

# FUTURE-PROOFING HEALTHCARE WITH GOOD DESIGN



## INTRODUCTION

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A well-designed healthcare facility has a profound impact on the level of care, the feel of the space and its usability. The benefits are well documented, with more than 1,000 research studies pointing to healthcare design as a way to improve patient care and medical outcomes and decrease medical errors and waste.<sup>1</sup> In the past, cleanliness was the main focus of designing a healing environment to combat communicable

diseases, leading to healthcare facilities traditionally possessing a clinical and cold aesthetic. While cleanliness remains extremely important, there is an increasing recognition of the role a pleasant environment plays in patient recovery.<sup>2</sup> By incorporating good design into healthcare projects, facilities will provide better outcomes for patients and staff and last longer.<sup>3</sup>



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## THE EFFECT OF A BADLY DESIGNED FACILITY

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Poorly designed healthcare centres can have massive ramifications for the wellbeing of patients and staff. A badly designed space can lead to errors and safety issues. Cognitive psychologists have found humans are more likely to make errors or behave clumsily in a badly conceived and poorly designed healthcare setting.<sup>4</sup> A badly laid out healthcare centre can also lead to an inefficient workflow for doctors and nurses. Good design can increase efficiency by reducing distractions, standardising the locations of equipment and supplies and providing adequate space for documentation and work areas.<sup>5</sup> It also prevents transmission of disease by creating an environment that discourages growth of bacteria or microorganisms and is easy to clean.<sup>6</sup> In addition, if a facility is not well designed, it may portray a cold and unwelcoming environment, where staff are overrun, patients are left waiting and stress is heightened.<sup>7</sup>

## HOW TO IMPROVE HEALTHCARE ENVIRONMENTS

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The healthcare environment can be improved by creating facilities with high functioning, good design. Designing in a healthcare environment proposes a different set of challenges to any other environment<sup>8</sup> as it is constantly evolving due to changes in technology, budgets, patient demographics, and industry-specific challenges. Healthcare operational policies change, on average, every five years. Yet, major healthcare facilities are typically designed for 30 years, but remain in use for more than 50 years.<sup>9</sup> The expectation placed on healthcare facilities by its users is rapidly evolving too. As baby boomers – a generation used to social change and categorised by their high standards – near retirement, it is unlikely they will settle for drab retirement villages. Baby boomers are accustomed to enjoying luxuries and will demand reimagined healthcare facilities. Designing for this generation requires an attitude shift away from simply creating an adequate space that is safe and comfortable, and towards extending the potential for a fulfilling life after work.

To meet these increased expectations, architects working on healthcare projects need to be innovative, creating a space agile enough to cater to the current needs of the facility and flexible enough to adapt to any changes in technology, procedures

and practices.<sup>10</sup> Architects need to be on the front foot, seeking out education on the latest industry movements, and tracking down information on how to specify in different areas of a healthcare environment.

A good place to start when selecting floor coverings is the industry standards. Standard Australia's standards "are designed to ensure products, services and systems are safe, reliable and consistent" and emphasis is placed on specifying minimum requirements.<sup>11</sup> Australian standards will only ensure the project holds up to its minimum requirements and is in no way a seal of excellence. Similarly, it's vital that architects pay close attention to indicators of performance such as R-ratings and P-ratings. It should be noted that the ramp test's R-value ranges starts at R9, which can be achieved, by just installing smooth flooring.<sup>12</sup> This method of testing has been criticised as being unreliable, and many reputable manufacturers prefer the pendulum test. When choosing products, it is essential architects looking to excel should aspire for their design to exceed, rather than meets these standards.







## PUTTING IT INTO PRACTICE

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Architects must carefully consider the surfaces of a healthcare facility. The material used for surfaces such as floors and walls plays an integral role in patient comfort and recovery. Neglecting to consider acoustic design, aesthetics, and hygiene and air quality standards can have a massive impact on the comfort of patients and staff and the overall aesthetic impact of the space.<sup>13</sup> Selecting the right product for floor and wall surfaces can be broken down into simple steps.

