



Therapeutic Gardens: Rehabilitation, Recovery and Restoration in the Hospital and Community

OIAA Trees & Human Response Series
March 14, 2023

Our legacy is yours.

Legacy Health
Therapeutic Garden
Program
Portland, Oregon
1991 - 2023



June Snow Dogwood

Teresa Hazen, MEd, HTR, QMHP

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Wally Walnut



2022/



Awe and amazement



OIAA founding principles

Knowledge

- We all possess skills, knowledge or experiences that can benefit other arborists.

Learning

- Good information should be promoted and sharing resources should not be expensive.

Safety

- We all benefit when our work is respected and performed safely and properly.

Science

- Scientific knowledge gained from research is the foundation for our profession.

Community

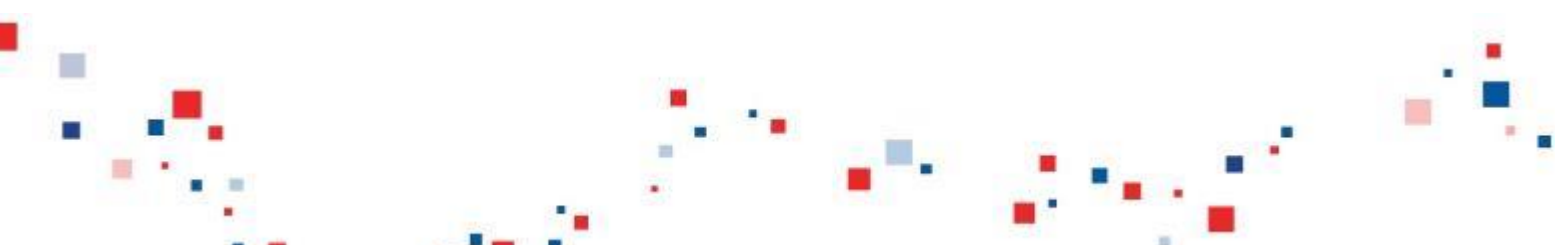
- Some of the most beneficial knowledge comes from informal discussions and relationships developed when good food and drink is shared by independent people.

Our legacy is yours.



We are all on the same good health team!

Green in every everyday place!



| | | | | | | |
|---|--|---|--|--|---|-----------------|
| EMANUEL <small>Medical Center</small> | GOOD SAMARITAN <small>Medical Center</small> | MERIDIAN PARK <small>Medical Center</small> | MOUNT HOOD <small>Medical Center</small> | SALMON CREEK <small>Medical Center</small> | SILVERTON <small>Medical Center</small> | |
| RANDALL CHILDREN'S HOSPITAL <small>Legacy Emanuel</small> | | LEGACY MEDICAL GROUP | LEGACY HEALTH PARTNERS | LEGACY HOSPICE | LEGACY LABORATORY | LEGACY RESEARCH |

Integrating Nature for Healthier Communities: Opportunities and community impact

- ***Trees and Human Response Series*** could help individuals and organizations make a difference by illuminating key opportunities, strategies, and innovations while providing a clear link to helpful and thought-provoking resources promoting the integration of trees and nature for healthier communities.
- With a goal of promoting well-being, preventing disease, and restoring health.
- You are demonstrating innovation.

Learning objectives

1. Describe two studies that could support health and nature work for your agency, company, neighborhood or project.
2. Name three nature-based strategies or activities that could promote positive health outcomes for your community.
3. Share a message of trees/horticulture/plants/landscape/nature as a daily essential for health and well-being.



Legacy Health: This is who we are

- Nonprofit — net revenues reinvested to meet the mission
- Six hospitals, more than 70 primary care, urgent care and specialty clinics in Portland, Oregon metro area
- Lab and clinical research divisions
- More than 13,000 employees including 4,000 nurses
- Medical staff of 3,500 physicians and advanced-practice providers
- From urgent care and primary care to traumatic injuries; from children's care to advanced research
- Level 1 trauma center
- www.legacyhealth.org

Forbes list best employers with 5000+

1. Houston Methodist
2. Mayo Clinic (Rochester, Minn.)
3. Cincinnati Children's
4. Northwestern Medicine (Chicago)
5. University of Texas Southwestern Medical Center
6. Johns Hopkins Medicine (Baltimore)
7. UCLA Health
8. Nationwide Children's Hospital (Columbus, Ohio)
9. Community Health Network (Indianapolis)
10. Penn Medicine (Philadelphia)
11. Duke University Health System (Durham, N.C.)
12. Emory Healthcare (Atlanta)
13. MUSC Health (Charleston, S.C.)
14. NewYork-Presbyterian Hospital (New York City)
15. The University of Kansas Health System (Kansas City, Kan.)
16. Legacy Health (Portland, Ore.)
17. Vanderbilt University Medical Center (Nashville, Tenn.)

[34 health systems on Forbes' list of best large employers](#)
 [\(beckershospitalreview.com\)](https://www.beckershospitalreview.com) 2/16/2023

This is our mission

Our legacy is good health for



Our people



Our patients



Our communities



Our world and planetary health

Inspiration from the evidence base

Effects of nature window view on recovery from surgery (R. Ulrich, Science 1984)



[Ulrich_Viewthroughawindow.pdf](#)

[Legacy Health Therapeutic Garden Program 1991 - 2023](#)

Who Are We?

Progressive

→ Open Culture
Healing Gardens
Improving the region
Epic
Research



Attributes & Personality

People

Responsible

Quality

Community centered

Progressive



Leading causes of death 2020

1. Heart disease 691,000
2. Cancer 599,000
3. COVID-19 345,000
4. Unintentional injuries 192,000
5. Stroke 159,000
6. Chronic lower respiratory diseases 152,000

The Leading Causes of Death in the US for 2020 | Cardiology | JAMA | JAMA Network

Costs to US economy annually

Heart disease \$229 billion

[Heart Disease Facts | cdc.gov](#)

Cancer \$208.9 billion

[Financial Burden of Cancer Care | Cancer Trends Progress Report](#)

Stroke \$53 billion

[Stroke Facts | cdc.gov](#)

Chronic lower respiratory diseases \$49 billion

[COPD Costs \(cdc.gov\)](#)



A call to action

Human activities and human behavior are key drivers of morbidity and mortality. Specifically, lifestyle-associated risk factors, such as physical inactivity and sedentary behavior, increase the risk of developing major non-communicable diseases such as cardiovascular disease, cancer, diabetes, and chronic respiratory disease, resulting in a considerable burden of disease and associated health economic challenges.

[A call for integrating active transportation into physical activity and sedentary behaviour guidelines - The Lancet Planetary Health](#)

Heart disease

1. Smoke-free
2. Heart friendly foods
3. Set exercise goals
4. Manage blood pressure
5. Manage weight
6. Reduce stress
7. Healthy cholesterol level



Making Changes to Prevent Heart Disease

It's a simple fact: Heart disease is the leading cause of death in the United States. Take advantage of American Heart Month in February and get to know how to keep this vital organ functioning at its best. There are many things people can do to keep the heart working healthily. These include: Stopping smoking, exercising more, eating healthy foods, and losing weight and reducing stress. Take care of your heart and yourself by making these lifestyle changes if you have not already.

[READ MORE](#)

Dear Subscriber,

Below are the articles for the health topics you have chosen.

[Making Changes to Prevent Heart Disease \(staywellhealthlibrary.com\)](https://staywellhealthlibrary.com)

Do you know?

How many times a day does your heart beat?

- **100,000 times!**

How many gallons of blood does your heart pump each day?

- **2,000 gallons!**

[Have a Hearty Workout for Your Heart \(staywellhealthlibrary.com\)](http://staywellhealthlibrary.com)

Healthy heart

Heart disease deaths increased by 4.8% in 2019-2020, the largest increase in heart disease deaths since 2012.

