

Tomasz Bradecki*, Monika Strzelecka-Seredyńska,
Anna Agata Kantarek***, Barbara Uherek-Bradecka******

Selected issues in contemporary housing design for seniors – Poland in the European context

Abstract

Concern for the residential environment for the elderly is increasingly evident in theory in numerous academic studies and in practice reflected in contemporary realisations. Residential centers for seniors are becoming increasingly popular, and their form and function are becoming more complex and dedicated to specific needs.

The authors presented the results of a study of a dozen of different case studies of residential and commercial complexes with a healthcare function for the elderly realised after 2005. The authors hypothesise that contemporary realised complexes for seniors are characterised by a varied morphology, i.e., in some cases they replicate the structure of the urban fabric, while in others they clearly break away from it and create individualised forms. The qualitative assessment considers the advantages and disadvantages associated with the morphology of the complexes. The authors also presented their individual design as an experiment of implementing current trends in an established location (research by design).

The presented research shows that both the form and function of housing for seniors evolve depending on the needs. Functional programs and the facilities themselves are usually quite extensive and result in complex functional-spatial systems that fill most of the plots on which they were designed. Conclusions from the research can be valuable in studying other senior centres, especially when making location decisions for similar functions.

Key words: housing for elderly, housing estates for seniors, senior care

Introduction

Shaping age-friendly urban space and architecture in conjunction with social and economic policies is currently a major challenge for many European countries. Demographically, Europe is now the oldest continent. In European Union (EU) countries, the increase in the proportion of older people between 2009 and 2019 was up to 5% [1].

The phenomenon of population ageing has also been observed in Poland for more than two decades. This is particularly true for urban residents. The above-mentioned processes are taking place unevenly around the world. They are determined, apart from a decline in the birth rate, by an increase in life expectancy (as a result of medical achievements and improvements in its quality) and access to services, including various forms of support. The need to ensure a dignified life for the growing number of senior citizens is reflected in the development of various proposals in many European countries, both in the area of social and health care and housing policy.

The research undertaken by the authors is therefore topical and serves the broader discussion on the search for optimal forms of housing, as well as solutions in urban spaces adapted to the changing age structure of the population. In EU countries, the increase in the proportion of older people between 2009 and 2019 was up to 5%.

* ORCID: 0000-0002-9459-4545. Faculty of Architecture, Silesian University of Technology, Poland, e-mail: tomasz.bradecki@polsl.pl

** ORCID: 0000-0002-9247-0557. Faculty of Architecture, Cracow University of Technology, Poland.

*** ORCID: 0000-0003-2422-3797. Faculty of Architecture, Cracow University of Technology, Poland.

**** ORCID: 0000-0001-8222-1488. Faculty of Architecture, Civil Construction and Applied Arts, Academy of Silesia, Poland.

Aim, scope, and research method

The aim of this study is to present contemporary trends in the shaping of housing development for seniors based on an analysis of selected European projects and realizations. It also develops a typology of housing forms and evaluates functional and spatial solutions within the framework of a case study.

The subject of our research are housing complexes for the elderly with a varied programme offer. As part of the methodology adopted, a literature search was carried out and examples were selected.

As a criterion for selecting examples, the criterion of beauty (as one of the elements of the Vitruvian triad: firmness, commodity, delight) was taken into account through the individual author's choice of cases. All of the units examined should be considered to stand out from the rest through aesthetics, functional-utility solutions and architectural solutions that are unusual for the functions described. Justification for their selection can also be found in numerous publications and awards, which indicate that the design solutions realised are not standard and can be described as experimental and innovative.

The criteria for describing the selected examples were formulated based on the juxtaposition of two general criteria – the internal structure of the assemblages and the external conditions.

In the case of the internal structure of the assemblages, a further distinction was made between form and function (in accordance with the principle of the Vitruvian Triad, with the understanding of permanence as an element of function). These are:

- internal structure – form: plot development + form and scale of development, function: type of house and primary functions + complementary functions (also external),
- external conditions – location + relationship to the public space of the city centre + relationship to the neighbourhood public space (built-up and green space) and the form of fencing + urban composition.

Another criterion for selecting individual examples was to be scale. It was assumed that the representative examples would have a usable area (above 1,500 m²) of the service function, not counting the areas allocated for the residential part. This criterion was intended to identify sites that had a certain minimum usable programme.

The analysed examples were subjected to a quantitative-qualitative comparative assessment, the aim of which is to determine the common features, including the indication of the values of the boundary parameters defining the examined examples. It is assumed that the author's qualitative assessment will allow the formulation of conclusions, further developments and recommendations for future implementations of this type.

State of research

The materials useful for research on senior housing can be broadly divided into three groups. These are documents and legislation, especially on senior citizens' policies and care systems in selected countries, literature covering design

theory and the practical work of architects and urban planners, and research tools for assessing the quality of the living environment for older people (e.g., Usability in my Home, Housing Options for Older People, Housing Enabler).

Due to the limited volume of the article, only selected literature is cited below. These include, among others, the following works: *New housing models in practice* [2], *Contemporary living spaces for the elderly* [3], *Residential for the elderly. Geriatrics* [4], *Housing for people of all ages* [5]. The relevant American literature includes the work entitled: [6] as well as the research by Charles Durrett [7].

In Poland, the research project entitled *Aspekty medyczne, psychologiczne, socjologiczne i ekonomiczne starzenia się ludzi w Polsce* [Medical, sociological and economic aspects of ageing in Poland] [8], and the work *Środowisko zamieszkania polskich seniorów w badaniach interdyscyplinarnych. Studia przypadków na wybranych przykładach* [Residential environment of Polish seniors in interdisciplinary studies. Case studies on selected examples] [9]. Also useful for research is the study *Raport na temat sytuacji osób starszych w Polsce* [Report on the situation of older people in Poland] [10] and the monograph entitled *Kształtowanie środowiska mieszkaniowego dla seniorów* [Shaping the housing environment for seniors] [11], and also research done by [12]–[18].

Contemporary trends in the design of housing for the elderly

Contemporary European design solutions related to senior housing are a continuation of the experience of previous decades. Wider interest in the problems of seniors and a change in the perception of their role in society did not take place until around the middle of the 20th century. This was influenced, among other things, by demographic processes and the declining birth rate in Europe. The period from the 1960s to the last decade of the 20th century saw the development of housing for the elderly. Institutional forms predominated at this time and most developments were separate complexes exclusively for senior citizens. Alternative proposals to nursing home living also began to develop during this period. They were aimed at maintaining the independence of older people and strengthening social contacts.

