Teka Komisji Architektury, Urbanistyki i Studiów Krajobrazowych
Oddział Polskiej Akademii Nauk w Lublinie / Politechnika Lubelska

Superhospital as a form of centralised medical care – a cure for contemporary problems in the healthcare sector or a utopian dream?

ORIGINAL ARTICLE: https://doi.org/10.35784/teka.8009
Received 29.06.2025, accepted 30.12.2025, published 31.12.2025

Rafał Strojny
https://orcid.org/0000-0002-2451-9152
r.strojny@pollub.pl
Department of Architecture, Urban Planning and Spatial Planning,
Faculty of Civil Engineering and Architecture, Lublin University of Technology

Abstract: Contemporary Europe is struggling with an ageing population, staff shortages and many other issues that are causing healthcare systems to become inefficient. Denmark and the United Kingdom are examples of countries tackling contemporary problems in the healthcare sector through major reforms, resulting in the construction of new superhospitals, the centralisation of healthcare, and changes in the structure and functioning of hospitals. The aim of the study is to compare the approaches to the construction of superhospitals in Denmark and the United Kingdom in terms of common features and differences, advantages and disadvantages of this approach. Key elements were examined in order to address the question of whether the centralisation of medical care can be a solution to contemporary problems in the healthcare sector or whether it is merely a utopia. The three hospitals in Denmark and three in the United Kingdom examined in the case study present different approaches to the development of superhospitals, with both advantages and disadvantages. An analysis of their characteristics made it possible to identify the desirable features that are in line with contemporary design trends and scientific research. Some of the examples feature controversial solutions that, in various respects, do not fit in with the principles of humanising the hospital environment and the idea of a healing environment, which, combined with the controversies surrounding them, may bring to mind the characteristics of a utopia that generates serious problems. This last example allowed us to identify the features of a superhospital that are not conducive to solving contemporary problems. This should be taken into account in future hospital designs to avoid controversy and create a facility that is more human-scale, friendly and non-institutional, and more intimate than a monumental medical facility.

Keywords: superhospital, healthcare architecture, future hospitals, healing environment

1. Introduction

The background for the topic under discussion is the current problems of healthcare in Europe, particularly in Poland. One of these is the ageing of the European population in the 21st century, which is becoming an increasing challenge for social and healthcare systems [1]. In this case, it is necessary to implement a health prevention strategy to reduce, delay or prevent many diseases and thus avoid overburdening the healthcare system. The ageing population, combined with low birth rates, will lead to depopulation in the long term, one of the consequences of which will be staff shortages in healthcare [2]. Staff shortages can lead to inefficient hospital operations, queues for specialists, etc. An additional burden may be outdated infrastructure, as, for example, in Poland, most hospital buildings were built in the second half of the 20th century [3, 4].

These problems seem to contrast with the number of hospitals in Poland and the number of hospital beds per 100,000 inhabitants. Poland leads most European countries in terms of the number of beds [5], but this does not translate into the quality of care, accessibility or satisfaction with the health service. According to a 2023 report, 27% of Poles expressed satisfaction with the functioning of healthcare, while as many as 70% rated it negatively [6]. In contrast, the United Kingdom and Denmark are among the countries with the lowest number of hospital beds [7]. In Denmark, as many as 89% of the population declare their trust in healthcare, and the Danish healthcare system is perceived as one of the best in the world [8].

Denmark and the United Kingdom underwent major healthcare reforms in the 21st century. These reforms involved a programme to build new superhospitals. The reforms led to the centralisation of medical care and a reduction in the number of hospitals and hospital beds [9, 10]. As a result, medical specialisations have been concentrated in one place, serving the population of the entire region, as exemplified by the new facilities built in Denmark and the United Kingdom in the 21st century.

The aim of the study was to compare the approach to the construction of new superhospitals in Denmark and the United Kingdom in terms of common features and differences, advantages and disadvantages of this approach. Attempting to assess the specific nature of superhospitals is important in view of contemporary trends in hospital design based on research and scientific evidence, as well as the idea of creating a healing environment. The focus was on the urban structure of superhospitals and the scale of buildings. The above issues were taken as elements that may be helpful in attempting to answer the question of whether the centralisation of medical care can be a solution to contemporary problems in the health sector or whether it is a utopia, especially in the context of healthcare systems that have not undergone such major reforms and are struggling with many problems in healthcare.

2. Materials and methods

The research material consists of six hospitals – three hospitals in Denmark and three hospitals in the United Kingdom. Examples of hospitals with similar functions were selected. These are new buildings constructed in the 21st century as a result of a major hospital reform and a programme to build new hospitals in Denmark and the United Kingdom. Four general hospitals and two psychiatric hospitals were presented in the form of case studies.

The first stage of the research involved a review of the literature to define superhospitals, describe the reforms and the programme for the construction of new hospitals in Denmark and the United Kingdom, as well as issues closely related to superhospitals. In the second stage, representative examples were selected from among the total number of superhospitals to illustrate different approaches to the design of this type of building, different features and scale. These examples also include hospitals that have been the subject of some controversy, which may be helpful in a comparative analysis with hospitals that are not controversial – addressing this issue together with the characteristics of the hospitals may help to identify which features of superhospitals may be problematic. The study of six hospitals in the form of a case study included, among other things, general data (location, area, size of the hospital), urban structure (scale and density of development, spatial diversity, transport links and accessibility), forms and size of buildings, and functional layout. The research conducted in these areas was part of the deliberations in search of an answer to the research question: is the superhospital as a form of centralisation of medical care a cure for contemporary problems in the health sector or a utopia?

3. Results – superhospital construction programme in Denmark and the United Kingdom

The basic premise of superhospitals can be explained as combining existing hospitals into fewer units in larger population bases. Reducing smaller local hospitals. Focusing on quality rather than quantity. Treating patients at the lowest possible cost while improving the quality of healthcare.

