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FLORIDA HORTICULTURE FOR HEALTH NETWORK

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The Florida Horticulture for Health Network's vision: To promote activities and connect organizations to each other and resources that use horticulture to improve health including: therapeutic horticulture and horticultural therapy, landscapes for health, nature, emerging professional support, allied horticulture and health services, community and school gardens, and food action initiatives.

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A Framework for Categorizing Healing Gardens

Text by Leah Diehl, RLA, HTM
Photos by L. Diehl, S.Y. Tham & L. Fleming

As the popularity of healing gardens has increased, various types have emerged, many of which are hard to distinguish from one another. Thus, it can be difficult to clearly and consistently describe these various garden types. A framework for categorizing these gardens is essential so one can speak intelligently about their distinctions and avoid imprecise descriptions that thwart attempts to educate and persuade stakeholders to embrace the importance of these settings.

The relationship between various types of healing gardens can be visualized as a hierarchy chart with the broadest types at the top and the more specific types falling underneath them (see Figure 1). This hierarchy chart is based on a garden's primary intent, but because no two gardens are the same and some have more than one purpose, not all gardens fit cleanly into a single healing garden type. The following information serves as a primer for the categorization of healing-type gardens.

Landscapes for Health

The term *healing garden* is not, in fact, the broadest category at the top of the hierarchy tree but falls lower down. The broadest category is landscapes for health, a term coined by Sachs (2008) and defined as any natural or manipulated landscape that makes one feel good, and, more technically, contributes to positive outcomes. Sachs' examples include a stretch of beach, a community garden, a clearing in the woods, or a lush, green indoor atrium in the middle of winter.

Landscapes for health refer to both natural and manipulated landscapes, and the first chart division comes at that point. On one side are healing landscapes that promote health and healing: a natural forest designated for forest bathing would be a good example. On the other side are healing gardens, representing environments that have been created in some way to promote health and wellbeing. A garden, by its very definition, is a space that has been manipulated or cultivated.

