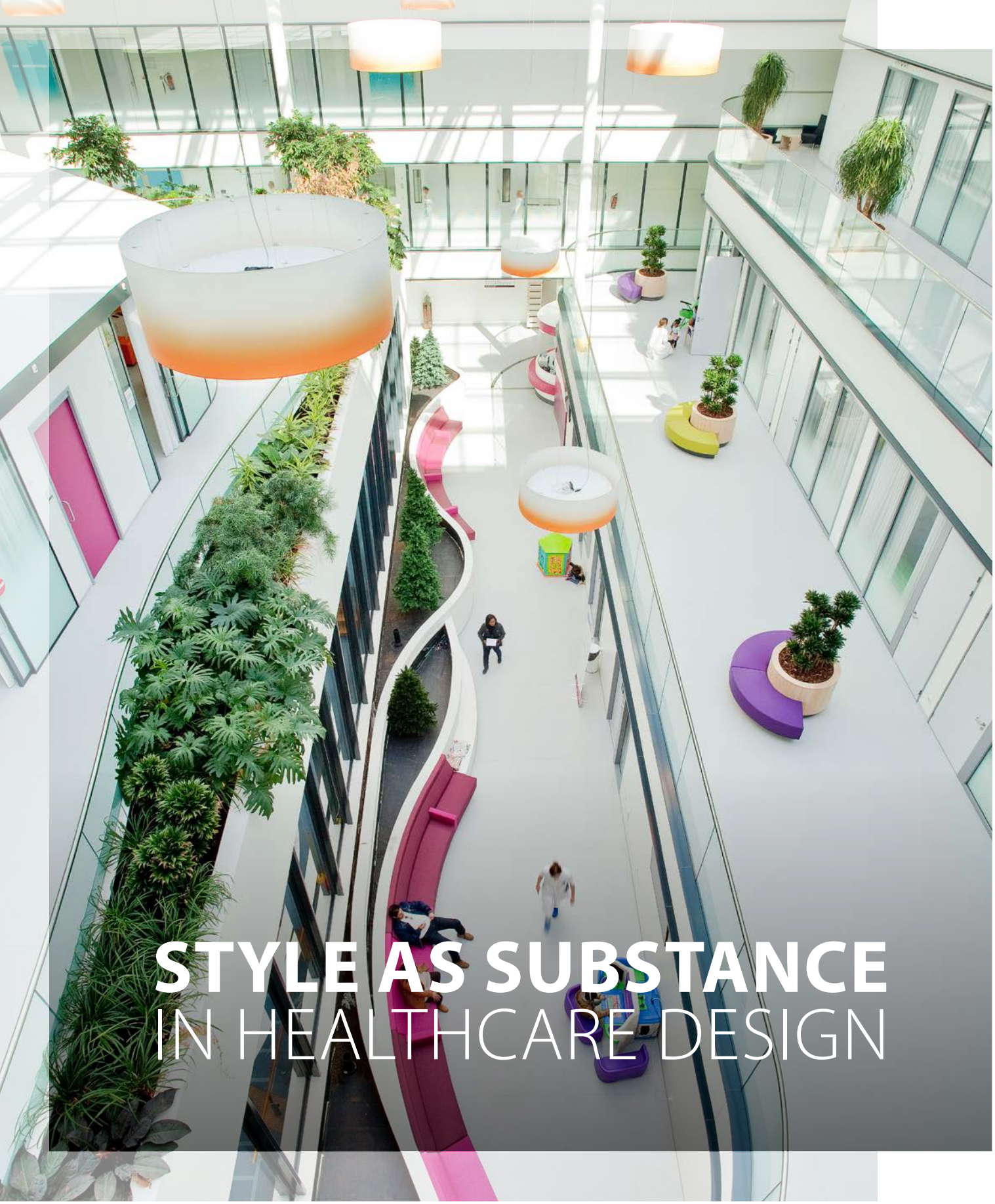


STYLE AS SUBSTANCE
IN HEALTHCARE DESIGN

Designing
for total experience

INTRODUCTION

"People say the effect is only on the mind. It is no such thing. The effect is on the body, too. Little as we know about the way in which we are affected by form, by colour, and light, we do know this, that they have an actual physical effect. Variety of form and brilliancy of colour in the objects presented to patients, are actual means of recovery."