The definition of a superhospital includes a centralised, multi-specialist hospital offering a wide range of medical services in most fields of medicine, serving the population of a large region. It is characteristic of the modernisation of the healthcare sector in European countries in the 21st century. The designs of new hospitals resulting from the reforms feature the latest architectural, technological and ecological solutions. These buildings are also characterised by maximum digitisation of patient care, procedures, staff work, service and hospital operations. The largest reforms

and superhospital construction programmes are in Denmark and the United Kingdom. Similar plans were in place in Estonia and Hungary, but the planned construction of new superhospitals did not materialise [10].

The programme to build superhospitals in Denmark was the result of the 2007 reform of the Danish healthcare system, which aimed to increase the efficiency and accessibility of healthcare by consolidating resources in 16 large, specialised hospitals. The programme included the construction of new hospitals, but also the expansion of existing facilities, including the modernisation of equipment and infrastructure. As a result of the healthcare system transformation, the number of hospitals and hospital beds has fallen dramatically. The new superhospitals are designed to serve large populations in 16 regions and deal with more complex cases. Strengthening primary care and prevention, in addition to reducing costs, is intended to relieve the burden on hospitals [11]. The reforms also resulted in a change in the approach to mental healthcare, with an increase in outpatient treatment and a reduction in the number of hospital beds. The same is true for elderly care, which focuses on home care [12]. Thanks to its effective primary healthcare system, Denmark is known for the good health of its population [13]. Overall, the reform of the healthcare system in Denmark and the associated construction of new hospitals has proceeded smoothly, without major problems, and is now at a very advanced stage. Critics of the reform highlight inconveniences such as longer travel times for patients due to the reduction in the number of hospitals, as well as scepticism about whether the budget will be adhered to and whether such a large transformation of the healthcare system is feasible. It will take time for the superhospital construction programme to be fully completed and for its evaluation to be carried out over a longer period and on a large scale. Currently, the first elements of the evaluation of the new healthcare structure are available, which include a comparison of various indicators before and after the reform. Studies of mortality rates before and after the healthcare reform in Denmark showed that the reform did not improve overall trends in hospital mortality but did slightly slow down previous improvements in 30-day mortality [14].

The programme to build superhospitals in the United Kingdom envisaged the construction of 40 new hospitals by 2030, but due to delays, it has been extended. Like Denmark, the United Kingdom focuses on prevention and primary care, and the construction of new hospitals is intended to improve the functioning of the health service and maintain it at a world-class level. As part of the reform, large multi-specialist hospitals with over 1,000 beds and smaller facilities, most often specialist ones with fewer beds, are being built. These are two approaches to the construction of new hospitals, which will be discussed later in this article. The United Kingdom is also an example of a very large reform of mental healthcare, which has led to the closure of many psychiatric hospitals and the construction of a smaller number of new facilities focusing on the quality of treatment, creating an additional therapeutic environment through architectural solutions based on research and scientific evidence [15]. The United Kingdom also stands out with its new oncology facilities offering the latest cancer treatment methods and a friendly treatment environment [16]. It also leads the way in humanising the hospital environment through the innovative idea of Maggie's Centres located at each oncology hospital, which offer multi-faceted support in a non-institutional setting [17]. On the other hand, huge multi-specialist facilities are also being built in the United Kingdom, whose scale and internal space structure differ significantly from new specialist hospitals. This raises the question of the extent to which this group of facilities fits in with contemporary trends in design based on research and scientific evidence, the characteristics of a healing environment and the humanisation of the hospital environment.

4. Superhospitals in Denmark and the United Kingdom – a case study

The hospitals examined in the case study represent different design approaches. Some of them have many features in common, while others differ significantly, which affects the overall perception of the facility. Selected hospitals from Denmark and the United Kingdom were compared alternately. First, two superhospitals in Denmark and two in the United Kingdom were compared. These are multi-specialist facilities of a similar scale. The second comparison includes two psychiatric hospitals that present a similar approach to the design of this type of facility in Denmark and the United Kingdom.

Table 1. A list of superhospitals surveyed in Denmark and the United Kingdom. *Developed by the author*

No.	Hospital name	Location	Year of establishment	Architects	Number of beds	Area [m²]	Number of storeys
A	Aarhus University Hospital	Aarhus, Denmark	2007–2019	C.F. Møller Architects	1150	528,000	1–13
B	Queen Elizabeth Hospital	Birmingham, UK	2010	BDP Architects	1215	150,000	9
C	New North Zealand Hospital	Hillerød, Denmark	2013–2026	Herzog & de Meuron	700	128,000	3–5
D	Queen Elizabeth University Hospital	Glasgow, UK	2015	Gillespies	1677	165,000	14
E	Psychiatric Hospital Slagelse	Slagelse, Denmark	2015	Karlsson Arkitekter, Vilhelm Lauritzen Architects	194	44,000	1–5
F	Springfield University Hospital	London, UK	2012–2022	C.F. Møller Architects	133	34,300	1–3

Aarhus University Hospital in Denmark is located on the outskirts of the city of Aarhus in the northern part. It is directly adjacent to parkland and undeveloped areas, as well as multifunctional districts with residential and commercial buildings. The hospital is very well connected to the rest of the city, providing direct access to a tram stop, bus stops within the hospital complex and a bicycle rental station. In addition, it is located on one of the city's main thoroughfares. It also offers convenient car access via a network of streets and a group of car parks in various parts of the complex.