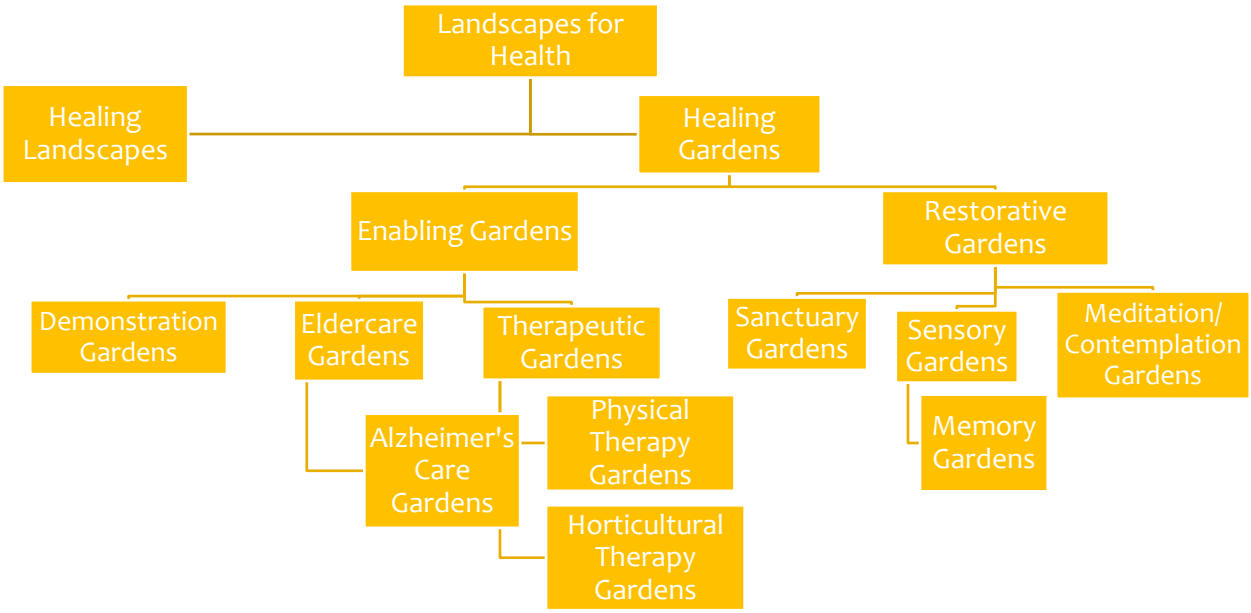


Figure 1. Healing Gardens Hierarchy Chart © Elizabeth R.M. Diehl

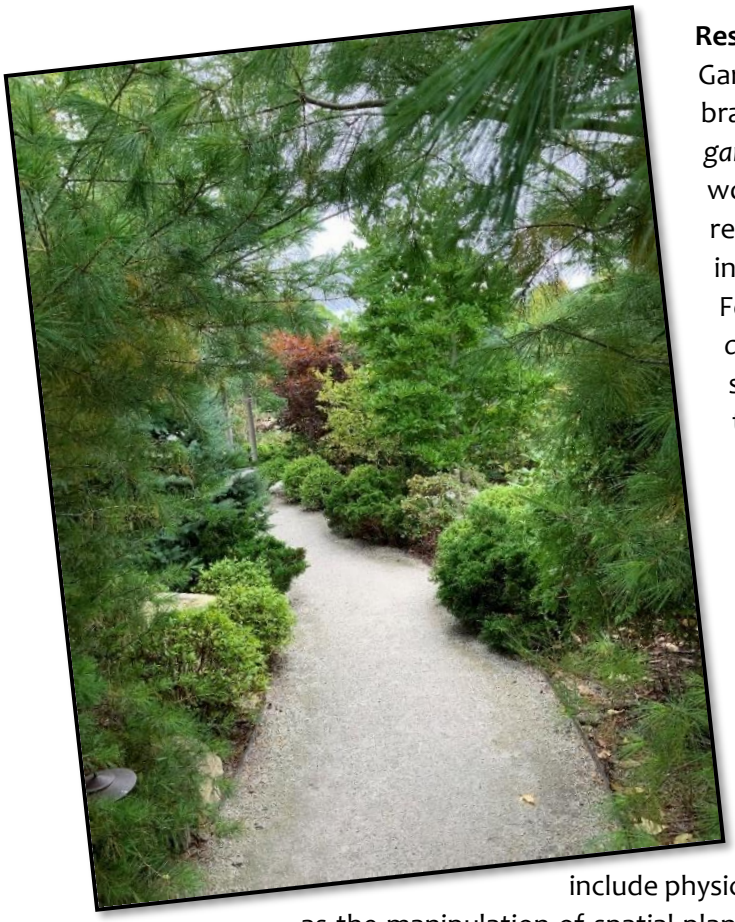
Healing Gardens

The focus in this article is on the healing garden branch of the hierarchy chart, and according to AHTA's (2007) definition of a healing garden, it should be an environment of respite for all users, dominated by plants, universally accessible, designated as healing by the associated facility, and designed to create "beneficial effects." While this definition provides some basic criteria, it is still fairly vague in terms of what type of healing experiences and beneficial effects should take place. That is the role of healing garden sub-categories, manifesting more specific criteria and effects.

Under the healing gardens level are two main branches: *enabling gardens* and *restorative gardens*. These are two different categories of healing gardens with the *enabling garden* branch serving as the more active track and the *restorative garden* branch serving as the more passive track. That is not to say that experiences in restorative gardens cannot be active and vice versa; just that gardens designed for restorative experiences tend to focus on physical access.

Restorative Gardens

Based on research by the Kaplans and others, an environment must include certain attributes to be restorative, namely the manifestation of being away, extent, fascination, and compatibility (see Kaplan, 1995 for more information). In the words of Gerlach-Spriggs and Healy (2010), "a restorative space may best be described as a coherent design in a 'place away,' with gentle, undemanding stimuli where an individual can do what he/she needs in order to recover." The primary restoration taking place in such an environment is cognitive, psychological, and/or emotional, not physical. There are many physical concerns that can improve with the improvement of one's mental capacity, but the primary emphasis of healing in a restorative garden is mental health.



