

# health

## design standard **03** for hospitals and health facilities

The Office of the Government Architect (OGA) has developed a suite of Design Standards for new public building projects to improve the performance and value of these facilities. The purpose of the OGA's Health Design Standard is to formalise a set of objective, minimum provisions for design quality to use in the delivery of all public healthcare projects.



**“We spend a large proportion of our daily lives engaging with the built environment. These places need to be safe, attractive, functional, productive, sustainable, efficient and inspiring”**

**HON Colin Barnett MEd MLA**  
**Premier, Minister for State Development**  
*February 2013*

## The Design of Healthcare Facilities

The Western Australian Government, through the 'Better Places and Spaces' built environment policy, is committed to providing healthcare environments that are welcoming, comfortable, and responsive to community needs, whilst delivering high levels of operational efficiency.

Good design plays a significant role in the efficient delivery of high-quality healthcare. The design process can be a catalyst for change, encouraging fresh approaches to both the organisation of healthcare and the design of the environments in which it takes place. Intelligent, sensitive and innovative design approaches can make a significant contribution to the quality of life for patients and their families, while improving the working lives of hospital staff.

Well-documented research shows that good design in healthcare facilities can lead to better health outcomes. It is now well-established that clinical functionality in hospital design must be considered in relation to the overall quality and experience of the healthcare environment. There is an increasing understanding that the design of the 'healing environment' can impact upon both patient recovery and upon staff productivity. Well-designed spaces have been shown to facilitate reduced use of analgesics, improved patient recovery times, improved morale, increased staff efficiency, and reduced staff turnover<sup>1</sup>. Evidence also suggests that generating a positive working environment for hospital staff can enhance patient care<sup>2</sup>.

Current best practice in healthcare design is driven by this 'evidence based' approach that places the patient at the centre of the design rationale and recognises positive patient responses to improved physical environments. This OGA's Health Design Standard reflects the State's understanding of the importance of design in health facilities and the role good design can play in contributing to the healing process.

### Good design in healthcare facilities can:

- **Improve health outcomes**  
Good design enhances the therapeutic environment by reducing stress, lengths of stay, hospital-acquired infections and in some cases, reliance on analgesics.
- **Reduce operating costs**  
A well designed workplace can improve staff recruitment and retention levels, reduce stress, fatigue and operating costs by enabling more efficient working patterns.
- **Support patient-centred care**  
Good design can provide a welcoming and comfortable environment for patients and families, while also promoting good relationships with staff.



The Royal Children's Hospital, Melbourne, Victoria - Bates Smart

Consistent with the State Government's commitment to good design in healthcare facilities, design quality criteria are set out below under the three headings of Impact, Functionality and Build Quality.

## **impact** Creating a Sense of Place and Positive Impact on the Community

### **Character**

- Create a distinctive, place-specific facility.
- Respond sensitively to the topography, climate, heritage and ecology of the site.
- Utilise appropriate architectural expression that responds sensitively to the diversity of patients and families served, projects a caring and reassuring atmosphere and promotes well-being.
- Engage Evidence Based Design (EBD) methodologies to reflect new models and knowledge of healthcare provision, wherever possible.
- Demonstrate a clear design intent across all scales and elements (master planning, built form, internal environment, external environment, materials and furniture).
- Develop an integrated way-finding system that utilises building elements, colours, textures, patterns and artwork to aid navigation and legibility.
- Provide well-integrated public art in the experience of the facility and the public realm.

### **Built Form**

- Provide built form that engages positively with the site and surrounding buildings.
- Ensure built form consolidates and supports the master planning strategy.
- Ensure built form supports functional and operational intent.
- Provide built form elements that are well-coordinated and composed.
- Project a coherent built form that clearly communicates the facility's function and civic role.
- Provide entrances that are well-scaled, welcoming, clearly distinguished and with a clear sense of arrival.
- Integrate service elements seamlessly into the built form, wherever possible.
- Communicate the significance of, and relationships between spaces through the use of scale, proportion, colour and material.
- Facilitate wayfinding and clear movement through the arrangement of form and massing.
- Integrate signage and wayfinding elements.