[The Leading Causes of Death in the US for 2020 | Cardiology | JAMA | JAMA Network](#)

Five Ways to Wellbeing

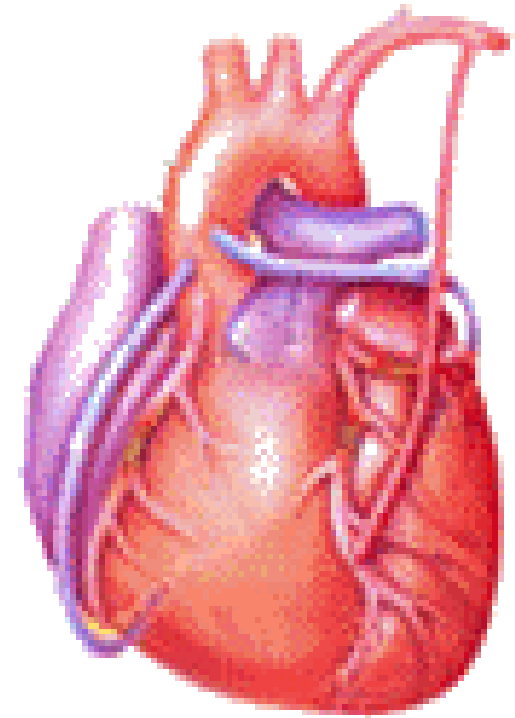
Be active... Go for a walk or run. Step outside. Cycle. Play a game. Garden. Dance. Exercising makes you feel good. Most importantly, discover a physical activity you enjoy and that suits your level of mobility and fitness. [d80eba95560c09605d_uzm6b1n6a.pdf](#)
([neweconomics.org](#))

3 Easy Ways to Sit Less, Move More and Feel Better

- Sitting for 20-plus minutes straight and six-plus hours per day is bad for your health.
- Being sedentary is associated with poor heart health and risk of earlier death.
- Daily 30-minute exercise isn't enough to counteract the adverse health effects of prolonged sitting.
- Protect your health by changing positions (stretch, stand) every 30 minutes of sitting.
- Taking five to 10 minutes an hour to move throughout your day will help protect your long-term health.

[3 Ways to Sit Less and Move More | Right as Rain by UW Medicine](#)

A heart healthy lifestyle



Maintaining all the work equipment.

[The American Heart Association Diet and Lifestyle Recommendations | American Heart Association](#)

Trees are a HUGE part of the solution

Associations of outdoor fine particulate air pollution and cardiovascular disease---

Outdoor fine particulate matter (PM_{2.5}) air pollution is an important global risk factor for cardiovascular disease.

Stroke was most strongly associated with PM_{2.5} in our study (HR 1.07 per 10 µg/m³ increase in PM_{2.5} [95% CI 1.05–1.10]). These findings contribute to a growing body of literature that identifies **stroke as a potentially important outcome affected by PM_{2.5}**, especially at high PM_{2.5} concentrations

Lancet Planet Health 2020; 4: 235–45

[Cardiovascular disease air pollutionIIS2542519620301030.pdf](#)

Trees and economics

Study: The association between tree planting and mortality: A natural experiment and cost-benefit analysis

We used tree-planting records from Friends of Trees, which is a Portland-based nonprofit. Between 1990 and 2019, Friends of Trees planted 49,246 street trees in Portland.

Tree planting in Portland, Oregon is associated with decreases in non-accidental and cardiovascular mortality, and the magnitude of this association increased as trees aged and grew.

[trees health1-s2.0-S0160412022005360-main \(1\).pdf](#)

Humanity is part of, and not apart from, an interconnected planet.

In July 2022, the [UN General Assembly adopted Resolution A/76/L.75](#), which recognized “the right to a clean, healthy and sustainable environment as a human right”, by a landslide of 161 votes.

[From the right to a healthy planet to the planetary right to health - The Lancet Planetary Health](#)

Legacy Health’s top 10 reasons to get outdoors

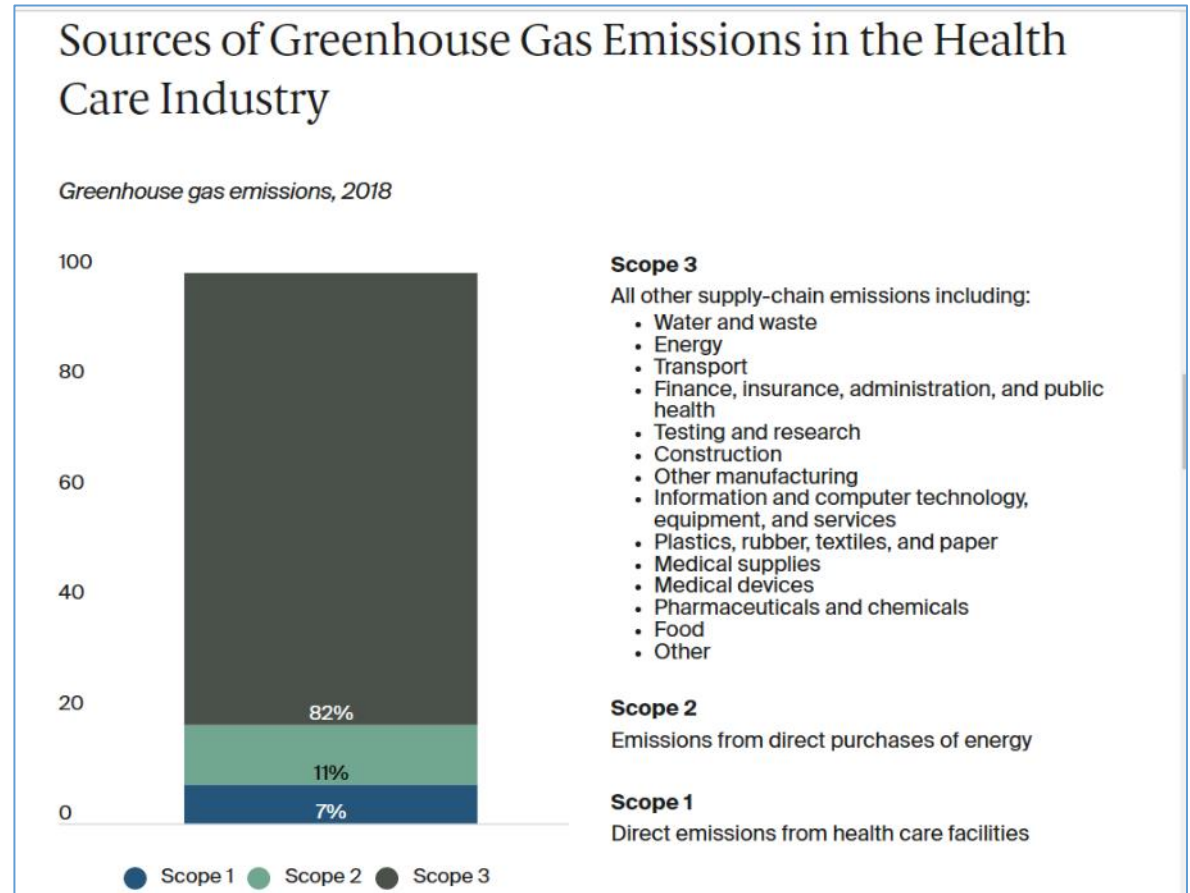
5. Be in nature – there are proven therapeutic benefits.

Pause and smell the flowers, listen to and watch birds, smell the trees, feel the wind or moisture and the heat of the sun.

[Top 10 reasons to get outdoors](#)

The health sector negatively impacts climate change

- While health care systems shoulder the burden of caring for individuals affected by climate change, they also contribute to the problem.
- How design can mitigate impact



[How the U.S. Health Care System Contributes to Climate Change | Commonwealth Fund](#)

February 2023
Vol. 27 | No. 2

SHM
Reconnect at
Converge 2023!