Restorative Garden Sub-Types

Gardens that fall under the *restorative garden* branch include *meditation gardens*, *contemplation gardens*, and *sanctuary gardens*. All three types would incorporate the four components of the restorative setting, but they would also likely include design elements that facilitate their focus. For example, *meditation gardens* and *contemplation gardens* might both contain symbolic or representative elements or views that serve as catalysts in an individual's quest for a place of deeper thought toward emotional or physical healing. Meditation is often defined as looking inward and working toward the goal of inner peace and healing. Contemplation, on the other hand, is often defined as looking beyond oneself and examining issues that are larger than the human scale. This distinction suggests a different design focus for each, such as the screening or framing of long views in the garden to facilitate either introspection or extrospection. A sanctuary garden might include physical elements that create a feeling of refuge, such as the manipulation of spatial planes to create the sense of shelter or protection, which then facilitates the opportunity for restoration in that context.

Enabling Gardens

Enabling gardens, the other main branch of *healing gardens*, runs parallel to *restorative gardens* and represents gardens whose primary focus is accessibility and making the active garden experience possible for all users. These are the garden types that aim at improving physical function: whatever the physical challenge, the *enabling garden* aims to eliminate, or at least ease, that obstacle. And just as in the *restorative garden*, where physical improvement often accompanies mental restoration, in the *enabling garden*, once the physical barriers are eliminated then the door opens to many types of healing experiences; psychological as well as physical.

Enabling Garden Sub-Types

There are at least three subcategories of the *enabling garden*: the *demonstration garden*, the *eldercare garden*, and the *therapeutic garden*. The *demonstration garden* serves as a place to educate the public on accessibility issues in gardening and often on the field of horticultural therapy. A *demonstration garden* may incorporate programming for special groups, but its largest impact is in the demonstration of different methods for making gardening accessible.

Eldercare gardens can be found in nursing homes, assisted care facilities, adult day care, and any other facility that specializes in the care of older adults. Because of the population they serve, access is the first priority in an *eldercare garden*, allowing movement through the garden, comfortable seating, and participation in gardening activities. A sub-category of an *eldercare garden* would be an *Alzheimer's care garden*. This type of *healing garden* would have some additional design criteria such as pathways that do not require decisions or an unobtrusive barrier that prevents unsafe wandering.

The third subcategory of an *enabling garden*, the *therapeutic garden*, has as its focus a therapeutic intervention of some type that supports the prescribed treatment for a patient or client. A therapeutic garden is designed for use as a component of a treatment program and may exist on its own as an extension of an indoor therapeutic program area or it may be part of a larger *healing garden*.

A *physical therapy garden* is a subcategory of a *therapeutic garden* and is designed to support physical rehabilitation, providing an environment where goals could be set and measured consistently. Accessibility is of primary importance in this type of garden, but it might also include graded physical challenges in its design, including various heights of raised beds as well as ramps, stairs, and a variety of surface materials to simulate real-world situations.

A *horticultural therapy garden* would also be a sub-category of a *therapeutic garden*, designed to accommodate client treatment goals primarily through horticultural activities and managed by a trained horticultural therapy practitioner. Some horticultural therapy gardens are

completely barrier free so that nothing gets in the way of the people-plant experience, while others may include graded challenges similar to the physical therapy garden.

Conclusion

To conclude, this is a framework for understanding the relationships and nuances between healing garden types. As stated earlier, none of these garden types are absolute; not only is there bound to be some overlap, but also many *healing gardens* are multipurpose in nature. Some garden types, like *sensory gardens*, are less easy to categorize and can span both the active (enabling) and passive (restorative) tracks depending on the primary users as well as the program and design goals. There are additional garden types not mentioned here that could also be placed into this hierarchal framework.

Defining healing environments based on a framework such as the one presented here makes it easier to plan, design, and implement healing gardens, and just as importantly, compare and evaluate healing garden settings as well as the activities and outcomes they support.