The 1990s can be described as the beginning of a “new era” in attitudes towards people with disabilities and senior citizens. The trend towards de-institutionalization of forms of care and the development of differentiated support systems in the residential environment was reinforced at the time – the motto “In an institution a person is a patient, in his home a king” [19]. Creating conditions for people to remain in their own place and, when this is not possible, to live in a protected, supportive and friendly environment (the paradigm of subjectivity, autonomy and the right of choice of the older person) became a priority of the EU senior citizenship policy [20].

New approaches to older people have contributed to the search for innovative housing solutions. This has become particularly evident in Western European and Scandinavian countries.

Forms of housing – typology of contemporary solutions

An analysis of developments in recent years shows that a variety of housing concepts have emerged in western European countries for the elderly. Architectural solutions are adapted to the health status, degree of independence, lifestyle and activity of seniors. It is accepted that, as people get older, their expectations of necessary care generally change. Namely, the needs of those with an active lifestyle (early senior citizens 60–69 years old) differ from those of those requiring only selective support and assistance (mature senior citizens 70–79 years old). In contrast, seniors (over 80 years of age) usually already require care and nursing solutions [21].

Design concepts are also conditioned by a number of other factors, i.e. housing standards and regulatory systems, existing cultural patterns, the level of sophistication of services and care systems, and the principles of healthcare organization. A country's experience in developing housing provision is also significant. The proposed architectural concepts therefore fit into a wide space contained between the extremes of the proposals, ranging from residence in the home (ageing in place concept) to residence in a permanent care facility. The former option is strongly preferred by the majority of seniors. In contrast, the decision to live in an assisted living facility is generally seen as a necessity and an exceptional solution. In the Polish context, an important factor limiting the choice of an optimal form of housing is currently the economic position of the majority of seniors, which does not provide opportunities comparable to Western European countries. According to studies, the low willingness to use institutional support also applies to other Central and Eastern European countries [22], [9, pp. 241, 242].

Countries that offer the widest range of housing include Austria, Germany, Sweden, Denmark and the United Kingdom. They are systematically raising the standards of housing and services for older people as part of the development of the “silver economy”. This is particularly true of housing with various forms of support (supported housing, sheltered housing, assisted living, housing for seniors' people, extra care sheltered housing). In these countries, innovative design solutions with attractive aesthetics and a rich functional programme are also being promoted.

Projects range in scale from single buildings and small complexes to larger complexes. There is a predominance of proposals for combining housing for the elderly with a shared service programme, especially for recreation, intended also for other residents of the city (intergenerational integration model).

An analysis of the examples shows that contemporary European architectural and urban planning solutions belong to the non-institutional or institutional housing environment (e.g., care homes, medical care centres, specialist medical care centres). The variety of solutions is evidenced by the typology of forms of housing presented below, which respond to the varying expectations of senior citizens. Due to the limited volume of the text, the typology is presented in a simplified form. These forms are described in detail by Monika Strzelecka-Seredyńska in her doctoral

thesis entitled *Kształtowanie środowiska życia osób starszych we współczesnym mieście. Wybrane zagadnienia [Shaping the living environment of older people in the modern city. Selected issues]* [23].

1. Non-institutional housing environment (A):

– A1 – independent housing on an “ageing in place” basis.

Most senior citizens consider this to be the optimal solution. It allows them to remain in their “home” environment and does not require older people to adapt to new surroundings. In general, these flats are located in developments that are accessible to all and not specifically aimed at a particular age group. Examples include modernisation of the Knikflats complex in Rotterdam, the Netherlands, arch. Biq architecten, 2008, modernisation of a 1950s housing estate in Hamm, Germany, 2002, building complex in Zurich, Switzerland, arch. A. Wasserfallen/Straub+Kleffel, 2004.

– A2 – flats/apartments in separate buildings or complexes for senior citizens only.

This is a form of housing offered in buildings in which, in addition to housing, communal spaces (e.g., leisure and activity areas) are designed or public services are introduced, usually located on the ground floor. Example: Neptune complex in Malmö, Sweden, arch. Arkitektgruppen and Malmö AB, 2005.

– A3 – flats/apartments incorporated into the development for other age groups.

The flats are introduced into multi-family housing complexes. This promotes intergenerational ties and various forms of mutual assistance. Usually these flats are located on the ground floors of buildings. Example: complex in Straubing, Germany, arch. W. Wöhr, G. Heugenhauser, 2008–2011.

– A4 – housing designed for communities.

The idea of creating senior communities is widespread, especially in Scandinavian and Western European countries. These forms are aimed at seniors who prefer to live among people of a similar age or lifestyle (e.g., co-housing). These dwellings are generally designed in separate buildings. Examples: building in Winterthur, Switzerland (arch. Haerle Hubacher Architekten, 2010), building in St. Gallen, Switzerland (modernisation, arch. Archplan AG, 2002, Miss Sargfabrik residential complex Vienna, Austria, arch. BKK-3, 2000). They can also take the form of separate residential enclaves (e.g., detached houses, terraced houses). Example: housing estate in Nødebo, Denmark, arch. Tegnestuen Vandkunsten, 2004.

– A5 – housing “with care”.

These flats can be categorised as intermediate forms between non-institutional settings and living in an institution/centre. They are generally located in buildings set aside just for senior citizens or integrated into urban multifamily developments. They allow relatively independent living while providing a sense of security through the use of appropriate architectural solutions as well as supporting technologies (intelligent systems). Seniors are offered the opportunity to use various services (doctor, nurse) and personal assistants (shopping, housekeeping) on a permanent or temporary basis. Examples: Housing complex in Zurich, Switzerland,

arch. pool Architekten, 2011, building in Domat/Ems, Switzerland, arch. D. Schwarz, 2004, Neuenbürg, Germany, arch. Mahler Günster Fuchs Architekten, 1996.

This type of specialised housing exists in Poland. However, it is not widespread and the offer in this area is modest [24, pp. 104–106]. Such solutions include, among others, sheltered housing (as part of social assistance) and assisted housing, example: buildings in Stargard Szczeciński – project “Nie-sami” [Not alone], Nowe Żerniki in Wrocław, 2020 [25].

