

CULTIVATE

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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Growing Opportunities for Reimbursement of Horticultural Therapy Services

Text by Katie Ryzhikov M.S, OTR/L, HTR

Photos by F. Gallarotti & J. Righos on Unsplash

Horticultural therapy (HT) continues to gain recognition as an innovative therapeutic modality, but its inclusion in healthcare reimbursement programs is still evolving. The Medicaid 1915 Home and Community-Based Services (HCBS) waiver program constitutes a significant opportunity for HT to secure funding, thereby potentially enhancing accessibility for individuals who could benefit from it.

Maryland's Leadership in Horticultural Therapy Reimbursement

Maryland has taken a progressive step by including HT as a reimbursable service under its 1915(i) waiver program. This initiative allows eligible individuals to access horticultural therapy funded through Medicaid. By integrating HT into the Intensive Behavioral Health program, Maryland addresses the needs of youth with serious mental health conditions, showcasing how non-traditional therapies can enhance overall well-being.

To qualify for reimbursement in Maryland, practitioners must hold the Horticultural Therapist-Registered (HTR) credential and a National Provider Identifier (NPI) from another healthcare

discipline. This requirement ensures adherence to Medicaid’s billing standards while highlighting the need for broader professional recognition of horticultural therapy.

Strategic Pathways in Florida for Horticultural Therapy Reimbursement

In Florida, Medicaid's 1915 Home and Community-Based Services (HCBS) waiver programs cover expressive arts therapies, including art therapy, music therapy, and play therapy. These therapies are recognized for their ability to support mental health, emotional expression, and overall well-being.

Leveraging existing coverage of experiential therapies like art, music, and play therapy under Florida's Medicaid HCBS waiver programs offers a strategic path for horticultural therapy reimbursement.

Established Precedent

- The inclusion of experiential therapies demonstrates Medicaid's willingness to recognize and reimburse non-traditional therapeutic approaches that support mental health and well-being.
- Horticultural therapy shares similar goals, such as improving emotional regulation, promoting social interaction, and enhancing cognitive and physical functioning, making it a logical addition to this category.

Comparable Therapeutic Outcomes

- Like existing experiential therapies, HT uses creative and engaging activities (gardening, plant care) to achieve therapeutic outcomes.
- Drawing parallels between HT's benefits and the outcomes of covered therapies can highlight its value to policymakers and decision-makers.

Evidence-Based Advocacy

- Utilizing research and case studies from existing covered therapies enhances the justification for HT by demonstrating alignment with outcomes already endorsed by Medicaid.
- Demonstrating cost-effectiveness and measurable health improvements will bolster its inclusion in reimbursement programs.

Streamlined Implementation

- Florida’s infrastructure for experiential therapies—such as guidelines, credentialing processes, and billing codes—can serve as a model for incorporating HT.

States’ Expressive & Experiential Therapies Covered by HCBS 1915 Waiver Programs

CO	Art, Music, Play
DC	Art, Dance, Drama, Music
FL	Art, Music, Play
IN	Music
LA	Art, Music, Equine
MD	Art, Dance/Movement, Equine-Assisted, Music, Drama, Horticulture
ND	Expressive Therapy
NY	Art, Music, Play
PA	Art, Music, Equine
TX	Music, Equine
WA	Music
WI	Art, Music, Equine

**Contact local health department. Information subject to change.*

- Using existing frameworks minimizes the administrative burden of introducing a new therapy, making it more appealing to decision-makers.

Advocacy Synergies

- Collaborating with professionals in art, music, and play therapy can amplify advocacy efforts, emphasizing the shared benefits of experiential therapies and creating a unified push for expanding Medicaid coverage.

By aligning horticultural therapy with already recognized and reimbursed therapies, stakeholders can position HT as a complementary and equally impactful modality, paving the way for broader Medicaid support.