Florence Nightingale, *Notes on Nursing: What it is and what it is not (London: Harrison, 1860), p.84*

The queen of nursing herself, Florence Nightingale, was well aware of the power of the environment in healthcare settings. Now, over a century-and-a-half later, Nightingale's patient-centred approach to nursing is once again evident in the prevailing trends in architecture and design within healthcare.

The current shift away from solely utilitarian healthcare design towards a more sensitive approach acknowledges the ability of design to influence mood, evoke states and shape behaviours that promote healing and wellbeing in patients.

This whitepaper sets out to examine the concept of a 'healing healthcare environment' that filters function through a design lens rather than vice versa, and to explore how designers and architects of healthcare spaces can achieve this in practice.

The current shift in healthcare design is part of a wider trend in both commercial and public buildings, driven by the theme of 'wellbeing'. The faster, busier, more efficient and advanced our society has become, the further removed we have become from nature and the more detached our lifestyles have become from her rhythms. Poor nutrition, lack of physical exercise, inadequate access to daylight, clean air, as well as increasingly prevalent and dangerous psychological and societal phenomena, such as depression and the so-called loneliness epidemic, are just some examples of issues that the worlds of architecture and design are taking on; because much of this can be ameliorated through building design.

Commenting on the future of architecture, renowned architect Amanda Levete quoted from Jackie Daly that "the days of the faceless, monolithic office block are over".[1] But what will replace these familiar structures? The answer: life-sustaining environments that enhance people's quality of life.

[1] Jackie Daly, 'Architecture touches on what it is to be human', *Financial Times, How to Spend it,* 17 October 2020, p.41.

