

## LANDSCAPE ARCHITECTURE AND MEDICAL GARDENS OF MEDICAL INSTITUTIONS.

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**Annotation:** This article is about research and proposals for the development of landscape architecture, which is one of the important problems facing the world community today, which greatly contributes to the reduction of damage to the environment, ecology, and people's health, on the example of the territory of medical institutions. will be The landscape architecture and medical gardens of medical institutions, their place and importance, and the use of gardens with flowers, fruits and ornamental trees in the hospital area, with water, stones and natural elements are discussed. In addition to the internal structure of the building, the environment of the building should be perfectly designed, that is, the main goal is to make every patient and their relatives feel good in the garden and recover faster.

**Key words:** medical buildings, style, history, landscape, garden, tree, bush, flowers, area, stress, view, medical gardens, functional basis, landscape, form, functional zones.

**Introduction:** In the territory of Uzbekistan, treatment centers similar to medical associations have existed since ancient times and developed step by step. As a result of the development of the medical field, increased requirements, and the creation of new building materials (reinforced concrete), different relations, problems and different views have arisen in each period and place. One of the most important and urgent problems facing the world's population in the last quarter of the 20th century and the beginning of the 21st century is the issue of preserving the ecology of buildings and the environment.

"Landscape architecture" was first coined 150 years ago in England after the 1850s in connection with the problems of creating a national park in the United States. In Uzbekistan, the science of landscape architecture was formed and is developing mainly during the years of independence. In order to fully understand the development of landscape architecture, it is important to understand the meaning of the term, what landscape architects do, and the field's place in the wider world of architecture. Architects, as you know, are not only engaged in building buildings and structures, creating cities, but also in the architecture of open spatial environments and their organization. These include streets, squares, flower gardens, avenues, beaches, parks within microdistricts, squares, boulevards, special parks, pleasure gardens, national parks, boulevards, wonderful gardens and historical landscapes. The main goal of landscape architecture is the compositional artistic, architectural and landscape formation of such an environment of open spaces with the help of natural landscape.

**The purpose of the articles:** — to form an architectural landscape in modern health facilities, to improve the skills of architects in landscape design and to give them the ability to design it practically.

**The main tasks of the article:** 1. To introduce and teach the entire world experience in garden art to architects designing medical institutions; 2. Along with solving the landscape of medical institutions, discover and implement the ways of effective use of the garden in the way of medicine:

**Main part:** Today, the issue of public health protection in our country occupies an important place in our state policy. In recent years, there have been many changes in the field of health care. Modern centers of specialized medical institutions, established as a product of reforms in the centers of almost all regions of our country, have been providing high-quality medical services to the population. Along with the architectural spatial solutions of medical institutions, the correct organization of environmentally friendly landscape features remains relevant. Today's hospitals should be flexible, not allow rapid aging of the building, and not have a negative impact on the environment. it is desirable to solve along with the necessary problems. Creating hospitals that can provide medical services to people without harming nature is one of the most urgent problems of today. The hospital is a second home for inpatients, environmental psychology does not have a negative effect on patients, does not increase stress and

anxiety, and on the contrary, perceives a clear sky and light, perceives the effects of color and sound with aromas. should be able to provide that.

Designing simple and functional pathways that provide clarity in the landscape solution, are visually well-defined and easily understood, ensures that patients and visitors avoid discomfort. Giving preference to natural light, natural plants, creating a powerful, desirable atmosphere is an additional, important support aimed at increasing the patient's mental security and confidence in life. For example, the color green has been shown to be very effective in distracting the patient from thinking about his condition. arousing the desire for tranquility and relief from the state of impaired health: precisely for this reason, its presence became decisive in the therapeutic experience.



Figure 1. Spandau Hospital. Address: Spandau Hospital address: Stadtrandstraße 555, 13589 Berlin, Germany