Challenges and Advocacy for Reimbursement

Several systemic barriers limit the inclusion of horticultural therapy in Medicaid-funded programs. For instance, HT currently lacks a dedicated taxonomy code for NPI assignment, unlike art, music, drama, and dance therapies, all of which have established codes. This omission complicates reimbursement processes and underscores the need for targeted advocacy.

Advocacy Priorities

Efforts to advance HT as a reimbursable service should focus on the following:

Comparative Advocacy: Positioning horticultural therapy alongside established experiential therapies, such as art or music therapy, may increase its acceptance.

Research Expansion: Building a robust evidence base to demonstrate HT's efficacy and cost-effectiveness is essential.

Policy Engagement: Educating policymakers about HT's benefits and practical applications can help overcome awareness gaps.

Future Direction

Maryland's success demonstrates that HT can be integrated into Medicaid funding with the right policies and advocacy. As the profession grows, prioritizing recognition through professional credentials, advancing research, and educating policymakers will be critical. Horticultural therapy has the potential to enrich lives while offering practitioners sustainable reimbursement opportunities.

Sources:

Ryzhikov, K. (2024). Horticultural therapy and the 1915 waiver program. *AHTA Magazine*, 52(3).

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Therapeutic Horticulture Practitioner Designation through AHTA: A Brief Overview

By Bree Stark
Photo by A. Seaman

In spring 2024, the American Horticultural Therapy Association rolled out a new designation, [therapeutic horticulture practitioner](#) (THP). Previously, horticultural therapist, registered (HTR) was the only registration level offered, which has more stringent requirements for level of education, internship hours as well as a more clinical scope of practice. Therapeutic horticulture practitioner was created to recognize work being done in this capacity for those seeking to deliver programs as therapeutic horticulture. The new designation provides an additional level/step in the professional registration process intended for emerging professionals.

What does a therapeutic horticulture practitioner do? These professionals engage participants who have an identifiable disability, illness or other life circumstance that requires supportive services in active or passive horticultural activities intended to meet the wellness therapeutic goals established within the framework of their program. Compliance with AHTA standards of practice and ethics code are part of the THP designation and services.

To qualify for the therapeutic horticulture practitioner designation, professionals must complete the nine college-accredited horticultural therapy courses as outlined by AHTA. Accredited programs can be found listed [on their website](#). In addition, applicants need to have at least 500 hours of supervised work experience in therapeutic horticulture documented, with 60 percent of those hours derived from direct client engagement in session activity delivery*. These hours can come from a paid position, be independently contracted, or gained on a volunteer basis. Applicants need to be a current member of AHTA, as a Level 1 Associate. **AHTA is revising some of the requirements.*

Professionals or other individuals interested in further information about the therapeutic horticulture practitioner designation, or therapeutic horticulture in general, should visit the American Horticultural Therapy Association website. Information on the new designation, how to track work experience, and information on how to apply is available. Specific questions can be addressed to info@AHTA.org, and it may help to include “THP” in the subject line. A webinar hosted by the Florida Horticulture for Health Network - [What You Need to Know: Therapeutic Horticulture Practitioner Designation Through American Horticultural Therapy Association](#) is also available online.





2nd in the 5-Part Series

Practitioner Tool: Therapeutic Horticulture Goals with THAD Activity Examples: Physical Domain

Text by Lesley Fleming, HTR

Photos by L. Fleming & Crystalsjo on Unsplash

Therapeutic goals in the physical health domain used in therapeutic horticulture and horticultural therapy are primarily focused on improving mobility, physical strength, range of motion, balance, fine and gross motor skills, and adaptations for tasks and skills involving hands. There is an extensive range of therapeutic goals possible for physical challenges across health diagnoses, injury, and physical functioning.

Therapeutic goals are an essential component of therapeutic horticulture practice. In the second article in the 5-part series, therapeutic goals are identified by the physical health domain, intended to be used as an index for identifying possible goals. Subsequent articles will cover other health domains – psychological/emotional, sensory, and social, along with relevant therapeutic goals. A previous [article for cognitive/intellectual health domain](#) is available online. Examples from THAD ([therapeutic horticulture activities database](#)) have been selected to demonstrate applications for use in therapeutic horticulture interventions.