This is the largest hospital project in Denmark's history. Its urban structure, inspired by the model of a small Danish town, creates a small city within a city. The buildings rise towards the centre around the tallest building (13 storeys), which serves as a landmark for the entire complex. Although it is a huge facility with an area of over 500,000 m², providing 1,150 beds, the scale is human-friendly. The hospital is divided into smaller buildings of various shapes and heights, creating a clear campus hierarchy. Within this structure, individual buildings in an atrial layout (with internal green courtyards) form quarters. Between them is a clear network of streets, squares and plazas that create a variety of green spaces, also providing therapeutic views from the windows. The well-thought-out structure and clear composition of the entire complex create a vibrant green district and intuitive wayfinding. In addition, the hospital buildings are connected by linear links, which create clear internal communication axes and convenient movement around the hospital regardless of weather conditions. Individual buildings have functions dedicated to different specialisations. In general terms, the first two floors are dedicated to medical functions, while the remaining floors are dedicated to inpatient wards. Apart from the scale of the buildings and their human-friendly structure, the hospital in Aarhus reflects Evidence-Based Design, Healing Architecture and the principles of biophilia. The wards feature single rooms. The key role of daylight and greenery has been incorporated into all areas of the hospital with different functions [18].

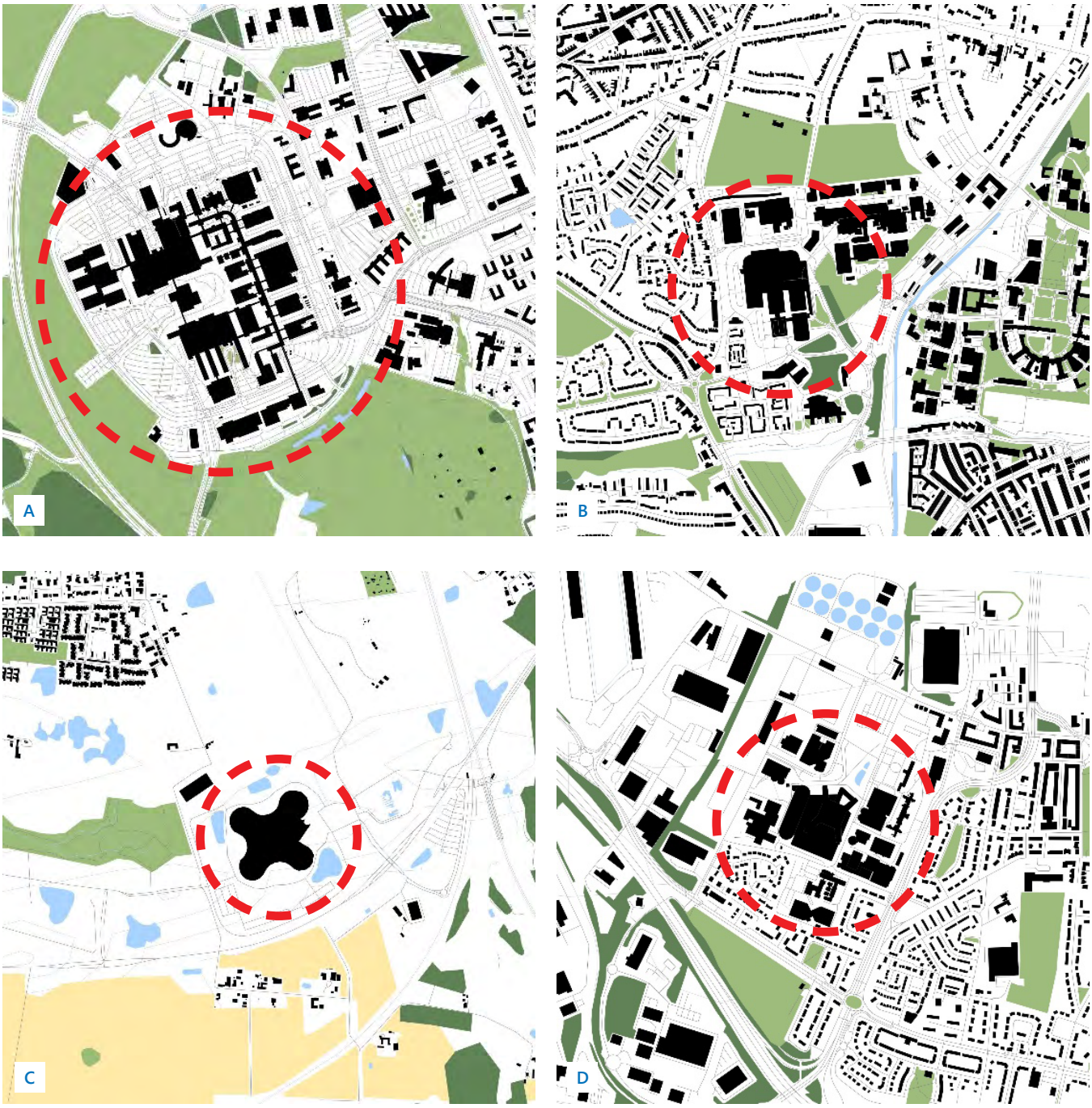

Figure 1. The urban structure and surroundings of the multi-specialist superhospitals studied. Superhospitals in: A – Aarhus, B – Birmingham, C – Hillerød, D – Glasgow. *Elaborated by the author using https://swzpln.de/*

Queen Elizabeth Hospital is in the south-western part of Birmingham. It is one of the largest hospitals in the United Kingdom. The hospital is directly adjacent to single-family and multi-family residential areas and a university campus. The hospital is connected to the city by public transport (a railway station and bus stops around the hospital complex) and a network of roads and car parks.