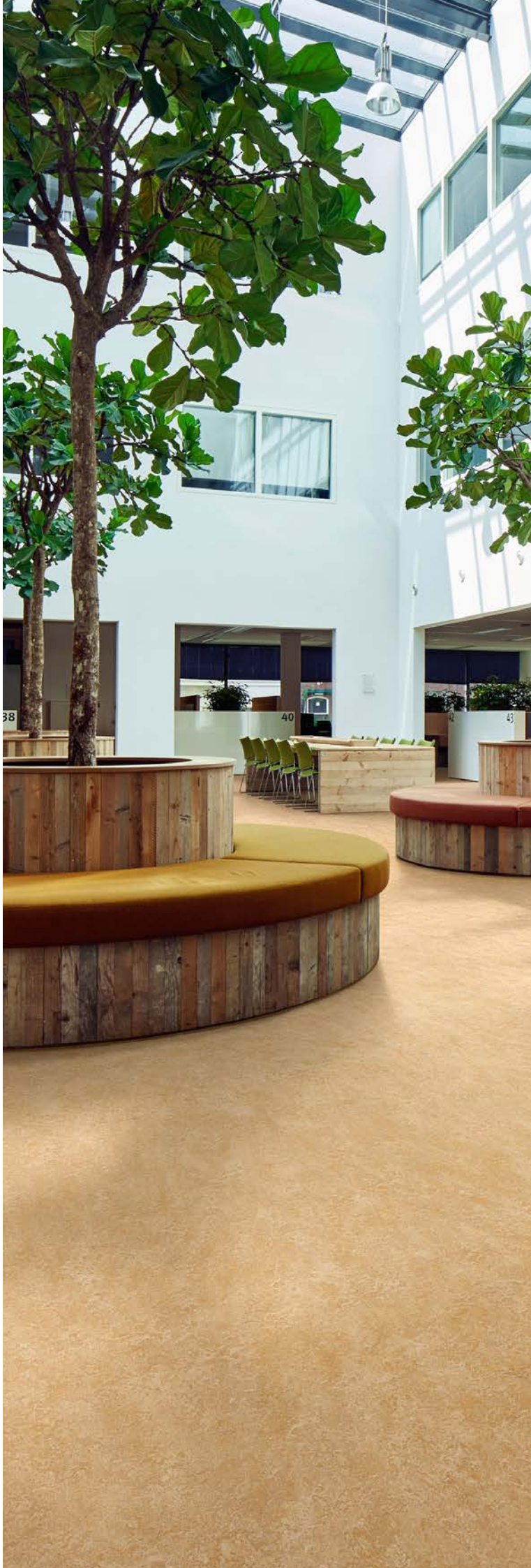
PLANETREE DESIGN

"Biophilia hypothesis: [the] idea that humans possess an innate tendency to seek connections with nature and other forms of life." [2]

The building and design sectors are not unaffected by the worldwide climate action movement. Research into new circular materials, responsible materials sourcing and zero-emissions manufacturing processes are just some of the ways in which greater respect for the environment is evident. On an interior design level, this increased environmental consciousness is expressed in a trend for sustainability, along with the blurring of the boundary between outside and inside, most notably through biophilia.

Biophilic design

Biophilic design recognises the health and wellbeing benefits of being in and around nature. It is said to 'bring the outdoors, indoors' by designing plants and greenery into the built environment, along with other natural elements, such as wood.



[2] Encyclopædia Britannica, 'Biophelia Hypothesis', https://www.britannica.com/science/biophilia-hypothesis

Indeed: it is usually the case that what is good for the environment is good for the people. Whilst the above sustainability tendencies apply universally for modern buildings, a healthcare setting presents more opportunities (and / or challenges) for design to affect change than other building types. This is due on the one hand to the vastly varying needs of specific patient groups, and the multiplicity of functions that can exist within a single healthcare centre on the other. Creating a healing environment is therefore always context specific.

The concept of 'healing environment' originates in Planetree design. The Planetree Model was conceived in the 1970s to advocate a more patient-centred approach to healthcare. The model consisted of nine pillars: human interactions, empowering patients through information and education, recognising the importance of families and friends, spirituality, use of human touch, employment of the arts, allowing for complementary therapies, recognising the importance of food and nutrition and physical design.[3] Each of these aspects are deployed (singularly and combined) to promote and facilitate healing. Within this model, the beauty of physical design, is that it offers each of the other Planetree pillars a 'home'.

Whilst the quality of care delivered remains first and foremost, building design can play an important role in how that care is received.

There is a growing body of research discussing the rewards of a more holistic healthcare design; and the benefits are not just limited to patients: along with greater patient satisfaction and reduced dependence on medical resources and staff, greater staff satisfaction, improved staff retention and attracting talent are among the reported benefits. As such, healing environments have been described as 'smart investments'.[4]

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[3] Healthcare Design Magazine, 'Twenty-five Years of Planetree Design', 31 August, 2003. https://www.healthcaredesignmagazine.com/architecture/twenty-five-years-planetree-design

[4] E.R.C.M. Huisman, E. Morales, J. van Hoof, H.S.M. Kort, (2012). 'Healing environment: A review of the impact of physical design factors on users', *Building and Environment,* 58, p.70.

THERAPEUTIC DESIGN PRINCIPLES

The overarching objective in therapeutic design is stress reduction.

Health issues are by their nature stress- and anxiety-provoking – a matter of life and death at their most extreme. After all: no one choses to go to hospital.

Designing for total experience in healthcare means harnessing the influence our environment exerts over the way in which we engage and interact with that very environment. In other words, it means designing for specific effect: to make us feel a certain way.

A patient-centred perspective inverts the relationship between institution and institutionalised; authority and subject. These oppositions imply a clear power imbalance; one that is not in favour of the patient, who – literally – puts their life in a doctor's hands. Therapeutic design therefore seeks to redress this imbalance, putting the patient centre-stage.
One of the important ways it does this is, is by making the patient or healthcare user feel comfortable and at home in the environment. (Indeed, 'homeliness' is a sub-trend emerging in its own right within healthcare design.)