“Setting therapeutic goals is based on client assessment and need, working toward specific outcomes, which can be measured informally or clinically charted. Achieving desired health outcomes requires intention, therapeutic techniques and client engagement.

Therapeutic goals can fall into more than one health domain. The THAD examples identify multiple therapeutic goals in each of the five domains for each activity, though typically only one or two would be emphasized in a given session.

A *Journal of Therapeutic Horticulture* article, [Therapeutic Horticulture and Its Therapeutic Goals: Expanding the Scope and Practice Through the Therapeutic Horticulture Activities Database and Its Use of Health Domain-Specific Goals](#) organizes TH goals also using health domains, referring to functional and goal areas, not specific therapeutic goals.

This series—[Practitioner Tool](#)—identifies specific therapeutic goals intended to expand practitioner knowledge and applications, this one focused on physical health” (Fleming, 2024).

Physical Health Domain: Therapeutic Goals + THAD Activity Examples

Goal Areas	Therapeutic Goal	THAD Examples
Gross Motor Skills	Strengthen gross motor skills	Fall Leaf Luminaries (Fleming, 2023)
Fine Motor Skills	Strengthen fine motor skills	Plant Maze & Phototropism (Fleming, 2025)
Hand Functions	Address dysgraphia, functional digital grasp or other hand grip challenges	Love & Heat-Shaped Leaves (Fleming & Hildinger, 2025)
Motor-Eye Integration	Strengthen hand-eye coordination	Insect Hotel (Poláčková, 2023)
	Strengthen vision, acuity, spatial perception, tracking or visual perceptions challenges	Nature’s Colors Game (Fleming, 2023)
Range of Motion	Improve range of motion	Pounding Pansies (Sherman, 2024)
Mobility	Augment functionality for amputations or wheelchair skills	Harvesting Herbs Grown for Roots, Rhizomes & Bulbs (Fleming, Relf & Predney, 2023)
	Improve sit to stand function	Seed Planting in Trays (Hildinger & Stivland, 2024)
	Extend standing stamina	Flower Arrangement in a Box (Fleming, 2023)
	Improve balance and gait	Field Trip to Community Garden (Fleming & Relf, 2023)
	Strengthen physical endurance	Cut Flower Production (Miller, 2024).

Goal Areas	Therapeutic Goal	THAD Examples
Addiction-Related Physical Symptoms	Address & recognize physical symptoms of addictions, identifying & implementing strategies for recovery (cravings, jitters)	Physical Exertion – Substance Use Addiction (Poláčková & Fleming, 2024)
	Manage food, tobacco, alcohol use related to improving healthy lifestyle choices	Blueberry Activities (Marcaccio & Fleming, 2023)
	Reduce PTSD-related anxiety	Harvesting Herbs for Oil (Fleming, Relf & Predney, 2023)
	Reduce physiologically based irritability and restlessness due to cravings for substances	Calming Exercises in the Garden (Fleming & Morgan, 2024)
Pain Management	Adapt movements to minimize pain in muscles/joints (adaptive gardening)	Adaptive Gardening: Repetitive Motion Disorders (Fleming & Morgan, 2024)
	Lower stress	Eco Seed Orbs (Brown, 2024)
Sleep	Improve melatonin production to improve sleep	Green Exercise – Dementia Populations (Fleming, 2023)
	Reduce sleep disruptions related to grief	Poem + Nature Walk-Bereaved (Fleming & Tham, 2023)
Mood-Related	Identify and address physiological symptoms of depression, sadness, mood disruptions	Fairy Garden Planters (Lilley, 2023)
Other	Practice “risky” behavior for children developing sense of independence	Game: Gathering Nature’s Treasures (Fleming & Bethel, 2023)
	Manage blood pressure, A1C diabetes metric, or weight	Plan, Plant & Eat the Rainbow (Fleming, 2023)
	Practice grooming skills	Cheese Chive Biscuits (Fleming & Relf, 2023)

Of note is the knowledge transfer from occupational and physical therapy disciplines to HT and TH practice. A long history of interdisciplinary treatment teams including HT professionals have contributed to the understanding of physical challenges, types of injuries, physiology of joints, muscles and body parts involved in healthy functioning.

