

Healthcare

healing hues

Environmental psychologist Fiona de Vos discusses the increasingly prominent role of colour in healthcare interiors.

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The addition of colour as a visual distraction or for purposes of orientation can have a positive influence in healthcare interiors, easing stress and improving the wellbeing of both patients and staff.



Many healthcare institutions are working to create healing environments, but most of their efforts are limited to beautifying buildings and gardens. Only rarely do they really investigate the needs of their users. Generally speaking, healthcare institutions are not places we enter for fun, even as visitors. A healing environment prevents unnecessary stress (such as problems caused by complicated signage, inconvenient parking facilities, sterile waiting rooms, long walking distances, a lack of accessible, pleasant outdoor spaces and so on) by minimizing 'mis-fits' between users and their environment, and by increasing the feeling of wellbeing for patients, staff and visitors.

When designing a hospital, there are many design-behaviour relationships to consider. For instance, what's the best way to maximize control and privacy for patients in an unfamiliar environment, to maximize efficiency for staff, to create a welcoming, supportive environment for visitors? The two most crucial aspects of all such relationships are visibility and proximity. A nurse (or nurses' station) visible from a patient's room

provides a sense of safety. A visible day room is more likely to be inviting to patients than one that is hidden. Even when not at a great distance, amenities for staff (such as toilets and supply rooms) that are not in the immediate vicinity may pose a psychological problem for employees who have to 'abandon' their units – and their patients – to reach such amenities. A family room has to be very near to intensive care, allowing users to feel comfortable enough to leave the patient if needed. For appropriate use of colour in these environments, colours should be geared not only to the purpose of a room, but also to its size, light sources, materials and furniture. All these elements contribute to the overall image of a space. Colour can make a family room feel cold and distant or warm and comforting.

'They all look healthy this morning!'

When choosing colours, one should consider not only the potential aesthetic value, but also the secondary effects that might prevent the hospital from functioning well. The doctor who leaves →



Colour is used effectively for orientation at the KTHC. The graphics are designed by Studio Myerscough.





Oversized graphics that playfully refer to medical symbols enliven public spaces at the Kentish Town Health Centre in London.

the ward after his morning rounds, cheerfully remarking that his patients look healthy today, illustrates what the influence of colour can be in a hospital. Let's assume that in his department, sections of the walls in patient wards are painted orange. Even patients who are seriously ill may look healthy when bathed in the orange tint of such walls. As long as the doctor is aware of the cause of his patients' wholesome glow, the use of colour is not a threat to their health; it may even be of benefit to visitors, who surely like seeing their loved ones look less pale. By contrast, in an intensive care unit, emergency room or neonatology unit, where every second counts, the colour of the patient's face is an important indicator of his health. A green wall that makes the skin look extra pale and gives a false impression may lead to a fatal situation.

Research shows that colour can influence the way in which the temperature of a room is experienced. Painted in cool colours, the same space (heated or cooled to the same temperature) usually feels several degrees cooler than it does

when painted in warm colours. Colour selection should be influenced by the function of a space, room or department, as well as by its location in the hospital. Spaces on the ground floor and the shaded side of a building, which are often darker and cooler, need bright, warm colours to compensate. Areas with more access to sunlight automatically feel warmer and more cheerful, so cooler tones could be considered here. A knowledge of colour is a useful and inexpensive tool to apply to examination rooms in hospitals, nursing homes, psychiatric institutions and the like, where it could benefit patients or clients who are – or believe they are – in an unpleasant or threatening situation. Surprisingly, it is precisely in these types of spaces that colour rarely is applied, even though it could greatly improve the welfare and wellbeing of users.

Reducing anxiety

Colour can help reduce the stress we typically experience when we enter a hospital. Today's normally dull and sterile healthcare environments heighten alienation, anxiety and the resultant



Artist Peter Struycken developed a varied but harmonious palette for the Martini Hospital in Groningen, the Netherlands. Rather than limiting the vivid use of colour to the walls, he included floors, cabinetry, furniture and doors.



Surprisingly, only one-fifth of the surfaces in the Martini Hospital are coloured, but despite the interior's predominantly white background, the overall impression is one of a cheery, colourful environment.

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The accessibility and richness of colour provides distraction for patients

stress we feel when finding our way around the premises. A good example of how colour can change the image of a hospital is the Martini Hospital in Groningen, in the north of the Netherlands. The light, transparent building was designed by SEED architects in 2007. For the interior, visual artist Peter Struycken created a palette of 47 matching shades, ranging from strong (fuchsia, orange, green) to weak (grey, beige) and from light (pastels) to dark (purple, blue). From this palette, interior designer Bart Vos of Vos Interieur selected 18 colours, which he used in a playful manner throughout the hospital. Vos gave the walls, floors and fixed furniture in rooms and corridors highly diverse colour combinations

without paying close attention to physical boundaries. A patient room for example, may have a pink wall, green cabinets and a yellow/grey floor. What's interesting to note is that while the hospital makes a colourful impression, colour appears on only 20 per cent of the surfaces; the rest are plain white. The lesson here is that you can create a colourful setting by applying colour to only a small percentage of the building.