It is important to acknowledge, however, that certain expectations still exist for professional settings such as a medical institution: if a hospital does not meet these expectations satisfactorily, it can produce the exact opposite effect of ease: disconcertment. A patient will not feel safe in a space that does not appear fit for purpose, no more than they would in the hands of a surgeon in a grubby overall and dirt under their fingernails. In the same vein, aesthetics should not be at the expense of hygiene, infection control and durability. As such,

Successfully reducing stress in healthcare settings depends in part on building design that strikes a balance between credibility and sensibility.

A blueprint for holistic healthcare design might incorporate the following key considerations:

- Fostering user autonomy and independence
- Connection with the outside world
- Safety (physical and mental)
- Comfort
- Order; structure; clarity

In the following sections, we will explore how a building's design can achieve this.

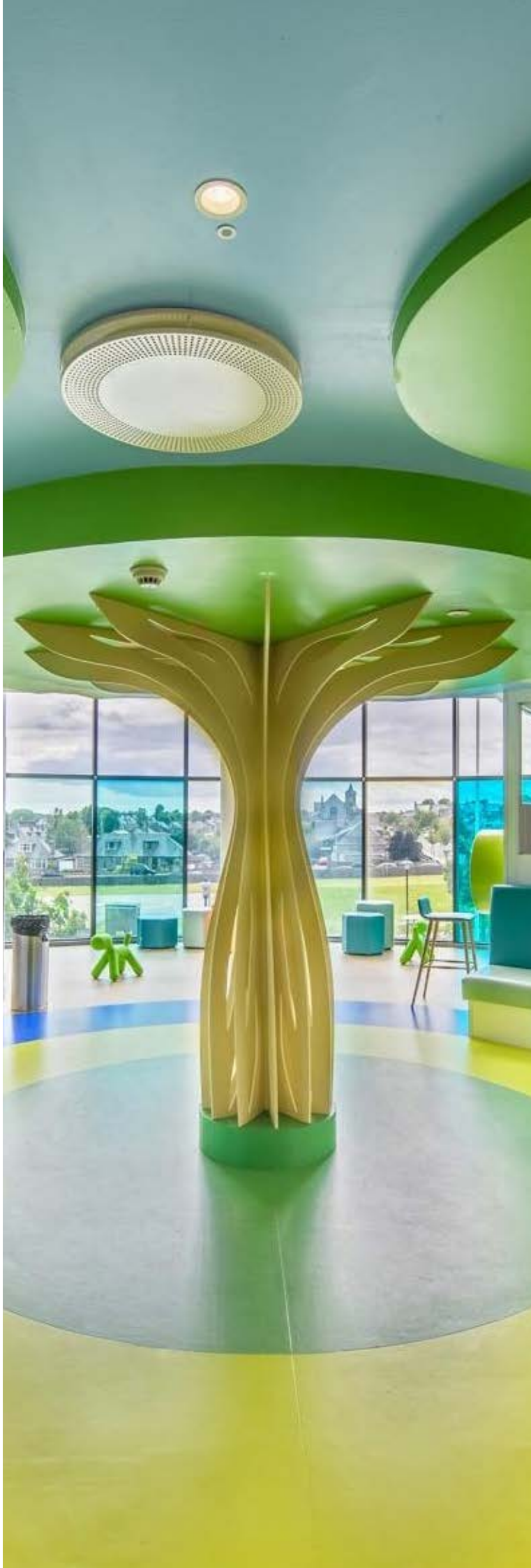
TWO-PRONGED APPROACH

The future of building design for the healthcare sector lies not in replacing one cookie-cutter for another.

Catering for specific groups

Whilst safety and cleanliness are paramount in any healthcare setting bar none, specific patient groups tend to have specific needs for their surroundings that can be catered to through creative and considered design. The onset of dementia, for example, can affect a person's functioning in complex ways, including hampering movement and balance. Patients or residents who have difficulty walking in a straight line often require some form of aid along corridors, for example. A creative solution that breaks with the tradition of an institution is the substitution of handrails with carpeting that features clear tramlines running along the outer edges of the floor in a contrasting colour. This creates a visual reference that keeps the person centred and safe. Similarly, colour contrasting can be used to highlight potential hazards, such as steps up or down.[5] This can be particularly helpful for dementia patients, who may experience trouble with depth perception.