Physical goals related to nutrition, recognizing signs and symptoms of addictions, coping mechanisms aligned with weight issues, and physical health goals related to specific health conditions like stroke, cerebral palsy and developmental delays are being seen in TH practice. The scope of goals used in TH within the physical health domain are expanding and are now integrating goals related to pain management, physiological inputs to self-regulation, well as adaptations for using artificial limbs and assistive devices (walkers, canes).

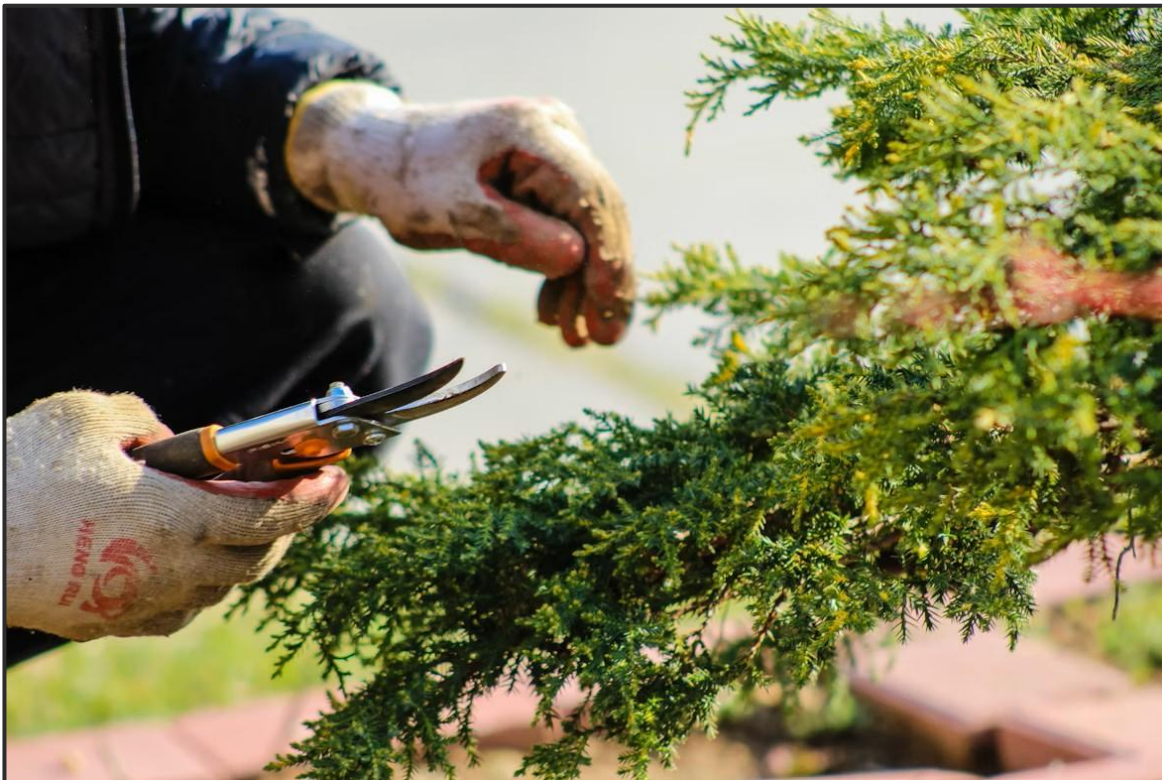
This listing of goals is not definitive, but is intended to broaden practitioner understanding and application of therapeutic goals for therapeutic horticulture delivered to multiple populations.

