualitative data gathered with the question: '*how does the housing model support the elderly in to age place?'*, overlap between the models is identified and the labels for building blocks within the internal dimension are formulated.

The forming of building blocks within the internal dimension

The highest overlap identified between the housing models is found on the term *service*. These *services* have to do with the possibility to acquire knowledge on housing models or community services through *housing options services*. In addition, *services* have to with the possibility to receive a range of non-medical assistance like housekeeping, catering or laundry services, reception, technical service and help with shopping, which are available through *community services* or integrated within models such as *retirement villages, assisted living, (Extra) sheltered housing* and *continuing care communities*. Furthermore, services regarding the improvement of the current dwelling through *home improvement services*, such as placing a new bathroom or removing thresholds. *Services* are available in different compositions, where some models have a full spectrum of services some only offer a small package of services. The options with overlap regarding the term *services* are part of the building block labelled as *Service.*

The second overlap found between the models is on the term *care*. *Care* can consist of care through *community services*, informal care within *homeshare* models, health monitoring and 24-hour on-site staff that are present in *assisted living* models, 24-hour emergency assistance in *(Extra) sheltered housing* and the possibility to receive nursing care on-site, such as present in *extra sheltered housing* and *continuing Care communities*. As Vegter (2006) care has become available at every *residential object* in the Netherlands with the changes in national care legislation, therefore care received through community services will not be taken up in the building block. The remaining care facilities are part of the building block with the label *Care.* The difference between the building block *service* and *care* is that options within the building *service* are aimed at non-medical services, while the building block *care* is aimed at medical services.

The third overlap identified between the models is discovered on the term *social.* In several models the possibility to participate in social activities have been identified, either intentionally, such as with *homeshare* and *cohousing* models, or voluntary, such as with *retirement villages*. The spectrum of social activities is broad, entailing organised activities, like coffee mornings, bingo or play bridge, such as present in *retirement villages* and *serviceflats*. Furthermore, the availability of communal areas offers people the option to meet each other, such as with *retirement villages*, *assisted living* models, (*extra*) *sheltered housing* and *continuing care communities*. The building block will be labelled *Social Participation.*

The fourth overlap found between the models is on the term *building regulations.* Several extra construction requirements to a building can support the elder when infirmities arise, such as with *lifetime homes*, these can be expressed through easy understandable labels, such as with *labelling of the suitability of homes for older people*. The additional building regulations can be taken into account during construction, such as with *lifetime homes, extra sheltered housing* and *continuing care communities* or can be applied later by *Home Improvement Agencies*. In order to distinguish standard building regulations with extra construction requirements, the building block will be labelled *Additional construction regulation*.

The fifth overlap identified between the models is on the term *spatial layout*. In general, the new homes and existing homes as presented by Faulkner (2006) are scattered in nature. For example, the *lifetime home* and *smart home* can be single dwellings scattered throughout a neighbourhood. However, the (un)assisted communities such as *retirement villages* and *sheltered housing* are based on agglomeration of dwellings. In addition, one should ask itself how the model is connected with the rest of the world, even though models call themselves a community. After all, location and setting can also be important for the elderly. To give an extreme example, a *Retirement Village* located in the middle of the desert gives a whole other perspective to ageing in place than a *Retirement Village* near a city. The building block will be labelled *Spatial component*.

The final overlap discovered between the models is on the term *technology*. *Technology* can be applied in dwellings to support the elderly to age in place*. Technology* can consist of home automation, monitoring of resident's health, safety and security, and home environment, such as with the *smart home*. Home Improvement Agencies are able to place simple forms of *technology* to support the elderly to age in place and some models have incorporated *technology* to facilitate independence and create a safe environment, such as with *continuing care communities*. This building block will be labelled as *Technology*.

The external dimension will filled with building blocks formulated through the overlap of terms in data gathered by the question: '*what notable remaining characteristics does the housing model have? '*.

The forming of building blocks within the external dimension

The highest overlap discovered between the models is on the term *type of provider*. The *type of provider* interrelates with different building blocks within the *internal dimension* of the framework. As shown, the elderly are free to pick his/her own *provider* when receiving care at home*,* such as with *community services*. In addition, private or public parties can own the real estate that holds the *residential object*, such as with *retirement villages*, *assisted living* and *(extra) sheltered housing*. Also, the organisation of service and care facilities can differ per type of provider. At some models, such as *retirement villages, assisted living, (extra) sheltered housing* and *continuing care communities* most building blocks of existing models are organised by professional organisations. With other models, such as *homeshare* and *cohousing,* some building blocks of models are organised by volunteers or family. This building block will be labelled *Provider*.

The second overlap found between the models is on the term *tenure status*. The *tenure status* interrelates with the *residential object*. The *tenure status* occurs in the classic forms, such as social housing, private rental and owner-occupied. With the *retirement village*, there is a possibility of leasing the residential object. Also, with some models there is a mix of *tenures* present, giving freedom of choice for the elderly. This building block will be labelled as *Tenure Status*.

