

What's so therapeutic about horticulture?

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Introduction

The Center for Therapeutic Horticulture, established in 1992, is charged with integrating physical, social, emotional, intellectual and spiritual aspects of plants and plant related activities into the education, research and therapeutic horticulture programs of the University of Minnesota's Landscape Arboretum. This is accomplished by teaching health care professional students and the greater community about the interconnectedness of people and plants and the vital role they play in achieving optimal health and well-being. The Center focuses on several elements that are fundamental to optimal healing environments including healing practices, healing relationships, the health and well-being of healers, and the physical environment in which care is provided. Increasingly, healing gardens and the therapeutic use of plants are being integrated into health care settings.

How plants are used in healthcare – past, present and future

Within the last twenty years there has been renewed interest in the role of designed natural environments and health. However, the importance of natural environments to health is ancient. The use of the garden as a place for healing can be traced back to early Asian, Greek and Roman cultures.

For example, the Chinese wrote the "Pen Ts'ao" - the oldest list of medicinal herbs known - on silk in 3000 B.C. The Greeks created healing temples for their gods. The temple for the god Aesclepius (god of healing) was built in pastoral settings with mineral springs, bathing pools, gymnasium, and healing gardens. Here people would come to worship, lodge, recreate and heal.

In the 1st century A.D., Dioscorides, a surgeon in the Roman Army, recorded the "De Materia Medica" including 950 curative substances of which 650 are herbal. The manuscripts include: drawings of plant, description of plant, medicinal qualities of plants, methods of preparations and contraindications and warnings (Gerlach-Spriggs et al., 1998).

Presently, hospitals and healthcare institutions often keep up extensive gardens and landscapes as an important part of healing. However, over the last fifty years, with the rapid growth of medical technology and economic pressure, this ancient concept has been neglected. In the United States, healthcare reform has prompted our public officials and healthcare administrators to measure success by the length of time (shorter being better) spent in the hospital and the efficiency of service delivery (Beal, 2004).

Despite a long history in healthcare, the effects of natural environments upon health have only been recently systematically studied. Since the mid-1980's, an integrated approach to medicine has helped reawaken the belief that gardens can play a significant role in the healing process. Perhaps the best-documented study to date is that of surgical patients and their access to views to

the outside world conducted by Roger Ulrich in 1984. This study demonstrated a relationship between the duration of hospitalization, pain medication usage and the ability to view nature through a hospital window (Ulrich, 1984). Patients with access to a view recovered faster and needed less pain medication to do so.

Healthcare institutions are increasingly recognizing the need for exposure to natural environments within the context of healthcare. The Joint Commission for the Accreditation of Hospitals Organization (JCAHO) has most recently stated:

Patients and visitors should have opportunities to connect with nature through outside spaces, plants, indoor atriums and views from windows (JCAHO, 1999).

Unfortunately, most of our information regarding natural environments and healthcare is anecdotal. It remains difficult at present to make firm recommendations for the precise design of landscapes to promote health and healing. It is also unknown what the needs of specific patient populations are. Does one design cure all, or are different designs needed by different conditions? This question has gone unanswered.

Design principles in therapeutic landscapes

An emerging area of research and design focus within landscape architecture has sought to address the relationship of designed natural environments to health and healing. As the area of landscape architecture that addresses the interface between designed environments and health grows, confusion has developed regarding various terms applied to this concept.

Healing gardens is a term frequently applied to gardens designed to promote recovery from illness. Healing, within the context of healthcare, is a broad term, not necessarily referring to cure from a given illness. Rather, healing is seen as an improvement in overall well-being that incorporates the spiritual as well as the physical.

Therapeutic Landscape Design is more specific and relates to a particular aspect of a disease or healing process. The Therapeutic Landscape would be designed to produce a given effect and measurable outcome upon a disease process within a given patient and/or group of patients. It can be thought of as similar to a medication taken for a specific disease or illness. The Therapeutic Landscape is thus less focused on healing in the spiritual context, and more akin to the disease model of illness as practiced in most allopathic medical systems.

Numerous healthcare institutions within and outside the United States have begun to incorporate therapeutic landscape design. As Clare Cooper-Marcus, and Marni Barnes have noted in their book *“Healing Gardens: Therapeutic benefits and design recommendations”* (1999) these gardens focus on providing stress relief; alleviation of physical symptoms; and improvement in the overall sense of wellness for both patients and healthcare staff.