Fleming, L. (2024). [Practitioner tool: Therapeutic horticulture goals with THAD activity examples: Cognitive domain](#). *Cultivate*, 5(1).

Fleming, L., Fungfoo, P., & Wu, Chen-Fa. (2025). Horticultural therapy intervention for sarcopenia, with a focus on physical domain functioning: Advances from Taiwanese practitioners. *Cultivate*, 5(2).

Fleming, L., Diehl, L., & Grimes, K. (2024). Therapeutic horticulture and its therapeutic goals: Expanding the scope and practice through the therapeutic horticulture activities database and its use of health domain-specific goals. *Journal of Therapeutic Horticulture*, 34(1).

Lesley Fleming, HTR has delivered therapeutic horticulture to a variety of populations using specific therapeutic goals. She has led the THAD advisory team in developing the on-line database of therapeutic horticulture activities and their correlated therapeutic goals across health domains. Leah Diehl, RLA, HTM and Katie Grimes, HTR, MAT contributed to this article.



Horticultural Therapy Intervention for Sarcopenia, with a Focus on Physical Domain Functioning: Advances from Taiwanese Practitioners

By Lesley Fleming, HTR, Phasakorn Fungfoo, HT & Chen-Fa Wu, PhD

Graphics & photo: Yuan-Shan Hsu & J. Kemper

An increasing focus on horticultural therapy and therapeutic horticulture goals by health domain is appearing more frequently in horticultural therapy (HT) literature (Fleming et al., 2024; Fleming, 2024). At the American Horticultural Therapy Association's (AHTA) 2024 conference, a presentation by Professor Chen-Fa Wu and PhD student Phasakorn Fungfoo focused on work being done in Taiwan using HT interventions targeting specific physical health challenges. Their presentation also included related areas - the use of nature-based laboratories and healing green spaces. Evident from their presentation, is the growth of horticultural therapy in Taiwan, the involvement by National Chung Hsing University (NCHU), and the broader community that includes nursing and speech associations.

Of particular note were health strategies addressing needs of the aging population. The Taiwanese approach has included green diet, green space, green therapy, green care stations in farmers and fisheries associations, and green companionship. These are part of a greater whole, with research on physical and mental health accelerating HT since 2021, and evidence-based research in several areas including Parkinson's Disease, stress, dementia and obesity in women, and sarcopenia (Wu & Fungfoo, 2024).

Sarcopenia, defined as a syndrome with progressive loss of muscle mass and lowered muscle function is a health challenge among the elderly, across countries, including Taiwan, according to School of Nursing Taipei Nursing Health University. Their data indicates people aged 65 or older exhibit sarcopenia; 24% in USA, 21% Taiwan, 15% Netherlands. This condition presents real challenges and the need for health interventions (Hsu, 2024).

Sarcopenia's physical symptoms are linked to disability and multiple health issues in senior populations including higher risk of falls, reduced mobility, impacts on activities of daily living, and increased need for long-term care according to Wu and Fungfoo (2024). Their work identified psychometric measurements used in Taiwan, for assessing sarcopenia: hand grip strength (male less than 28 kg; female less than 18 kg), bioelectrical impedance analysis of muscle quality (male less than 7 kg/m²; female less than 5.7 kg/m²), and walking speed slower than 1 meter/second for either gender.


Wu and Fungfoo's framework for HT that addresses sarcopenia focuses on challenges to physical functioning. Tools for evaluating physical functioning used moderate and high-intensity ratings including metabolic equivalents (METs), percentage of maximum heart rate, and ratings of perceived exertion (RPE) scale. These informed horticultural activities, and horticultural therapy interventions. Horticulture activities involved using guided resistance exercise, muscle activation, repetition of movements, and a planned degree of intensity for gardening tasks. A multi-week HT intervention incorporated intensity cycles that increased over the duration of the program. The sarcopenia intervention targeted upper muscles (biceps, brachioradialis, flexor carpi ulnaris) and lower limb muscles (vastus lateralis, vastus medialis, erector spinae, lateral gastrocnemius, medial gastrocnemius, erector spinae, biceps femoris, gluteus maximus, gluteus medius, tibialis anterior,

