

# Does a hospital's physical environment impact...



Patient outcomes? Patient satisfaction?

Staff satisfaction and performance? Financial performance?

## Market conditions

Increased infection risks  
declining staff satisfaction



Attracting and retaining physicians  
transparent quality data

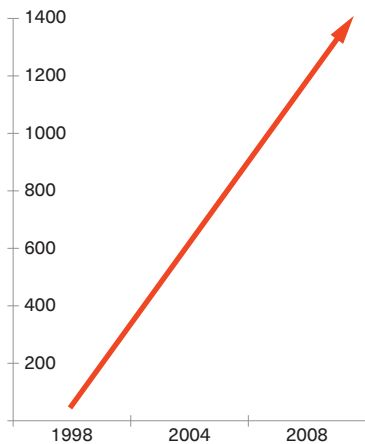
### Medicare and Medicaid

Medicare has pulled preventable nosocomial infection funding to encourage prevention over cure.

Declining profits and  
capital investments



## Research

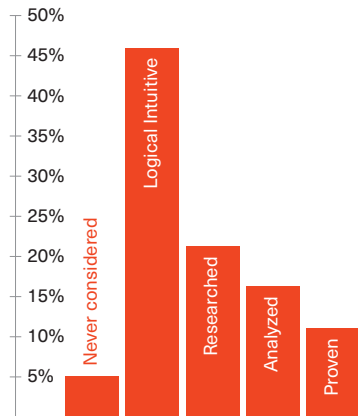


More than 1,200 Evidence-Based Design studies<sup>1</sup> directly connect the physical environment of the hospital with:

- Quality
- Patient satisfaction
- Staff satisfaction
- Financial performance

## Relationship

What is your experience with linking the physical environment to the outcomes?



In a recent Trane workshop, 95% of American College of Healthcare Executives reported that they have considered the connection between the physical environment and patient outcomes as relevant.

## Action

"As Hospital Leaders continue to seek ways to improve quality and reduce errors, it is critical that they look around their own physical environment with the goal of ensuring the hospital contributes to, rather than impedes, the process of healing."

Carolyn Clancy, M.D.  
US Director - Agency for Health Research and Quality

## Are hospitals making people sick?

The design of hospital environments can contribute to poor patient outcomes and staff dissatisfaction. Up to 2 million U.S. hospital patients—1 in 20 of all those admitted—contract dangerous infections every year during their hospital stays. The major causes of nosocomial or hospital acquired infections are poor air quality and ventilation along with two or more people sharing a room.

### The evidence is in.

Evidence-based design is the process of basing decisions about the built environment on credible research to achieve the best possible outcomes.

In today's competitive health care industry, evidence-based design is having more and more of an impact on the way health care facilities are designed.

Other design shortcomings like inadequate lighting can cause patient depression and staff errors in medication. Poorly designed workspaces can contribute to staff shortages and burnout, which could result in patient falls.

### Investing in better design for better outcomes.

Evidence-based design is transforming the healthcare environment. As healthcare facilities prepare to invest billions of dollars in renovations and updates, decision makers are becoming more aware of the value of incorporating evidence-based design elements into their plan. But how do healthcare facilities make the best use of their limited resources to get the improved outcomes they want?

Several studies document the impact of design characteristics that can be used to ensure that future healthcare facilities can promote healing in addition to providing treatment. Evidence-based design can improve healthcare environments in three key ways by:

- Enhancing patient safety by reducing infection, risk, injuries from falls, and medical errors.
- Eliminating environmental stressors, such as noise, that negatively affect outcomes and staff performance.
- Reducing stress and promote healing by making healthcare facilities more pleasant, comfortable, and supportive for patients and staff alike.<sup>2</sup>



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## Case study: Bronson Methodist Hospital

Bronson Medical Methodist Hospital used an evidence based approach in their \$181 million campus redevelopment. Some of the evidence-based design features they included were:

- Optimized indoor air quality systems
- Private rooms with rooming-in accommodations for all patients
- Shorter walking distance for patients and families with seating along the way

The results show:

- 11% reduction in nosocomial infections
- Nursing turnover rates below 7% (national average is 20%)
- 95.7% overall patient satisfaction
- 6% increase in market share
- Improved staff satisfaction

### Evidence-based design is not only good healthcare; it's good business sense as well.

“Smarter hospital architecture and design can pay for itself within a year by improving service efficiency, patient safety and satisfaction, and market share.”

— Leonard Berry, Ph.D., of Texas A&M University

1 Validated by the Robert Wood Johnson Foundation ([www.rwjf.org](http://www.rwjf.org)), the nation's largest philanthropy devoted exclusively to health and healthcare.

2 Robert Wood Johnson Foundation, Evidence Based Hospital Design Improved Outcomes for Patients Families and Staff; <http://www.rwjf.org/programareas/resources/product.jsp?id=21765&pid=1142>

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