ADVOCACY
How split billing could
affect hospitalists

EDUCATION
Escape rooms as
teaching tools

THE Hospitalist

the-hospitalist.org

Jefferson

Dr. Merli and his team were architects of SHM's FAST Mentored Implementation program

Dr. Hoque
The power of emotional intelligence useful for hospitalists

Dr. Skarda and Ms. Meierhoff
How does thiamine deficiency result in an elevated lactate?

IN THE NEXT ISSUE...
Celebrating National Hospitalist Day

VISIT US ONLINE FOR EXCLUSIVE CONTENT

LINK UP BEHIND THE SCENES WITH THE HOSPITALIST

SEEKING OPPORTUNITIES TO IMPROVE YOUR PRACTICE? VISIT US ONLINE FOR EXCLUSIVE CONTENT

QUALITY

Doctors Should Play a Role in Preventing Climate-change-related Health Matters

By Thomas R. Collins

A 9-year-old with second-degree burns on their hands and thighs laffer playing on a playground with a metal structure in direct sunlight. A 7-year-old child presenting with altered mental status and a body temperature of 104 degrees, whose family tried to get to an air-conditioned library but couldn't because the power cables for the bus had melted. A 20-year-old receiving follow-up, gender-affirming care who is struggling to keep their estrogen patch on because it's been sweating off in a heat wave.

Presenters from Seattle Children's Hospital at Pediatric Hospital Medicine 2022 offered these examples of how climate-change-driven heat—which has generated record-breaking temperatures in the Northwest and across the U.S. recently—has made everyday life a struggle for children. And they described the need for change in a country where, too often, the effects of climate change are disproportionately harmful for Black people, indigenous people, and people of color.

"Climate change is real, and it causes global mortality and morbidity particularly for children who are much more vulnerable than adults," said Julia Hadley, MD, a third-year resident at the hospital, who presented with Sruti Pisharody, MD, also a third-year resident.

The effects of climate change are wide-ranging. Dr. Hadley and Pisharody pointed out. Rising sea levels lead to changes in water quality that can help spread waterborne illnesses. Extreme weather events influence the ecology of vectors that can boost levels of malaria and dengue. Severe weather results in injuries and mental health problems. And all these threats have led to the forced migration of vulnerable populations.

"Climate change has even altered the nutritional content of our food, with decreased protein, iron, and zinc from crops grown in environments with higher carbon dioxide," Dr. Pisharody said.

"No other category of hazardous weather events in the United States has caused more fatalities in the last decade than extreme heat," Dr. Hadley said. And heat is the leading cause of mortality in the summer, she said.

Audience members cited problems for their patients that include a lack of air conditioning, heat stroke, and canceled school activities.

Even within the same city heat

can affect people very differently depending on where they live in that city, they said. In King County in Seattle, it can be 90 degrees in one neighborhood and 70 in another. These "heat islands" are wrought by an abundance of concrete that absorbs and retains heat in ways that green areas with tree cover do not. Heat-island neighborhoods tend to have higher populations of Black, indigenous, and people of color, Dr. Hadley said.

"Which neighborhoods have more trees is not random," she said.

Structural racism has helped speed a country with uneven effects of climate change along certain lines, they said.

Indigenous people were pushed off traditional and productive lands and were forced to settle in areas more vulnerable to climate change, Dr. Pisharody said. The Quevets people in La Puck, Utah, have seen rising temperatures and sea levels and worsening storms, bringing flooding and destruction to their homes. In Newtok, Alaska, rising seas have clawed out the peninsula and caused erosion, forcing the Yupik people to abandon their village and move to higher ground.

In the north country, less forbidding snow-whites from owning land in certain areas—and, later, policies of refusing mortgages and insurance in predominantly Black neighborhoods—led to segregated enclaves.

Today if you look at maps of Seattle side by side, it's easy to see that redlining, racial distribution, canopy cover, and temperatures follow a strikingly similar pattern, Dr. Pisharody said. The same can be seen in other cities, she said.

"Although the racist policies of the 20th century have been removed from legislation, we can see that their legacy remains," she said. This is because the redlining meant devalued land, and more investment in damaged buildings and industrial spaces, with decreased canopy cover, she said.

A recent study showed that 91% of neighborhoods that were historically redlined experienced higher temperatures than non-redlined neighborhoods.

These disparities come at a high cost. In a recent study, researchers showed that an increase of 10 degrees is associated with increased mortality for infants less than a year old, adults over 65, and Black people. Part of this mortality risk for Black people is due to underlying illness but is also due to less access to air conditioning, she said. In 2020, the same researchers found that an 8.5% increase in preterm delivery was associated with a 10-degree increase in weekly temperatures.¹

There is no validated tool for screening patients for climate change vulnerabilities, but a committee put forward a guide to providing primary care that considers climate change-related conditions. Dr. Hadley and Pisharody are hoping to work with others at Seattle Children's and community members to develop an easy-to-use screening tool that can be used in both the inpatient and outpatient settings.

Clinicians can ask questions that include: Are there trees or areas of shade in the neighborhood? Do you have air conditioning, filters, or fans? In the past 12 months, have you had trouble paying your utility bills? Do you know how to identify heat-related illnesses? How do you store medications? These questions will help screen families who are vulnerable to extreme heat by evaluating energy insecurity, housing conditions, complex medical history, and familiarity with local climate patterns.

Doctors can also review how to use weather forecasts and indicators of air quality, identify places

where families can stay cool, and spread extra time with families away from the sun.

Children, they said, should be taught about climate change, since it is a source of anxiety and uncertainty for them.

"It's important that we talk to kids directly about climate change," Dr. Hadley said.

Changes at the institutional level are important as well, they said, given that health care contributes 5% of the greenhouse gas emissions in the United States, and that hospitals are the second most energy-intensive facilities. Institutions should take steps to reduce single-use plastics, reduce food waste, and restore native plantings in their landscaping, among other steps, Dr. Pisharody said. Hospitals should also push for policy change, she said.

"Our institutions have a lot of power, and we should use this to guide legislation to prioritize climate justice-oriented legislation." ■

Tom Collins is a medical writer in South Florida, who has written about everything from let's be honest to thyroid-related illnesses, runaway tumors to tornado-chasing doctors. He gathers health news from around the globe and lives in West Palm Beach, Fla.



References

1. Hoffman TJ, et al. The effects of increased housing density on residential exposure to ozone urban heat. A study of 102 US urban areas. *Climate* 2022;10:12.
2. Basu R, Davies MG. A multi-city study of air quality by zip code, population, and vulnerability to mortality associated with high ambient temperatures in California. *Am J Epidemiol* 2016; 184:640-647.
3. Basu R, et al. High ambient temperatures and low risk of premature death. *Am J Epidemiol* 2015; 179(10):718-723.
4. Pisharody SR, et al. A practitioner's guide to climate change-related primary care. *Can Pract Pediatr Alliance Health Care* 2022;17(6):1215-1221. doi:10.1093/cpa/cpab022

the-hospitalist.org | 14 February 2023

[Hospitalist-022023V2.pdf \(the-hospitalist.org\)](https://www.the-hospitalist.org)

Practice Management

Hospitalists Join in Sustainability Efforts

By Larry Beresford

🕒 October 3, 2022



In a world transformed by environmental degradation and the effects of climate change, hospitals can be major generators of greenhouse gases, energy consumption, and waste. But they are also important centers for health and wellness promotion, not just for the patients they serve but also for staff and their communities. That is why a growing number of hospitals and their hospitalists are seeking ways to contribute to the conversation about sustainability and environmental stewardship for their facilities and the larger world.