rectus femoris). Muscle activation during horticultural activities played a prominent role in the intervention, as identified in the slide below (*Muscle activation during horticultural activities*). By classifying horticultural activity by degrees of intensity, the program developed a 4 phased progressive plan over a 10-week duration, integrating horticultural tasks and tools, with varying degrees of physical intensity (refer to slide *Classification of Horticultural Activity Intensity*). Preparation of gardening tools and materials, gardening and plant maintenance tasks, and equipment clean-up were part of the process for the interventions, again with a focus on physical health domain challenges and desired outcomes for improving physical functioning (Wu & Fungfoo, 2024). Their recommendations were based on their program and its conclusions. Outcomes aligned with previous research by Hawkins et al., 2015 and Park et al., 2016. Evidence-based research by Wu and Fungfoo using psychometric tools to evaluate pre-intervention functioning, measuring of METs, and improvements to grip strength and leg strength demonstrated the effectiveness of an HT intervention for sarcopenia.

Muscle activation during horticultural activities


Upper limb exercises

Resistance exercises	Deltoid	Triceps	Trapezius	Biceps	Brachioradialis	Flexor carpi ulnaris	Reference
Digging with a spade	●				●	●	Park et al., 2014
Raking soil					●	●	
Digging with a trowel, hammering with a rubber mallet	●				●	●	
Digging with a hand hoe					●	●	
Planting					●	●	Park, Oh, Lee, & Son, 2013
Covering soil in pots			●		●		
Loosening soil with a hoe			●	●			Naveen Kumar et al., 2021



Lower limb exercises

Resistance exercises	Vastus lateralis	Vastus medialis	Erector spinae	Gastrocnemius	Biceps femoris	Gluteus maximus	Gluteus medius	Tibialis anterior	Rectus femoris	Reference
Digging with a spade	●	●		●	●					Park et al., 2014



• Horticultural activities mainly use lower limb muscles for body support, resulting in less activation of these muscles. (Park et al., 2014)

Sources: Perfect Men and U Blog

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Classification of Horticultural Activity Intensity

Intensity alternates every three weeks Skill levels increase as the course progresses	♦ Low Intensity: Using a trowel, rake, tying ropes, clearing leaves, using a watering can ♦ Light Weight: Plant materials, tools, pots (long, 3-inch, 5-inch), bamboo poles, perlite, coconut coir, peat moss	♦ Moderate Intensity: Using a small hoe, leveler, soil sieve, hammer ♦ Medium Weight: Large pots, wooden stakes, bricks, leaf compost, small pebbles, cement	♦ High Intensity: Using a spade, large hoe, saw ♦ Heavy Weight: River stones, loam, gravel, wood (pallets), hollow bricks
Easy Skills: Carrying materials, digging, plant care/cleaning, soil mixing, planting in pots	1. Planting in pots 2. Tool handling 3. Watering 4. Leaf clearing 5. Mixing peat-based soil	1. Mixing compost 2. Covering soil 3. Planting in ground 4. Sifting leaf compost	1. Digging with spade 2. Turning compost 3. Digging gravel 4. Covering with gravel 5. Hill building
Intermediate Skills: Land preparation, plant propagation, arranging materials, planting in open ground	1. Dividing plants 2. Cuttings 3. Transplanting	1. Arranging bricks and stakes 2. Setting up wood structures 3. Leveling soil 4. Mixing cement	1. Hoeing soil 2. Placing hollow bricks 3. Planting shrubs
Advanced Skills: Layout marking, material installation, complex planting designs, carpentry work	1. Marking plant layout with water lines 2. Setting up plant supports with bamboo 3. Staking plants	1. Burying stakes and bricks, 2. Fixing with hammer, 3. Paving	1. Installing stones, 2. Sawing wood, 3. Placing wooden structures, 4. Nailing wood

