



Recent years have vividly demonstrated the vital role of hospitals and healthcare facilities. The global pandemic, in particular, has fundamentally reshaped the demands placed on these buildings and spaces worldwide, underscoring the importance of forward-thinking design in preparing for future crises. This volume presents outstanding contemporary hospital projects and explores the innovative concepts developed and implemented to make healthcare environments more resilient, efficient, and welcoming for patients, doctors, and nursing staff.

Today, adapting architecture to the diverse needs of everyone who uses these spaces is more important than ever. Solutions such as modular structures, dedicated infection-control areas, and flexible care units are essential to meeting these evolving requirements. The book also examines how thoughtfully designed waiting areas, patient rooms, and treatment spaces can enhance patient well-being while improving the safety, efficiency, and working conditions of medical professionals.

Despite their diversity, all the new buildings and renovation projects featured in this volume share a commitment to high-quality design that places people and their needs at the heart of healthcare architecture.

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HEALING SPACES

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CHRIS VAN UFFELEN

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CONTEMPORARY HOSPITAL ARCHITECTURE

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Therapy between High-tech, Wellness, Charity, and Economy

The development of hospital architecture reflects the ongoing transformation of medicine, society, and culture. Greek healing sanctuaries dedicated to Asclepius combined medicine, religion, and architecture into places of recovery. Roman *valetudinaria*, primarily built for soldiers and slaves, are early predecessors of modern hospitals. Even at that time, spatial organization, patient care, and the healing environment played an important role. During the Middle Ages, Christian hospices and monasteries shaped hospital construction throughout Europe. Institutions such as the Hôtel-Dieu in Paris served the poor, pilgrims, and the sick alike. Large communal wards defined these early hospitals. Through the Crusades, European medicine also absorbed important knowledge from Islamic healthcare architecture. Islamic *bimaristans* already featured specialized departments, teaching facilities, and clearly separated functional areas, significantly influencing later European hospital design. The Renaissance marked the beginning of a more systematic approach to hospital planning. Large courtyard complexes such as the Ospedale Maggiore in Milan became models for future healthcare buildings. During the 17th and 18th centuries, new layouts with partly open courtyards and specialized facilities for mental health conditions emerged. At the same time, hygiene, ventilation, and organizational efficiency improved as architecture increasingly responded to medical knowledge and the need for better patient care.

The 19th century brought major medical and architectural innovations. Advances such as anesthesia, antiseptics, modern nursing, and new surgical techniques led to specialized clinics and university hospitals. The pavilion system, consisting of separate buildings to reduce infections, and comb-like floor plans emerged. At the same time, sanatoriums developed as therapeutic environments that used light, fresh air, and nature as healing elements. Large terraces, loggias, and outdoor spaces became central features. In the 20th century, technological progress resulted in more compact hospital forms and eventually the rise of the hospital high-rise. At the end of the 20. century, patient comfort and quality of stay gained importance. Beyond medical efficiency, architects increasingly focused on orientation, emotional well-being, and spatial quality.