2. Institutional housing environment (B):

– B1 – housing in permanent, complex, medical care homes/centres.

These are designed for people who are unable to live independently. These include flats / flats located in care homes, medical care centres, specialist centres, e.g., for dementia patients. They are designed in facilities of different scales, forming larger complexes or small community facilities. In Poland, institutional residential environments can include social care homes (DPS), nursing and care facilities, treatment and care facilities, family care homes – RDP. Examples of this type of implementation include the Ørestad senior home, Copenhagen, arch. JJW Arkitekter, 2012, De Hogeweyk/Weesp dementia complex in the Netherlands, arch. Molenaar & Bol & Van Dillen, Vught, 2009.

– B2 – mixed forms.

These are designed as multi-functional complexes arising from a common site or in a common development. They may combine, in various configurations, the forms of housing listed under the above typology. They range in scale from small complexes to large multi-functional complexes, estates or senior villages.

In the USA, assumptions of this type were established as early as the 1950s. In the USA, these types of developments were created as early as the 1950s (Youngtown, 1955, Sun City, Arizona, 1959–1960) and are still popular and in use today, e.g., in Palm Desert (1992–2002), California, Nevada and Florida. They are also being developed in other countries in Australia, New Zealand, among others.

A solution of this type appeared in Europe in the 1960s. At the time, there were proposals to locate senior housing, nursing homes, day care centres, medical care centres, including specialised care, and even hospitals on a common site. However, these were characterised by a much smaller scale compared to the American concept. The idea is still being developed in Europe today, including in the UK. Example: Belong Wigan Community Village in Wigan, arch. Pozzoni Architecture, 2011, Morris Feinman Care Village, team in Blackley, Manchester, 2012.

All the forms of housing discussed above are reflected in the very diverse and innovative proposals of contemporary designers. Buildings or complexes with attractive architectural solutions and urban composition are being created. Let us see whether this is demonstrated in the studies presented below.

Case studies overview

The information gathered during our research has been presented in Tables 1–4, its location in Figure 1.

Research by design. Leboszowice case study

The design of the housing complex for the elderly in Leboszowice was carried out in consultation with a company implementing similar centres. Although it was not realised, a number of important assumptions of the concept were modelled on solutions that have been described as characteristic of the cases mentioned [35], [36].

Leboszowice is a small village in the municipality of Pilchowice on the outskirts of Gliwice in an area with predominantly extensive housing. The concept for the senior citizens' village in Leboszowice envisages the development of a 2.3 ha plot with 26 buildings (Fig. 2). Two large buildings are to serve as the centre of the centre, i.e., residential and services together with health and catering services (Fig. 2, 3a). The remaining 24 buildings are repetitive single-storey cottages for which 2 or 3 units each are proposed for residents. This makes a total of 48 dwellings (2 dwellings per building) or 72 dwellings (3 dwellings per building), not including those living in the upper floor of the main building, which houses 12 double rooms. The complex can accommodate up to 100 residents in total. The site has been developed in such a way as to obtain 10% of the built-up area for the residential buildings and 6.5% of the built-up area for the service buildings, allowing 60% of the biologically active area to be provided. Access and driveways to each building and a small number (approx. 15 parking spaces) have been provided (Fig. 3d). A retention pond and communal greenery have been designed in the lowered part of the plot. The walking paths between the buildings were composed together with the greenery in an even layout (external wide driving paths, internal walking paths) (Fig. 3b). An extensive canopy was proposed in front of the main entrance (Fig. 3c), covering the communal space, creating a meeting place, protecting from rain and heat.

Discussion

The selected case studies are in line with the priorities of the EU senior citizenship policy. This policy is based on three main pillars: quality of life linked to good health, labour force participation and social participation, and security (social, financial, physical). Research on contemporary senior housing, especially in western European countries, indicates that housing provision is constantly expanding. Innovative and alternative solutions to institutional care are being developed, which allow people to live independently and remain in their own environment for as long as possible.

The term “home for the elderly” has now become very broad and encompasses a large variety of architectural solutions. Each of the forms presented in this paper (in general typology) may be of interest in view of the individual preferences and lifestyles of senior citizens. Most of the case studies represented individual architectural solutions which were usually implemented in interior design: bright, contrast monochromatic, smooth colours. Authors noticed that minimalism solutions can be identified in CS1, Santa Rita Geriatric Center, Menorca, Spain and CS5, Residential

Table 1. The case studies described. Basic information (elaborated by authors)
 Tabela 1. Studium przypadków. Podstawowe informacje (oprac. autorzy)

	Name, location	Site area [m ²]	Built up area [m ²]	Total floor area [m ²]	Max. no of floors	No of buildings	No of beds/ rooms/ dwellings	Green area in neighbourhood
CS1	Santa Rita Geriatric Center Menorca, Spain Manuel Ocaña 2003 [26]	10900	5400	5990	1	1	68	+
CS2	Houses for Elderly People Alcácer do Sal, Portugal Manuel Aires Mateus 2010 [27]	10435	1560	3640	3	1	64	+
CS3	Social Complex Alcabideche, Portugal Guedes Cruz Arquitectos 2012 [28]	12876	9956	unknown	2	53	52	+
CS4	Day Center and Home for the Elderly Blancafort, Spain Guillem Carrera 2013 [29]	1400	647	675	2	1	0	–
CS5	Residential Care Home Graz, Andritz, Austria Dietger Wissounig Architekten 2015 [30]	12400	4300	6950	2	1	105	+
CS6	Home for Dependent Elderly People and Nursing Home Orbec, France Dominique Coulon & associés 2015 [31]	32560	3700	5833	3	1	115	+
CS7	Alzheimer residence for the “Foyer la Grange” Couëron, France Mabire Reich 2014 [32]	8600	4500 (total area) 906 (extension area)	unknown (total area) 2200 (extension area)	4	2	14 (extension)	–
CS8	Nenzing Nursing Home Nenzing, Vorarlberg, Austria Dietger Wissounig Architects 2014 [33]	7300	2000	5100	3	2	57 (apartments)	+
CS9	Eltheto Housing and Healthcare Complex Rijssen, The Netherlands 2by4-architects 2015 [34]	17500	7200	20000	4	4	156	+
CS10	Housing for Elderly, TBS Nowe Żerniki, Wrocław, Poland Major Architekci 2019 [25]	4720	3 329	8 656	4	1	117 (57 dedicated for seniors)	+
CS11	Senior housing estate, Leboszowice, Poland [35]	15000	2850	6300	3	4	84	–

Care Home Andritz, Graz, Austria, and CS6, Home for Dependent Elderly People and Nursing Home, Orbec, France. Although raw concrete, lack of detail, large smooth surfaces and spaces can be presumed as high quality architecture, still it does not necessarily meet the needs of the inhabi-

tants. At this point qualitative research and post occupancy evaluation should be performed.