It is a research and training centre for medical personnel of the army, navy and air force. It has the world's largest single-storey intensive care unit with 100 beds. It also houses a day surgery unit, acute care wards and other wards, as well as 30 operating theatres. Although the Birmingham hospital is much smaller in terms of floor space (150,000 m^2), it offers more beds (1,215). It is a vertically arranged building consisting of three nine-storey blocks, each 63 m high. The design was based on consultations with end users [19]. Compared to the horizontally arranged hospital in Aarhus, whose structure fits well into the urban fabric, the hospital in Birmingham forms a compact structure that stands out from the neighbouring buildings in terms of scale. The compact structure, combined with the vertical layout of the nine-storey building, means that the scale of the building can be overwhelming and evoke a sense of institutionality.

Despite its scale, there are positive elements to this hospital, such as greenery (the park next to the hospital), plenty of daylight inside, works of art and temporary fruit and vegetable stalls in front of the main entrance to the hospital. The hospital building is distinguished by its minimalist, monumental interior dominated by white and the use of glass and metal panels on the facades, which may also enhance the feeling of institutionality.

The most controversial issues at the hospital concerned the situation among the staff, as more than 50% of employees felt intimidated or harassed, according to a 2023 report. One of the doctors committed suicide, blaming the hospital in her suicide note [20, 21]. This is a complex issue, but it is thought-provoking and requires investigation into whether one of the contributing factors to such behaviour could be the overwhelming scale of the building, its complex structure and its institutional environment.

New North Zealand Hospital is in the south-eastern part of Hillerød in Denmark. The hospital is adjacent to undeveloped and park areas. In the southern part, the complex borders a thoroughfare. The scale of the building in horizontal view is large and stands out from its surroundings. However, the effect of this scale is minimised by the height and shape of the building. The horizontal, undulating building is surrounded by nature with a garden in the centre, providing views of greenery from every location. Functionally, the two-storey extended plinth houses the treatment areas and is partially hidden under the crowning roof garden inside the complex. Above, there is a strip of bed wards arranged in a circle with a view of the internal roof garden and the green surroundings of the hospital. Although the structure of the building appears compact at first glance, it is based on the idea of a hospital-city with a network of internal public streets connecting the most important functions. The central hall connects to four main vertical communication nodes and extends between large, curved courtyards. The use of axial symmetry in the treatment areas allows for functional flexibility and clear orientation, making it easier to find your way around the building. The building reflects contemporary design trends resulting from scientific research, such as the key role of daylight, greenery and views of it, natural materials and many other aspects [22].

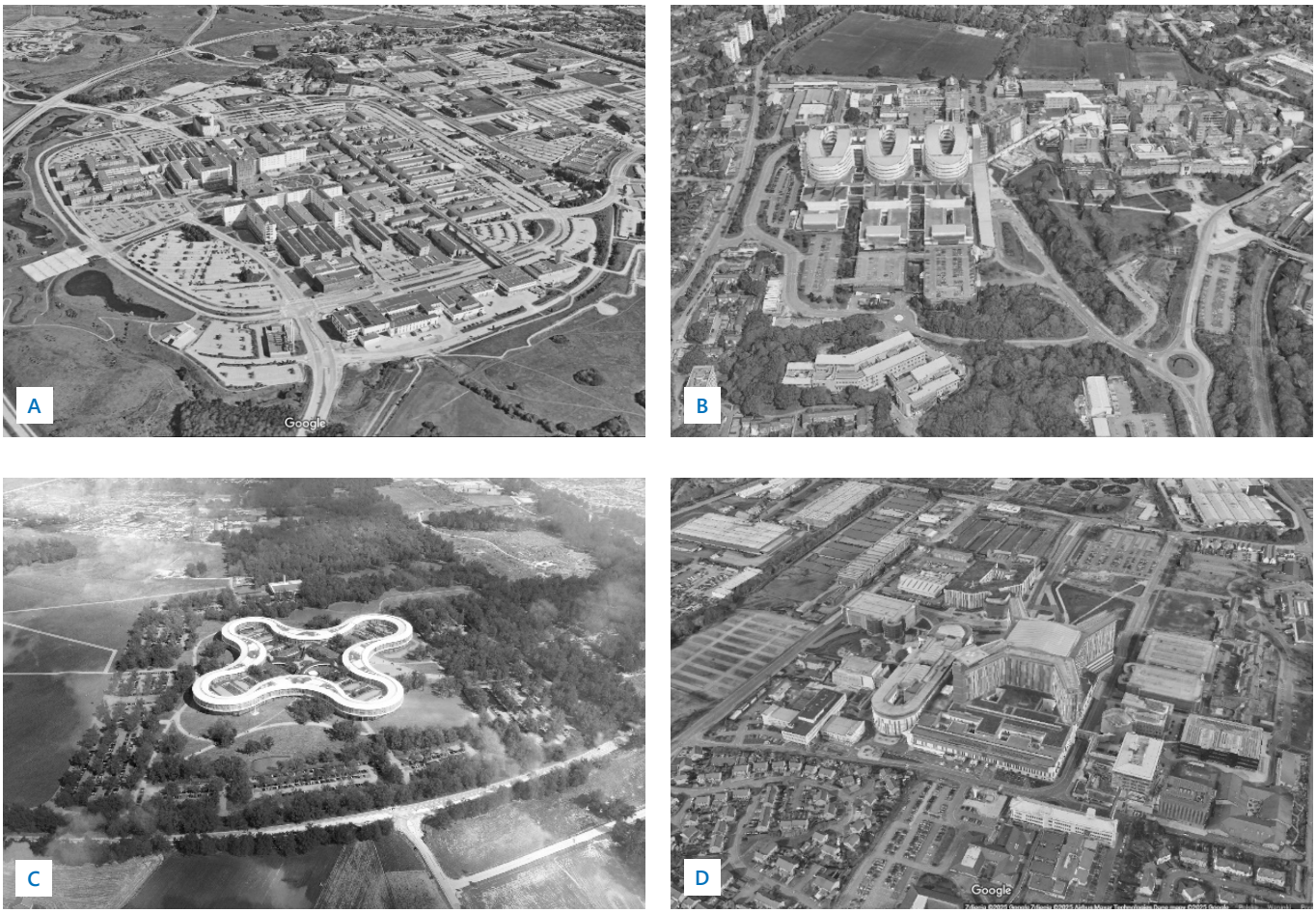

Figure 2. Prospective views of the multi-specialist superhospitals studied. Superhospitals in: A – Aarhus, B – Birmingham, C – Hillerød, D – Glasgow. Source: A – [19], B-D – [25], C – [22]