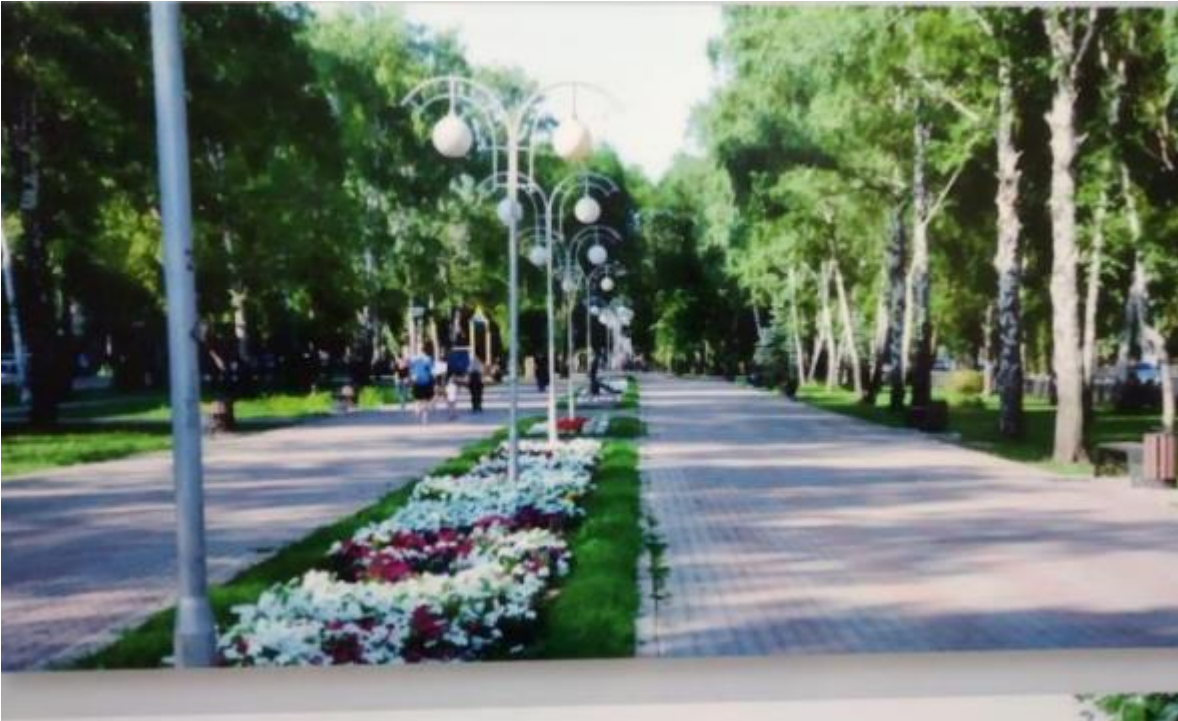
The aesthetic quality of the landscape helps people to relax and become less stressed, to get rid of the miserable, harsh environment "inside" and "outside". At the same time, the building landscape acts as an acoustic barrier around the building, absorbing smoke and mitigating summer temperatures. therefore, its presence became crucial in the therapeutic experience. Helps to find a good psycho-physical condition and well-being. In addition, it is desirable to design medical gardens, i.e. areas for growing medicinal herbs, in the hospital area. They significantly improve people's sense of well-being, reduce stress and promote faster recovery. Areas around hospitals are generally seen by the public as places removed from the city, isolated from the social environment, accessible only in emergencies or out of necessity. However, this psychological perception of their remoteness and separation can be mitigated today by more hospitable approaches to their content and design. As a result of the new, holistic approach to medicine, which aims to eliminate the fear of patients that can prevent them from receiving medical treatment, the hospital today is seen as a more relaxed, comfortable and stress-free environment. With the increasing importance of the physical environment for the health and safety of patients and staff, hospital outdoor spaces, especially in scenic and more green areas, are being considered as effective additions. This means that the indoor and outdoor spaces of hospitals are crucial to the physical, psychological and social recovery and well-being of patients. Appropriately designed active and passive hospital landscapes improve the health of patients, and close interaction with nature reduces stress.

Research shows that rehabilitation structures and procedures increase patients' physical endurance and physical well-being. Interaction with the natural environment has a positive effect on patients' sense of well-being, which in turn has a positive effect on their physical health. Theoretical and practical studies have been conducted that show the positive effects of interaction with nature on blood pressure, cholesterol levels and stress reduction. A study by Robert Ulrich found that patients who recovered from surgeries were discharged earlier, took less pain medication, and nurses had rooms with windows facing

nature rather than facing brick walls. patients in similar rooms were evaluated less negatively than

Everyone, regardless of age or illness, needs recreation and social support; participation in social activities can also be the only means of sharing family and community interactions and similar experiences for people with physical disabilities. Patients with strong social support networks generally experience less stress and better health than isolated patients, as well as better recovery and survival rates in a variety of settings. Social support improves immune function and mood and is a good support for healing. Psychological benefits Green spaces between buildings, primarily used for waiting and eating, connect the architecture with walkways; however, they can be expensive to maintain.

Figure 2. Garden. 2 pictures: from the diploma work of Isakhojayeve Akbarkhoja Rustamhoja's son.