Successful gardens include the following design principles:

1. *Variety of Spaces*- Spaces for both group and solitary occupancy. By providing a variety of spaces, the patient is given choices, thus providing an increased sense of control - leading to lower stress levels. An area for solitary occupancy allows one to “get away” from the sterilized environments of the hospital. Areas for small groups (e.g. family members or support staff) to congregate provide social support to the patient.

2. *A Prevalence of Green Material*- Hardscaping is minimized and plant materials dominate the garden. The goal would be to minimize hardscaping to only one-third of the space being occupied. It is through the softening of the landscape the patient can feel an improvement in her/his overall sense of wellness.
3. *Encourage Exercise*- Gardens that encourage walking as a form of exercise have been correlated with lower levels of depression.
4. *Provide Positive Distractions*- Natural distractions such as plants, flowers and water features decrease stress levels. Other activities such as working with plants and gardening can also provide positive distractions in the garden setting.
5. *Minimize Intrusions*- Negative factors such as urban noise, smoke and artificial lighting are minimized in the garden. Natural lighting and sounds are additive to the positive effects of the garden.
6. *Minimize Ambiguity*- Abstract environments can be interesting and challenging to the healthy, but to the ill they may have counter-indicated effects. Numerous studies show that abstraction in design is not well tolerated by persons who are ill and stressed. Clearly identifiable features and garden elements should be designed. Abstract art in the facility and garden is often inappropriate.

Design elements in the healing garden

Whereas, the Therapeutic Landscape Design is more specific and relates to a particular aspect of a disease or healing process within a given individual and/or group. The Healing garden is a term frequently applied to gardens designed to promote improvement in overall well-being that incorporates the spiritual within the healing process.

In the book "*The Sanctuary Garden*" by C. Forrest McDowell and Tricia Clark – McDowell (1998), they say, "...the key to a (healing garden) is to honor and celebrate our broader human relationship with Nature and Spirit, not just plants". The proposed seven design elements are a guideline for the design. They are a means to the end process of identifying the intention of the space. That is, a marriage between the garden keeper and the spirit of Nature.

They suggest the healing garden carries with it seven design elements:

- A Special Entrance that invites and embraces the visitor into the garden
- The element of water for its psychological, spiritual and physical effects
- A creative use of color and lighting (be they plant or human-designed light sources) to elicit emotion, comfort, and/or awe in the visitor
- The emphasis of natural features as grounding points – such as the use of rocks, wood, natural fences, screens, trellises, wind, sound, etc.
- The integration of art to enhance the overall mood/spirit of the garden
- To provide garden features that attracts wildlife and provide habitat to a diversity of wildlife

Overall, the healing garden design should comfort the soul and renew the spirit – no matter if it consists of a bench next to a tree or an intricately designed landscape. Of most importance is the intention to honoring the design element and its relationship to the spirit of Nature.

Conclusion

The University of Minnesota Landscape Arboretum's Center for Therapeutic Horticulture has three main program components:

- a. Education
- b. Program Contracts
- c. Outreach

Within the area of education, the Center for Therapeutic Horticulture has been collaborating with the University of Minnesota's Center for Spirituality and Healing (as part of the Academic Health Center) for the past eight years. In that time we have established a therapeutic horticulture certificate which includes three graduate level courses 1) Introduction to therapeutic horticulture, 2) Introduction to therapeutic landscape design 3) Applications in therapeutic horticulture. We are also in the process of turning the certificate of completion program into a post-baccalaureate certificate in integrative medicine.

Within program contracts the Center for Therapeutic Horticulture have over 12 contracts within the metropolitan region-serving people with a variety of needs. Including but not limited to people with Parkinson's disease, elders and children, adults with sever and persistent mental illness, adults with developmental disabilities, a youth with chemical health issues, and people with eating disorders.

Lastly, the Center for Therapeutic Horticulture serves as a clearinghouse of information for those interested in therapeutic horticulture. Each year the Center for therapeutic horticulture sponsors a lecture series entitled "Healing by Design". Recently, Jean Larson co-authored a book (Larson, 2006) on intergenerational gardening entitled "Generations Gardening Together" published by Haworth Press.

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Biography

Jean M. Larson has been the Coordinator of the Center for Therapeutic Horticulture since 1992. She has a Master's degree in Therapeutic Recreation and Outdoor Education. She is currently working on a Ph.D. in Kinesiology.