Existing cultural patterns, the state's senior citizens' policy and financial possibilities have an important influence on the choice of housing. However, the availability

Table 2. The case studies described. Functions (elaborated by authors)
Tabela 2. Studium przypadków. Funkcje (oprac. autorzy)

Case name	Form of housing	Basic functions	Complementary functions
CS1	B2	Housing, medical care	0
CS2	B2	Housing, medical care	0
CS3	B2	Housing, medical care, gastronomy	0
CS4	B2	Daily healthcare care without flats	Basic functions integrated into the public zone of the city
CS5	B2	Housing, medical care, gastronomy	0
CS6	B2	Housing, medical care, gastronomy	0
CS7	B2	Housing, medical care, gastronomy	0
CS8	B2	Housing, medical care, gastronomy	0
CS9	A5	Different types of housing, medical care, gastronomy	Chapel, multifunctional common area
CS10	A5	One- or two-bedroom apartments, medical care, day care center, catering	Services on the ground floors, accessible from the street

Table 3. The case studies described. Location and plot (elaborated by authors)
Tabela 3. Studium przypadków. Lokalizacja i działka (oprac. autorzy)

Case name	Location	Plot layout	Building form and scale
CS1	The northern edge of the city, the junction with low-rise residential buildings and open areas	Rectangular plot surrounded by 2 nd and 3 rd storey low-intensity residential development	A single-storey pavilion, filling the entire plot, on a rectangular plan with an internal courtyard with greenery, with a curvilinear roof form
CS2	The eastern part of the city, surrounded by residential buildings and greenery	Supplementation of the invested plot	A double-broken ribbon with original architecture, in a corridor layout, adapted to the shape of the terrain
CS3	The south-eastern part of the city surrounded by diverse residential buildings	52 single-storey residential houses and a commercial building. The orthogonal layout fills the entire fenced plot. Narrow pedestrian paths, a small amount of greenery	Contemporary aesthetics of buildings, concrete in façades, original skylights
CS4	The southern part of the city center. Neighborhood of 3 and 4 storey residential buildings and greenery	A 2-storey building filling the triangular plot, duplicating its shape and fitting into the existing communication system	A triangular building around two inner courtyards; integrated with the environment
CS5	A northern suburb of the city among single-family and farm buildings.	A 2-storey building mostly filling the plot	The building is surrounded by internal courtyards, with a distinctive building area in the vicinity
CS6	Southern outskirts of the city, surrounded by farmland and greenery	Irregular shape of the plot with an entrance from the north; a long part of the plot with greenery, partly developed	A building with a fragmented body. The scale of the building coincides with the scale of the public buildings in the vicinity; the building is integrated into the diverse topography of the plot
CS7	City Center	The plot is open to the public space of the city, half filled with buildings with numerous parking spaces and greenery.	Extension to an existing building
CS8	City Center	The plot is open to the public space of the city with buildings filling most of the plot	Body – 3 cuboids connected by roofed footbridges; within the two largest blocks – internal atriums; connection of different levels with integration into the terrain
CS9	The city center, the neighborhood of a school and intensive single-family housing	Opening to the public space of the city; the form of a semi-open urban quarter with a rhomboidal shaped building in the centre	Differentiation of roof forms and building heights
CS10	In the western part of the city, in the center of a model housing estate in the vicinity of multi-family housing	The plot is fully developed with a building-quarter, with a distinctive scale	Green inner courtyard quarter accessible from the outside at ground floor level

Table 4. The case studies described. Urban relations (elaborated by authors)
 Tabela 4. Studium przypadków. Powiązania z otoczeniem (oprac. autorzy)

Case name	Relationship to the public space of the city center	Relation to the public space of the neighborhood	Urban composition
CS1	Public transport stop	The area is fenced with a public main entrance and parking lot; contact limited to the main entrance	Maintenance of the street frontage line, the building is located at the close of the local pedestrian route
CS2	Prospective closure of an important communication route in the eastern part of the city	The building is incorporated into the existing complex of buildings on a plot separated from the public space of the city	The ensemble is compositionally important from the relations within the structure of the city and as an accent in the view from the outside
CS3	Lack	The plot is fenced, limited relations with the neighborhood	There are no significant external compositional relations, within the complex a service building distinguished by its scale
CS4	Integration into the existing structure of the center	The convergent character of the façade (stone, concrete) with the neighboring historical buildings. Opening to the existing public space (greenery, open gym)	A building that fills the plot and is composed in height with the neighborhood; an important accent at the entrance to the city
CS5	No relations, considerable distance from the center, bus stop nearby	The plot is fenced, limited relations with the neighborhood	Withdrawal from the street building line, vicinity of the local recreational route
CS6	Lack	The plot is fenced, there is no relation to the neighborhood	A complex of buildings in the landscape, with partial exposure from the side of the transit road
CS7	Integration into the existing structure	No fencing on the side of the public space, parking lots connected to single-family houses	The buildings form the street frontage as a dominant element in relation to the different scale of the adjacent buildings
CS8	Integration into the existing structure	No fence on the side of the public space, good relations with the neighborhood; contrast flat roof and wooden façade with traditional neighborhood architecture	Partial filling of the street building line in the neighborhood scale (height, division into smaller blocks)
CS9	Integration into the existing structure	No fencing on the side of the public space, good relations with the immediate surroundings	Partial filling of the street building line in a non-functional internal space, enriching the existing public space.
CS10	Integration into the existing structure	No fence, complete filling of the plot with cubature, good relations with the neighborhood; in the inner courtyard accessible from the public space.	Building – a quarter as an accent in the orthogonal, defined structure of the complex

