# Seeing and experiencing nature – factors that affect health and wellbeing in health care facilities

Heidi Salonen<sup>1,2\*</sup>, Marjaana Lahtinen<sup>2</sup>, Sanna Lappalainen<sup>2</sup>, Luke D. Knibbs<sup>3</sup>, Lidia Morawska<sup>4</sup>, Kari Reijula<sup>5,6</sup>

<sup>1</sup> Department of Civil and Structural Engineering, Aalto University, Finland; <sup>2</sup> Developing Indoor Environments, Work Environment Development, Finnish Institute of Occupational Health, Finland; <sup>3</sup> School of Population Health, The University of Queensland, Australia; <sup>4</sup> International Laboratory for Air Quality and Health, Queensland University of Technology, Australia; <sup>5</sup> User-centric workspaces theme, Work Environment Development, Finnish Institute of Occupational Health, Finland; <sup>6</sup>Department of Public Health, Helsinki University, Finland.

\*Corresponding author. E-mail address: <u>heidi.salonen@aalto.fi</u> Keywords: Nature, Health care facility, Health, Wellbeing

# Introduction

Several studies indicate that seeing and experiencing nature play a vital role in human health and well-being.

# **Material and methods**

We reviewed scientific research related to the effects of seeing and experiencing nature on human health and wellbeing, using Google and Pubmed in our literature search.



## Results

According to the literature, within the healthcare environment, seeing and experiencing nature have several restorative effects on patients and staffs. These effects are listed in Table

**Table 1.** Restorative effects of seeing and experiencing nature on patients and staffs

Restorative effects on patients	Restorative effects on staff
Reduced anxiety and pain	Improved performance
Mood improvement	<ul> <li>Higher job satisfaction</li> </ul>
<ul> <li>Lower blood pressure</li> </ul>	Improved productivity
<ul> <li>Reduced heart rates</li> </ul>	
<ul> <li>Shorter postoperative hospital stays</li> </ul>	
<ul> <li>Higher satisfaction with nursing care</li> </ul>	
<ul> <li>Decreased use of potent analgesics</li> </ul>	

In the case of hospitals and other healthcare facilities, there is clear evidence that gardens are particularly effective, beneficial settings with respect to mood improvement and recovery from stress among patients, as well as family members and staff. Well-designed hospital gardens not only provide calming and pleasant nature views, but can also reduce stress and improve clinical outcomes through other mechanisms, by for instance fostering access to social support and privacy, and providing opportunities for escape from stressful clinical settings.

## **Discussion**

Health care facility design, such as hospital design, should include provisions for seeing and experiencing nature. In addition, health-care design should always integrate functional requirements into the human needs of different user groups.

