

Engagement Towards Creating New Models for Later Life Living

C. Zecca¹, C. McGinley² and R. Griffiths³

¹ The Helen Hamlyn Centre for Design, Royal College of Art, London
cecilia.zecca@rca.ac.uk

² The Helen Hamlyn Centre for Design, Royal College of Art, London
chris.mcginley@network.rca.ac.uk

³ Cartwright Pickard Architects, London
r.griffiths@cartwrightpickard.com

Abstract: This paper presents initial findings and principles attained from an ongoing knowledge transfer project between academia and industry partners aiming to develop more inclusive later-living housing models against the background of current UK market stagnation and lack of suitability of existing stock.

Housing for later-living in the UK lacks meaningful community engagement and hence frequently fails to embody genuine needs beyond basic accessibility principles. Potential residents are frequently reduced to simplified statistics or uncomplicated representations of ‘third age’. The lack of engagement has contributed to unsuitable UK housing stock, inconsistent language use, and limited understanding of older people’s actual experiences and desires for their homes and communities. The UK faces the challenge of creating more human-centric, socially and economically sustainable spaces within homes and in the urban environment, whilst avoiding age segregation. In recent years this has been acknowledged, yet developments proclaiming to be designed for older cohorts continue to be poorly executed, through fragmented planning policies failed designs; persistently institutionalised features; and lack of inclusive understanding.

This paper will discuss the prevalence of limited inclusive intentions and outcomes particularly in terms of older populations in architecture, and the consequences of neglected community engagement within the architecture design process, pointing out uncodified methodologies and fragmented literature. The paper will present a successful example of a housing project for later living in Europe, and conclude by proposing a more human-centric approach and a set of initial inclusive design approaches and principles for housing.

Key words: later-living, housing, human-centred architecture, ageing.

1 Introduction

Research indicates that there is a need to clarify the concept of inclusive design and associated guidelines within architecture and built environment industries (Ormerod 2005; Sugiyama and Ward Thompson 2007; Harding 2020). This lack of clarity on inclusive design process and methods in architecture has led to marginalise elderly groups through the normalisation of institutionalised age-restricted housing complexes, and as a result segregation has doubled during the last 25 years (Kingman 2016).

Prevalent terminologies have shaped policy frameworks, generating confusion, inconsistency and limitations. The typical emphasis on accessibility can prove reductive in terms of expanding inclusive approaches in architecture practice (Harding 2020). Another example is the ‘win-win’ proclamations around on-trend ‘solutions’ such as ‘downsizing’, which in reality tend to maximise developers return on investment, rather than genuinely respond to older people’s aspirations.

Furthermore, despite generalised inclusion recommendations in UK housing policy, at a local level it is not clear what typologies are needed for new housing developments for older people (Stirling and Burgess 2021). There is a lack of knowledge in relation to older people’s experience of space both outside and inside their home, and a lack of clear process and principles towards designing inclusive buildings. While it is relatively common to find good examples of product and service design output achieved through inclusive processes, in architecture the typical ‘Plan of Work’ (RIBA 2020) has focused on technical design and performance of the building (Harding 2020) over inclusive process and output.

Based on the literature, expert consultation, case study exploration and site visits, this paper proposes an inclusive implementation of RIBA’s Plan of Work, with a focus on ‘Stage 0 - Strategic Definition’ through engaging architects with users. Further to this, three guiding principles are outlined for use in implementing Inclusive Design methods in Architecture. These principles highlight a range of spatial qualities and services that improve the human emotional, cognitive and multisensorial experience as a priority (Ritchie 2020), to be followed by established and conventional intentions around space performance.