The natural environment in healthcare facilities contributes to social integration by providing spaces for social interaction and support; evidence shows that they significantly improve access to social care for patients, families and staff. The courtyards occupy an important place in the complex of hospital buildings due to their proximity to the dining area. They are used more by visitors and patients and should be large enough to prevent overcrowding if they are easily visible. Courtyards can include landscaped tree-shaded areas, water features, flower beds, and movable seating. These open spaces, usually paved and furnished, should allow easy access for wheelchairs, walkers, and canes. They must include the shade of flowering trees or evergreens, and at least one quarter of the trees must be above the specified minimum size. The plaza should have shaded seating areas decorated with plants, colorful shrubs and ground cover, and possibly a water feature. Because these areas are mostly paved, landscaping and gardening maintenance costs are low.



Figure 3. Boston Children's Hospital Rooftop Healing Garden

Rooftop gardens are visually appealing, allowing patients to look out of their rooms and enjoy a comfortable view of grass, paving stones, benches and people. The achievements of landscape architecture are that people know the garden exists and can find, enter and use its space. The garden should have private spaces that cannot be seen from the window and a variety of spaces for users to feel free to choose; If users are also consulted in the design of the garden, this will also increase their sense of control. All or some of the five senses can be selected as focal stimuli in the construction of the garden.



Figure 4. Architecture Norway \_ Kronstad Psychiatric Centre, Bergen

A local psychiatric hospital opens its roof gardens and courtyards to include the general public.

**Minimizing Gardens:** Gardens should be designed to minimize negative factors such as urban noise, smoke and artificial lighting in favor of natural light and sounds. Gardens They are a practical and sustainable way to regulate the amount and speed of water flow, because they hold 65-85% of the rainwater that falls on them in summer, and 30-35% of precipitation in winter. Rooftop gardens provide significant energy savings that cover the costs of construction, structures, waterproofing and landscape maintenance in time; They also reduce the environmental impact of the healthcare facility.

Serving as a safe and meditative environment for healing and wellness, gardens date back to the Middle Ages and have traditionally been a feature of hospitals, hospices, rehabilitation centers, and nursing homes. A wide range of activities related to healing gardens can be passive or active: looking out the window at the garden, sitting, reading, eating, doing paperwork or relaxing in the garden, praying and meditating, walking to a preferred location, gardening, exercise and sports, children's games. Gardens can help relieve stress, alleviate physical symptoms, and increase the sense of well-being of

hospital staff and patients.

Have an abundance of green materials and areas: the patients' sense of wellbeing is enhanced by soft landscapes, so the plant material should be dominant and the least puppet: trees, shrubs and flowers in the garden should be about 70%, with 30% on sidewalks and squares.

Encourage exercise: Designs should provide easy access and independence, and stress-reducing structural elements such as walkways and children's play areas to encourage exercise for patients provide positive distraction. Stress levels have been shown to decrease when patients are surrounded by plants, flowers, and water features, as well as gardening In the Child and Adolescent Mental Health Unit at Great Ormond Street Hospital, growing vegetables has been seen to have therapeutic value for young people with eating disorders; and as mentioned above, the flower and cutting gardens at the Bow Center in London are being used for horticultural therapy is designed with a central hub to help focus and relax as part of the healing process. It is a place for quiet reflection, removed from distractions and personal belongings, that is, not visible from other interior spaces. Meditation gardens are designed as such and purposefully, and their layout is usually simple and minimalistic, incorporating symbols such as the circle to represent life, the square to represent order, or the Celtic knot to represent travel. They usually have a lawn and/or a focal point to encourage meditation, usually a comfortable seating area with a water feature. Plants should be provided with cool colors such as purples, blues and greens rather than bright, warm or contrasting colors.

Some health care facilities that are economically and geographically limited have a small, enclosed garden that is visible but not accessible. Such gardens are relatively inexpensive to maintain, providing some green space, flowers, and perhaps a water feature. In this variation on the view garden, the green area can be access from the corridor or the waiting room as it has limited space and seats. Its remains a quiet area that does not disturb the privacy of nearby rooms or offices, provides a comfortable view for people waiting or passing by on the sidewalk. The main disadvantage is that people who use the space may feel a lack of privacy because they can be watched by others.

If herbs, fruit plants, and vegetables are grown in an easily accessible space along with common plantings, a healing garden can grow to a new dimension. This "food garden" should be simple and balanced, but designed in a repeating pattern with meandering paths separating public and private spaces. Plants prefer annuals to perennials; and the garden may contain many and varied plants, for example, Nasturtium flowers are beautiful.