Children have other specific needs to consider; not least, stimulation and entertainment when enduring long waiting times.



[5] DSDC, 'Colour and Contrast', https://dementia.stir.ac.uk/design/good-practice-guidelines/colour-and-contrast

Because they may be too young to understand or accept a verbal explanation of why they are there, and for what, it is particularly important for children to feel at ease and comfortable in a healthcare setting and to offer a nurturing environment that keeps them out of a fearful state. For children who require longer-term medical care, a separate concern is their development: Given how rapidly children develop, a healthcare environment should provide opportunities and spaces for that to continue throughout their stay. The innovative design of the Emma children's hospital in Amsterdam, for example, replicates a small village including 'town squares', a cinema, school classrooms and lounges where children can play computer games. Each zone has its own icon, which has been incorporated into the flooring to assist with wayfinding. This speaks even to children who are not yet able to read.

Residential and care homes differ most obviously from other facilities in the fact that their users may stay here on a permanent basis. The permanency of this accommodation emphasises the relevance of a homely design: can a cold and sterile-looking plastic piece of furniture be replaced with a just-as-functional but more familiar piece? The option for elderly residents to bring pieces of furniture or other items with them from their own homes offers a sense of security, comfort and familiarity, as well as reinforcing their sense of identity. Colour coding, for example, also deserves careful consideration in such settings: could you live with that colour, all day, day-in day-out, for years on end? Windows, outdoor views and lines of sight are important in this context, too, particularly considering that many of the residents will not be mobile and leave the premises only occasionally – if at all.

Building dynamics

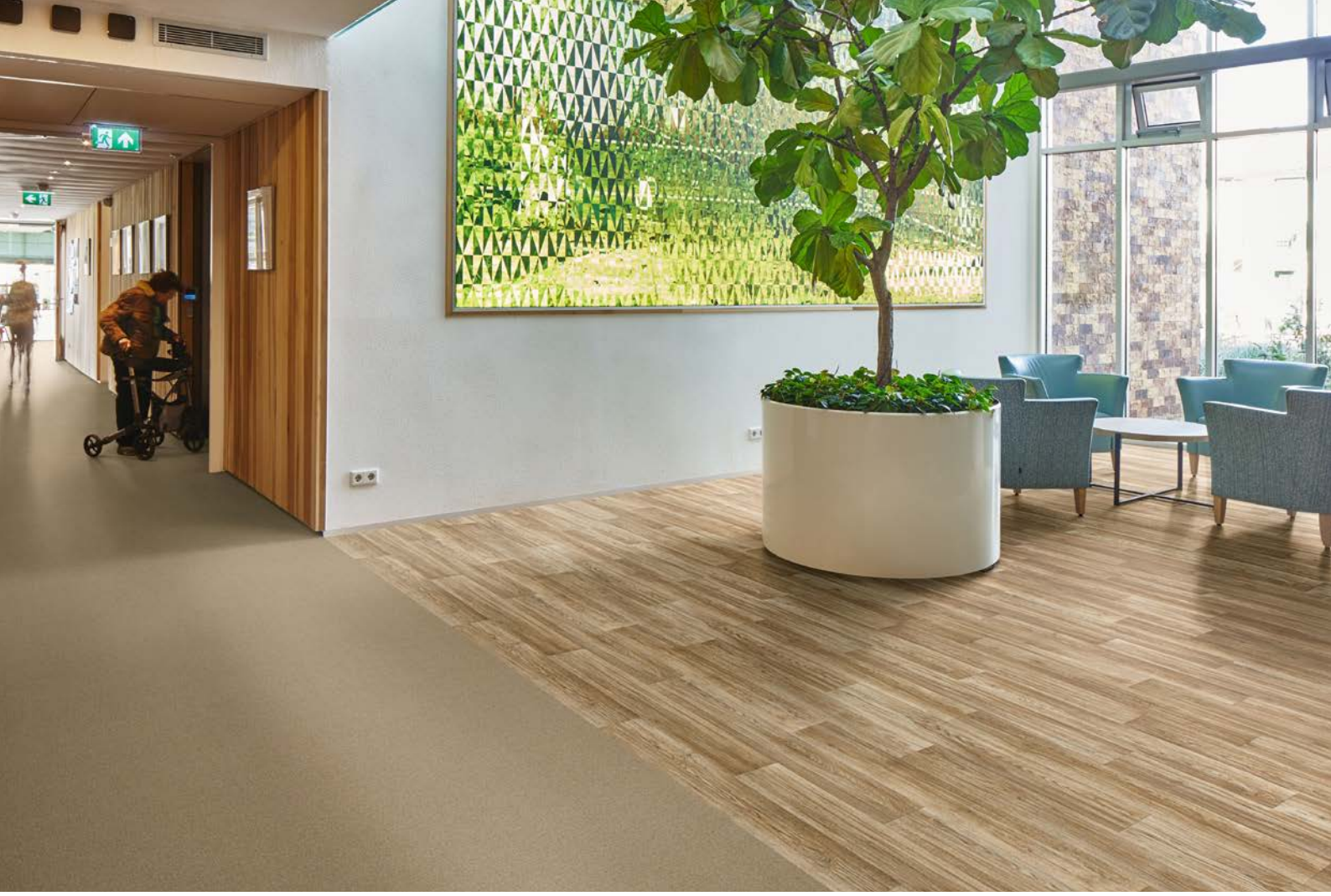
Creating a healing environment involves normalising and de-institutionalising the healthcare environment. A big part of this is making patients feel like they still matter as individuals, and that they still form part of the wider world – despite being extracted from their normal day-to-day lives, sometimes for lengthy periods of time.