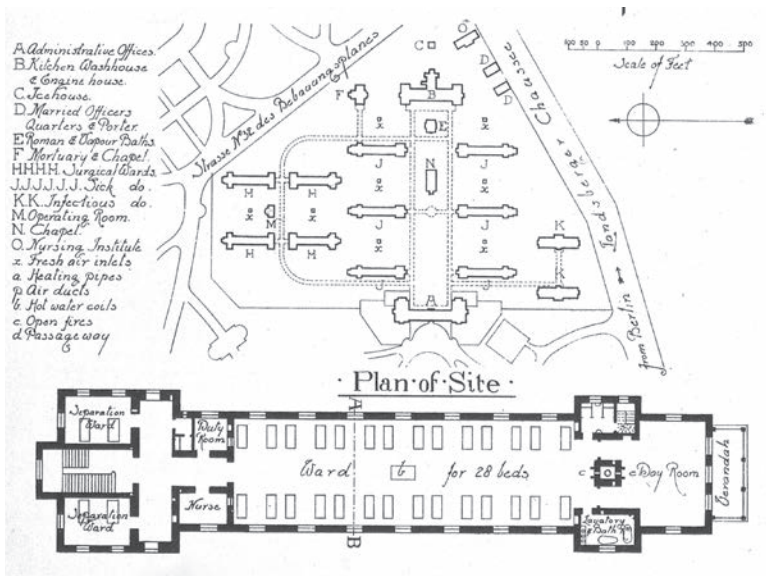
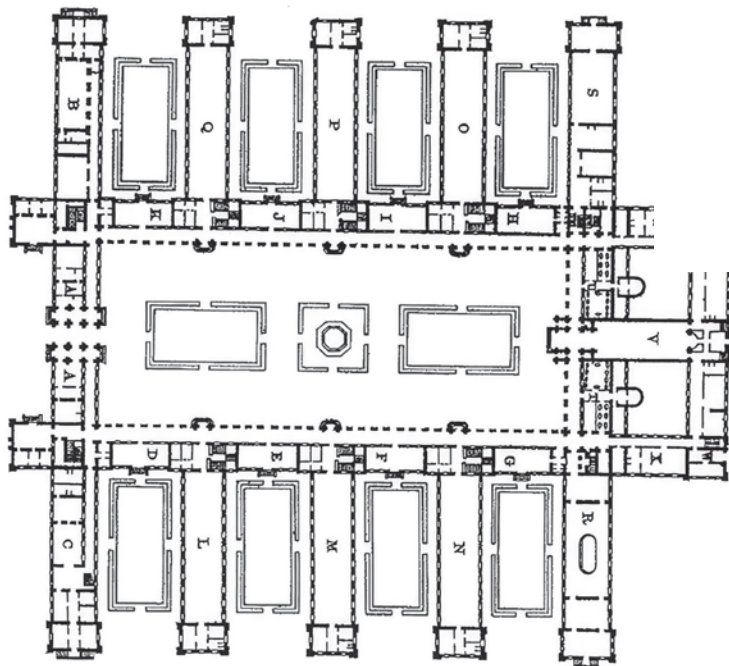
This led to the concept of Healing Architecture, which uses daylight, ventilation, color, materials, and welcoming interiors to positively influence recovery. Today, hospitals are far more than functional healthcare facilities. Modern hospital architecture combines medical, economic, and social requirements with design, sustainability, and human-centered planning. Hospitals are intended to be places of healing, safety, and orientation that support patients, visitors, and staff alike. Architecture can reduce stress, strengthen identity, and create a positive healing environment. Hospital architecture now ranges from small healthcare centers to highly complex university medical campuses. Because hospitals remain in use for decades, they are among the most demanding building types.

Medical innovation, demographic change, new diseases, and shifting social expectations continuously reshape healthcare design. Hospitals are also increasingly expected to operate as competitive service providers, raising demands for flexibility, efficiency, and architectural quality. Sustainability has therefore become essential. Healthcare buildings must remain adaptable, technically flexible, and capable of future transformation. Modular systems support interdisciplinary collaboration and long-term usability. Hospitals are also recognized as important parts of the urban fabric, shaping cities, and contributing to public life. Recent developments, especially the COVID-19 pandemic, have further influenced hospital planning. Flexible layouts, decentralized structures, digital healthcare, improved circulation systems, and single-patient rooms are becoming increasingly important. Hospital architecture continues to evolve as a reflection of medical progress, social change, and cultural values.

Martin-Pierre Gauthier:
Hôpital Lariboisière, Paris,
1846–1854: comb layout
around one courtyard.

Martin Gropius and Heino Schmieden: Klinikum in Friedrichshain, Berlin, 1866–1874: pavilion layout and floor plan.

Libéral Brutant and Jules Hardouin-Mansart: Hôtel des Invalides, Paris, 1670–1708: 15 closed courtyards.