The third overlap identified between the models is on the term *contract.* The *contract* interrelates with different building blocks in the *internal dimension*. The most apparent example is the *contract* residents have to enter to make use of service facilities in a *service flat*. Another example is students at the model '*Woonstudent*' sign a contract that, in return for their services, they will receive deduction on their living costs. Some models enable the residents to make use of care, services, or maintenance based on structural fees, while other facilities are facultative, such as with *(extra) sheltered housing* and *continuing care communities*. This building block will be labelled *Contract*.

The final overlap discovered between the models is on the term *entrée requirements*. With some models, certain minimum requirements are set for residents to enter a model. This could entail that a minimum or maximum age limit is set, such as with *retirement villages*. Residents have to show that they are willing to participate in the model, such as with *cohousing*. Furthermore, some *cohousing s*chemes even set requirements to cultural background, diet, sexuality and/or religion. In addition, within some *continuing care communities set* requirements in the form of a single entrée fee. This building block will be labelled as *Admission requirements*.

Appendix III: List of options within building blocks

Framework for housing models to age in place	
Fixed building block	***Fixed characteristics***
Residential object	**Category:** *Independent dwelling, independent residential unit or dependent residential unit.*
	Living area: *square meters*
	Rooms: *number*
Building blocks	***Options***
Care	**24-hour on-site care staff**
	24-hour emergency staff
	Health monitoring
	Nursing facilities on-site
Service	**Housekeeping**
	Catering service
	Laundry service
	Hairdresser
	Pedicure
	Reception
	Technical service
	Assistance with groceries
Social participation	**Communal area with organised activities:** *Coffee mornings, Bingo, bridge*
Spatial component	**Location:** *Connection to public transport, location within community*
	Setting: *single residential object or agglomeration of residential objects*
Technology	**Home automation**
	Domotics
	Care robotics
	Door spy (in Dutch: 'deur spion'**)**
	Alarm system
Additional construction regulation	**Labels:** Thressholdless (in Dutch: 'drempelloos') Dutch examples of labels: Seniorenwoning, Woonkeur, Oppluslabel & Sterwoning
Admission requirements	**Minimum age limit**
	Maximum age limit
	Minimum demand for care
	Maximum demand for care
Contract	**Presence of contract to make use of options within building blocks.**
Provider	**Provider(s) of building blocks residential object, care, service and social participation.**
Tenure status	**Social housing**
	Private rental
	Owner-occupation

Appendix I: Housing models for elderly

To expand the framework of the European Union, existing housing models for elderly by Faulkner (2006) have been analysed. Based on general terms, used to describe housing models for elderly, desk research has been conducted to obtain information on existing housing models to age in place.

New Homes	**1. Lifetime homes**	
	Comparable cases	**Levensloopbestendige woning**
	What supports the elderly to age in place?	An extra set of building requirements can be present and offer the possibility to support the elderly when infirmities arise, such as wider doors so that a wheelchair can pass through.
	Are there any notable remaining characteristics?	xxx
	2. Labelling of the suitability of homes for older people	
	Comparable cases	**Seniorenwoning, Woonkeur, Oppluslabel, sterwoningen.**
	What supports the elderly to age in place?	*Labelling of the suitability of homes for older people* translates the extra technical requirements to simple labels, which are easy to understand for elderly.
	Are there any notable remaining characteristics?	xxx
	3. Smart Homes	
	Comparable cases	**Izi-woning**
	What supports the elderly to age in place?	The availability of certain technology at a dwelling increases the capability of taking care or supporting the elderly, for example domotics, alarm system or a door spy.
	Are there any notable remaining characteristics?	The implementation of technology can, in theory, be applied to every dwelling in the conventional housing stock. This means that, disregarding tenure status, technology can be applied.
i n g	**4. Housing option services**	

	Comparable cases	**Doorstroommakelaar, Housing options for Older People (HOOP)**
	What supports the elderly to age in place?	Is a form of services that can be *indirectly* available at a residential object and offer assistance to the elderly to age in place. This service can support the elderly to acquire knowledge on other housing models presented by Faulkner, such as community services and home improvement agencies.
	Are there any notable remaining characteristics?	xxx
	5. Community Services	
	Comparable cases	**Social support Act (WMO), Healthcare law (ZVW), Act Long-term Care (WLZ)**
	What supports the elderly to age in place?	Service and care options are indirectly available at the residential object. The elderly are free to interact with them if desired. The spectrum of service and care is large and the elderly do not have to interact with all possible services and care that are available. While some elderly make use of domestic help, others will make use of care at home or both.
	Are there any notable remaining characteristics?	The elderly have the freedom of choice to pick the provider of care with current care legislation.
	6. Home Improvement Agencies	
	Comparable cases	
	What supports the elderly to age in place?	The home improvement agencies can add measurements to the dwelling in order to let the elderly age in place. This can be accomplished in different ways. Simple low-tech solutions can be placed or building modifications can execute, such as placing a new bathroom.
	Are there any notable remaining characteristics?	Modification to a dwelling is in some way dependent to the tenure status of the dwelling. Elderly in the social housing sector are dependent on the corporation to modify the dwelling, while elderly in the owner-occupy sector are free to make changes to his/her dwelling.
	7. Homeshare	
	Comparable cases	**Mantelzorgwoning, Kangeroewoning, Woonstudent, SOlink,**
	What supports the elderly to age in	The model of *homeshare* enables the elderly to age in place because of the