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Lesley Fleming, HTR writes on topics related to horticultural therapy and horticulture for health. Her recent work and co-authored publication in *Journal of Therapeutic Horticulture* has focused on health domain-specific therapeutic goals used in therapeutic horticulture. Phasakorn Fungfoo is a PhD student in the Department of Horticulture at National Chung Hsing University, Taiwan. His research focuses on horticultural therapy, with a particular interest in its benefits for elderly populations. Chen-Fa Wu is the corresponding author of this research work and a professor in the Department of Horticulture at National Chung Hsing University, Taiwan. His research focuses on evidence-based horticultural therapy activities. He oversees the operation of a horticultural therapy garden at the university and actively promotes horticultural therapy in Taiwan.



Horticulture for Health: 2025 Updates

Text & photos by Lesley Fleming, HTR

Original Publication: Fleming, L. (2025). Horticulture for health: 2025 updates. *Digging In*, 11(1).

The concept of horticulture for health recognizes that horticulture in many capacities is positively impacting human health through horticulture-focused activity, programs, organizations and trends. Using a framework to identify and organize where the impacts are occurring brings a broad scope and understanding of how such horticultural activity can influence health (Fleming, 2021). The variety of initiatives within the horticulture for health concept continues to grow, expanding its scope.

The horticulture for health framework was defined in a 2021 [paper published in *Acta Horticulturae*](#) journal and a presentation at a 2021 conference jointly hosted by the International Society of Horticultural Sciences, the International People-Plant Council and the American Horticultural Therapy Association. The framework today uses the same five categories of health impacts; they continue to reflect current contexts. Some of the categories have taken on greater importance in health and horticulture. Examining what has transpired since 2021 provides an opportunity to update horticulture for health literature and understanding. The five primary categories of the framework include:

Health Services That Use Horticulture as an Integral Part Within a Therapeutic Modality

Formalized therapies like [horticultural therapy and therapeutic horticulture](#), recreation, physical and occupational therapy are included in this category. The former incorporates the use of plants and gardening as foundational keystones for services. [Practitioners from other health services](#) including speech therapy, social work, mental health and counselling are including plant, nature and garden engagement in their services now to a greater extent, though this is not widespread. A growing number of health providers are receiving training in [nature-based therapies](#) and horticultural therapy (Fleming et al., 2024a). With the creation of a new therapeutic horticulture practitioner designation (THP from AHTA) it is expected that therapeutic horticulture services will expand. Virtual delivery of services, implemented during COVID-19, are now part of therapeutic modalities including those using plant-based interventions.



Groups or Movements Using Horticulture as the Catalyst for Social Interactions

A broader understanding of this category within the horticulture for health framework was advanced during COVID as part of the public's greater awareness of factors impacting health. The public's perception of social connectedness shifted during the pandemic; social connections were embraced as an important factor for health and wellbeing (Fleming, 2024b). Settings where social interactions were safe during the pandemic included gardens and nature, also expanding in recognition, acceptance and use. The horticulture for health framework identifies two subsets: [political affiliations](#), and [apolitical horticulture-based connections](#). Both contexts identify horticultural activity as a catalyst for social interactions. The two are distinguished by the role of advocacy, desire for social change and food systems change. Food justice, food action and food insecurity are better understood since COVID. Community gardens, urban farms and even school gardens have expanded their role in both apolitical

and political contexts, with these horticulture facilities connecting people to one another, and providing platforms for community cohesion, community service, food accessibility and social connections.