### 1. Identify specific needs

The qualities a facility will require from its product will depend on its use. Hospital surfaces need to be very durable and provide a superior level of hygiene control<sup>14</sup>. In contrast, aged care facilities will have a different set of needs such as avoiding the misperception of steps due to reflections or patterns and using a few colours in one area to avoid creating confusing surroundings. By involving stakeholders such as hospital workers, patients and their families and engaging in a collaborative problem solving process, an architect can make more informed choices which result in a more holistic healthcare environment.<sup>15</sup>

### 2. Detect potential contaminants

The next step is to identify likely contaminants. All facilities will require infection prevention. People in the environment are often already vulnerable to the spread of infection and it's important to assess the different ways pathogens can enter and spread around a facility. It is vital there is nowhere for the bacteria or microorganisms to "hide" and breed. Cleaning must be as simple as possible with curved surfaces preferable and crevices and corners avoided.<sup>16</sup>

### 3. Conduct risk assessment

Safety is paramount in a healthcare environment. Surfaces need to be durable enough to withstand regular rigorous cleaning without degrading and leaving a facility looking shabby, or worse, create a safety hazard. Flooring also needs to be soft enough to cushion a fall if it occurs. Prevention of falls by choosing flooring with good traction and visibility is key in any healthcare facility. Choose

slip-resistant flooring with a pendulum test value of  $\geq 36$ , which offers a one in a million chance of slipping for the lifetime of the flooring. In wet environments, balance texture with traction, avoiding overly textured flooring that could hurt sensitive bare feet. Pay attention to light reflectance values, as subtle differences between floors, walls, steps and doorways can cause enough uncertainty to result in a fall. To meet requirements, there should be at least a 30-point variance between adjacent surfaces such as floors and walls. Colour is also useful to demark walls, doors, floors and ceilings.

### 4. Select a suitable product

Choosing products, which are fit for purpose will have a long-lasting impact on the design. Products should satisfy the criteria of function, long-term durability, ease of cleaning and servicing and good appearance.<sup>17</sup> Furthermore, by specifying products, which can withstand the levels of use common in all areas of a healthcare facility, flexibility can be built into a design. A sure-fire way to ensure the right product is selected is by opting for more detailed specifications. It's important to focus on performance-based specifications, which details which industry standards, ratings and conditions the product is suitable for. This allows architects to quickly eliminate products, which are unsuitable. These details may be found in technical documents, which reputable suppliers will have readily available.

### 5. Install products with professional help

Professional installation of any product will improve the look, feel and function of the end product. Seeking out installation companies that offer longer-term warranties will help ensure the ongoing integrity of the project. Alternatively the client can specify the warranty term for installation as part of tender documents.

### 6. Enable proper maintenance

Even the highest quality flooring or wall cladding products will require proper maintenance to ensure they continue to look good for as long as possible. Ensure maintenance information from a manufacturer is passed on to relevant personnel who can put the correct cleaning and maintenance procedures into place.

## CASE STUDY: SYDNEY ADVENTIST HOSPITAL CLINICAL EDUCATION CENTRE

The Sydney Adventist Hospital on Sydney's North Shore recently completed a major new development and a complete renovation of existing facilities. Altro floor and wall products were used extensively throughout all buildings. The world leading nurses training centre and the new hospital building were both finished to the highest standard of design principles, providing patients with the feel of a five star hotel rather than a hospital, while providing staff a safe and functional environment to work in.



## ALTRO: HEALTHCARE SPECIALISTS

Altro is highly experienced manufacture of floor and wall coverings, specialising in the health sector. It has been leading the way in innovation for almost 100 years and was the first company to create a complete system of compatible hygienic wall cladding and safety flooring. Design thinking is at Altro's core and they strive to inspire their customers to create state-of-the-art designs that stand the test of time.

As a family-founded business, Altro has a strong sense of value and strives to help its customers realise new opportunities with solutions that provide a range of possibilities. It creates solutions that enhance people's emotional and physical wellbeing in the spaces they occupy and always place its customer needs first.

Altro integrated flooring and wall cladding solution outpaces other products on the market in hygiene, safety and long-lasting resilience in the most demanding environments. Altro's system offers the best possible protection against potential contaminants and makes cleaning easier. It is fully integrated, providing a hygienic, watertight solution with no gaps or rough edges. Their extensive range of HACCP approved resilient flooring and Altro hygienic wall cladding exceeds the latest safety and hygiene regulations, and their safety flooring offers the safest flooring environment possible (levels up to R12). Its products offer sustained slip resistance for the lifetime of the product and Altro safety flooring is impact, chemical and spillage resistant. The system has sound insulation properties to reduce noise and proven durability. Altro also has a wide range of products and a variety of colours to help create beautiful, warm and welcoming designs.

Altro is a responsible designer and manufacturer of products made from environmentally friendly raw materials, supporting a sustainable future.

To see more information about the Sydney Adventist Hospital project or how Altro can inspire your innovative design to exceed its expectations and improve the outcomes of patients and staff, visit [www.asf.com.au](http://www.asf.com.au).

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