Harmonious building design can foster this sense of continuity through addressing the dynamics of a building: considering how the users of a space interact and engage with it, and how the function of the various areas of a building can be enhanced.

Broadly speaking, we can distinguish five primary types of dynamic within one healthcare building: receiving; moving; connecting; concentrating; recharging.[6] These describe the primary function of a given space or zone, and what the users (visitors, patients and / or staff) of a building utilise it for. Respective examples of each might be an entrance hall, corridor, nurse station, operating theatre and canteen.

As the importance of versatility and the creation of adaptable indoor spaces increases going forward, designing for these dynamics will require innovative layouts and an element of fluidity.

[6] Source: Forbo Flooring Systems Design Studio 2020



This is perhaps best illustrated in a 'degrees of interaction' treatment of spaces. Imagine a diagram of concentric circles. Whereby the patient's private room would be the smallest and innermost circle: an inner sanctuary to which they can retreat to convalesce, undisturbed. Stepping outside of this, consultation and treatment rooms represent the next level of interaction – between doctor and patient. Lastly, communal corridors open up the possibility of more external connection and stimulus. These graduations in fact satisfy every one of the elements listed in the holistic healthcare design blueprint mentioned above.

Following on from this, a space that offers the flexibility to receive, move, connect, concentrate and recharge will provide some semblance of normality. For example, having a suitable room in which to host a birthday or anniversary celebration for and with family and friends allows people to experience joy, love and connection – regardless of what are otherwise often joyless circumstances.