2 Literature: Representation in Architectural Inclusion

Although inclusive design has a long history in the UK context (Clarkson and Coleman 2015) discrepancies exist between academic recommendations and applied practices within architecture. Despite academic dialogue on user engagement and inclusive design strategies, within architectural practice there remains a distinct lack of understanding as to the benefits of such processes, and approaches for applying them. In architecture practice, the narrative around participatory design processes is often dysfunctional, fragmented and self-referential (Jenkins and

Forsyth 2010). Terms such as participation and co-design are underutilised, and conspicuous in their omission from the official RIBA (Royal Institute of British Architects) Plan of Work - the go-to process model within architectural practice, which include seven stages (0-Strategic Definition; 1-Preparation and Brief; 2-Concept Design; 3-Spatial Coordination; 4-Technical Design; 5-Manufacturing Construction; 6-Handover; and 7-Use). This is despite Inclusive Design being a recurring term highlighting good practice requirements by the RIBA (2020) architectural plan of work and stages, our research has identified that the knowledge and definition are often reduced to tokenism and simplification especially when concepts of less tangible disabilities, equity and differences are involved. There is a critical need to expand the scope of projects around housing to generate a more holistic definition of architectural inclusive design.

Compounding this issue is the media portrayal of older people in the UK, which often include concepts of care, economic dependency and an unproductive population, which can negatively influence policy agendas and contribute to discrimination (Lloyd-Sherlock 2004). Schmid (2019) highlights a tendency to focus on numbers, statistics and potential housing options; however, the voice of older people is often underestimated or totally absent.

‘Those wishing to enter the sector that do not begin with a person-centred operations approach, instead skip straight to the numbers, largely fail to bring a product to the market.’

(Schmid 2019)

The only contact architects typically have with people and communities is their ‘public consultation’, which typically happens at a late stage in the design process, when planning permission, technical drawings (up to RIBA Stage 3) and related documentation have already been submitted to local planning authorities. Post Occupancy Evaluation (POE) is another form of engagement to collect users input regarding buildings and spaces; however, as evidence demonstrates it is still not fully integrated into typical design processes (Durosaiye and Hadjri 2019).

Architectural participation and co-design require inclusive design approaches which, as previously discussed, are limited in the architecture disciplines (Zallio and Clarkson 2021). Inclusivity is often equated to physical access for wheelchair users in its most simplified form, neglecting other aspects of living in and experiencing space. On the contrary, inclusive methods, which are largely validated in other domains of design encompass a variety of users with different needs, impairments and/or disabilities, and engage within multidisciplinary collaborations. The aim is to provide flexible and adaptable solutions that respond to the diversity of people across their age, ability, gender and race. One key principle is to recognise exclusion through engaging with more extreme user experiences, understanding what bespoke solutions might be in those scenarios in order that they might be extended to all, acknowledging the diversity that naturally occurs (Zallio and Zanutto 2022).

While in service design, for instance, there is five steps methodology (Bhavnani and Sosa 2008) that enhances user engagement through observations and ethnographic approaches as well as a linear process to generate ideas, refine and

implement design, in architecture this process has not been revised by RIBA and so not integrated in its Plan of Work.

In architectural practice there is a sense that the voice of less represented people is still not heard as it should be, and places and spaces are not meeting their potential, physically, emotionally or socially. This can be achieved by creating more intimate domestic spaces and healthier public spaces within the city by providing hybrid, sometimes deprogrammed spaces that can contribute to a sense of ownership and reappropriation of places for communities. In this scenario older people would be truly included in the society, playing a more active roles in the city and in the economy more in general. Architecture is not only about designing a building, but rather is about creating new relations and opportunities for people within the city where the building stands:

'Buildings should liberate their users, not limit them.'

(Rogers 2015)

It is only by overcoming limited perspectives of integration and accessibility, of reduced standard dimensions and restrictions, and by looking at architecture through the magnified lens of inclusivity that we can truly improve people lives through the creation of meaningful places and spaces.

3 Methodology: Literature Collation, Expert Consultation and Case Study Site Visits

To investigate the lack of inclusive design in architecture and the built environment, the research collated architectural articles and academic publications selected accordingly to: their originality in the ageing space; focus upon (predominantly) older participant engagement; and analysis of successful case studies of later living housing models. The review provided overview and insight into prior studies that specifically emphasize factors influencing the understanding of inclusive design in architecture for later living. The literature also provided an initial list of relevant case studies that were considered to have been produced with inclusive motivations, providing insight into the successful methods and perspectives relevant to business, architectural and built environment industries (Creswell 2003; Flyvbjerg 2006).