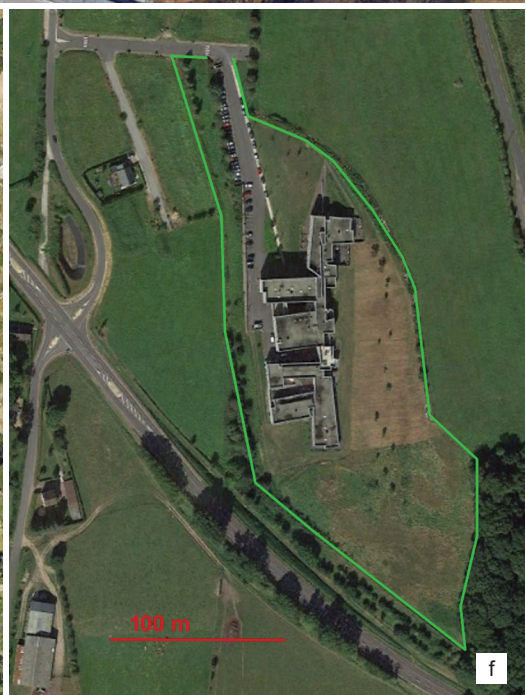
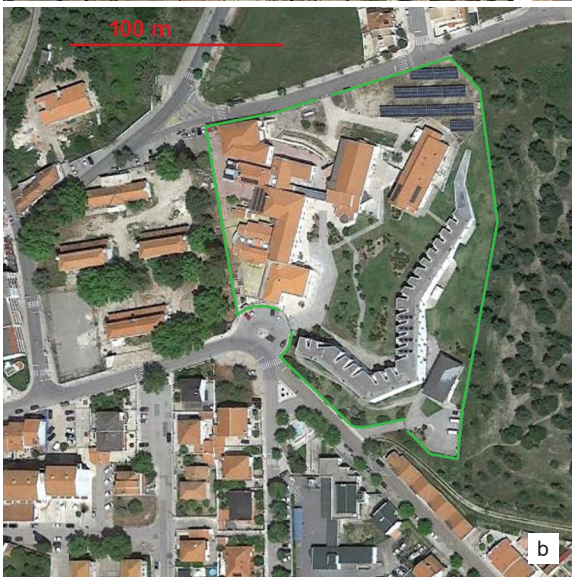
of a rich and varied range of housing is not uniform across European countries.

It can be assumed that the priority for senior housing in the coming years will be to continue the transition from forms of institutional care towards the development of various forms of independent living, possibly with support. Innovative technological solutions related to housing equipment, such as intelligent systems, which serve to strengthen the independent position of seniors in society, are helpful in realizing this idea. At the same time, it should be added that the contemporary housing environment and its surroundings should create functional, legible structures that allow easy orientation, without barriers (visual barriers, mobility barriers and cognitive barriers). It is also important to look for every opportunity to integrate older people into society and other age groups (inclusive model).

The examples presented show, that most of the centres for elderly are large, with an area of more than 10 000 m². The exception is the Day Care Centre and Home for the Elderly in Blancafort (1 400 m²). They are also more likely

to be in suburban or non-urban areas. Most senior housing estates remain segregated forms from the neighbourhood, with well-defined entrances and entrances. Here the Centre in Blancafort is also an exception.

Most of the case studies can be categorized as B2-multi-functional mixed complexes that are composed in one complex building. The CS3, Social Complex in Alcabideche, Cascais, Portugal and experimental Leboszowice design proposal may be classified as A4 – housing designed for communities, since the dwellings are located in separate buildings. All case studies showed a minimised number of car parks compared to the residential standard although some of the complexes are located further away from city centre. This leads to the conclusion that the accessibility of the complexes for seniors is not a primary concern. On the other hand, the need for green space and a quiet neighbourhood seems to be a standard near any such complex. Internal semi-public spaces play an important role and make the “interior” of the estate more user-friendly. However, most of the case studies presented have not retained space for green areas or shared outdoor spaces.