[Hospitalists Join in Sustainability Efforts - The Hospitalist \(the-hospitalist.org\)](https://www.thehospitalist.org)

Health, trees and nature: A call to action



Trees work

6/12/2007 A wonderful place to be (this garden) in a place you'd rather not be (the hospital). Hard to believe that Bobby is now 17 (emergency room visit # ??, hospital stay # ??) Obstructive airway and seizures that brought us here are getting under control and pneumonia is clearing. Maybe we'll go home tomorrow? Hope you enjoyed this garden too! Much better to listen to the sparrows than beeping monitors in ICU! Pat (father of Bobby, a gift from God)

Today I love the tulips and the daffodils and the weeping crabapple and the primroses. Alexia, 3-31-05 (I am 6)

What do employees say?

I just want to share that Monday 10/5/20 was my first day working for Legacy Good Sam. When I was given a tour of the campus, the Stenzel Healing Garden made the biggest impression on me. So much so that I took over a dozen photos to share my excitement with loved ones far and wide! Thank you so much for your dedication and work in helping to maintain spaces of respite for all of us. I am so grateful to be at Legacy - and as you wrap up your career here, I am filled with hope for mine.



Employees need trees and gardens

"These are unprecedented times, especially for hospital workers.

To have the garden to visit is essential to maintaining balance (when all around me seems out of balance).

A blooming shrub, the sun on my face, the smell of rosemary..... and everything shifts towards better. Breathing slows down, the mind relaxes, and energy is renewed.



Kousa dogwood, crabapple

Bridget Martin, RN, NeuroTrauma ICU

Terrace Garden celebrating 10 years April 14, 2024

[Touchstone garden research 6.30.2022 update.pdf](#)

Move more: Green spaces and health

Trees can be motivators for walking, resting, and educational stops.



**RED OBELISK
UPRIGHT BEECH**
Fagus sylvatica 'Red Obelisk'

European beech as a columnar tree with dark purple-red foliage. Some leaves are deeply cut, others smooth edged. Native from Central Europe to the Caucasus. Lacy branching pattern and pointed leaf buds provide an attractive winter silhouette. Woolly beech aphids cause little trouble except for dripping honeydew. These trees may be planted close together to form a hedge.

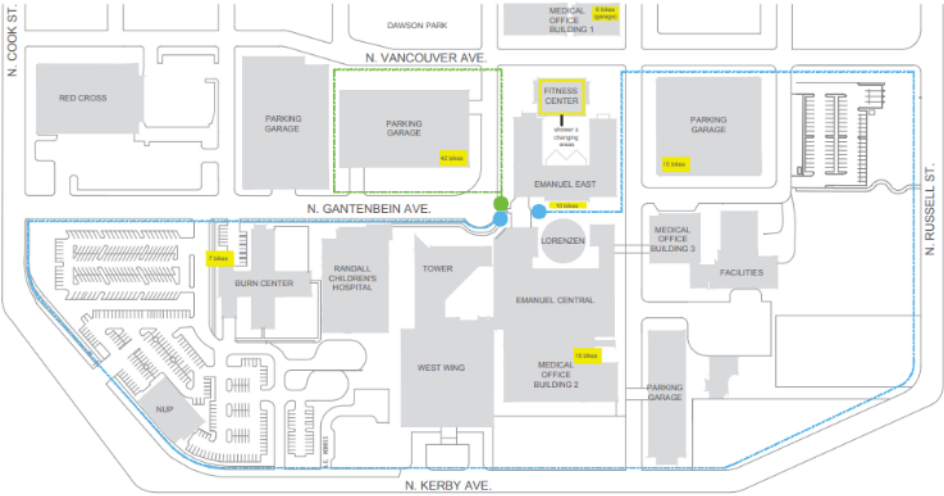
2023/02/07

Move more: Green spaces and health

Design and program for walking for everyone



Walking programs system-wide



Healthy Campus
exterior map

| Legend | |
|--------|----------------------------------|
| | 1/4 mile |
| | 1 mile |
| | starting point |
| | bicycle rack |
| | fitness center - shower/changing |



[WalkingMap-LEMC Exterior_2528003_2529.pdf](#)

More movement & mild exercise



[LGS-WalkingMap-ShortWalks.pdf](#)

Moving more is part of rehabilitation & recovery



Walking during free time



2023/02/07

Movement, mild exercise & rehabilitation therapies plus activity for well siblings



AMUR MAPLE

Acer ginnala

Deciduous shrub or small tree to 20 ft. high. Native to Northeast Asia and the Amur Valley of China. Small fragrant yellow flowers in early spring.

2023/02/07

Get out and move in nature



Free Garden Tour and Neighborhood Nature Walk



Senior Wellness Walks

Legacy Good Samaritan Medical Center
Stenzel Healing Garden 1997
Rehabilitation Institute of Oregon



[LGS-WalkingMap-ShortWalks.pdf](#)

Therapeutic gardens serve special populations and everyone across Legacy Health

- Pediatrics at Randall Children's Hospital
- Physical rehabilitation at Rehabilitation Institute of Oregon
- Oregon Burn Center
- Behavioral Health at Unity Center
- Dementia population and families at Portland Memory Garden PPR
- Acute care, day treatment, cancer services and more
- Employee Health
- Patient support system including family and friend visitors



Evidence-Based Design (EBD)

What makes a garden therapeutic?

- Therapeutic having a healing effect; tending to make a person healthier: Cambridge Dictionary
- Therapeutic having a beneficial effect on the body or mind; producing a useful or favorable result or effect: Merriam-Webster Dictionary



Therapeutic

Helping,
supporting, &
beneficial

1. Physical
2. Cognitive
3. Spiritual
4. Emotional
5. Social



Think about meeting the needs of patients, visitors and employees.
Trees and nature support good health for everyone.



Improving the patient, family, and staff experience, health outcomes, and the overall value for all stakeholders and the organization.

Inspiration from the evidence base

Effects of nature window view on recovery from surgery (R. Ulrich, Science 1984)



