

Healing Design – Multimodal Influences

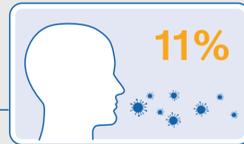
The design of the healthcare environment influences patient safety and hospital outcome from several points of view



Improve clinical outcome^{1,2}

• Reduction of airborne and contact-spread hospital-acquired infection

Rate of hospital-acquired infections decreased 11% due to design features like private rooms and specially located sinks.³



• Less patient falls

Patient falls can be decreased by up to 17.3%.⁴



• A process-optimized workplace aids patient-centered care and can reduce staff errors

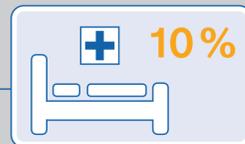
E.g. medication errors due to poor lighting conditions: An illuminance of 1570 lx (the highest level) was associated with a significantly lower error rate (2.6%) than the 480 lx baseline level of 3.8%.⁵



Reduce costs of care⁴

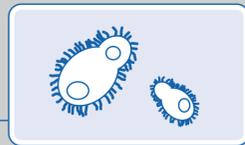
• Shorter hospital stays

Length of stay reduced by 10%.^{6,1}



• Reduced infection occurrence⁷

Redesign of the ICU/ Conversion to single rooms decreased the rate of bacterial infection by more than 50%.



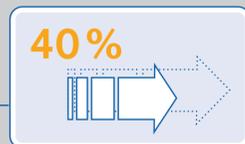
• Reduced intake of costly strong analgesics

Patients in the bright light rooms required 22% less opioid equivalent analgesic medications which resulted in 21% decrease in medication costs.⁸

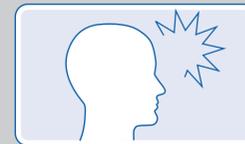


• Some patients might be moved sooner from intensive or acute care to less costly care⁶

Up to 40% reduction in cost per patient day due to design improvements.⁶



Enhance patient experience



• Reduced pain^{8,12}

Patients reported less pain if randomly assigned to view a ceiling-mounted nature scene versus a blank ceiling.



• Improved sleep quality

Environmental noise explains 17% of awakenings.¹⁰



• Reduced stress/anxiety for patients and family¹¹

Design investments can result in less stressful hospitalization experiences, which applies to children as well as adults.



• Patient satisfaction

Pleasant environment improves patient mood.¹²

Improve staff satisfaction¹³



• Reduced workplace stress and injuries

50% reduced staff injuries due to design improvements.⁶

• Improved satisfaction¹³

Employees with window views of nature report higher job satisfaction.



• Opportunity of workplace design to attract and retain qualified employees

10% reduced nursing turnover due to design improvements.⁶

• Increased staff safety^{14,15}

New lifting intervention helps to prevent work-related injuries.

Hospital design focuses on optimization of



Light

- to reduce
- Medication errors^{1,2}
- Patient falls³
- Depression⁴



Noise

- to reduce/improve
- Workplace stress⁴
- Sleep and stress for patients^{10,11}



Workflow

- to improve/reduce
- Staff satisfaction⁴
- Infection occurrence⁴



Ergonomics

- to improve
- Staff safety^{5,6}
- Opportunity of workplace design to attract and retain qualified employees⁴



Room design/ Ambience

- to increase/improve
- Patient satisfaction and mood – stimulate or calm patients with the power of colours⁸

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