



KEY POINT SUMMARY

OBJECTIVES

The objective of this paper is to present a compilation and integration of theories and evidence that may be relevant to the design and content of garden environments, and in the process create an EBD tool to assist in the design process.

Outdoor environments in healthcare settings: A quality evaluation tool for use in designing healthcare gardens

Bengtsson, A., & Grahn, P. 2014 | *Urban Forestry and Urban Greening*. Volume 13, Pages 878-891

Key Concepts/Context

The authors refer to literature indicating the significance of outdoor environments to the recovery and rehabilitation of patients in healthcare facilities. Post-occupancy evaluations (POEs) are the more common means of assessing the effectiveness of these environments. With the advent and growing trend of incorporating evidence-based design (EBD), the authors emphasize the need for an EBD tool. In this paper they compile theories from multiple disciplines and present the outline of an EBD tool.

Methods

The authors review literature and research from varying disciplines and use the method of theory triangulation to integrate theories and evidence and subsequently develop the basics of an EBD tool, the Quality Evaluation Tool, or the QET. The process was twofold – 1: Developing the theoretical principles of QET, and 2: Initiating the development of the practical construction of the QET. The data, pertaining to environmental aspects, collected from the literature was organized by its usefulness in design, and the theoretical principles were used to view the data in a larger framework/ context.

Findings

The following are the findings that contributed to the theoretical principles of the QET:

- Healthcare gardens should be a combination of pathogenic or risk factors (factors that restrict a person from going into a garden) and salutogenic ones (factors that attract people or encourage use of the garden).



DESIGN IMPLICATIONS

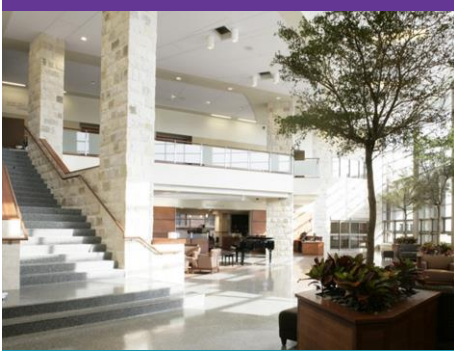
The comfort of outdoor spaces can be assessed by proximity and access to the facility, safety and security of patients, the sense of familiarity for patients, ease of wayfinding (which includes visibility of doorways), and provision of features for different weather conditions. The Quality Evaluation Tool is recommended by the authors as helpful in assessing design needs.

- Gradient of challenge: People with lower well-being need garden environments that are more conducive for passive engagement, such as experiencing nature or contemplating. Those with a higher well-being need outdoor environments that encourage active engagement, such as horticultural therapy, physical rehabilitation, and other social activities.
- Perceived Sensory Dimensions (PSDs): In gardens, greenspaces, and similar environments, the following eight PSDs are sought: serene, space, nature, rich in species, refuge, culture, prospect, and social. These dimensions are associated with the healing process. The order of significance of PSDs from the start of the rehabilitation process until the end are: refuge, wild nature, serene, rich in species, space, prospect, culture, and social.
- Comfortable design: A garden with fewer risk factors and providing security, safety and comfort, physical and cognitive conditions notwithstanding.
- Inspiring design: A garden designed to stimulate senses and offer alternatives so as to cater to the needs of those open to the idea of new things and to those hesitant about the unknown

The QET tool was divided into two sections:

Section A: Describes six environmental qualities of how to be comfortable in the outdoor environment:

- Closeness and easy access: This refers to the physical proximity of the indoor environment and locking devices.
- Enclosure and entrance: This is in connection with the safety and security of patients; the camouflage of gates and entrances (so that cognitively challenged patients having tendencies to wander are protected).
- Safety and security: Safety – addresses risks of falling or sliding, toxic plants; availability of hand rails. Security – allays the risk of intrusion and being seen by outsiders; maintaining privacy similar to the indoor environment.
- Familiarity: Garden features, plants, etc., help people feel they are in a familiar place.
- Orientation and wayfinding: Paths should be designed with distinct landmarks and nodes, no dead ends. Doorways back into the facility should be visible from anywhere in the garden.
- Different options in different kinds of weather: Availability of shade from the sun and shelter from the rain and wind



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Section B: Describes 13 environmental qualities regarding access to nature and surrounding life. These pertain to user expectations:

- Joyful and meaningful activities
- Contact with surrounding life
- Social opportunities
- Culture and connection to the past
- Symbolism/ reflection
- Prospect
- Space
- Rich in species
- Sensual pleasures of nature
- Seasons changing in nature
- Serene
- Wild nature
- Refuge

The paper also explains the three steps of the QET that involve investigation, evaluations, and recommendations; makes suggestions on who should collect the data and from whom the data should be collected. A caveat by the authors is that the QET should not be considered a checklist to ensure that all environmental qualities exist in a garden. Rather, it is a decision-making tool that enables the prioritization of qualities according to the needs of the users.

Limitations

The authors point out that their study has two limitations:

- The likelihood that they omitted important evidence while compiling the above
- The QET in its present form needs to be further evaluated and developed.

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RESEARCH DESIGN
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