

# The use of **color** in healthcare settings

BY **MARY BAMBOROUGH, IIDA**

**Q**uick—what’s your favorite color? Does it make you feel good? The idea that certain colors can affect how we feel is not new. Many believe certain colors can make you more productive, relaxed, or excited, for example.

For the last 20 years, I have specialized in healthcare interior design and healing environments. Over the years, clients have often asked me what colors are most appropriate for healthcare settings.

You might assume that there is a link between color and patient health, perhaps. Yet you may be surprised to learn that, to date, color guidelines for healthcare environments have not been supported by any scientific research.

The Center for Health Design, based in Concord, California, partnered with the Coalition for Health Environments Research (CHER) to produce a report written by Ruth Brent Tofle, Benjamin Schwartz, So-Yeon Yoon, and Andrea Max-Royale titled “Color in Healthcare Environments: A Critical Review of the Research Literature.”

Utilizing online searches, the authors scanned more than 3,000 titles to critically review relevant research to answer these two questions:

1. What is empirically known about human response to color and how, if at all, does color influence human perception or behavior in a specific setting?
2. Which color design guidelines for healthcare environments, if any, have been supported by scientific research findings?

The authors attempted to separate the common myths and realities in color studies. They found there was not enough evidence to make a direct cor-

relation between particular colors and health outcomes.

They also found that specifying particular colors to influence emotional or mental and behavioral states had not been substantiated—there is no evidence that a one-to-one relationship exists between any particular color and an emotion. Our emotional responses to colors are learned and affected by culture, and by a person’s physiological and psychological makeup.

So much affects the way



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The color green is used in this mural to emit calmness in a dentist office. Photo courtesy of Murals Your Way



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individuals see color. Rebecca L. Ewing, color consultant, said that functional response to color is subjective and everyone responds differently. "These responses are due to our personal experiences and personal history," she says.

Ewing notes that several factors influence color preferences, including:

- Religious affiliation;
- Geographic location—climate and region;
- Socio-economic background; and
- Age.

And that's not all. I believe that how we "see" the color is also affected by:

- The way the lighting of a space is designed;
- The size and shape of a space; and
- Color trends and style, such as in clothing and cars.

We choose colors we like based on all these things.

Let's take green for instance. It's the mix of the happiness of yellow and the dignity of blue. It is generally known as a color that represents life. Found in nature, green represents fresh grass and trees reaching for the sky. Having a "green thumb" means you are good at gardening and growing plants.

During the Renaissance, it was common for a bride to wear a green wedding gown. Green meant that the crops were healthy and growing, so the green dress meant a woman was fertile.

And what about "hospital green"? Years ago, many operating rooms and scrubs were green. Green is the complementary color to red. If you are a surgeon and looking at a lot of blood, the afterimage you saw when you

looked away from the surgical site could be neutralized with green.

Green comes in so many variations, from a deep forest green to the popular chartreuse, and everything in between. With so many hues, "green" to you might very well be a different color than it is to the person sitting next to you. And where one might see life and growth, another might see mold, decay, or the wicked witch.

Color is a very powerful tool. Many researchers have concluded that the human eye can see 7-10 million colors, while marketing research has indicated that 80% of visual information is based on color. Those numbers are astounding.

Our judgment of color from one healthcare setting to another is based on our layers of experiences. Throughout our lives, each of us been visually trained on what to expect—colorwise—when we enter a waiting room, an exam room, an operating room, a patient room, or a hospital lobby. Even our geographic location enters into the picture: What's commonly seen in the Northeast is likely quite a bit different than what you'll find in the Southwest.

The bottom line? It's very challenging to reach definitive conclusions about the most appropriate colors for healthcare settings. More evidence-based design research needs to be done to make correlations between colors and health outcomes. But, in the meantime, most administrators will agree that it's a good idea to trust the experience of design professionals ... and to trust our senses. **HCD**

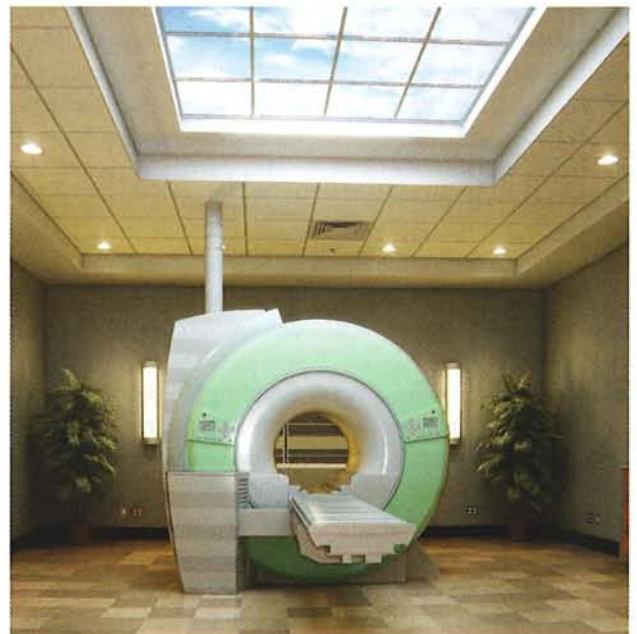
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What do you think of when you hear "green bug"? Real bug photo: Photo courtesy of Texas A&M University Entomology Department



The color green has an entirely different connotation when attached to the Wicked Witch of the West. Photo courtesy of MGM



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