Figure 4. Boston Children's Hospital Healing Garden

Healthcare environments should be designed to take into account patients' psychological as well as physical needs, disabilities and length of stay. Long-term inpatients or outpatients have more varied requirements than short-term patients, and their holistic treatment is enhanced by access to gardens, protected open spaces, shared social spaces and study resource areas.



Figure 5. Boston Children's Hospital Healing Garden

In addition, patients undergoing different types of treatment can use these areas for different purposes: for example, orthopedic patients need to use walking aids in parks; facilities for the elderly may need handrails and more shaded areas; physical therapy patients may need to tend to plants at different heights; and psychiatric patients may need "memory markers" and planted areas that reduce the risk of injury. Placing a landscape map at the entrance to the building area will help people find their way. The main entrance should logically be accessed via the most direct route and there should be no stairs leading to the outdoor space. Landscaping, artwork, and detailing can emphasize key entry points and create a sense of place, and benches should be available for people arriving or waiting to sit. Entrances must be wide enough to accommodate people with special mobility requirements. Large hospital or medical complexes should be organized within a clear circulation hierarchy: main roads, shopping streets, neighborhood streets and service avenues. Each of them, as well as intersections and addresses, should be indicated by a consistent system of spatial signs. This circulation within the medical facility should be independent of public highways and public and private areas should be separate, preferably with patient reception and outdoor recreation areas in the private area. Traffic should be organized in such a way that people and ambulances can directly access emergency vehicles.

Small walkways should be at least 1.4 m wide, with drainage that quickly gets rid of rainwater. One-way traffic lanes should be at least 1.5 m wide to ensure a turning circle for a wheelchair; the width of two-way traffic routes should be at least 2.1 m. If curbs are raised, there is a tripping hazard; handrails or barriers and wheelchair barriers prevent people from falling over changes in surface or entering uneven ground next to roads and paved areas. In the garden, clear connections with various facilities and direct directions are important. Right-angled corners in roads should be avoided and slopes should be designed as follows: the slope of the road should not exceed 5% (ie 6.1 m long by 30.48 cm high); cross slopes should not exceed 2% (30.48 cm rise in a length of 15.24 m). If the slope exceeds 1/20, there should be a support fence to prevent sliding. Road surfaces must be solid, smooth and level and provide traction; they should reflect the context, the "softer" materials used in informal settings. The pavement surface must be smooth enough for the use of wheelchairs and gurneys. Different materials have different pros and cons: concrete is suitable, but expensive; asphalt absorbs and releases heat, and in summer it can be very hot; crushed granite may be suitable for wheelchairs but not for crutch users. Recently developed rubberized materials are strong enough to support wheelchairs and also absorb the force of falls.

Hearing water running in a fountain or seeing fish in a pond or sunlight reflecting on water may be meaningful to the patient; in particular, the sound of running water can mask other noises that negatively affect the therapeutic value of the space. Such sights and sounds create sensory centers for garden spaces that appeal to all ages and abilities. There should be water, near the garden plot and on the paved area to prevent mudding. The knob should be 61-91cm above the ground, hand grips (not round hose handles) and attachment connectors should be used. Soaker hoses and mulch can reduce a garden's water needs. "Foaming" fountains may be suitable as they are tactile and use shallow water, causing fewer health and safety issues. The main purpose of lighting is to increase safety and security. Outdoor lighting deters

thieves or vandals; lights on stairs, walkways or approaches increase safety from intruders and help prevent accidental falls. Parking lots, access and service roads, as well as secluded or dark areas should be clearly marked and illuminated; Bollards or fences are usually used for this. Lighting along the pedestrian route should be installed at a height where faces are visible and recognizable, and any entrances, intersections or hazards such as changes in road level should be indicated by beacons.

An additional therapeutic benefit of night lighting is that it allows safe use of the space at night and a view of the garden from a closed room. Summary: The following conclusions and suggestions were made as a result of the conducted research and data analysis:

1. The foreign experience of the organization of medical institutions is considered to be the main direction in the design of hospitals. This allows hospital planners and designers to make decisions that are most appropriate and beneficial for a given building site. In Britain, France and Australia). The principles of designing hospitals in foreign countries are different from those in our country. Our main focus is sample design. In the structure and planning of hospitals and other medical institutions, it allows to reflect the main trends in the development of treatment and prevention services for the population, as well as the level of development of medical science and technology, the requirements of industrial and urban planning in the construction of buildings and structures, corresponding to the tasks of the health care system in a certain period.