Landscapes for Health: Designed Landscapes

The 2021 paper defines landscapes for health as “any landscape, designed or wild, that facilitates human health and well-being” (Sachs, 2008). This continues to hold true, with expanding interest and research for designed landscapes, and in particular, [urban green spaces](#), defined loosely as plants and other natural elements in a human-dominated area. Examples include Atlanta Beltline parkland on an old railroad corridor, and Klyd Warren Park’s 5 acres of greenway over a multi-lane highway in Dallas, Tx. Interest in sensory gardens is growing; limited research currently exists. [The number of school gardens](#) continues to grow in number, and services in these designed landscapes now include psychological services and counseling, social emotional learning sessions and food advocacy/food literacy workshops, education and [food action initiatives](#).

Food, Nutrition, and Food Action Initiatives

This horticulture for health category was not in the initial framework pre-publication. The realization that [food \(edible produce\)](#), [nutrition](#), and food production at horticulture settings like home gardens and urban farms, and their role in health necessitated their inclusion. This has been validated by COVID-19 where the relationship between food, human health and horticulture/agriculture has been advanced, evidenced by increasing awareness of food insecurity, global pandemics with limitations on food access, and research on connections between brain health and nutrition. The interconnections between other horticulture for health categories and this category (HT services, horticultural practices, landscapes for health-community gardens and urban farms), and overlapping interests, goals and health outcomes demonstrates the relationships and synergies between multiple areas. Newer [models of collaborations](#) between community groups, gardens, hospitals and health agencies like [food is medicine movement](#), produce prescription programs, and expanding number of research studies are investigating health impacts from initiatives involving food, nutrition and food action (Downer et al., 2022; Fleming et al., 2022).

Horticultural Practices

Developments in this category involve [plant trends](#), [technology used in horticulture production](#), horticulture [best practices](#) and the growth of [plant-based businesses](#). The scope reflects the current state of horticulture-health connections, broad in nature and spanning business, health, horticulture, and research sectors. The public’s growing demand for plant-based foods, particularly alternatives for protein and milk, transparency in food production and food safety, genome/biomedical applications, AI and biotechnology applied to horticultural practices are demonstrating how these are part of the larger horticulture for health concept. Horticultural practices category in the framework examines aspects of the horticulture-health relationship, like the four other categories, each different and distinct for each other. The framework provides an integrated, multi-dimensional, multi-sectoral perspective that no single discipline provides.

New information on horticulture for health, and resources related to particular areas like gardening, nature engagement, and COVID’s positive impacts from horticulture connections (Fleming, 2024b) have emerged as important developments, complimenting and expanding the horticulture for health’s original 2021 concept. This includes the establishment of two horticulture for health networks - Florida

Horticulture for Health Network (FLHHN.org) and Nova Scotia Horticulture for Health Network. These provide online resources, establishment of communities of professionals, and free educational offerings. Of particular significance—one that has expanded the horticulture for health idea—is the Florida Horticulture for Health Network’s [Resource Hub](#). It was developed as a digital [Resource Hub](#) with information, research, webinars and program models in each of the five primary horticulture for health categories including information on [horticulture for health’s scope](#), [gardening’s health benefits](#), and [pandemic gardening’s impacts](#).

A growing number of health professionals appear to be using the horticulture for health paradigm as their orientation to health services, based on discussions within health forums. As mentioned previously, an expanding number of mental health professionals are taking HT training, incorporating elements of horticulture for health into their practices, with conference topics, and publications articulating mental health and horticulture for health connections (Fleming, 2023a; Fleming et al., 2023b; Whitaker Smith & Lindsay, 2022). The [FLHHN Resource Hub’s Populations and Programs](#) section has expanded in the last two years to include populations where mental health is prominent—[eating disorders](#), [trauma recovery](#), and [mental health](#), the latter presented with subsets of mental health and wellbeing, mental illness and mental health facilities/gardens.

The horticulture for health paradigm continues to capture current and emerging activity, programs and research across health, business, education, horticulture and food sectors. The [original journal article](#) on the horticulture for health framework remains relevant, providing more detail than this condensed 2025 update. Both publications attempt to present the broad scope of horticulture for health where horticulture-centric services and landscapes are interconnected and cross sectoral, providing flexibility and versatility for a wide range of interventions, landscapes, and businesses.

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