Queen Elizabeth University Hospital in Glasgow is in the western part of Glasgow. It is one of the largest and most advanced medical campuses in Europe. The hospital is adjacent to the port and neighbourhoods with single-family and multi-family housing. It is connected to the city by bus and bicycle stops located directly at the hospital and one of the city's main thoroughfares. The building is a new landmark of the city. It is a compact, 14-storey structure with a star-shaped layout. When analysing the structure of the neighbouring buildings, the compact structure of the building stands out due to its large scale and vertical layout. The building consists of two parts – an adult hospital, a children's hospital and two emergency departments. The ground floor houses a restaurant for 500 people, a café, shops, ATMs, etc. The hospital serves 41% of Scotland's population. It also stands out for its use of modern technologies, such as automatically controlled vehicles with separate lifts for transporting clean and dirty materials [23].

Due to its shape and large scale, the hospital has been nicknamed the 'Death Star' by residents. The scale of the building is also problematic in terms of its functioning, as it has experienced a series of water and ventilation contamination incidents and infection outbreaks that have led to the deaths of many patients [24].

Figure 3. The urban structure and surroundings of the multi-specialist superhospitals studied. Superhospitals in: E – Slagelse, F – London. *Elaborated by the author using https://swzpln.de/*

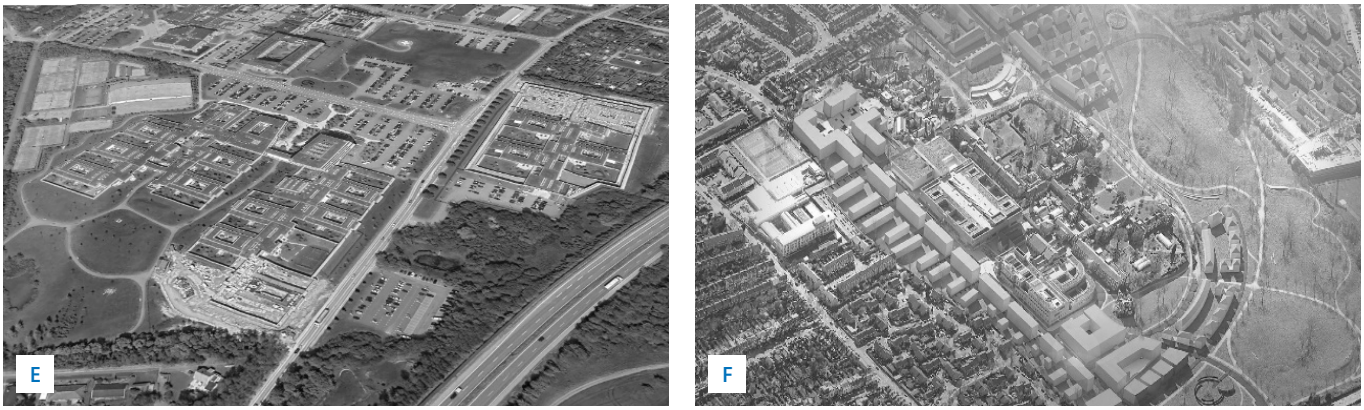

Figure 4. Prospective views of the multi-specialist superhospitals studied. Superhospitals in: D – Glasgow E – Slagelse, F – London. Source: E – [25], F – [27]

The Psychiatric Hospital Slagelse is in the south-eastern part of Slagelse. It is surrounded by green areas and single-family and multi-family housing. It is connected to the city via a municipal road and public transport (bus stops in the vicinity of the hospital). The complex of low atrial buildings, mainly 1–2 storeys high, with a central 5-storey dominant

structure, forms a horizontal layout surrounded by a park. The division of the hospital into smaller units stands out in the urban fabric, but at the same time does not dominate the surroundings. It is currently the largest facility of its kind in Denmark. Functionally, it centralises various psychiatric wards. It also includes a ward for mentally ill criminals, an emergency ward and research facilities. Despite its large area, the horizontally arranged hospital blends in with its surroundings. The main idea of the designers was to blur the boundary between the building and its surroundings. Every aspect of the hospital was based on scientific research covering the role of art, greenery, materials, etc., the use of single rooms and spaces of various types, which is particularly important in shaping the treatment environment for patients with mental disorders [26].

Springfield University Hospital is in the southern part of London. The surroundings consist of residential buildings and green areas. The hospital is easily accessible by both car and public transport. The scattered structure of the complex of new and old buildings creates a clear urban layout that fits well with the character of the surrounding urban fabric. Similar to the examples discussed from Denmark, the hospital in London is a project based on Evidence-Based Design, and its basic idea was to create a therapeutic, non-institutional environment with a scale of development adapted to the human scale. The aspect of humanisation and integration with the surroundings is emphasised by the functional structure of the entire complex, which has resulted in the conversion of the historic former hospital building mainly into residential use, the construction of new hospital buildings reflecting the latest design trends for this type of facility based on the results of various scientific studies, and, in addition, the supplementation of the entire complex with residential buildings with accompanying functions. Thanks to this, the hospital is not isolated from its surroundings and the city. The public spaces in the complex serve not only patients and staff, but also local residents [27].