Next a theoretical framework for selecting the top-scoring case studies of those gathered was produced through three Delphi rounds, in order to validate quality-indicators (Boulkedid et al. 2011; Hasson et al. 2000) of best inclusive practice in architectural design for later living. The challenges, best practice and criteria for selection and assessment used to map and evaluate the case studies were refined through gathering the opinion of eight UK experts in health and social care, senior living and policies, affordable housing and sustaining places and inclusive design who were recruited and continue to actively advise on the project.

The wide collection of 60 international case studies enabled and supported the definition of a theoretical framework for applicative solutions, and exploration of potential adaption and adaptation in the UK sector. This is a validated method in architecture and built environment (Harding 2020).

The rationale for case study selection was organised against nine criteria and their numerical evaluation through a yardstick appraisal (Yin 1994) as shown below:

Table 1. Criteria and evaluation for case studies selection

Criteria	score	weight
1. Location: Proximity with urban areas, amenities, GP, hospital, shops, services	0-5	10%
2. Design Solution: Volumes, internal spaces, light, outdoor spaces	0-5	15%
3. Inclusive Architecture: level of participatory design, residents' involvement since the early stage, use of workshops, focus groups	0-5	15%
4. Tenure & Mix of Uses: Innovative tenure model, affordability, BTR. Intergenerational, multipurpose spaces	0-5	15%
5. Technology: Assistive technology provision, social apps, motorised building elements	0-5	5%
6. Construction Methods: Modern method of construction (prefabrication, use of innovative materials)	0-5	5%
7. Sustainable Solution: Use of low-impacting materials, energy efficiency (i.e. photovoltaic panels), rain water collection	0-5	15%
8. Care Provision: Care provided on site, 24h extra care service, physical activities space	0-5	10%
9. Financial Model: Affordability, rental model, tenure mix, Gov incentives	0-5	10%

The initial list of 60 potential case study sites was narrowed down to the 12 highest ranking examples that embodied current best practice in the sector.

Each short-listed case study was visited for fuller data collection, and to gather detailed accounts from those involved in the design, construction, management as well as residents in situ. In this regard, sets of audit criteria, questionnaires and semi-structured in-depth interviews related to inclusive design approaches, design challenges, residents involvement and the financial and operational aspects of buildings were developed and later analysed through thematic analysis. The logistics of the site visits were organised through a 'site visit checklist' in order to standardise the process and enable analysis of the data collected, between several researchers involved in the process.

The qualitative data obtained through these methods helped further develop a model with three main strands (Social, Spatial and Visual Connectivity; Sustainability and Diversity; Health, Wellbeing and Clarity), which were also translated into a briefing document, which acts as accompaniment to the RIBA Plan of Work.

4 Case Study Example: Agorahaverne Co-housing, Copenhagen, Denmark

The selection of best practices from worldwide housing developments was chosen against the criteria listed in the methodology section (table 1), contributing to better understanding of process and elaboration upon the design principles. Beyond geographical location, the most successful later-living housing models presented recurring design themes and architectural inclusive design approaches as well as a mixed functions and facilities. The example now presented demonstrates one exemplar case study from the 12 that provides a precedent to help develop a conceptual framework for pioneering housing models in the UK, as well as for improving the architectural RIBA work flow and stages. The case study presented is an affordable later-living development in Copenhagen, completed in 2021 and designed by Sangberg Architects.

Agorahaverne co-housing in Slagelse (Denmark) represents a successful inclusive design projects where people, identity and nature complement each other and reinforce the sense of community within the development. One of the biggest challenges in terms of design, as architect Jonas Sangberg stated, was the interaction and balance between private and public spaces - “*the study of how they [the residents] pass through the space*”. Compositionally (see figure 1), the layout is developed around an internal covered courtyard which works as a green house and central core of public life, with different spaces designed for social activities. The rhythm is articulated through a grid of timber columns, which perceptually reduce the scale of the open space and supports the double pitched trusses and glazed roof. The central courtyard is also characterised by cubicle rooms, accessible from the bottom but also inhabitable on the roofs and that can be used for meetings and social activities.