Colour symbolism

The symbolism attached to colour varies from culture to culture. With regard to healthcare, in Western cultures white and 'hospital green' are considered sterile, whereas black and grey are →

'They all look healthy this morning'

associated with death and depression. Each country, each hospital and sometimes each department has its own culture: a subject worth investigating. A study of colour preceding the design of the Martini Hospital, for example, showed that the ochre-brown colour designated for the oncology department was too similar to the colour of the chemotherapy medicine, hence creating an unintended negative association. Bearing in mind that the colour of medication often changes over time, those responsible opted for a neutral colour. Colours like avocado and other green-yellow tones associated with nausea are also unsuitable for oncology units, as are bright warm hues like fire-engine red, which may provoke anxiety.

Orientation

When under stress, we perceive things differently; signage that may seem crystal clear under normal circumstances can be confusing to people under enormous stress. Helping patients and visitors to orientate themselves reinforces their sense of competence and control, increases independence and reduces unnecessary stress. Colour can make an important contribution to orientation in a hospital, but this tool is still greatly underutilized. Waiting rooms often look identical, causing patients or visitors who step out briefly to make a phone call or buy a snack to lose their way upon return. Without noticeable differences between rooms, people may end up in the wrong place without realizing it. Admittedly, colour is commonly used for signage, in the form of coloured stripes on the floor or coloured signs that lead to a particular department. A signage system that relies solely on colour, however, is difficult or impossible to follow for those with a form of colour blindness or for elderly people. In the Netherlands, approximately one in 12 men and one in 200 women suffer from some form of colour blindness. A far better idea is to combine colour with pictograms, patterns or tactile flooring.

Well-designed orientation is even more important when dealing with patients who have limited or poor vision. The vivid colours that highlight reception areas at the Rotterdam Eye

Hospital illustrate the use of colour to assist in orientation. The original hospital – a tall, closed building designed in 1948 by Ad van der Steur – was renovated in 2005 by Marijke van der Wijst, who opted for a light, contemporary interior. For the reception areas, vibrant colour schemes featuring purple, bright green, light blue and apple green are combined with colourful horizontal patterns, generating a sense of unity and enhancing the visibility of the counters. Using unusual colour combinations, Van der Wijst conjured a 'grid of illusion': what you see is not always what you see. One objective of the renovation – a clean, uncluttered healthcare environment – was achieved with colours and patterns designed to discourage the use of walls as notice boards covered with announcements and stick-on notes. Five years after the renovation, the walls remain blank.

Distraction and calm

Colour also contributes to the interior of the Eye Hospital in the form of art. All pieces relate to sight in one way or another; they were selected for the hospital by art historian Ineke van Ginneke, who chose photographic portraits, symbolic graphic images and optical 'grids of illusions'. Colourful wall panels feature texts that refer to the word 'eye'. In one waiting room, 'I spy with my little eye . . .' is printed on a bright blue panel. Because all these works deal with the eye – with looking and seeing – the interior has a playful and accessible character, which satisfies one of the main requirements of the new design: the reduction of fear in patients.

It is precisely this accessibility and richness of colour that provides distraction for patients, assists in orientation and, in so doing, contributes to a reduction of stress and anxiety. In healthcare environments, actively providing positive distraction is important, because it helps to take the patient's mind off matters such as the potentially painful or uncomfortable procedure still to come. Obviously, visitors benefit as well.

Another prime example is the Kentish Town Health Centre (KTHC) in London, designed by Allford Hall Monaghan Morris Architects (AHMM). The hospital was envisioned as a vibrant

building where health, art and community come together. The largely white, minimalist interior, which revolves around an internal 'street' and a spacious atrium-cum-lobby, is punctuated by Studio Myerscough's vivid, oversized murals, which feature graphic icons on the theme of health and body, such as a tooth, a thermometer and a footprint. The layered hand-painted graphics travel playfully across the triple-height walls, animating and connecting the rectilinear volumes. Colour is used effectively for orientation at the KTHC. A series of greens, selected for the hospital logo, relates to directional signage in circulation areas and bold floor numbering in the stairwell, while large black-and-white numerals on doors

indicate room numbers. A green sign positioned above and perpendicular to each door projects from the surface, allowing the number to be distinguished from afar. Employees comment on the pride they feel to be working in a building that resembles an art gallery. Patients in the waiting room appear to be relaxed, and the level of aggression at reception has dropped noticeably in the new hospital.