4.1. Superhospital – two design approaches

The superhospitals studied in Denmark and the United Kingdom share many common features in their approach to design that can be considered positive. Examples include the superhospitals in Aarhus, Slagelse and London. Although the vast majority of superhospitals are large multi-specialist facilities, there are fewer complementary specialist hospitals, such as psychiatric hospitals. However, in the context of this study, the profile of the facilities is not particularly relevant, as they are all designed with the same objectives in mind. In terms of location, hospitals are most often found on the outskirts, adjacent to extensive undeveloped green areas and multifunctional areas with residential districts and accompanying services. Thanks to this location, the hospital has large areas for development and opportunities for future growth, while at the same time not being isolated from the city thanks to its surroundings. In connection with the location conditions, the issue of transport links and accessibility is also crucial. In addition to the proximity of transport arteries, which provide convenient car access to the superhospital, it is important to provide alternative means of transport. In the best examples of superhospitals, transport accessibility is ensured by a network of bus stops located directly within the hospital complex, with tram stops or underground stations also located in close proximity. This was complemented by city bike stations.

The urban structure in the best examples of superhospitals was created by a horizontal arrangement of interconnected buildings of various sizes, adapted to the human scale, with a dominant central taller building. Breaking down the layout into smaller buildings creates the idea of a small town within a city, and the individual buildings with an atrial layout form a structure modelled on quarters with green courtyards. In addition, this composition of buildings allows for the creation of diverse multifunctional spaces between buildings, which can serve as public spaces, green areas, squares and plazas, as well as car parks. The diversity of spaces and the creation of urban interiors, combined with compositional axes, builds a hierarchy of these spaces, which makes it easier to find your way around. This approach to the design of a superhospital reduces the feeling of the enormous scale of the facility but also allows for a clear functional division of individual buildings. This can facilitate navigation in hospitals compared to if all functions were in one huge, complex, compact building with a complicated internal communication system.

In conjunction with the appropriate scale of the superhospital and its horizontal layout, the best examples of superhospitals reflect contemporary design trends supported by research and scientific evidence. The humanisation of the space is emphasised by the extensive green areas around the facilities, views of greenery from the interiors and elements of greenery inside the buildings. The key role of daylight encompasses both general spaces and more private areas (such as patient rooms). An important element is the use of natural materials, which enhances the feeling of friendliness of the facility. An example of this approach are hospitals in Denmark with a predominance of brick or wood on the façades, as well as wood or wood-based materials in the interiors. Neutral colours with colourful accents

predominate, and the interiors are warmed by shades of wood. These elements, like many others, create a healing environment with biophilic features that are friendly to basic human needs [28, 29].

Breaking down the hospital structure into smaller buildings, apart from making it easier to adapt them to the human scale, can facilitate the logical functional organisation of the hospital and, in the long term, provide greater opportunities for the transformation and possible expansion of the buildings. The size of the hospitals studied ranged from several tens of thousands of square metres to several hundred thousand square metres of usable space. However, regardless of scale, considering the other features of the superhospitals studied, the horizontal layout of the complex of lower buildings visually reduced the sense of the size of the facility. Although the superhospitals in Birmingham and Glasgow had a smaller area than the hospital city in Aarhus, their vertical layout and compact structure generally enhanced the impression of the large scale of the facility, both from distant areas of the city and up close.

The second approach discussed here has many positive similarities with the first approach. However, there are also several significant differences that may affect the overall perception of the facility and its scale. Although the superhospitals in Birmingham and Glasgow are in many ways in line with contemporary design trends, the humanisation of their spaces is less noticeable than in other facilities. The main difference is the urban structure, which is more compact and denser, with a more vertical layout of buildings. Most of the functions are housed in one large, tall building, which is a landmark of the city. However, these features reinforce the feeling of the enormous scale of the facility, its monumentality and, consequently, its institutional character. This effect is enhanced using modern materials, such as glass combined with metal façade panels. Inside, the austerity of these materials is reinforced by steel structural elements and the dominance of white. The lack of wood or wood-based materials, or even other more natural materials, makes it impossible to warm up the interior, thus depriving it of the characteristics of a healing environment or biophilia. This effect can be offset to some extent by elements of greenery and views of greenery. However, the issue of materials is very important from the point of view of humanising the hospital environment. The second important issue in this different approach is the less diverse hospital environment and poorer transport links. This is reflected in the limitations in terms of various alternative means of public transport closely linked to the superhospital. In the superhospitals discussed, which had the characteristics described above, various technical, functional and social problems arose. This suggests that this approach to the design of a superhospital is less optimal than that described in the first variant, which is represented by superhospitals in Denmark.

5. Summary and conclusions

Hospitals are currently overburdened and inefficient, struggling to meet the needs of an increasingly diverse and ageing population. In this respect, reforms are necessary and the concept of the hospital needs to be fundamentally changed and adapted to rapidly changing conditions [30]. The programme to build superhospitals in Denmark and the United Kingdom is a complex and controversial initiative with potential benefits and drawbacks. Although the programme aims to improve the quality and efficiency of healthcare, it faces challenges in the form of longer travel times, budget overruns and the overall feasibility of such a large transformation.

Superhospitals that centralise medical care reflect the contemporary trend of urban densification and the concentration of key functions in a metropolis that serves the entire region. This solution provides a wide range of treatment options and multi-specialist care within a single facility, which is particularly important for patients with multiple comorbidities. On the other hand, the centralisation of hospital care at the expense of reducing the number of hospitals limits access to treatment in smaller towns, by significantly increasing the distance to hospitals in smaller urban areas. The question remains open as to whether the centralisation of medical care in metropolitan areas can be a remedy for contemporary problems in the health sector, or whether this whole assumption is merely a utopia.