### **Materials**

- Ensure materials are used in a way that complements the intent of the built form.
- Ensure materials are used in a way that demonstrates their inherent qualities and characteristics.
- Utilise tactile and welcoming materials and finishes where possible.
- Utilise materials within the building fabric suitable to the role and setting of the facility.
- Utilise materials with integral or inherent finishes, wherever possible.
- Utilise high quality materials and finishes that meet the expected standards for civic buildings ensuring:
  - (i) consistency of finish
  - (ii) well-considered use of colour and texture
  - (iii) durability of surface finishes and fixtures
  - (iv) resistance to damage and vandalism
  - (v) minimal recurrent maintenance
  - (vi) good amenity and a positive visual impact.

### **Internal Environment**

- Create open, inviting and generously-scaled communal spaces.
- Provide welcoming entry spaces.
- Provide circulation areas that are enjoyable to use and promote user interaction.
- Provide good internal connectivity with clear views to important reference points such as entries and exits, administration and circulation areas.
- Utilise materials, furniture, colour and texture to create welcoming and stimulating spaces.
- Provide meaningful views and access to external areas from key internal locations, where appropriate.
- Enable wayfinding and a clear, intuitive understanding of the functions of the facility.
- Provide appropriate levels of natural lighting.
- Consider the acoustic impact of material specifications and provide acoustic treatments where required to facilitate functionality, ensure privacy and patient dignity.
- Provide considered and thoughtfully designed internal spaces that allow staff and patient personalisation, privacy and dignity; and public activity where appropriate.
- Employ an intimate scale in patient rooms, day rooms, consultation rooms, and offices.
- Provide views of outdoor areas from all patient beds wherever possible.

## External Environment

- Protect existing environmental features and ecosystems.
- Enhance or regenerate existing natural resources.
- Create a distinctive landscape design that responds sensitively to the site context.
- Provide a landscape environment that is attractive and comfortable for users.
- Integrate the landscape design with the architectural design intent of the facility.
- Utilise robust materials, finishes and elements that are easy to maintain.
- Utilise climatically appropriate planting and soft landscaping.
- Demonstrate a clear design intent through well-considered use of materials, colour, textures and landscaping elements.
- Provide a landscape environment that is clearly legible and assists wayfinding.
- Integrate Water Sensitive Urban Design (WSUD) principles in the landscape.
- Make use of high quality landscape architecture to provide a therapeutic and healing environment.
- Facilitate interaction between patients, staff and visitors with a living environment both indoors and outdoors.
- Provide places of respite and contemplation.
- Develop opportunities for patient gardens, where appropriate, to assist therapeutic programmes.

## Urban + Social Factors

- Respond to the anticipated demographic, cultural and socio-economic profile of the community and users within the design and planning of the facility.
- Integrate Crime Prevention Through Environmental Design (CPTED) principles in the design of facility.
- Provide opportunities for safe walking, cycling and public transport access to and from the facility.
- Consider provision of additional uses and commercial opportunities, where appropriate.
- Ensure appropriate parking and vehicular access strategies that avoid adverse impacts on the amenity of users and the public realm.
- Provide clearly legible site entry points and access routes that are well connected to surrounding transport networks, land uses and activities.
- Plan the facility to respond to the location of nearby strategic centres, infrastructure and other public facilities
- Ensure a positive impact and good integration with surrounding urban form, through:
  - (i) appropriate building form and scale
  - (ii) well-considered facade design and presentation to the public realm
  - (iii) provision of a high quality streetscape environment
  - (iv) an appropriate arrangement of functions.



“A hospital is the site of some of our best and worst life experiences, the site of birth and death, healing and loss. Of all public buildings, they should be the ones that are built with the greatest care and imagination”.<sup>3</sup>

## functionality Meeting the Needs of Staff and Users

### Use

- Promote staff efficiency by minimising distances of travel between frequently used areas.
- Ensure planning supports appropriate and complementary functional adjacencies based on a detailed functional program that describes the facility’s intended operations from the point of view of patients, visitors, staff, and supplies.
- Locate support zones so that they may be shared by adjacent functional areas.
- Separate patients and visitors from service and logistical areas.
- Provide an efficient logistics system for the handling of food and clean supplies and the removal of waste, recyclables, infectious and soiled material.
- Consolidate outpatient functions where possible for more efficient operation and for direct access by outpatients.
- To the extent possible and where appropriate, provide control for individual patients to regulate their own room temperature, lighting and ventilation.
- Provide planning that supports the collaboration of staff across disciplines and with patients and families.