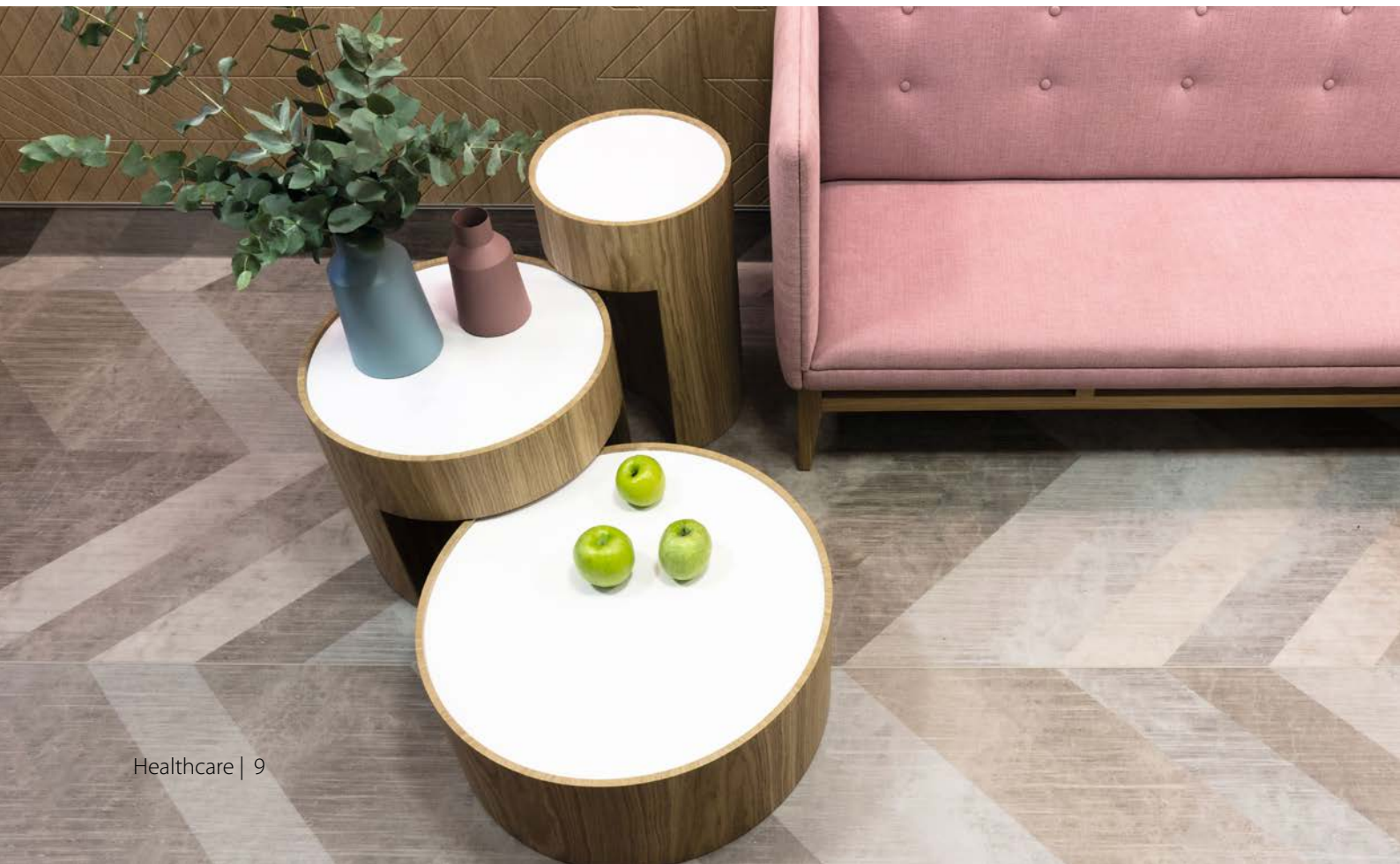
TOOLS & EXPRESSIONS

"Colours can have a positive effect on recovering patients". [7]

Once the therapeutic design requirements of a particular patient group or area of a building have been mapped out, sensory stimuli such as colour, light, smell, texture and so forth can be selected to essentially help regulate the nervous system and achieve the desired effect.