Based on the selected superhospitals examined, which present two different approaches to design, their positive and negative characteristics were identified. In general terms, undesirable features were listed which may cause problems in the functioning and perception of the facility by the community. The most important of these features is the vertical layout of the superhospital in the form of a large compact structure housing all functional departments, which, in combination with modern materials devoid of natural features, can significantly enhance the feeling of the large scale of the facility, its monumentality and institutionalisation. In this case, associations with a utopian hospital can easily come to mind.

However, in most of the hospitals studied, a different approach prevailed, characterised by the idea of a hospital-city, in a horizontal layout, with a complex of buildings resembling quarters with various zones and solutions

appropriate for the idea of a healing environment. This set of positive features may, in part, help to determine whether a superhospital can be a cure for contemporary problems in the healthcare sector. Danish examples of superhospitals with good solutions, linked to contemporary design trends, as well as the functioning of the healthcare system in Denmark, which is very positively perceived by the public, allow us to conclude that a properly designed superhospital can solve many problems in the healthcare sector. This is a multifaceted problem that goes beyond the field of architecture and urban planning, but the proper urban and architectural design of superhospitals is one of the important elements that contribute to the overall effect of hospital reform in response to contemporary problems in healthcare.

Table 2. Positive features of superhospitals. *Developed by the author*

Aspect	Features
Location	The outskirts of the city with a diverse mix of green spaces and built-up areas (residential districts, mixed-use districts, ancillary services).
Communication	Transport accessibility via connections to major transport routes. Alternative means of transport: network of bus stops, city bike stations, tram stops, underground stations.
Urban structure	The idea of a city within a city. A horizontal layout of interconnected buildings with a central dominant feature, clear compositional axes, diverse spaces (green squares, plazas, etc.), and a clear hierarchy of spaces that makes it easy to find your way around.
Scale and building density	The scale of development is adapted to the human scale (1–5 storeys) with a higher dominant feature (up to several or a dozen or so storeys). Broken atrial development with a horizontal layout (the idea of 'quarters' with green courtyards).
Spatial and functional diversity	Various forms of buildings and spaces, functional diversity (car parks, squares, green areas, recreational areas, etc.).
General features of the hospital	Reflection of contemporary design trends based on Evidence-Based Design, Healing Architecture, Biophilia, etc. The key role of greenery, natural light, natural materials, humanisation of space, deinstitutionalisation.

References

[1] Lunenfeld B, Stratton P. The clinical consequences of an ageing world and preventive strategies. *Best Practice and Research Clinical Obstetrics and Gynaecology*. 2013;27(5):643–659. https://doi.org/10.1016/j.bpobgyn.2013.02.005.

[2] Marć M, Bartosiewicz A, Burzyńska J, Chmiel Z, Januszewicz P. A nursing shortage – a prospect of global and local policies. *International Nursing Review*. 2019;66(1):9–16. https://doi.org/10.1111/inr.12473.

[3] Strojny R, Przesmycka N, Łukomska Z. Problems of the modernisation of 20th-century healthcare facilities based on the example of hospitals within the Lubelskie Voivodeship. *Budownictwo i Architektura*. 2023;22(2):21–39.

[4] Przesmycka N, Strojny R, Życzyńska A. Modernisation of hospital buildings built in the 20th century in the context of architectural, functional and operational problems. *Architectus*. 2023;2(74):59–67.

[5] Eurostat. EU counted 2.3 million hospital beds in 2022. Eurostat; 2024. Available from: https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240711-2 [Accessed: 26 Jun 2025].

[6] Omyła-Rudzka M. *Opinie na temat funkcjonowania systemu opieki zdrowotnej*. Komunikat z badań Nr 124/2023. Warszawa: Fundacja Centrum Badania Opinii Społecznej (CBOS); 2023. Available from: https://www.cbos.pl/SPISKOM.POL/2023/K_124_23.PDF [Accessed: 26 Jun 2025]

[7] Trading Economics. Hospital beds by country – Europe. Available from: https://tradingeconomics.com/country-list/hospital-beds?continent=europe [Accessed: 26 Jun 2025].

[8] Gawrońska A. Probably the best healthcare system in the world. *Menedżer Zdrowia*. 2024;(5-6):50–52.

[9] World Health Organization. Regional Office for Europe; European Observatory on Health Systems and Policies; Olejaz M, Nielsen JA, Rudkjøbing A, et al. *Denmark: health system review*. Copenhagen: WHO Regional Office for Europe; 2012. Available from: https://iris.who.int/handle/10665/330321.

[10] Strojny R. Contemporary "superhospital": an attempt to define a new architectural idea and form. *Builder*. 2022;302(9):69–71.

[11] Ministry of Health (Denmark). *The Danish super hospital programme. A transformation of the Danish health care landscape*. Copenhagen: Ministry of Health; 2021. Available from: https://www.ism.dk/Media/0/2/TheDanishSuperHospitalProgramme2021.pdf [Accessed: 26 Jun 2025].

[12] Schmidt M, Schmidt SAJ, Adelborg K, Sundbøll J, Laugesen K, Ehrenstein V, et al. The Danish health care system and epidemiological research: from health care contacts to database records. *Clinical Epidemiology*. 2019;11(1):563–591. https://doi.org/10.2147/CLEP.S179083.

[13] Haastrup P, Møller A, Kristensen JK, Huibers L. Danish primary care: a focus on general practice in the Danish healthcare system. *Scandinavian Journal of Primary Health Care*. 2025;43(4):839–845. https://doi.org/10.1080/02813432.2025.2508929.

[14] Flojstrup M, Bogh SBB, Bech M, Henriksen DP, Johnsen SP, Brabrand M. Mortality before and after reconfiguration of the Danish hospital-based emergency healthcare system: a nationwide interrupted time series analysis. *BMJ Quality and Safety*. 2023;32(4):202–213.