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Therapeutic Landscapes

Text & photos by Weishunhua Evey Zhang

Landscape architecture exists at the intersection of conservation and altering nature. The practice appreciates nature and its beauty rather than encroaching on the essence of the place. The concept of therapeutic landscapes was first developed in the early 1990s and is now commonly used in a variety of medical and health-related settings (Brewster, 2014). When a landscape is created to fulfill the needs of a person or a community, it is said to be therapeutic in nature.

A therapeutic landscape is a plant-dominated garden developed to encourage a human connection with nature's healing elements. The landscape provides a serene place, where one feels connected with nature through rich, sensory experiences and can generate a sense of well-being. Therapeutic landscapes serve many different purposes and include enabling gardens, healing gardens, restorative gardens, and rehabilitation gardens, and have specific characteristics widely accepted within the disciplines of horticultural therapy and landscape architecture (Diehl, 2013; Hazen, 2022).

Examining the history of gardens - cloister monastic gardens of the Middle Ages, Japanese Zen gardens, and more recently, Ulrich's 1984 study of the positive impact views of natural scenery had on the rehabilitation of surgery patients, and Cooper Marcus and Sachs' (2013) work on evidence-based garden design in healthcare settings are important touchstones for current approaches to therapeutic landscapes. The need for such settings appears to be expanding. Modern science and technological advancements have reduced nature's role in the healing process, growth and development of urban cities have destroyed some natural environments, and global warming caused by industrialization and deforestation have endangered tree, plant and flower species.

Several key principles are now part of the therapeutic landscape paradigm. Humans have an inherent need to interact with nature and other aspects of life, and designed spaces can facilitate this while promoting wellness (Wilson, 1986; McCrorie et al., 2021; Devlin, 2018). The use of therapeutic gardens and incorporation of the natural environment for treatment programs at healthcare facilities can improve emotional/psychological reactions and treatment outcomes (Stepansky et al., 2022; Yilmaz et al., 2023). Functional landscape design guides the space design, plant selection and programming, focusing on the population who will be using the garden, for physical rehabilitation, maternity patients, or people living with dementia for example (He et al., 2022). Cooper Marcus and Sachs (2013) make the point that the landscape designer should consider the whole place as a healing environment. Placemaking, referring to visitor's response to the landscape, draws people in and welcomes them on multiple levels, and can provide significant psychological positives, particularly for therapeutic landscapes to build a sense of belonging and well-being. One example noted by Sampson

and Gifford (2010) was of recently arrived youth refugees and therapeutic landscapes during their settlement process.

Additional research substantiates other benefits. Therapeutic landscapes can increase users' mental and spiritual well-being (Munts, 2007). Therapeutic gardens in healthcare facilities have the capacity to provide effective settings for a broad array of treatment and other medical services (infusion treatment, play areas for children, food gardens at hospitals or their affiliated community gardens, nutrition/lifestyle education programs) (Fleming et al., 2022). They can improve patient care and satisfaction, and contribute to effective resource management (Fleming et al., 2022). Studies are now examining how green spaces and therapeutic landscaping can contribute to health organizations' effectiveness and clinical care quality using post occupancy evaluations, with measurable health benefits for patients, families, friends, and workers (Jiang et al., 2018). Strategies for cost-effective initiatives in hospitals, including gardens and therapeutic landscapes also appear to be on the rise (Mazurenko et al., 2017; Cooper Marcus & Sachs, 2013).

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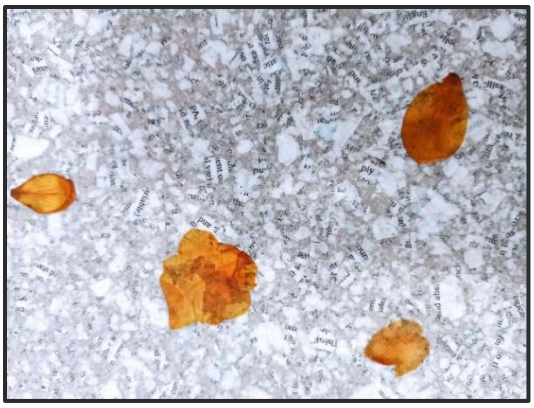
Therapeutic Horticulture: A Trauma-Informed Approach to Mental Well-Being within a Psychiatric Hospital