Fig 1. Agorahaverne co-housing plan. Courtesy: Jonas Sangberg



Fig 2. Agorahaverne courtyard view. Source: Author

The prefabricated apartments, all dual aspect, are distributed around the central void over two levels (see figure 2). In contrast to commonly found institutionalised aesthetic the architect commented “*there has been important attention to detail and to internal materials in order to enhance the domestic feeling and experience*”.

An innovative aspect in terms of architectural inclusive design is the collaboration between research, anthropologists and Urgent.Agency (a design company providing anthropological and demographical studies) which contributed to the brand of Agorahaverne through four main values: 1. freedom, 2. life-long learning, 3. community, 4. square and public spaces.

The process of empathically engaging with potential and future residents was carried out by the developer Tetris together with anthropologists and researchers. This enabled analysis of the economy, the community aspirations and understanding of the dynamics of older people. During a site visit to Agorahaverne, this community-engaged approach was confirmed by residents - “*during the design stage we were asked what we like, why and how our days look.*”

The level of engagement with local people also enabled future residents to know each other in advance and helped the developer to understand - “*what we shouldn't do!*”

5 Initial Findings

Findings from literature, case studies and thematic analysis of the interviews with the main stakeholders and residents led to the identification of two key aspects that need to be defined in the UK context: Architectural Inclusive Design Process and Architectural Inclusive Design Principles, still uncoded and underestimated in architectural practice for later-living housing models.

5.1 Architectural Inclusive Design Process

The research project identified the need for a profound shift in terms of age-inclusive approaches in Architecture. There needs to be understanding of older people, including the social context, physical surroundings and including new disciplines such as neuroarchitecture that highlight experience of space sensorially and emotionally (Mallgrave 2013). In terms of architectural projects, a deeper analysis, understanding of site context and people's needs is fundamental, and should be integrated in the RIBA Plan of work stage 0 - Strategic Definition. A multidisciplinary research approach undertaken from the beginning of the project (as we identified from the case studies and literature reviews) where architects engage with people and communities, can be effective in challenging unsuitable briefs towards better design intent. As architecture is for people, we conclude there are strong ethical implications to position inclusiveness as a fundamental intent.

5.2 Architectural Inclusive Design Principles

The following working diagram proposes three initial areas of investigation and their interrelated subcategories that form guiding principles for a more inclusive and sustainable housing model for later-living. The main strands and their taxonomy of design principles summarise the findings collected and analysed so far from the case study projects.

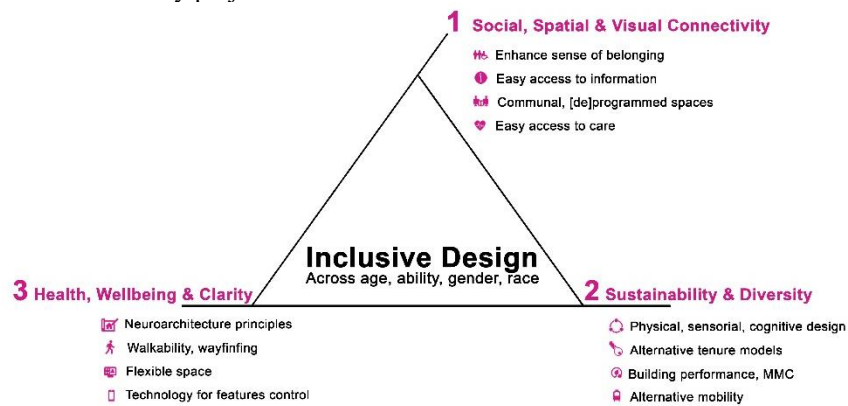


Fig 3. Inclusive Design Principles for Later Living Housing Model. Source: Author

The first strand 'Social, Spatial and Visual Connectivity' helps to restore the sense of belonging to the place by creating more relation to the outdoor environment and community. This can be achieved in ways such as opening buildings to the public; increasing the mix of uses, and the provision of more accessible levels and

intensity of care. To increase the connectivity between people, and between people and spaces, flexible open spaces able to adapt to different situations as well as various services should be included in early stages of the project. The second strand ‘Sustainability and Diversity’ is about connecting people within a more self-sufficient environment through design that considers the sensorial experiences of the spaces. Moreover, the model aims to offer more flexible and alternative tenure mixes by proposing alternative rental fees for the private spaces, facilities and semi-public spaces. The third and final strand ‘Health, Wellbeing and Clarity’ includes a more domestic design of clear wayfinding and communal areas that facilitate healthy balance between social engagement, and personal life.