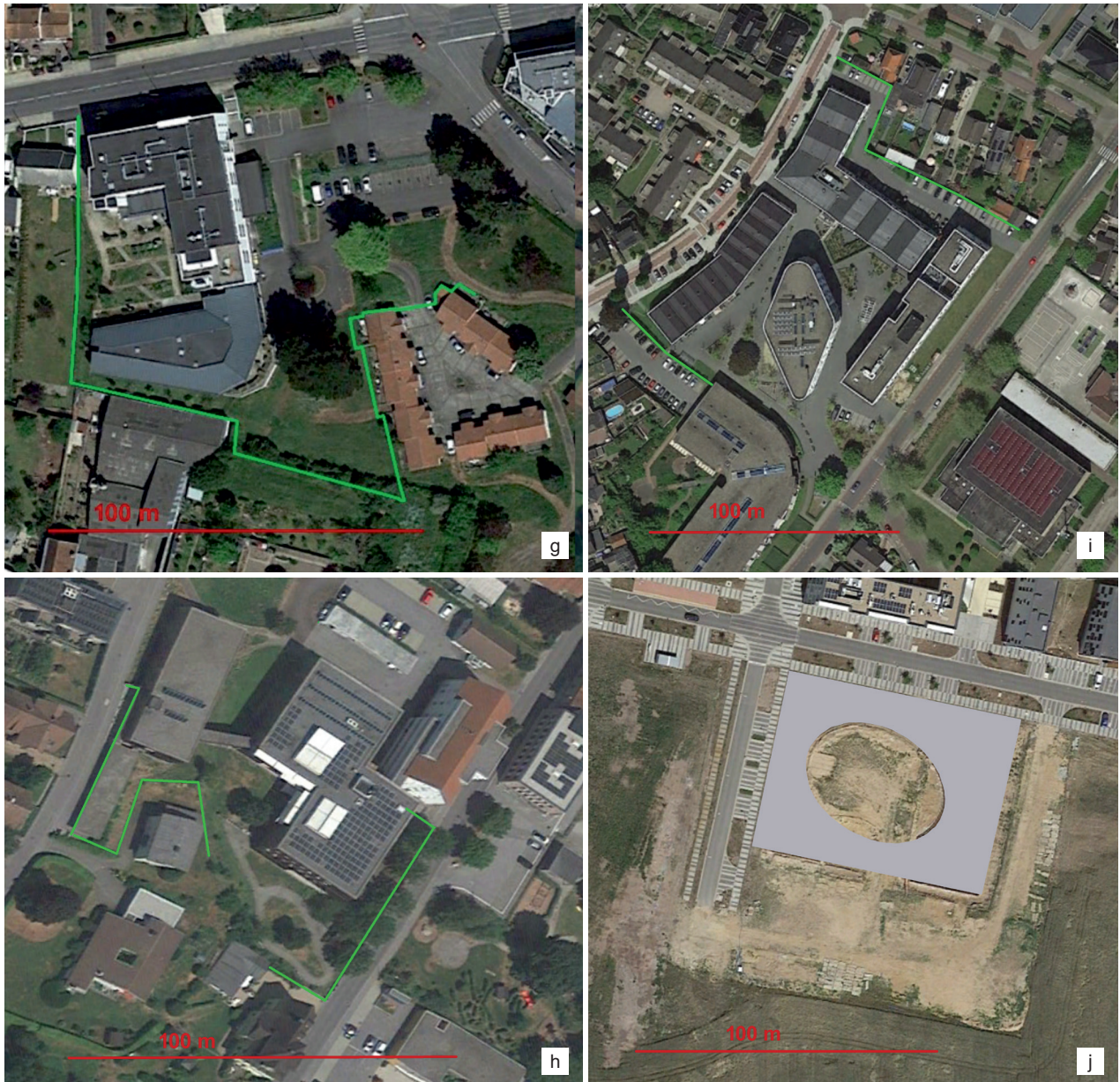


Fig. 1. The cases described. Plot fences are marked in green:

- a) CS1, Santa Rita Geriatric Center, Menorca, Spain,
 - b) CS2, Houses for Elderly People in Alcácer do Sal, Setubal, Portugal,
 - c) CS3, Social Complex in Alcabideche, Cascais, Portugal,
 - d) CS4, Day Center and Home for the Elderly of Blancafort, Terragona, Spain,
 - e) CS5, Residential Care Home Andritz, Graz, Austria,
 - f) CS6, Home for Dependent Elderly People and Nursing Home, Orbec, France,
 - g) CS7, Alzheimer residence for the “Foyer la Grange”, Couëron, Pays de la Loire, France,
 - h) CS8, Nenzing Nursing Home, Nenzing, Vorarlberg, Austria,
 - i) CS9, Eltheto Housing and Healthcare Complex, Rijssen, The Netherlands,
 - j) CS10, TBS Wrocław, Nowe Żerniki, Poland
- (elaborated by A.A. Kantarek based on GoogleMaps, GoogleEarth)

II. 1. Opisane przypadki. Ogródnienia działek zaznaczono na zielono:

- a) CS1, Centrum Geriatryczne Santa Rita, Minorka, Hiszpania, b) CS2, Domy Osób Starszych w Alcácer do Sal, Setubal, Portugalia,
 - c) CS3, Kompleks Społeczny w Alcabideche, Cascais, Portugalia,
 - d) CS4, Ośrodek dzienny i dom dla osób starszych w Blancafort, Terragona, Hiszpania,
 - e) CS5, Dom opieki Andritz, Graz, Austria,
 - f) CS6, Dom dla osób starszych niesamodzielnych i dom opieki, Orbec, Francja,
 - g) CS7, Rezydencja Alzheimera dla „Foyer la Grange”, Couëron, Pays de la Loire, Francja,
 - h) CS8, Dom Opieki Nenzing, Nenzing, Vorarlberg, Austria, i) CS9, Eltheto Housing and Healthcare Complex, Rijssen, Holandia,
 - j) CS10, TBS Wrocław, Nowe Żerniki, Polska
- (oprac. A.A. Kantarek na podstawie GoogleMaps, GoogleEarth)

The presented case study of a housing estate for seniors in Leboszowice includes a number of solutions used in the examples presented. It is also worth noting that the project refers to real conditions such as location and decisions contained in the current Local Development Plan, as well as the experience of the project commissioner, on the basis

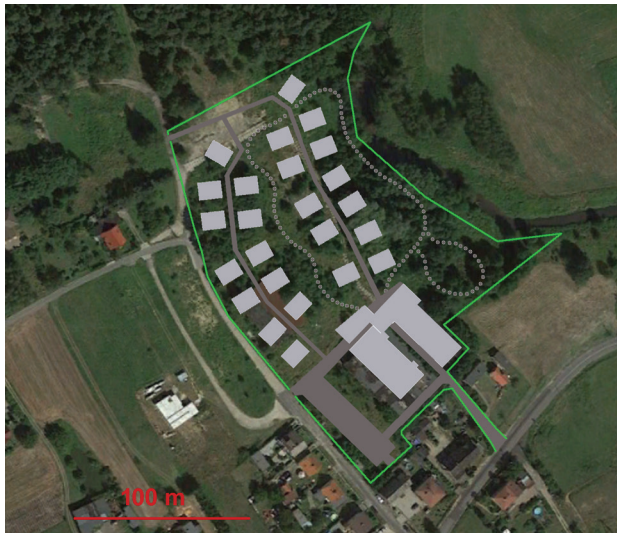


Fig. 2. Housing complex for the elderly in Leboszowice – location (designed by T. Bradecki, B. Uherek-Bradecka, 2021; drawing elaborated by A.A. Kantarek based on GoogleMaps, GoogleEarth)

II. 2. Zespół mieszkaniowy dla osób starszych w Leboszowicach – lokalizacja (projekt: T. Bradecki, B. Uherek-Bradecka; oprac. A.A. Kantarek na podstawie GoogleMaps, GoogleEarth)

of which the boundary conditions of the scale and scope of the investment were determined.

Conclusions

The presented research shows that both the form and function of housing for seniors evolve depending on the needs. Functional programs and the facilities themselves are usually quite extensive and result in complex functional-spatial systems that fill most of the plots on which they were designed.

The urban form of the presented complexes shows great diversity – from the structure of a small city (e.g., CS3) to the arrangement of several blocks placed in existing, loosely built-up development sectors with an internal arrangement of public or semi-public spaces (e.g., CS9). The relationship of the open spaces of the new assemblages to the existing surrounding public space also varies. Some of the examples present an introverted system, which results in isolation from the immediate neighbourhood (e.g., CS1-3), and the only important element is entry into the complex. Others show the integration of the new complex into the neighbourhood space (e.g., CS4). As already indicated, the new complexes do not offer larger areas of greenery but only greenery accompanying the facilities both around and in the form of internal atriums, squares or landscaping.

