

## Green Building Priorities for Healthcare

Health care institutions' core mission of protecting human health provides the basis for them to speak with their words and actions on the health implications of building construction and operation. The healthcare industry has a leadership opportunity to move the larger building industry toward a healthier approach by demonstrating the best in healthy, sustainable design, construction, operations and maintenance practices in its own buildings.

**Whole system look to maximize impact:** The optimal approach to green design involves a whole system look at the facility, incorporating all aspects of design and all disciplines working together to find the best solutions to design challenges. Careful priority setting can assure that an organization's initial efforts have maximum impact and provide room to grow and develop the organization's ability to steadily improve its environmental impact over time.

**Prioritize for maximum immediate impact:** Target green design issues that:

- **Address an important environmental problem**, ideally one that is directly health related and thus tied to the organization's core mission, with credible scientific evidence on the level of the problem, although there may not necessarily be scientific unanimity on the problem. For example, persistent bioaccumulative toxins (PBTs such as dioxin, lead and mercury) are recognized as a major problem by most environmental agencies.
- **Have multiple benefits**. For example, eliminating PVC reduces environmental health impacts upstream and downstream while reducing indoor exposure to DEHP and heavy metals. Energy saving measures reduce air and water pollution, cut global warming while producing bill savings for the facility. Elimination of materials that outgas formaldehyde and other VOCs improves patient outcomes, and increases staff productivity while reducing potential for triggering multiple chemical sensitivity syndromes.
- **Use materials that are readily available**. In the case of a geographically dispersed health system this means available throughout the system's region.
- **Are cost effective**, being competitively priced or paying for additional investments through reduced operating and maintenance costs.
- **Meet the service criteria** of the system.
- **Have a track record** of experience and referrals and no approval barriers with state regulatory agencies.
- **Have demonstrable results** in direct environmental impact
- **Move the industry forward** by providing a useful demonstration project or, better yet, by exercising market pull, such as on materials suppliers to provide more green offerings or to promote them more strongly or to provide better prices.

**Support longer term strategies:** Parallel to the efforts that pass these screens for immediate results, an institution can also establish a strategy of putting its weight behind longer term efforts to make possible those design changes that require regulatory approval or further manufacturer development to be ready for application.

**Start with the finishes:** One excellent place to start for immediate impact is in the specifying of environmentally sound interior finish materials, with an emphasis on indoor air quality and lifecycle toxin reduction. Many of the materials currently widely used in interiors, such as vinyl flooring, have multiple negative health impacts throughout their lifecycle as well as raising health hazards within the facility, making them a clear priority for a healthcare facility.. Benefits to the institution can include:

- **Reduced operating costs:** Alternative materials are commercially available that, while sometimes costing more to install, can, in many cases, pay for themselves rapidly through operations and maintenance savings
- **Improved patient outcomes** Improving indoor air quality can reduce stress on healing patients.
- **Improved productivity:** Many studies have found higher productivity and retention results from green building designs
- **Reduced exposure to future liability** as awareness of the hazards of the materials grows (as happened with lead and asbestos)
- **Opportunities to attract and keep members** who are concerned about chemical sensitivities and environmental health

**Key health criteria for material selection:** Selecting environmentally sound interior finish materials should start with certain health related mandates:

- **PVC free materials** for flooring, wall covering, carpet backing, ceiling tile and furniture
- **No added formaldehyde** particularly in wood products such as in casework, furnishing and flooring
- **Low or no VOC** paints, adhesives, stains, finishes, floor coverings and furniture. Watch for important new work on testing and setting standards for emissions from materials.

**Further sustainability attributes of materials:** In addition to direct health impacts, selecting materials should also involve evaluating the following environmental attributes:

- **Recycled** (preferably with high post consumer content), **reused/salvaged**, remanufactured or from rapidly renewing sustainable sources
- **Sustainably harvested** Specify certification (FSC wood, etc)
- **Regional sources** to reduce energy required to transport the material
- **Low embodied energy**
- **Durable**
- **Low maintenance** and not requiring toxic materials to maintain
- **Easily reusable, recyclable, compostable** or otherwise biodegradable on disposal. Ideally the manufacturer should help facilitate this.

**Moving beyond materials:** Building upon a basis of progress in the interior materials realm, a healthcare organization can then expand out to other areas of importance to a sustainable healthcare facility design: energy and water usage, site design, structural materials, waste management and construction process and design for green operations and maintenance.

A complete integrated approach to sustainable design will compliment the healthcare organization's fulfillment of its commitment to the health of its patients and the world with economic multiple payoffs from improved productivity, reduced operating costs, reduced liability, and, most importantly, better patient outcomes.

*This Green Buildings priority statement produced by the Building Green Health Care work group of the Healthy Building Network and Health Care Without Harm*

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