6 Conclusion

This paper discusses the lack of inclusive intent and community engagement during the initial stages of architectural design proposals for later living housing developments in the UK context, and .

Some of the major findings are presented with the support of an exemplar case study provided as a high-rating concrete example of our inclusion aspirations, which enables further discussion around the proposals for Inclusive Design Processes and Principles in architecture for later-living.

Specifically, this paper identifies in terms of Architectural Inclusive Design Process, the need for codified forms of community engagement such as interviews, focus groups and users journey during the initial stage of the design; the need for a more collaborative process and range of experts, such as researchers, within the development team.

In terms of Architectural Inclusive Design Principles for later living housing models, findings suggest three main areas (Social, Spatial Connectivity; Sustainability; Health and Wellbeing) where architects and other stakeholder can focus during the design process. These three areas are also elaborated upon through four subcategories of actions that can significantly enhance the design of a more inclusive housing model for later living.

Acknowledgements

This KTP (Knowledge Transfer Partnership) project is funded by Innovate UK.

We are grateful to stakeholders and residents of Agorahaverne co-housing in Copenhagen. Specifically: Betina Nørby Steinbock (Tetris A/S); Jonas Sangberg (Sangberg Architects); Ricky Storm Braskov (Urgent.Agency); Tomas Jandorf (Tetris A/S)

References

- Bhavnani R, Sosa M (2008) IDEO: service design. Insead, Paris
- Boulkedid R, Abdoul H, Loustau M, Sibony O, Alberti C (2011) Using and reporting the Delphi method for selecting healthcare quality indicators: a systematic review PLoS One 6 (6): 1-9 10.1371/journal.pone.0020476
- Clarkson PJ, Coleman R (2015) History of Inclusive Design in the UK. Applied Ergonomics 46 (Part B: 235-247
- Creswell JW (2003) Research design: qualitative, quantitative and mixed methods approaches. Sage Publications, Thousand Oak
- Flyvbjerg B (2006) Five misunderstandings about case-study research. Qual Inq 12: 219–245
- Harding J (2020) Moving Inclusively through transport buildings: A Cross-disciplinary design case study. In Langdon P, Lazar J, Heylighen A, Dong H Designing for Inclusion Springer Nature Switzerland AG, pp 115-112
- RHasson F, Keeney S, McKenna H (2000) Research guidelines for the Delphi survey technique. J. Adv. Nurs., 32 (4): 1008-1015
- Jenkins P, Forsyth L (2010) Architecture, Participation and Society Routledge
- Lloyd-Sherlock P (2004) Living longer: Development and social protection. UNRISD. Zed Books, London & New York
- Mallgrave HF (2013) Architecture and embodiment. The implications of the new sciences and humanities for design. Routledge, Taylor and Francis
- Ormerod M (2005) Undertaking access audits and appraisals: an inclusive design approach. J Build Appraisal 1:140-152
- RIBA Plan of Work (2020) architecture.com
- Rogers R (2017) A place for all people. Great Britain: Canongate Books Limited
- Schmid P (2019) The market needs greater choice, greater options. In Just living. ColladoCollins Architects
- Stirling P, Burgess G (2021) Understanding supply, demand and investment in the market for retirement housing communities in England. Cambridge Centre for Housing & Planning Research
- Ritchie I (2020) Neuroarchitecture. Design with mind in mind. Architectural design, 268.
- UN (2015) World Population Prospects: The 2015 Revision. United Nations Department of Economic and Social Affairs/Population Division
- Yin RK (1994) Case study research: Design and methods. Beverly Hills, CA: Sage
- Zallio M, Zanutto O (2022) Housing a misura di senior. Progettare abitazioni age-friendly Maggioli Editore
- Zallio M, Clarkson PJ (2021) On Inclusion, Diversity, Equity and Accessibility in Civil Engineering and Architectural Design. A review of Assessment Tools. In Proceedings of the International Conference on Engineering Design (ICED21), Gothenburg, Sweden, 16-20 August 2021