2. The main rooms of medical institutions should be ventilated with direct natural lighting and sliding windows (automatic or manual opening of the rooms in the working areas with the help of a lever), and the outdoor landscape should show a beautiful view from the window. In rooms where people constantly gather, ventilation should be carried out through the corridor or side rooms.

3. A comprehensive study of urban planning requirements for the design and construction of hospital centers in the conditions of Uzbekistan was carried out. Taking into account all the requirements, sanitary and hygienic measures should create such an external environment in the hospital area, which should help the patient to be treated successfully and recover quickly. The main factors of the environment (climate, microclimate) surrounding us are temperature, sun radiation, humidity, air movement, ionization. A favorable combination of these factors creates the necessary comfort for the patient, as well as helps him feel better in general and at the same time recover. In the general framework of large-scale rehabilitation activities in settlements, special attention should be paid to the territory of the hospital. When developing the master plan of the hospital, the attention of the architect-designer should be focused on such an architectural-compositional solution that it is necessary to create optimal conditions for the implementation of all the above-mentioned activities. Although herbs have been used in health care for centuries, modern medicine has neglected their therapeutic value since the early 20th century. However, in recent years there has been a resurgence of interest in the healing contribution provided by outdoor garden environments in health care settings. The hours spent in the hospital can be stressful for patients, staff and visitors, and going out to the garden can help you avoid those feelings. Green spaces outside hospitals are now considered both useful and necessary, and specialist gardens are now designed to meet the needs of specific patient groups such as children, cancer patients, rehabilitation, burn patients, the elderly and Alzheimer's patients. As a result of research, it is possible to understand more deeply that all creatures on earth live, grow, and grow in harmony with nature. So together with all residential and public buildings, if necessary, more attention should be paid to the landscape of hospital buildings. It is necessary to take into account the climatic conditions of each region. At the same time, it is desirable to provide a perfect landscape solution using natural plants that grow in this area.

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## ЛАНДШАФТНАЯ АРХИТЕКТУРА И ЛЕЧЕБНЫЕ САДЫ МЕДИЦИНСКИХ УЧРЕЖДЕНИЙ.

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**Аннотация:** Данная статья посвящена исследованиям и предложениям по развитию ландшафтной архитектуры, которая является одной из важных проблем, стоящих сегодня перед



мировым сообществом, которая в значительной степени способствует снижению ущерба окружающей среде, экологичности и здоровью людей, на примере территории медицинских учреждений. будут рассмотрены ландшафтная архитектура и лечебные сады медицинских учреждений, их место и значение, а также использование садов с цветами, фруктовыми и декоративными деревьями на территории больницы, с водой, камнями и природными элементами. В дополнение к внутренней структуре здания, окружающая среда здания должна быть идеально спроектирована, то есть главная цель - сделать так, чтобы каждый пациент и его родственники чувствовали себя хорошо в саду и быстрее выздоравливали.

**Ключевые слова:** медицинские здания, стиль, история, ландшафт, сад, дерево, кустарник, цветы, территория, стресс, вид, медицинские сады, функциональная основа, ландшафт, форма, функциональные зоны.

## ЛАНДШАФТТЫҚ СӘУЛЕТ ЖӘНЕ МЕДИЦИНАЛЫҚ МЕКЕМЕЛЕРДІҢ ЕМДІК БАҚТАРЫ

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**Андатпа:** Бұл мақала денсаулық сақтау мекемелерінің аумағы мысалында қоршаған ортаға, экологиялық таза және адам денсаулығына зиянды азайтуға айтарлықтай ықпал ететін әлемдік қауымдастықтың алдында тұрған маңызды мәселелердің бірі болып табылатын Ландшафттық сәулет өнерін дамыту бойынша зерттеулер мен ұсыныстарға арналған. медициналық мекемелердің ландшафттық сәулеті мен емдік бақтары, олардың орны мен маңызы, сондай-ақ аурухана аумағында гүлдері, жеміс-жидек және сәндік ағаштары бар, суы, тастары және табиғи элементтері бар бақтарды пайдалану қарастырылады. Ғимараттың ішкі құрылымынан басқа, ғимараттың қоршаған ортасы тамаша жобалануы керек, яғни басты мақсат - әрбір пациент пен оның туыстары бақшада жақсы сезініп, тезірек сауығып кетуі.

**Түйін сөздер:** медициналық ғимараттар, стиль, тарих, ландшафт, БАҚ, ағаш, бұта, гүлдер, аумақ, стресс, түр, медициналық бақтар, функционалдық негіз, ландшафт, пішін, функционалдық аймақтар.