

## Design for healthier buildings and patients

January 24, 2013 - Green Buildings

In some hospitals around the country, "code green" means "all clear" after an emergency or fire drill. Similarly, when it comes to green building in healthcare, efforts to improve sustainability and the health of patients and staff are becoming clearer all the time. With interior design, there are a number of smaller things that are routinely being improved in materials to make project finishes "healthier." Vinyl floors made without the polyvinyl chloride (better known as PVCs) are now commonly used alongside paints that give off lower amounts or none of the damaging volatile organic compounds or VOCs, improving air quality. Reducing these environmental stressors allows patients to heal without the built environment causing further harm or inhibiting the body's natural healing ability. As we look to the future though, there's another spot that continues to get brighter – and more affordable. Sustainable healthcare lighting is more efficient and provides more visual comfort to patients and their families. LED technology is improving all the time, as LED fixtures now require less energy than fluorescent fixtures to deliver the same lighting levels. Because of this. designers can often reduce the number of fixtures required in a given space, thereby reducing energy consumption. Longer lamp life cuts down on replacement costs and post-consumer environmental impact, and improvements in overall fixture design allow for easier recycling and reuse of lamps. LED lamps are also mercury-free, a major selling point for facilities committed to eliminating mercury sources. Accidental breakage and improper disposal of fluorescent lamps are potential sources of mercury exposure to a healthcare facility. LED technology is healthier for the environment – and some could argue that LED lighting is also healthier for patients and staff. When it comes to providing visual comfort, improved LED technology allows for lamps to produce warm white color compared to the harsh glare of a fluorescent lamp. The warmer the light, the more natural skin tones will appear. Warmer color temperature lighting should be used as general lighting in patient care areas to help patients relax. In patient bedrooms, combining warm color general lighting with natural light can foster a better environment for rest and healing. Many LED lamps also offer the benefit of dimming capabilities, giving patients greater control over their immediate space and comfort. For staff – and especially the night shift – the use of full-spectrum LED lighting can simulate natural daylight, which maintains the body's circadian rhythms. While lighting is just one component of sustainable healthcare design, choosing the right lighting for the function can promote visual comfort and even healing in healthcare settings.

Bradley Cardoso, AIA, is a senior healthcare architect at Margulies Perruzzi Architects, Boston and is a monthly contributing Architect author for the New England Real Estate Journal's Green Building section.

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540