	place?	informal care given by students or family. On the one hand, the elderly get support like domestic help but on the other hand, the elderly have the opportunity to have more social interaction. Especially for those that have a small social network.
	Are there any notable remaining characteristics?	Students sign a contract in order to receive deduction on their living costs (woondstudent).
Unassisted communities	**8. Retirement Villages**	
	Comparable cases	**Serviceflats**
	What supports the elderly to age in place?	The availability of facilities/services on mutual ground as the residential object, such as catering service, domestic help, laundry service, use of quest rooms, reception, hairdresser, pedicure, restaurant, café, caretake 'huismeester', technical service. The spectrum of facilities/services is large and thus every elderly can enjoy his/her own lifestyle. Also, residents are free to participate in activities and meet people. Social Activities: play golf, play bridge, coffee mornings, play billiards, bingo,
	Are there any notable remaining characteristics?	The type of provider of the residential object can be public or private. In addition, the provider of facilities can also be either public or private. The residential object can be obtained as an owner-occupied dwelling or rental dwelling or occupied under lease. In many cases residents have to sign a contract to make use of services/facilities. In some cases residents have to meet requirements to get access to the model, for example minimum age or maximum age.
	9. CoHousing	
	Comparable cases	**Gemeenschappelijk voor ouderen, Gemeenschappelijk voor mix, Thuishuis, Particulier wooninitiatief,**
	What supports the elderly to age in place?	The core idea of Cohousing is that elderly intentionally support each other. This can be done in a clustered form or a more separated form.
	Are there any notable remaining characteristics?	The organisation of the model is in some cases carried by volunteers only. While in some cases, when participants are not capable of organising the model, professionals are involved. In may of the CoHousing models admission requirements are set, for example, cultural background, diet, sexuality and

		religion.
Assisted communities	**10. Assisted Living**	
	Comparable cases	**Aanleunwoning**
	What supports the elderly to age in place?	The direct availability support, meals, housekeeping, transport, personal care, social and recreational activities. In some cases the whole spectrum of care is available, such as personal care, health monitoring, 24-hour on-site staff. Also, because the care and support are clustered, it is more accessible for the elderly. If a need for care arises, they are directly connected to the care facilities.
	Are there any notable remaining characteristics?	In some cases in the US, the elderly need to be able to afford a dwelling in an assisted living facility. In the Netherlands, the *sheltered dwellings* are mostly owned by housing associations, which make them accessible for people with a low income.
	11. Sheltered Housing	
	Comparable cases	xxx
	What supports the elderly to age in place?	Shared facilities, 'organising social activities and gatherings for residents' Services available, scheme/estate manager 24-hours care services through 24-hour emergency assistance
	Are there any notable remaining characteristics?	Available in rental and owner-occupied sector Mostly owned by local authorities and housing associations Additional fees for structural services and fees for facultative services
	12. Extra sheltered housing	
	Comparable cases	xxx
	What supports the elderly to age in place?	The model is made accessible for people with a wheelchair or walking frames. Shared facilities, like communal areas. Services available, laundry, quest facilities, warden 24-hours care services, even possibility to stay put when care becomes complex
	Are there any notable remaining characteristics?	Available in rental and owner-occupied sector Mostly owned by local authorities and housing associations Additional fees for structural services and fees for facultative services
	13. Continuing Care Communities	

	Comparable cases	xxx
	What supports the elderly to age in place?	'Dwellings incorporate design features, equipment and technology to facilitate independence and provide a safe environment…. …..mixture of tenures.' (Vondenhoff, 2015) Whole spectrum of care facilities and services is available on mutual ground, 'catering facilities…… comprehensive communal services, restaurants, lounges, activity rooms, library, computer suite, health suite, consultation room, help with shopping, cleaning and possibly making meals …… Social and leisure activities/facilities - shop, hairdressing, chiropody, cash machine, post box. Mobility and access assistance, communal buggy or shared pool car ' (CBS, 2016) On-site nursing care
	Are there any notable remaining characteristics?	Dwellings available in owner-occupied and rental sector Structural fee to make use of care, services and maintenance. Sometimes a one off entry fee