



KEY POINT SUMMARY

OBJECTIVES

To investigate the body of research published between 2000-2017 dealing with the role of the built environment in the context of cancer treatment, and note any implications for future designs.

The Role of Environmental Design in Cancer Prevention, Diagnosis, Treatment, and Survivorship: A Systematic Literature Review

Gharaveis, A., Kazem-Zadeh, M., 2018 | *HERD: Health Environments Research & Design Journal*. Volume 11, Issue 4, Page 18-32

Key Concepts/Context

Approximately 1.6 million new cancer cases are diagnosed annually in the United States. New techniques for treating cancer are constantly being developed, with many healthcare professionals and designers turning towards more patient-centered services and designs to achieve better patient outcomes. The physical design of the healthcare environment has been identified as a particularly important aspect of cancer diagnosis, treatment, prevention, and overall survivorship. Apart from the physical dimensions of healthcare environments, the social dimensions and interactions that are imperative for patient well-being are also influenced by the design of the healthcare environment. This paper provides a literary review of published research concerning the role of the built environment throughout the entire span of the cancer treatment process.

Methods

The online databases Google Scholar and PubMed, as well as the journals *Environmental Psychology*, *Environment and Behavior*, and *Health Environments Research & Design* were all used to source information and data for this literature review. Different combinations of relevant cancer-related search terms were used with inclusion criteria being limited to primary, peer-reviewed healthcare studies written in English and containing the terms “design”, “built environment”, and/or “space”. Relevant information and data were analyzed and organized into themes and clusters of specific designs. After vetting 206 potential sources, 10 full-length articles in total were included in the systematic review.



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Findings

From the 10 studies that were ultimately included in the full review, four overarching themes were identified: neighborhood design, accessibility to healing landscape, inpatient facilities, and outpatient facilities. The neighborhood design theme explored the importance of where cancer treatment resources are located relevant to the patient's own neighborhood, as well as a variety of other factors not immediately related to the healthcare environment itself. The accessibility to healing landscape theme emphasized the importance of access to natural lighting, gardens, or other plants, and outdoor spaces for improving patient quality of life and recovery both inside and outside of the healthcare environment. For inpatient facilities, single-patient rooms were identified as being preferable for patients due to reduced infection rates and noise levels and improved privacy. Similar to previous themes, natural lighting and sunlit windows proved to be of high importance to oncology patients. Patients being treated in outpatient facilities, on the other hand, preferred to avoid isolation from other patients excluding during times of death.

Limitations

The authors note several limitations in this study. The list of related studies included in the full review were specifically related to cancer care and environmental design, but a separate list incorporating research on the perceptions, challenges, and societal impacts of cancer could have been included. Exact dates of keyword searches were not documented, making the study difficult to replicate accurately. Lastly, the total number of studies reviewed was limited due to the selection criteria.

Design Implications

Giving cancer patients access to natural lighting, gardens, indoor plants, and outdoor spaces can greatly improve their treatment experience and the overall quality of care. Patients receiving treatment in inpatient facilities preferred single-patient rooms more on average, while outpatients preferred to avoid isolation in most cases.

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