Looking to the outdoors as a way of stress reduction, a natural approach to colour was implemented by EwingCole Architects at the new Cooper University Hospital in Camden, New Jersey. Focusing on the concept of the interior as an extension of exterior gardens, →

Oversized letters that climb the wall of the Rotterdam Eye Hospital refer to the well-known eye chart the optometrist asks you to read.



Bright wall panels at the Rotterdam Eye Hospital display Dutch sayings that refer to the eye.

the architects chose a palette of natural materials and plants to accent the largely calm, white indoor spaces. Warm natural hues found in stone paving, timber detailing and furniture – complemented by the vivid greens of bamboo, soothing sounds of nature and plentiful daylight – further the sense of a garden pavilion. Inspired by nature, the interior design calms patients and visitors with its feeling of serenity and familiarity.

Designing for the elderly

In designing for the elderly, other aspects of colour need consideration. A nursing home that proudly shows off living-room walls painted pale yellow –

in an attempt to brighten the premises – should have done its homework better. Vision decreases with age, owing in part to the yellowing and darkening of the lens and cornea of the eye, and to the decreasing size of the pupil. A pale-yellow wall looks white to the elderly eye and goes unnoticed by many residents. The same applies to yellow-white signs that, by lack of contrast, remain a mystery to the elderly. Because adapting to different levels of light also becomes more difficult as we age, extreme contrasts between colours should be avoided. Transitions from light to dark in flooring or at thresholds can resemble holes underfoot and cause falls. (Look through your

Eye spy: at the Rotterdam Eye Hospital, works of art reflect the function of an institute devoted to seeing and looking.



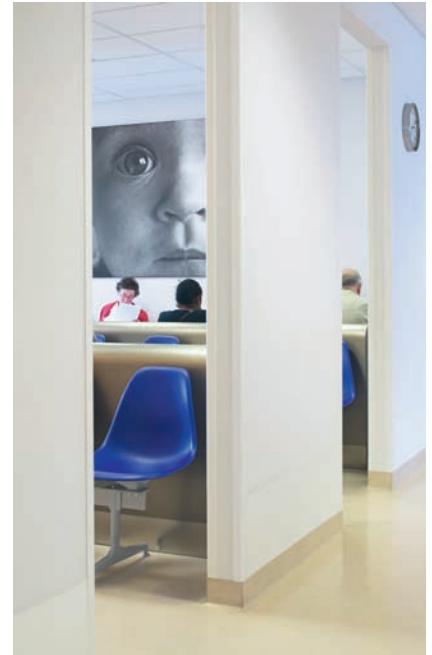


eyelashes to get an indication of how a person with poor eyesight perceives abrupt changes in colour.) The finish of the floor is also important. A shiny surface (tiles, polished stone) suggests that the floor is wet, which may cause elderly residents to walk hesitantly, again increasing the risk of falling. Selecting colours meant to enhance the wellbeing of the elderly should be done with an eye to creating diversity and choice. Like everyone else, older people enjoy the option of choosing from various environments that suit different moods and backgrounds.

Designing for children

At the other end of the spectrum is interior design for children, which requires the creation of a cheerful, aesthetically pleasing environment that is inviting, soothing and interesting to kids of all ages, their families and staff. Many children's healthcare facilities use colour in the form of boldly coloured cartoons, pastel princesses and Disney figures on the walls. These may be suitable for young children but are too childish for teens, who tend to prefer subtler colour schemes. Young people need age-appropriate environments, because not only colour preferences change with age, but also the need for privacy (teens), for distraction (from toys to computers), and for interiors with relevant dimensions. Designers should listen to children (of all ages) to discover their preferences. Interviewing members of focus

All art pieces in the Rotterdam Eye Hospital relate to sight in one way or another.



groups and asking them to make drawings are effective ways of finding out what children want. Studies have shown that reactions to colour tend to wane with time, however. This inconsistency – which may mean that, once applied, a colour fails to produce the desired effect – suggests the importance of using a range of colours to hold the interest of both young and old.

Studies clearly show that the impact of colour obeys few universal laws. The symbolism involved is determined largely by culture, and perception is affected by individual characteristics such as age, gender and colour blindness; social factors like fashion; and situational factors like form, lighting and environment. It is essential, therefore, to examine not only who will use a space but also when and under what circumstances. What is the function of the room? For whom is it intended? Is colour used purely decoratively, or is its main purpose functional (orientation)? Where is the space situated in the building? What about daylight? These questions need to be posed even when designing spaces bereft of colour. Too often in healthcare the use of colour is excluded, unfortunately and unfairly, when it could add so much value.