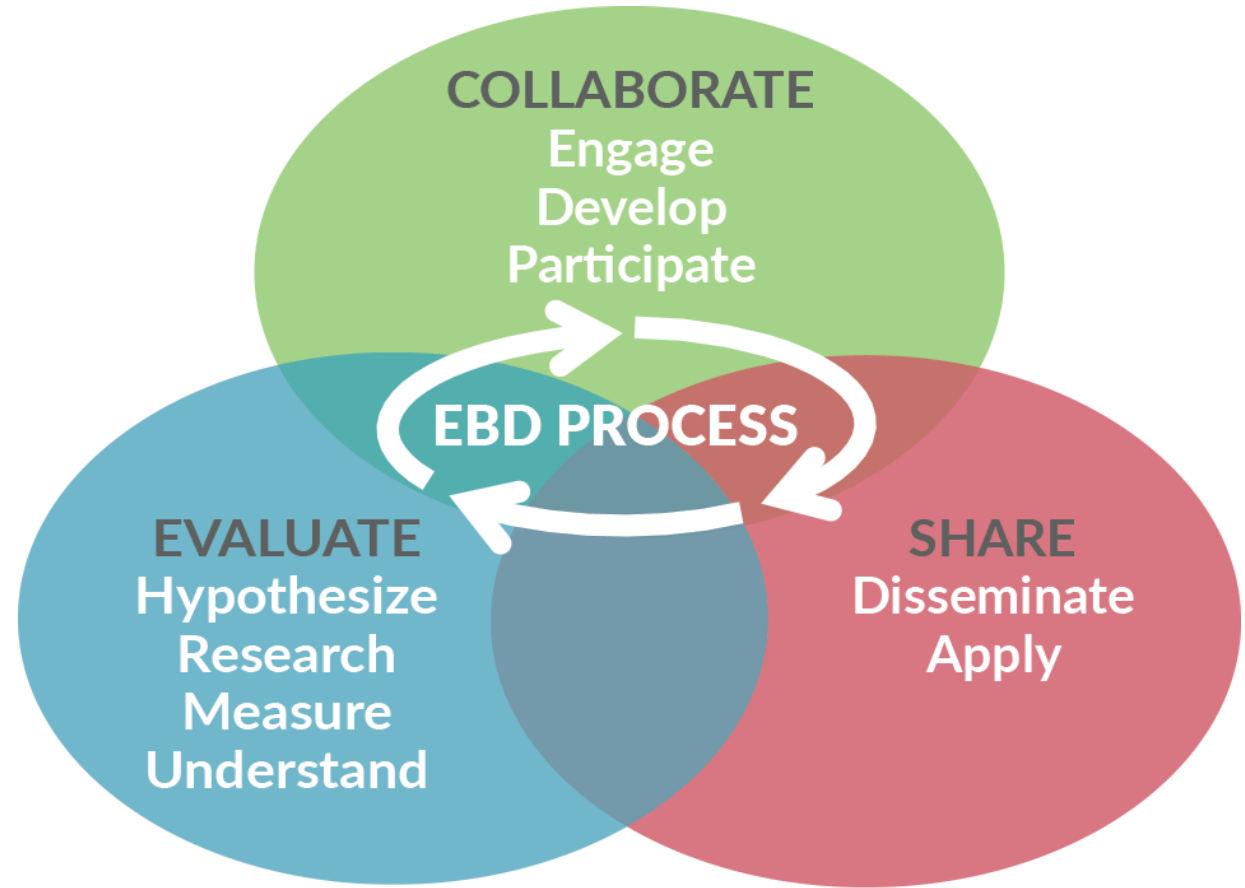
[Ulrich_Viewthroughawindow.pdf](#)

[Legacy Health Therapeutic Garden Program 1991 - 2023](#)

EBD Process and Principles



- Collaborate
- Evaluate
- Share



[chd | The Center for Health Design](http://chd.org)



Describe elements of an evidence-based design process to create a hospital garden to reduce stress in different user groups.

Describe the positive effects of the garden on three different populations of hospital users: nurses working in high-stress units; stressed family members of ICU patients; and postpartum mothers and their partners.



Develop an understanding of EBD strategies and techniques for garden design and year-round therapeutic programming.

Translate post occupancy research into other therapeutic garden design.

Previous research on gardens and nature in healthcare settings

- Simply viewing nature, plants, or flowers fosters rapid recovery from **stress**.
- Nature exposure can reduce **pain**.
- Viewing nature reduces **anger**.
- Nature exposure can buffer a person's reaction to a subsequent stressor.

Ulrich, 1984; Ulrich et al., 1991; Parsons et al., 1998; Kweon et al., 2008; Diette et al., 2003; Lottrup et al., 2013

Design implications of prior research

- Gardens designed in informal natural styles with prominent vegetation are more effective in reducing stress than formal spaces with little nature.
- Important that garden is unlocked; located close to departments served; provides seating options; privacy access; shade access; and users feel safe.

Shukor (2012); Marcus & Sachs (2014); Twedt et al. (2016);
Nejati et al. (2015)



EBD strategies and techniques

- Views of prominent nature and flowers
- Seating options
- Access to privacy
- Access to shade
- Users feel safe
- Four seasons use
- 24-7 patients, visitors and employees

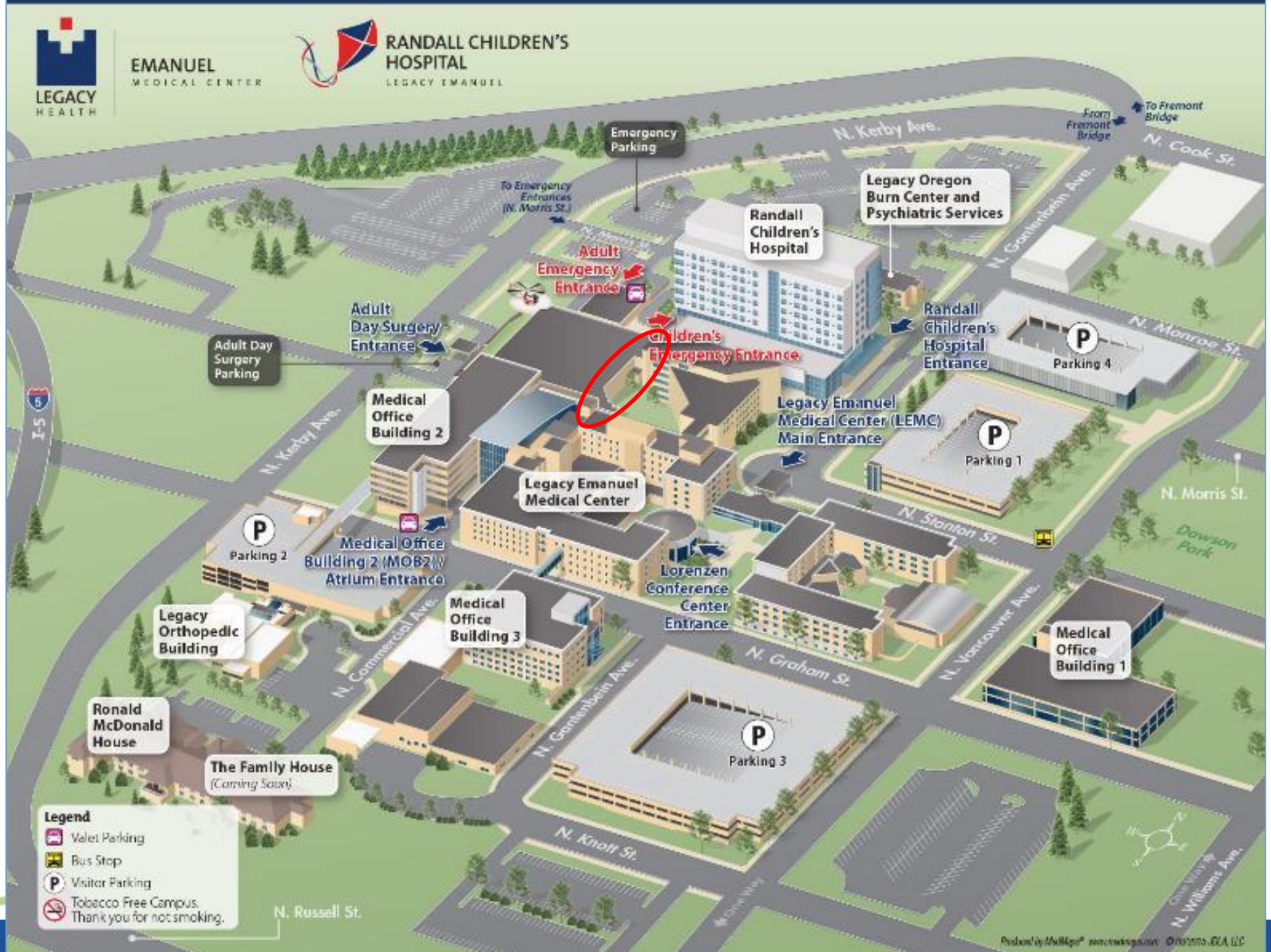




EMANUEL
MEDICAL CENTER



RANDALL CHILDREN'S
HOSPITAL
LEGACY EMANUEL



- Legend**
- Valet Parking
 - Bus Stop
 - Visitor Parking
 - Tobacco Free Campus. Thank you for not smoking.