Most of the examples presented offer permanent housing for senior citizens (patients). The functional dispositions are usually divided into serving areas (medical facilities, catering, etc.) and residential complexes divided into smaller complexes with additional communal space. Also



Fig. 3. Housing complex for the elderly in Leboszowice – perspective view of a design proposal: a) aerial site view, b) paths and greenery for walks, c) main building with healthcare services and sheltered area, d) car parking (elaborated by T. Bradecki, B. Uherek-Bradecka, 2021)

II. 3. Zespół mieszkaniowy dla osób starszych w Leboszowicach – widok perspektywiczny propozycji projektowej: a) widok z lotu ptaka, b) ścieżki i zieleń spacerowa, c) budynek główny z usługami opieki zdrowotnej i terenem osłoniętym, d) parking (oprac. T. Bradecki, B. Uherek-Bradecka, 2021)

notable is the use of semi-concealed spaces at the interface between volume and open space in the form of balconies, terraces, atriums or arcades. Both internal and external communication is adapted to the needs of people with reduced mobility (lifts, ramps).

The presented buildings and complexes present interesting formal solutions both in terms of urban planning relations (in neighbourhood relations and in broader relations to the existing urban fabric) and in terms of the proposed architecture. The architecture proposes contemporary solutions, however, with varying degrees of formal subordination in the existing neighbourhood – from form

contrast (e.g., CS2) – to traditional façade material solutions (e.g., CS8).

The authors point out that further research is necessary, which should include, among others, sociological research, in particular interviews with potential users and neighbours of the planned forms of housing for seniors. Conclusions from the research can be valuable in studying other senior centers, especially when making location decisions for similar functions.

Translated by
Tomasz Bradecki

References

- [1] Eurostat, *Struktura ludności i starzenie się społeczeństwa*, 2021, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Struktura_ludno%C5%9Bci_i_starzenie_si%C4%99_spo%C5%82eczne%C5%84stwa [accessed: 15.11.2023].
- [2] Huber A., Hugentobler M., Walthert-Galli R., *New housing models in practice*, [in:] A. Huber (ed.), *New approaches to housing for the second half of life*, Birkhäuser, Basel–Boston–Berlin 2008, 77–173.
- [3] Minquet J.M., Vazquez O.M., *Contemporary living spaces for the elderly*, Architectural Design, Instituto Monsa de Ediciones, Barcelona 2009.
- [4] Minquet J.M., *Residential for the elderly: Geriatricos*, Instituto Monsa de Ediciones, Barcelona 2013.
- [5] *Housing for people of all ages: flexible, unrestricted, senior-friendly*, Ch. Schittich (ed.), Edition Detail, Birkhäuser, Basel–Boston–Berlin 2007.
- [6] American Institute of Architects, *Design for aging review*, Images Publishing Group, Chadstone, Australia, 2016.
- [7] Durrett Ch., *The senior cohousing handbook: a community approach to independent living*, New Society Publishers, Gabriola Island, BC, Canada, 2009.
- [8] *Aspekty medyczne, psychologiczne, socjologiczne i ekonomiczne starzenia się ludzi w Polsce*, M. Mossakowska, A. Więcek, P. Błędowski (red.), Termedia Wydawnictwa Medyczne, Poznań 2012.
- [9] Niezabitowska E., Bartoszek A., Kucharczyk-Brus B., Niezabitowski M., *Środowisko zamieszkania polskich seniorów w badaniach interdyscyplinarnych. Studia przypadków na wybranych przykładach*, Wydawnictwo Naukowe Śląsk, Katowice 2013.
- [10] Błędowski P., Szatur-Jaworska B., Szweda-Lewandowska Z., Kubicki P., *Raport na temat sytuacji osób starszych w Polsce*, Instytut Pracy i Spraw Socjalnych, Warszawa 2012.
- [11] Gronostajska B.E., *Kształtowanie środowiska mieszkaniowego dla seniorów*, Oficyna Wydawnicza PWR, Wrocław 2016.
- [12] Benek I., Szewczenko A., *Ergonomia w projektowaniu obiektów z funkcją opieki dla osób starszych*, “Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie” 2015, t. 27, nr 2–3, 79–95.
- [13] Labus A., *Starzejące się społeczeństwa europejskie XXI wieku w koncepcjach odnowy miejskiej*, Wydawnictwo Politechniki Śląskiej, Gliwice 2014.
- [14] Magdziak M., *Mieszkalnictwo dla osób starszych w Stanach Zjednoczonych Ameryki Północnej*, “Architecturae et Artibus” 2009, Vol. 1, 38–45.
- [15] Grabowska-Palecka H., *Poruszanie się i transport osób starszych i niepełnosprawnych*, [in:] W. Wicher (red.), *Przestrzeń dla komunikacji w mieście: VIII Ogólnopolska III Międzynarodowa Konferencja Instytutu Projektowania Urbanistycznego, Kraków, 10–12 maja 2002*, “Zeszyty Naukowe Instytutu Projektowania Urbanistycznego”, Kraków 2002, 101–108.
- [16] Strzelecka-Seredyńska M., *Kształtowanie środowiska życia osób starszych i jego relacji z otoczeniem na przykładzie Kopenhagi*, “Technical Transactions” 2017, R. 114, z. 10, 45–56, doi: 10.4467/2353737XCT.17.169.7277.
- [17] Strzelecka-Seredyńska M., *Sustainable residential housing for senior citizens – contemporary projects*, “MATEC Web of Conferences” 2018, Vol. 174, doi: 10.1051/mateconf/201817401032.
- [18] Miśniakiewicz A., *Rola przestrzeni miejskiej w społecznej aktywizacji środowiska senioralnego*, PhD thesis, Politechnika Wrocławska, Wrocław 2019.
- [19] Kominek E., *Usługi opiekuńcze nad osobami starszymi w domu w Polsce oraz w Szwecji*, [in:] *Opieka długoterminowa dla osób starszych w Szwecji*, 2014, 30–33, <https://das.mpips.gov.pl/source/opiekaseniorna/OPIKA%20DUGOTERMINOWA%20DLA%20OSB%20STARSZYCH%20W%20SZWECJI.pdf> [accessed: 31.08.2023].
- [20] Koresawa A., *Planning for an ageing society challenges for territorial development policies*, [in:] OECD, *Ageing, Housing and Urban Development*, OECD, Paris 2003, 187–217, doi: 10.1787/9789264176102-en [accessed: 25.07.2023].
- [21] Brzeski W., Kirejczyk K., Kozłowski E., *Perspektywy rozwoju budownictwa senioralnego w Polsce. Raport Reas*, Reas, Warszawa 2014, <https://www.kongresbudownictwa.pl/pliki/reas-%20perspektywy%20rozwoju%20budownictwa%20senioralnego.pdf> [accessed: 20.07.2023].
- [22] Höhn Ch., Avramov D., Kotowska I.E., *People, population change and policies. lessons from the population policy acceptance study*, Vol. 1, Springer Science & Bussines Media, 2008.
- [23] Strzelecka-Seredyńska M., *Kształtowanie środowiska życia osób starszych we współczesnym mieście. Wybrane zagadnienia*, PhD thesis, Politechnika Krakowska, Kraków 2019.
- [24] *System wsparcia osób starszych w środowisku zamieszkania. Przegląd sytuacji. Propozycja modelu*, B. Szatur-Jaworska, P. Błędowski (red.), Biuro Rzecznika Praw Obywatelskich, Warszawa 2016 <https://bip.brpo.gov.pl/sites/default/files/System%20wsparcia%20os%C3%B3b%20starszych.pdf> [accessed: 25.07.2023].
- [25] Nowe Żerniki, 2020, <https://nowezerniki.pl/mieszkania-dla-seniorow-na-nowych-zernikach/> [accessed: 7.11.2023].
- [26] Santa Rita Geriatric Center, 2009, <https://architizer.com/projects/santa-rita-geriatric-center/> [accessed: 19.07.2023].
- [27] *Houses for Elderly People in Alcácer do Sal*, https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj10t_5062BAxVvHxAlHVl9D41QFnoECBgQA-Q&url=https%3A%2F%2Fwww.archdaily.com%2F328516%2Fal-cacer-do-sal-residences-aires-mateus&usq=AOvVaw2EtV55uNZxnGsRumCaNZH0&opi=89978449 [accessed: 7.11.2023].
- [28] Singhal S., *Social Complex in Alcácer do Sal*, Portugal by Guedes Cruz Arquitectos, AECCafe Blogs’ 2015, 22 January, <https://www10.aeccafe.com/blogs/arch-showcase/2015/01/22/social-complex-in-alcabideche-portugal-by-guedes-cruz-arquitectos/> [accessed: 19.07.2023].
- [29] *Day center and Home for the elderly of Blancafort by Guillem Carrera*, <https://www.metalocus.es/en/news/day-center-and-home-elderly-blancafort-guillem-carrera> [accessed: 19.07.2023].
- [30] Chahine A., *Andritz Residential Care Home / Dietger Wissounig Architekten*, <https://www.architecturelab.net/andritz-residential-care-home-dietger-wissounig-architekten/> [accessed: 19.07.2023].