### Access

- Create legible circulation networks with clear hierarchies of movement.
- Ensure universal access is provided without compromising legibility, connectivity and quality of experience.
- Ensure appropriate separation of user groups, where necessary.
- Ensure clearly legible points of entry.
- Ensure ready access to key building elements, systems and services for maintenance, replacement and cleaning.
- Provide an integrated wayfinding system to ensure that patients, visitors, and staff can easily navigate the facility.
- Ensure simple and clear access to patient areas for visitors.
- Ensure simple and clear outpatient routes within the facility that are distinct from inpatient areas, wherever possible.
- Ensure movement corridors both internally and externally, are correctly scaled and planned to allow for easy movement, especially for the mobility impaired.
- Ensure entrance areas are designed to accommodate patients with various types of physical impairment.

### Spaces

- Organise buildings, servicing and functions so that they relate well to each other.
- Ensure functional and operational needs are supported by spaces that are the right size, shape, proportion and orientation.
- Ensure functional arrangements are integral to the master plan and contribute to the structural organisation of the site.
- Plan to achieve a coherent and well-considered arrangement of spaces.
- Ensure that key functional relationships are clearly legible and supported within site planning and floor layouts.
- Ensure spaces have built-in flexibility to accommodate future changes to functional and operational requirements where possible.
- Ensure flexibility and adaptability of the facility through appropriate floor layouts, functional planning and site arrangements.
- Provide appropriate and discrete storage for health equipment and supplies.
- Locate public areas so that they enhance the legibility and clarity of the facility’s functional arrangement.
- Ensure planning supports safety, security and operational efficiency.
- Enable sharing of spaces between departments and exploit circulation space for dual uses, where appropriate.
- Separate outpatient areas, such as visiting diagnostic and treatment zones, from inpatient areas.
- Ensure the planning of spaces enables staff monitoring of patients and surveillance of entrances, while maintaining adequate privacy for patients and families.

# build quality Performance of the Built Fabric over the Full Life Cycle

## Performance

- Incorporate initiatives for the improvement of energy and water conservation; and the reduction of waste, embodied energy and emissions.
- Specify materials, elements and finishes that avoid adverse impacts on health and the environment.
- Utilise materials, finishes, elements and systems that are appropriate for the function and quality requirements of adjacent areas.
- Ensure the appropriate level of acoustic comfort relative to the function and use of spaces.
- Utilise robust materials, elements and finishes that are durable and cost-effective to maintain.
- Engage passive environmental design measures that respond to local climate and site conditions including:
  - (i) utilise built form and landscape to create micro-climates that improve comfort
  - (ii) orientate built form to reduce solar gain
  - (iii) organise interior spaces to reduce energy use
  - (iv) exploit thermal mass internally and externally to aid heating and cooling
  - (v) assemble building envelope (structure, facade, roof, windows) to ensure good thermal and moisture control
  - (vi) provide controlled daylighting where appropriate, while mitigating glare and solar gain
  - (vii) provide natural ventilation where possible and appropriate.
- Provide operation and maintenance manuals to enable users to optimise the building's environmental performance.
- Utilise available tools, such as Green Star, to plan and assess sustainability performance.

## Construction

- Utilise construction systems that readily enable future horizontal and vertical expansion.
- Utilise construction systems that readily enable internal modification, service upgrades and replacement.
- Utilise adaptive re-use strategies and existing building fabric to avoid unnecessary demolition, where appropriate.
- Utilise construction systems that are readily available.
- Ensure staged facility construction does not adversely impact health service delivery.
- Replace and maintain materials in a manner consistent with the original design intent.
- Consider the energy costs of construction and the embodied energy in the selection of building materials and elements.
- Organise structural systems within the built fabric so that they are clearly and logically organised for ease of use, maintenance and future expansion.

## Services Design

- Organise engineering systems clearly and logically for ease of use, maintenance and future expansion.
- Utilise innovative design, technologies and analytical tools to optimise energy performance and minimise resource consumption.
- Ensure engineering systems are flexible, efficient and economical to use.
- Integrate engineering systems with passive environmental design measures.
- Provide superior indoor air quality utilising both mechanical and passive ventilation systems, where appropriate.
- Provide engineering systems that operate without compromising acoustic comfort.
- Utilise standardised and prefabricated elements in the design of engineering systems, where possible.
- Select systems on the basis of servicing requirements and local maintenance capacity.
- Ensure users and facility staff can easily operate thermal controls, where appropriate, without compromising overall system performance.
- Ensure appropriate allowance is made for future expansion of services.