ARGE Health Team Vienna:
Albert Wimmer ZT &
Architects Collective ZT

Freiburg im Breisgau
Germany

Address: Breisacher Straße 62, 79104 Freiburg im Breisgau, Germany | Client: Land Baden-Württemberg, Vermögen und Bau Baden-Württemberg | Completion: 2024 | Size: 32,000 m² | Sector: state | Specialization: pediatrics | Number of treatment rooms: 76 | Number of patient rooms: 104 | Number of beds: 156 | Ren-cluster and anti-waiting room interior concept: Kopvol architecture & psychology | Landscape design: SETUP Landschaftsarchitektur partG mbB bdla



Children's Hospital Freiburg

The Children's Hospital Freiburg is an award-winning project that blends medical excellence with the patient-centered concept of Healing Architecture – as evidence-based design approach – into a holistic healthcare model. It embodies an exemplary vision of healthcare design, thoughtfully creating a healing, stress-reducing environment that promotes recovery and well-being for patients, staff, and relatives. Healing Art as integral part of the therapeutic approach, natural materials, and the color concept support orientation and atmosphere. The intuitive layout ensures easy navigation, while greenery and terraces strengthen the connection to nature. Certified with DGNB Platinum standards, the hospital features a 1.2 million liter cold storage tank and photovoltaics, supporting a climate concept developed with the University of Chemnitz.

Forecourt of the Children's Hospital Freiburg with clown doctor.

The main entrance at the forecourt.

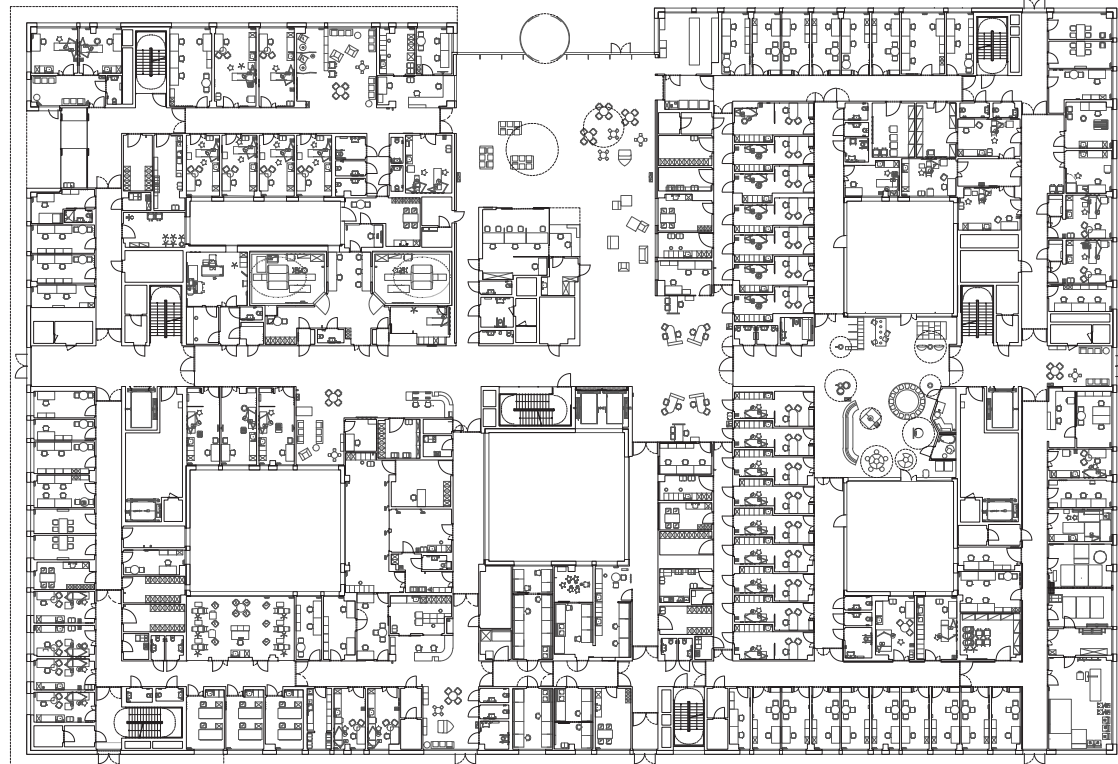
Entrance hall with light ceiling by artist Paul Schwer.





Ren-cluster, a room for development, upgrowth and normality.

Ground floor plan.



Library with light ceiling by artist Paul Schwer.

First floor plan.





Patients room with rooming-in furniture and murals by Jack Broeders.
Site plan.



Patients room with desk and murals by Jack Broeders.
Functional areas diagram.