[15] Strojny R. Superhospital – characteristics of a contemporary form of next-generation hospitals in Europe. *Zeszyty Naukowe Politechniki Poznańskiej. Architektura, Urbanistyka, Architektura Wnętrz*. 2024;18:39–53.

[16] Strojny R, Setola N. Impact of developments in cancer treatment on the design of contemporary cancer centres in Europe. *Architecture Civil Engineering Environment*. 2024;17(3):43–58.

[17] Strojny R. Maggie's Centres – an innovative approach supporting oncology patients. *Teka Komisji Architektury, Urbanistyki i Studiów Krajobrazowych*. 2022;18(2):18–31.

[18] C.F. Møller Architects. *Aarhus University Hospital – AUH*. Available from: https://www.cfmoller.com/p/Aarhus-University-Hospital-AUH-i2310.html [Accessed: 28 Jun 2025].

[19] BDP. *Queen Elizabeth Hospital, Birmingham*. Available from: https://www.bdp.com/uk/projects/queen-elizabeth-hospital-birmingham [Accessed: 28 Jun 2025].

[20] BBC News. *University Hospitals Birmingham: half of staff felt bullied*. Available from: https://www.bbc.com/news/uk-england-birmingham-66936628 [Accessed: 28 Jun 2025].

[21] BBC News. *Junior doctor blamed Birmingham hospital for her suicide, family say*. Available from: https://www.bbc.com/news/uk-england-birmingham-64333162 [Accessed: 28 Jun 2025].

[22] Herzog & de Meuron. *New North Zealand Hospital, Hillerød*. Available from: https://www.herzogdemeuron.com/projects/416-new-north-zealand-hospital/ [Accessed: 28 Jun 2025].

[23] Gillespies. *Queen Elizabeth University Hospital, Glasgow*. Available from: https://www.gillespies.co.uk/projects/queen-elizabeth-university-hospital [Accessed: 28 Jun 2025].

[24] BBC News. *Timeline: the trials of the Queen Elizabeth University Hospital complex*. Available from: https://www.bbc.com/news/uk-scotland-glasgow-west-50488044 [Accessed: 28 Jun 2025].

[25] Google Maps. Available from: https://www.google.pl/maps [Accessed: 28 Jun 2025].

[26] Vilhelm Lauritzen Architects. *Psychiatric Hospital Slagelse*. Available from: https://vilhelmlauritzen.com/collection-of-projects/psychiatric-hospital-slagelse/ [Accessed: 28 Jun 2025].

[27] C.F. Møller Architects. *Springfield University Hospital – mental health*. Available from: https://www.cfmoller.com/p/Springfield-University-Hospital-mental-health-i2959.html [Accessed: 28 Jun 2025].

[28] Strojny R. Specificity of general zones in large modern European multispecialty hospitals – selected case studies. *Budownictwo i Architektura*. 2022;21(2):31–46.

[29] Strojny R. *Współczesne tendencje w projektowaniu szpitali specjalistycznych w Europie*. Lublin: Wydawnictwo Politechniki Lubelskiej; 2024.

[30] Beacon R, Conway F, Semark A. *Hospital of the future: a framing paper*. 2024. Available from: https://reform.uk/wp-content/uploads/2024/12/Hospital-of-the-Future-a-framing-paper-1.pdf [Accessed: 28 Jun 2025].

Superszpital jako forma centralizacji opieki medycznej – lekarstwo na współczesne problemy w sektorze zdrowotnym czy utopia?

Streszczenie: Współczesna Europa zmaga się ze starzeniem społeczeństwa, niedoborem personelu i wieloma innymi czynnikami, których efektem jest niewydolność systemów opieki zdrowotnej. Dania i Wielka Brytania są przykładami walki ze współczesnymi problemami w sektorze zdrowotnym poprzez duże reformy, których rezultatem jest budowa nowych superszpitali, centralizacja opieki zdrowotnej, zmiany w strukturze i funkcjonowaniu szpitali. Celem badań jest porównanie podejścia do budowy superszpitali w Danii i Wielkiej Brytanii, pod kątem cech wspólnych i różnic, zalet i wad tego podejścia. Zbadano elementy kluczowe z punktu widzenia rozważań oraz próby odpowiedzi na pytanie czy centralizacja opieki medycznej może być rozwiązaniem współczesnych problemów w sektorze zdrowotnym czy to jedynie utopia. W artykule zastosowano metodę studium przypadku, wybierając do analiz 3 szpitale w Danii i 3 w Wielkiej Brytanii, które przedstawiają różne podejścia do kształtowania superszpitali cechujące zarówno zalety, jak i wady. Analiza ich cech pozwoliła określić pożądane cechy, które wpisują się we współczesne tendencje projektowe i badania naukowe. Niektóre z przykładów posiadają rozwiązania kontrowersyjne, które w różnych aspektach nie wpisują się w zasady humanizacji środowiska szpitalnego, ideę uzdrawiającego środowiska, co w połączeniu z kontrowersjami, jakie wokół nich zaistniały, mogą przywodzić na myśl cechy utopii, która generuje poważne problemy. Ten ostatni przykład pozwolił określić cechy superszpitala, które nie sprzyjają rozwiązaniu współczesnych problemów. Powinno to być brane pod uwagę w przyszłych projektach szpitali, aby uniknąć kontrowersji i stworzyć placówkę lepiej dostosowaną do skali człowieka, przyjazną o cechach nieinstytucjonalnych i bardziej kameralnej niż monumentalnej placówki medycznej.

Słowa kluczowe: superszpital, architektura obiektów ochrony zdrowia, szpital przyszłości, uzdrawiające środowisko