Stark and sterile, the conventional colour palette of hospitals is white. Whilst white may be associated with purity and cleanliness – and by extension, hygiene – wall-to-wall white can feel cold. Colour is known to influence mood: blues, for example, are considered to be peaceful and to aid concentration, whilst oranges and yellows are perceived be warm, earthy and hopeful colours; in contrast to black, which can symbolise fear or grief. Indeed, "colours can have a positive effect on recovering patients". [7] Styling a children's ward, for example, in bright, cheery colours and fun motifs can keep spirits high and offer some welcome distraction. Green is considered such a 'rejuvenating' colour; a dynamic that underpins the biophilia hypothesis. The use of complex and irregular patterns in

[7] W.R. Koggala, A.A. Hettiarachchi, (2016). '*Impact of room colour for patient's recovery; a study implemented with post cardiac surgery patients in Lanka hospitals,* Colombo', p.1 https://www.researchgate.net/publication/320516064_Impact_of_room_colour_on_patient's_recovery_a_study_implements_with_post_cardiac_surgery_patients_in_Lanka_Hospitals_Colombo



wall or floor coverings can cause confusion among some – those with dementia, for example. Yet for others, regular repeats in a pattern on the floor of a facility can in fact encourage unhelpful behaviours. Consider those with compulsive tendencies, for instance.

Art and decoration offer another avenue through which to set the tone in a space. In isolation, abstract art may pique the imagination and invite inquiry in the viewer. But if the viewer is waiting to hear the results of a medical test, more confusion and uncertainty are the last thing they need. Depictions and images of nature are preferable here to instil a sense of order and calm.

Ambient temperature is very important to comfort. However, the Goldilocks 'just right' temperature is very subjective and can vary per health condition. The use of domotics in patient rooms not only keeps the patient more comfortable but also provides them with a sense of autonomy and agency, and makes them less reliant on hospital staff.

The same can be said of light: Adequate access to natural lighting is key to good health, as the amount of light we get and when we get it affects our natural circadian rhythm and hormone regulation. As well as daylight being important to our wake and sleep cycle, the various phases of the day give us structure and order: we are all familiar with the feeling of the days rolling into one after being stuck inside a building for hours on end. Again, being able to rely on the sun rising and setting every day offers some comfort when our health is being called into question.

Sometimes overlooked, texture can add another dimension to a space. But it can also have a practical function. A textured floor covering can make a floor less slippery or demarcate the border of one room into another for blind or partially-sighted people. Texture also influences the acoustic properties in a space, as it more effectively absorbs noise; particularly beneficial when fitted in heavy-traffic areas, such as corridors that run parallel to patient rooms or wards. Texture has traditionally represented a hygiene challenge within a healthcare context. However, today, there are some unique washable textile and acoustic floor coverings available on the market that are even allergy-friendly.

These are just some examples of how designers can utilise the many tools at their disposal to achieve a therapeutic design.

CONCLUSION

A shift is underway in healthcare design; away from function-first towards patient-first. Healing healthcare design increases comfort and wellbeing, which in turn speeds recovery, fosters autonomy and lessens reliance on human and medical resources.

Reducing stress is the key driver behind this type of design, and can be reflected in design choices that minimise fear and anxiety and instead offer security, comfort and autonomy in a 'home from home'. Common themes in this wellness trend include access to daylight and the outdoors and the clever use of colour and domotics, among others.

A two-pronged approach to wellbeing-promoting design addresses the traits, tendencies and needs of specific patient groups and specific areas of a healthcare building. Floors, furnishings and other (architectonic) elements can be carefully selected based on specific properties – such as hygiene, their ability to reflect light, introduce colour and texture to a room – as a combined means of achieving the end in mind. Access to online tools such as product selectors can help inform the decision-making process.

This trend reiterates the multi-dimensional role that flooring can play within the healthcare setting, and represents an exciting opportunity for the worlds of design and architecture to make a positive and tangible impact on the health and wellbeing of modern society. To paraphrase Florence Nightingale's notes on nursing: design is an actual means of recovery in and of itself.

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For guidance on the various options for flooring design in any healthcare setting, Forbo Flooring offers architects and designers a dedicated **Design Service**. For advice on a specific project or general enquiries, contact Forbo Flooring Systems via our contact page or consult our product finder at www.forbo-flooring.com

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