By Joe Munson, Ph.D., LMHC, QS
Photos by N. Gunaydin. Unsplash & S.Y. Tham

University of Florida UF Health Shands Psychiatric Hospital, located in Gainesville Florida, is committed to creating a Trauma-Informed behavioral health environment within the hospital. This commitment means (1) developing a trauma-informed workforce, including recruiting, hiring and retaining trauma-informed staff; (2) providing continuous training on evidenced based and emerging trauma-informed best practices; (3) developing competencies specific to trauma-informed care and providing trauma-informed supervision to all members of the workforce; (4) implementing trauma-informed policies; and (5) adapting the physical environment to promote safe and trauma-informed spaces. Creation of the trauma-informed behavioral health environment is based on key principles of safety, trustworthiness and transparency, collaboration, empowerment, peer support and will consider cultural, historical and gender issues (SAMHSA, 2014). UF Health Shands Psychiatric Hospital provides trauma-informed care for children over the age of 9 and adults of all ages who are dealing with psychiatric illnesses and addiction. In 2021, 3718 patients were treated at the Psychiatric Hospital, 77% (2,863) of whom were there primarily due to mental health related problems.

The intent of the therapeutic horticulture program was to improve mental well-being for psychiatric hospital patients through a holistic approach with the goal of promoting overall health and quality of life. Therapeutic horticulture (TH) is a process that uses plant-related activities to improve patient wellbeing through active and passive participation (AHTA, 2023; Relf, 2006). This process uses horticulture activities and nature interaction as a therapeutic modality to support program goals and has been documented as early as the 19th century by Dr. Benjamin Rush, recognized as the "father" of American psychiatry. He was first to document the positive effect working in the garden had on individuals with mental illness (Williams, 2022). Suggested to have a role in overall stress reduction in adults and older adults, TH has also been shown to promote stress reduction in children as measured by a number of physiological criteria (Shao, Elsadek, & Liu, 2020). Horticultural activities have long-proven benefits for people experiencing mental health issues and has been associated with significant improvement in quality of life, well-being, social relations, and physical and cognitive outcomes (Nicholas et al., 2019). TH interventions for other patient groups have led to significant decreases in depression and anxiety (Chen, 2021; Cipriani et al., 2022; Gonzalez et al., 2010; Kim & Park, 2018; Lu et al., 2021; Pieters et al., 2018; Siu et al., 2020), as well as significant increases in mood and self-esteem, life satisfaction, and improved interpersonal relationships, and state body image (Waliczek, Zajicek, & Lineberger, 2005). TH interventions can facilitate these increases in well-being and can do so through low-cost, non-intrusive methods that are inherently meaningful and valued. Growing plants has purpose beyond oneself, helping individuals to connect with other people, build self-esteem and self-efficacy, and become more emotionally resilient.

The program at UF Health Shands Psychiatric Hospital aimed to improve the mental wellbeing of adult in-patient psychiatric patients by reducing symptoms of stress and anxiety, increasing positive social engagement with one another through opportunities for interaction and collaboration, as well as by equipping patients with meaningful knowledge and skills that serve as healthy coping mechanisms to manage stress related to their specific admission reasons. In line with the trauma-informed approach, the program emphasized the empowerment of the patients and provided a safe and supportive environment for the patients to express themselves freely and creatively through horticulture and plant-related art. The 12-week program was conducted from February to May 2022 where experts in TH came on-site from Wilmot Botanical Gardens (at the University of Florida) to facilitate a 45-minute TH group with patients from the mood disorder unit and a 45-minute group with the thought disorder unit each week. They facilitated these groups with attendance and assistance from Peer Support Specialist staff. These are individuals who have personal experience with whole health recovery that includes their previous hospitalization that addressed wellness of both mind and body. The Peer Specialists were able to bring insight in the experience of being a patient here at the hospital while combating the stigma of mental illness. They provide a unique position to develop a relationship of trust to help facilitate an openness for therapeutic opportunities. Participation in TH groups were seen to foster both social interaction and cooperative activities. Patients reported the activities as enjoyable and relaxing, as well as perceiving the program as beneficial and feeling satisfaction in what they accomplished. During the 12 weeks of this program, services were provided to 168 patients with full data returned by 81 patients (data did not differ based on the diagnosis or unit of the patient). The results of the project include 89% of patients endorsed an improvement in mood either during or after the TH groups, 83% of patients felt better about themselves either during or after the TH groups, and 90% of patients reported willingness to participate in other therapy activities in the future (on the unit or outpatient).



