

# How a green building influences the health of its occupants

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Green buildings are indeed healthy buildings. So says Dr. Joseph Allen and fellow researchers of the Harvard T.H. Chan School of Public Health in the US. They conducted the first comprehensive review of studies that focused on green buildings and summarized the health benefits for the people who work and live in them. The review is published in Springer's journal *Current Environmental Health Reports*.

The green building movement has taken off in the past 10 years. According to Leadership in Energy and Environmental Design (LEED(r)), which certifies green building standards, over 3.6 billion square feet or 69,000 buildings have so far been certified in 150 countries. By definition, the design of green buildings minimizes impact on the environment by reducing the use of energy and water. Environmental disturbance is also limited during the building process and by the choice of the building site.

The ways in which the design of green buildings improve [human health](#) are, however, less widely recognized or scientifically studied. Therefore Allen and his colleagues set out to review all current work done and, in the process, enlighten researchers, practitioners and policy makers on such benefits.. Fifteen studies were included in the review.

"Overall, the initial scientific evidence indicates better indoor environmental quality in green buildings versus non-green buildings, with direct benefits to human health for occupants of those buildings," says Allen in summarizing the outcome of the review.

Occupants of green buildings are in general more satisfied with [indoor air quality](#), their workspace, building cleanliness and maintenance in general. The indoor environmental quality measured in green buildings is better compared to typical buildings and, as a result, occupants have less exposure to allergens, pollutants and environmental contaminants such as the harmful gas formaldehyde found in some building materials. Green building occupants in one study for instance reported lower absenteeism and fewer lost work hours because of asthma and allergies.

On the whole, the better indoor environmental quality translates into occupants' reporting that they suffer from fewer symptoms of [sick building syndrome](#) and that they enjoy better physical and mental health. Working in a green building is also associated with higher productivity, lower employee turnover and a decrease in the length of open staff positions. Green hospitals benefit patients and the medical staff working in them alike. One study, for instance, noted improved quality of care, fewer blood stream infections, improved record keeping and a lower number of deaths among patients.

Building acoustics were consistently the one aspect that did not score better in green buildings, as participants in several studies were not satisfied with the noise levels experienced.

Allen and his team note that research on green buildings is still in its infancy, with most studies relying on self-reported measures collected through surveys or questionnaires that are subjective. The authors propose to use mobile health sensors (also called mHealth or Quantified Self) to objectively monitor and gather information about the [health](#) performance of [green buildings](#).

**More information:** "Green Buildings and Health," *Current Environmental Health Reports*, [DOI: 10.1007/s40572-015-0063-y](https://doi.org/10.1007/s40572-015-0063-y)

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