N. Russell St.

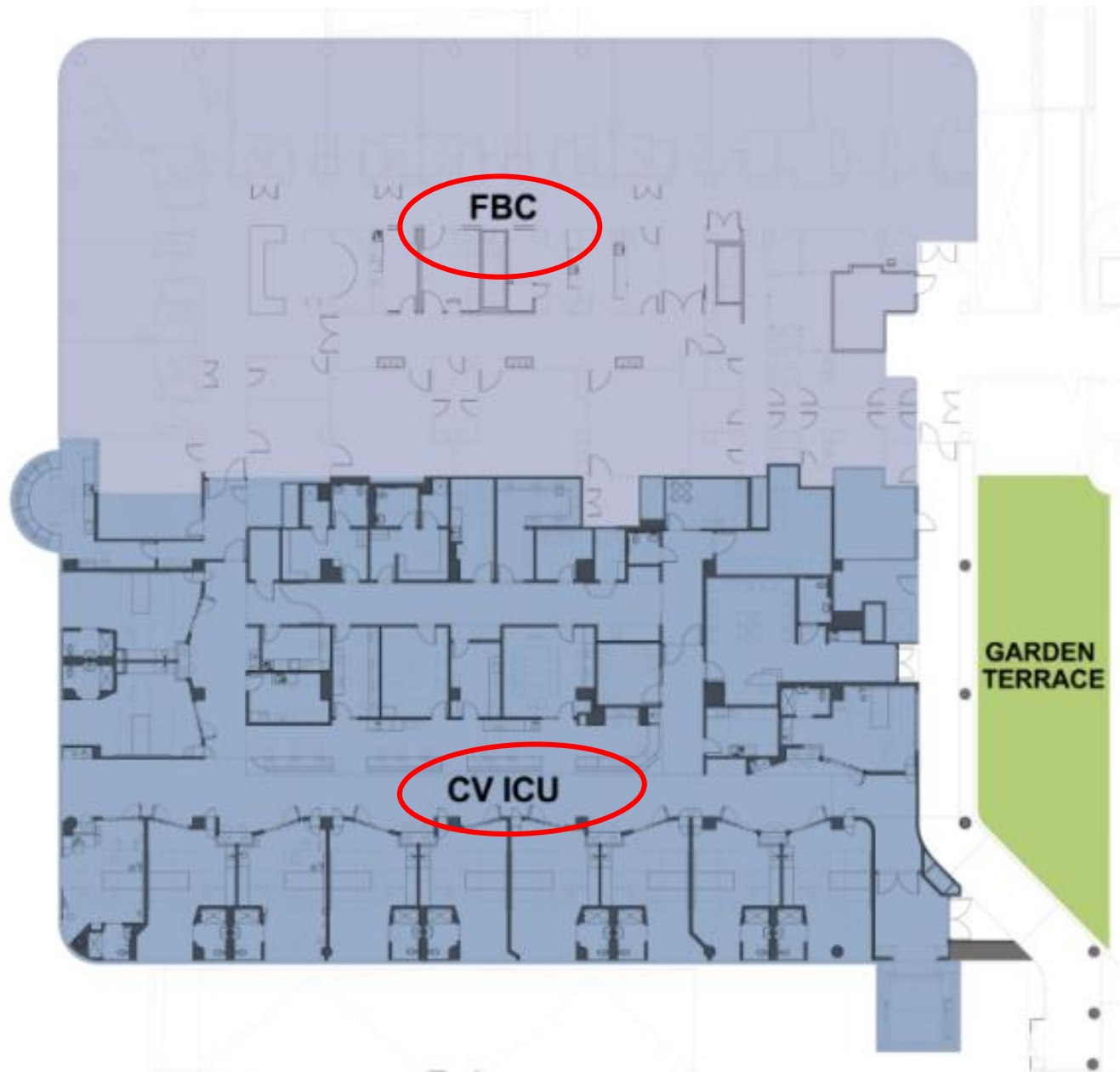
Opportunity 2012



Location, location, location

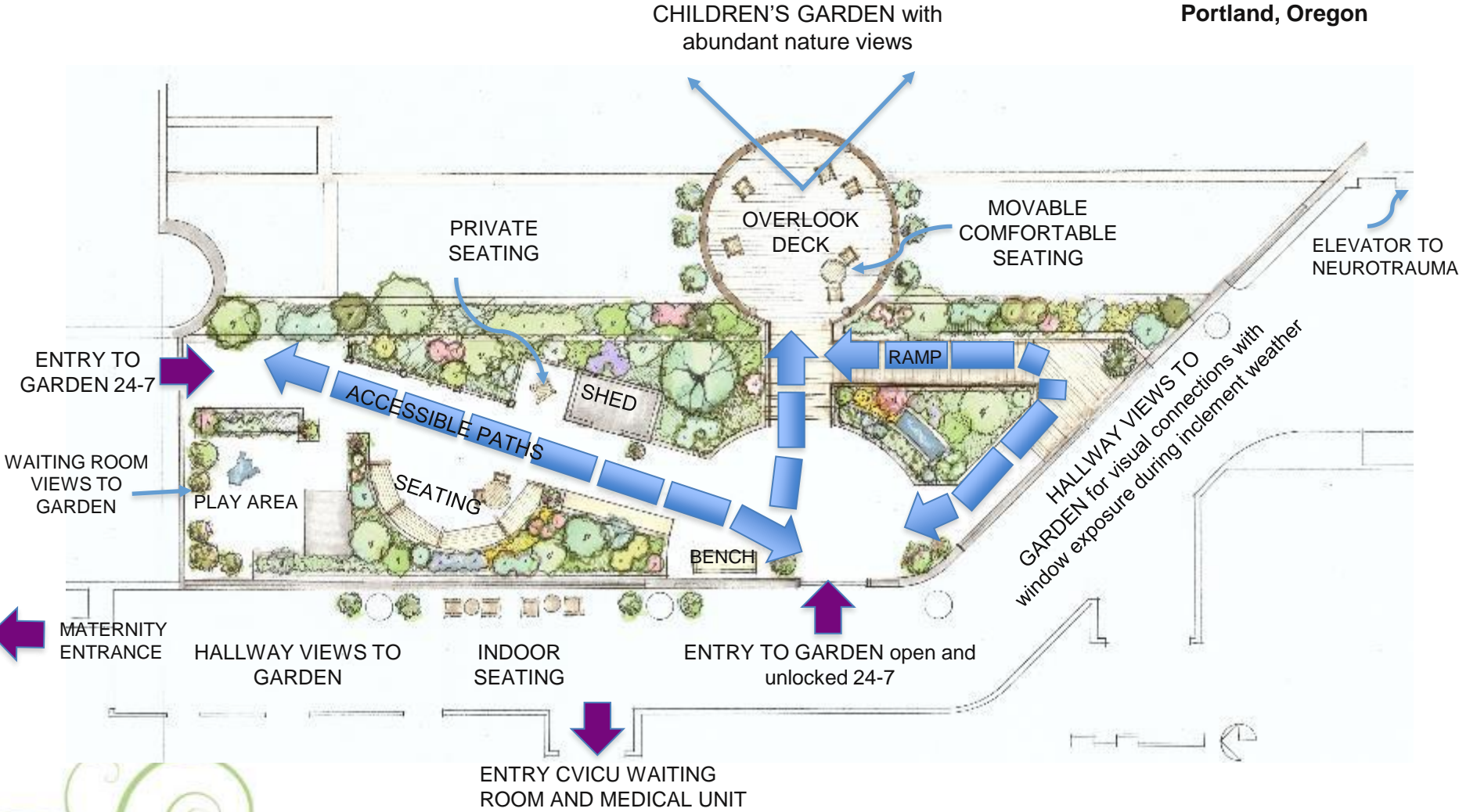


Close proximity to departments served



Collaborate and evaluate: Concept design documenting EBD research applications

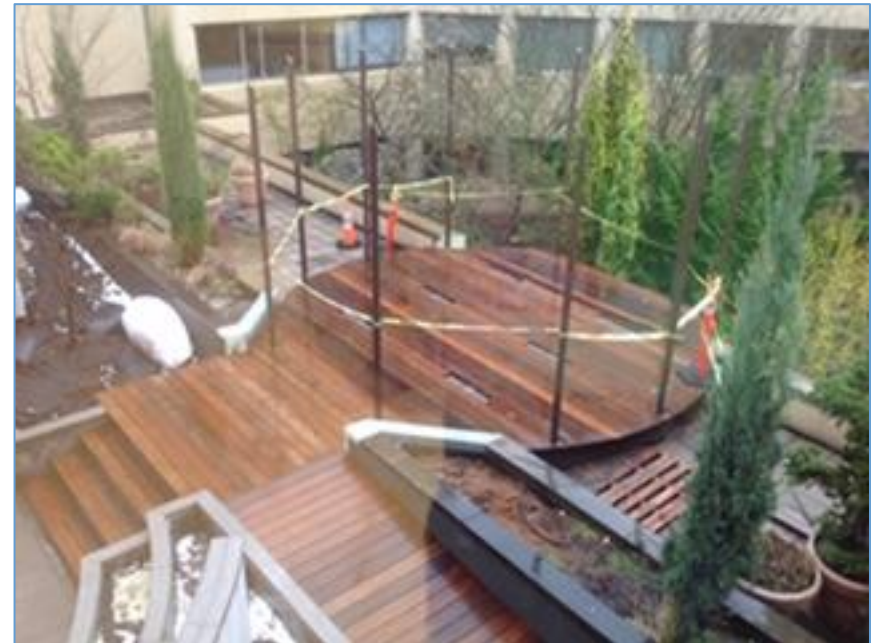
Quatrefoil, Inc.
Portland, Oregon



Construction September 2013 - April 2014



Overlook construction



Four seasons of changing sensory stimulation



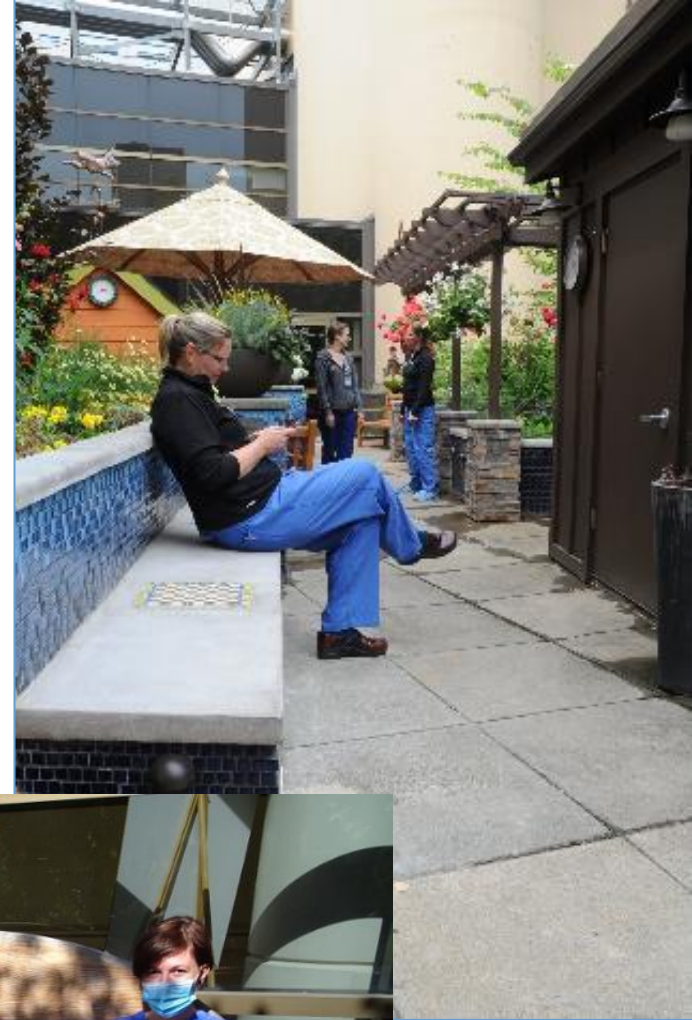
Year-round flowers and seasonal interest



Views of nature



Seating choices



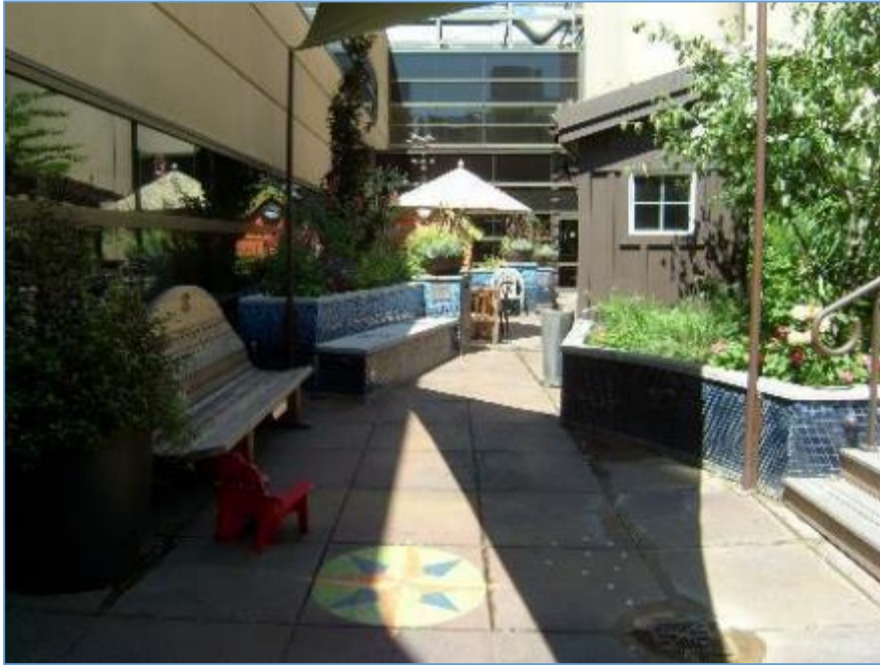
Garden breaks near the medical unit



Access to privacy



Access to shade



Users feel safe



24-7 users



Legacy therapeutic garden research

Ulrich, R. S., Perkins, R.S., (2017). The Impact of a Hospital Garden on Pregnant Women and Their Partners. *The Journal of Perinatal & Neonatal Nursing: Vol 31(2)*. 186–187. doi: 10.1097/JPN.0000000000000247.

Cordoza, M., Ulrich, R. S., Manulik, B. J., Gardiner, S. K., Fitzpatrick, P. S., Hazen, T. M., Mirka, A., Perkins, R. S. (2018). Impact of nurses taking daily work breaks in a hospital garden on burnout. *American Journal of Critical Care*, 27(6), 509–512. doi:10.4037/ ajcc2018131.

[Garden Research | Horticultural Therapy | Legacy Health](#)

Legacy therapeutic garden research

Cordoza, M., Ulrich, R. S., Manulik, B. J., Gardiner, S. K., Fitzpatrick, P. S., Hazen, T. M., Mirka, A., Perkins, R. S. (2019). Feelings of Emotional Exhaustion and Depersonalization Predict Self-Report of Trouble Sleeping for Nurses Working in Hospital Environments. *Sleep*, 42(1), A74. doi.org/10.1093/sleep/zsz067.179.