The therapeutic horticulture program delivered at UF Health Shands Psychiatric Hospital is one of many programs and services addressing the health needs in the health provider's catchment area. Primarily Alachua County (52.7%), the hospital also serves neighboring counties within North Central Florida (30.4%), with the remaining 16.9% of patients coming from across the state of Florida. Alachua County is a mix of both urban (city of Gainesville) and rural communities. The Florida Department of Health (DOH) reports that in 2019 there were 266,649 people living in Alachua County; where 70.8% of population is composed of people aged 15-64, with the predominate age range of 25–44-year-olds making up 26.6% of the population. Florida DOH also reports that 69.9% of the Alachua County

population is composed of racial demographic of White, 20.6% as Black, and 9.6% as Other. Socioeconomic factors indicate that 21.8% of individuals earn below the poverty level, 6.1% are unemployed, and 90.8% of individuals have health insurance. The economic status of the population is represented by 36.7% having commercial insurance and 63.3% having either Medicaid/Medicare or being fully indigent without any coverage.

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Permaculture and Health: What's the Connection?

Text and photos by Siang Yu Tham, MA

Hunting and gathering was Man's mode of subsistence from as early as two million years ago. Hunter-gatherer societies relied on hunting wild animals, fishing, and foraging wild plants for food. They were nomadic and moved strategically to maintain good access to food. When resources were depleting, they would move to a different location, allowing biodiversity to repopulate. However, the Neolithic Revolution saw humans transition from a culture of hunting and gathering to a lifestyle of crop cultivation and animal husbandry. Humans also formed permanent settlements. This wide-scale transition led to a large impact on the environment. Today, numerous studies point to modern agriculture as a key driver of declining biodiversity (Barros-Rodríguez et al., 2021), soil degradation (Borrelli et al., 2017), climate change ((Lynch et al., 2021), and water and air pollution (Aneja et al., 2009; Mateo-Sagasta et al., 2017).

In 1974, Bill Mollison and David Holmgren co-developed the concept of permaculture, which is "the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability, and resilience of natural ecosystems" (Mollison, 1988, ix). Mollison was inspired by the interconnectedness of nature while working for the Commonwealth Scientific and Industrial Research Organization and was convinced that agricultural systems should be designed to mimic natural ecosystems that were sustainable and syntropic. The teachings of Japanese farmer, philosopher and author of "One Straw Revolution" Masanobu Fukuoka also influenced the permaculture movement. He championed a more natural method of farming which involves minimal disturbance to the soil (no-dig farming), the use of cover crops, and no use of pesticides and fertilizers. His farming method is fondly referred to as "do nothing" farming or "lazy" farming.

Three ethics guide the practice of permaculture:

- **Earth care**

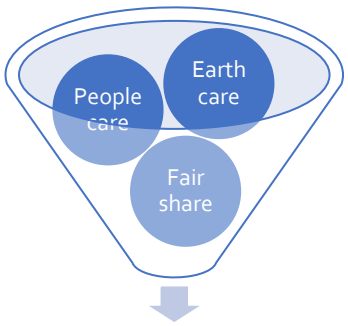
The Earth provides all our essential needs: air, water, food, and shelter. It is therefore logical in our self-interest to take care of what provides for us to protect our survival.

- **People care**

Meeting the needs of people is important. This includes their essential needs, as well as psychological, emotional, social, and physical needs.