- [31] Dominique Coulon & Associés, *Orbec 2015. Home for dependent elderly people and nursing home*, <https://coulon-architecte.fr/en/projet/577/orbec> [accessed: 19.07.2023].
- [32] Singhal S., *Alzheimer residence for the "Foyer la Grange" in Couëron, France by Mabire Reich*, <https://www10.aeccafe.com/blogs/arch-showcase/2014/09/03/alzheimer-residence-for-the-foyer-la-grange-in-coueron-france-by-mabire-reich/> [accessed: 19.07.2023].
- [33] Chahine A., *Nenzing Nursing Home / Dietger Wissounig Architects*, <https://www.architecturelab.net/nenzing-nursing-home-dietger-wissounig-architects/> [accessed: 19.07.2023].
- [34] Chahine A., *Housing and health care complex Eltheto / 2by4 architects*, <https://www.architecturelab.net/housing-and-health-care-complex-eltheto-2by4-architects/> [accessed: 19.07.2023].
- [35] Bradecki T., Uherek-Bradecka B., *Housing complex for the elderly in Leboszowice*, Gliwice 2021 [manuscript].
- [36] Bradecki T., *Housing estates for senior citizens – case studies in Poland*, [in:] M. Peřínková, M. Nedved (ed.), *VSB 8th Architecture in Perspective 2016. Sbornik prispěvků z mezinárodní konference*, Technická univerzita Ostrava, Ostrava 2016, 97–99.

Streszczenie

Wybrane zagadnienia współczesnego projektowania mieszkań dla seniorów – Polska w kontekście europejskim

Troska o środowisko mieszkaniowe dla osób starszych jest coraz bardziej widoczna zarówno w teorii w licznych opracowaniach naukowych, jak i w praktyce, co znajduje odzwierciedlenie we współczesnych realizacjach. Ośrodki zamieszkania dla seniorów stają się coraz bardziej popularne, a ich forma i funkcja coraz bardziej złożone, w zależności od potrzeb.

Autorzy zaprezentowali wyniki badania kilkunastu różnych przypadków powstałych po 2005 r. zespołów mieszkaniowo-usługowych z funkcją opieki zdrowotnej dla osób starszych. Autorzy stawiają tezę, że współcześnie realizowane zespoły dla seniorów charakteryzują się zróżnicowaną morfologią: w niektórych przypadkach powielają strukturę tkanki miejskiej, a w innych wyraźnie się od niej odcinają i tworzą zindywidualizowane formy. W ocenie jakościowej uwzględniono zalety i wady związane z morfologią zespołów. Autorzy przedstawili również swój indywidualny projekt jako eksperyment wdrożenia aktualnych trendów w ustalonej lokalizacji (research by design).

Na podstawie omówionych badań można stwierdzić, że zarówno forma, jak i funkcja zespołów senioralnych ewoluuje w zależności od potrzeb. Programy funkcjonalne i same obiekty są najczęściej dosyć obszerne i skutkują złożonymi układami funkcjonalno-przestrzennymi, wypełniającymi większość powierzchni działek, na których zostały zaprojektowane. Wnioski z badań mogą być przydatne w badaniach innych ośrodków senioralnych, szczególnie w przypadkach podejmowania decyzji lokalizacyjnych dla podobnych funkcji.

Słowa kluczowe: zespoły mieszkaniowe dla seniorów, osiedla dla seniorów, opieka senioralna