- **Fair share**

Each person has a right to their fair share of resources and any surplus should be given back to Earth (the land) and the people.



Mimicking natural ecosystems and working with nature rather than against it, as permaculture advocates, can benefit our health in multiple ways. Permaculture promotes environmental health through the promotion of biodiversity, regeneration of soil nutrients, minimization of waste, and conservation of resources. It also benefits human health in terms of physical and social well-being. Agricultural systems designed following permaculture ethics and principles encourage physical health and provide access to healthy and nutritious food which are free from harmful chemicals.

Collaboration is vital in permaculture – knowledge, skills and resources are shared through networks and diversity is valued because of the different expertise or benefit that each animal, plant and person can contribute to the system. This fosters community engagement, cooperation and learning from one another, which are beneficial to social health.

Although the term "permaculture" was originally conceptualized as a combination of the words "permanent" and "agriculture," and the examples of the health benefits described above relate more closely to agriculture, the notion of sustainable design systems is now extended to all parts of life and many permaculturists now identify permaculture as a combination of the words "permanent" and "culture." This means that permaculture can be applied in many different areas of life: agriculture, the economic system (Válek & Jašíková, 2013) and management models (Vitari & David, 2017), to name a few. By incorporating ethics and principles that value available resources, permaculture offers a comprehensive and holistic approach to creating resilient and robust communities that integrate different dimensions of health.

"Working in the garden...gives me a profound feeling of inner peace. Nothing here is in a hurry. There is no rush toward accomplishment, no blowing of trumpets. Here is the great mystery of life and growth. Everything is changing, growing, aiming at something, but silently, unboastfully, taking its time." (Ruth Stout, 1955, *How to Have a Green Thumb Without an Aching Back*)

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Siang Yu Tham is a certified Permaculture Designer and has designed permaculture sites in Singapore, Malaysia and France. She cultivated vegetables and herbs for restaurants and personal consumption using natural farming techniques and favors perennial crops that facilitate "lazy gardening."

Sensory Garden and the Built Environment at Elks Children's Eye Clinic

Text by Bree Stark
Photos by Canva

Adjacent to the Casey Eye Institute in Portland, Oregon, connected by a sleek, modern glass sky bridge, the Elks Children's Eye Clinic became the first free-standing pediatric unit in North America when they opened their doors in December of 2020. The facility was designed by NBBJ (Seattle).

In addition to the Elks's accessible design elements throughout the inside of the building, such as a railing at the front desk which guides visitors to the elevators and high-contrast signage throughout, the contracted landscape architect Mayer/Reed (Portland) developed an outdoor sensory garden and art installation with input from the facility's pediatric eye specialists.

The pediatric eye specialists offered advice on tactile qualities and perceptions of color, noting that people with sight differences can interpret vast variations in color. With that in mind, the landscape firm emphasized native plants in the garden, with the team selecting cultivars that highlight Oregon's native biodiversity, along with providing contrasting colors, textures, pleasing scents, rustling foliage, and varied canopy.

The native sensory landscape design continues into the courtyard area, which provides a shaded and contained retreat space for patients, families, and staff. Overhead the shiny glass of the Marilyn and Glenn Hart Sky Bridge reflects the colors of the changing sky and clouds.

An art installation wall featuring a rainbow spectrum of L-shaped glass elements leads to the main entry of the building. Mayer/Reed commissioned the glass sculptures from Bullseye Studio in Portland, who custom-fabricated the colors. To achieve the specific hue and transparency levels of each color group, the studio employed a process called "frit tinting" in which they slowly added different colored powders to a clear glass base until reaching the desired results, much the same way an artist mixes paint on their palette.

There are 14 color sets in all, each containing three different sized components, for a total of 42 individual installations. The smooth glass contrasts the rough-textured concrete retaining wall upon which they are draped, as if melting over the edge, inviting visitors to touch and experience them close-up. All this at a height accessible to a child's reach, offering an opportunity to explore and share their unique interpretation of the colors they see. This ensures year-round visual and sensory interest, around which the native landscape can follow its cycle of waxing and waning.

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