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[Garden Research | Horticultural Therapy | Legacy Health](#)

Best practices

- Balance of trees, shrubs, perennials, annuals
- Four seasons of plant material
- Sustainable plant choices
- Tree diversity anchors these spaces with right blend of conifer, evergreen, deciduous with balance of shapes, sizes and proper placement
- Plant material for appropriate stimulation: visual, gustatory, tactile, auditory and olfactory
- Pest and disease resistant plant choices
- Decreased water needs
- Safe and well-maintained gardens in all seasons
- SITES [SITES | Developing Sustainable Landscapes \(sustainablesites.org\)](https://sustainablesites.org)
- AHTA Therapeutic Garden Characteristics [About Therapeutic Gardens \(ahta.org\)](https://ahta.org)

Balance of plant material in four seasons

Trees
Work
Hard



Pediatric nature stations



Pediatric nature stations: Sensory stimulation--- tactile, visual



Sensory stimulation--- visual, tactile, olfactory



Visual – sight
Tactile – touch
Olfactory – smell
Auditory – sound
Gustatory – taste

TREES can do it all!

Plan for the view out the window



[guest book peds aug 2010.pdf](#)

Pediatric nature stations



What's in bloom?



I am staying with my baby brother. I love the garden. It helps him sleep. It is very peaceful, and the plants are amazing. My baby brother's favorite plant is the monkey puzzle tree. And our baby loves the Tin Man. Thanks for a great time.

With love, Jazzy and Sebastian

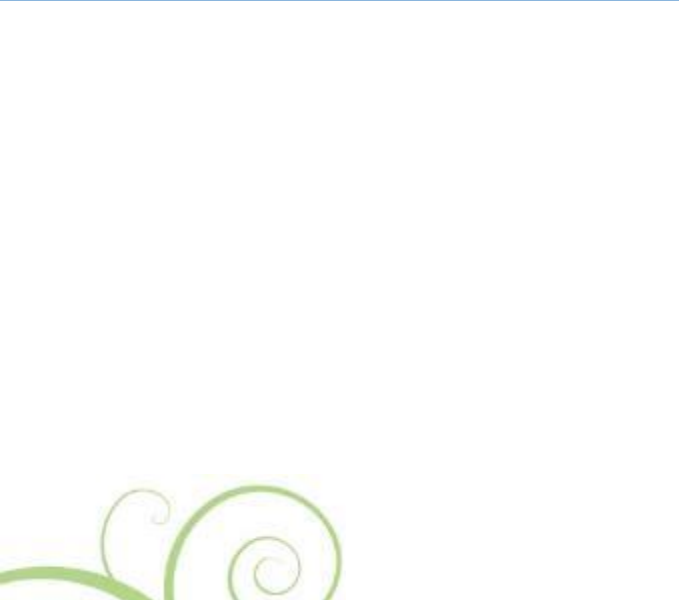
View out the window pediatric nature station hallway



11 13 2019



Legacy Meridian Park Garden second floor & cafeteria views out



Oregon Burn Center views



Emanuel Medical Center views



2023/03/14

Senior living communities



We supervise our interns across Legacy sites and for a senior living rotation out in the community. Encourage HTs in training to join Legacy for internship supervision.

Gardens as a tool for all

- Nursing
- Physical therapy
- Speech and language pathology
- Occupational therapy
- Horticultural therapy
- Recreational therapy
- Music therapy
- Art therapy
- Medical staff meeting with families
- Family and patient restorative needs
- Independent time in the garden by all

Rehabilitation Institute of Oregon



Garden Time - Episode 570 - September 19, 2020
Legacy Rehabilitation Institute of Oregon (RIO) | Legacy

Rehabilitation patients in HT



Physical Goals

- Strength and endurance
- ROM
- UE, LE strength & coordination
- Visual scanning
- Balance
- Ambulation
- Energy conservation
- Mobility devices



Mobility work year-round



Rehabilitation therapies in the garden---increasing activity and movement



My husband was a patient here at RIO 3 times between 2014 and 2018. Every chance we got to visit the garden we did.

Recreational therapy



Patient care





Birthing moms



Caring for families



“Our mother was treated in your trauma center for a broken neck suffered while on vacation in Portland. We just wanted to take a moment and thank you for the gardens and some of the fantastic professionals who made the stay easier.”

Families and stress coping



Privacy



Restoration



Programmed activities



Music therapy and pet therapy





Cultivating team champions

- CEO, President
- Physicians
- Nurses
- Good Health Council
- Local site Good Health Teams (GHT)
- Sustainability leaders
- And more!





“Most hospitals have manicured shrubs and grounds. The difference here is the gardens are part of the therapeutic space, where there are patients out in them.”

Wall Street Journal
April 6, 2010

George Brown, M.D. President,
CEO
Legacy Health 2008 - 2018



Groundbreaking April 2009



- LEGEND**
- A Covered Seating Area
 - B Raised Bed and Seating Wall
 - C Raised Central Garden
 - D Tool Shed
 - E Fountain
 - F Bubbler Rock Fountain
 - G Scar Wall
 - H Picnic Table
 - I Table and Chairs
 - J Bench
 - K Existing Flag Pole
 - L Existing Walkway
 - M Lawn
 - N Path
 - O Planters

Legacy Mt. Hood Medical Center
Healing Garden
Gresham, Oregon

Quartrol, Inc.
Garden Master Plan
Scale: 1/8" = 1'-0"

Cultivating Team Champions



Minot Cleveland MD
Medical Director, Employee Health



Teresia Hazen MEd, HTR, QMHP
Coordinator, Therapeutic Garden Program
1991 - 2020



Bridget Martin BSN, RN, CCRN
Neuro Trauma ICU Nurse



Cultivating Team Champions



Brian Bainson ASLA
Quatrafoil Inc.



Roger Ulrich PhD, EDAC
Chalmers University, Sweden



Serene Perkins MD, FACS,
Director of Surgical Programs,
Legacy Institute for Surgical
Education and Innovation



Cultivating Team Champions



Makayla Cordoza PhD, RN,
CCRN-K



Duncan Neilson MD
Clinical Vice President for Women's
Services and Surgical Services



Meghan McKiernan BS, HTR
Manager, Legacy Therapeutic
Garden Program 2020 - present



Family Birth Center & Cardiovascular ICU: A Nature Place



Funded by a grant from the TKF Foundation



Nature Sacred
Helping communities heal from the outside.



BUY OUR BOOK

Search

Search

OUR APPROACH

DISCOVERIES

EXPLORATIONS

OPEN VOICES/NEWS

A Nature Place

Emphasizing patient, family and employee centered care through nature-based programming.

Nature Sacred is a growing network of urban sanctuaries created to reduce your stress, improve your health and strengthen your community. [Home 2021 - Nature Sacred](#)



Interdisciplinary design team 2012



- Physicians
- Landscape architect
- Facilities & grounds
- Patients
- Families
- Therapists
- Managers
- Nurses including infection control
- Researchers
- Spiritual care
- Volunteers
- Social workers
- Legacy Philanthropy



Collaborate and evaluate

The interdisciplinary research teams have had more than 25 face-to-face meetings 2012 - 2014, in addition to many conference calls.



Research collaboration partners



- Engagement
- Development
- Participation



Engagement: EDAC, IDT & Stakeholders

- Roger S. Ulrich, PhD, EDAC, FASLA
- Susan Rodiek, PhD, NCARB, EDAC
- Naomi Sachs, PhD, EDAC, ASLA
- Sue Ann Barton, AIA, EDAC, LEED AP®

- Interdisciplinary Design Team (IDT): 36 members

- Stakeholders: 26 members

[Conference Handouts](#) | [Horticultural Therapy](#) |
[Legacy Health](#) OIAA



Legacy Salmon Creek Design Team mtg #1



Legacy Salmon Creek design team meeting #3



Patient engagement



“I know how important the garden was to my health and the health of my baby.”

University student engagement



Nurse engagement



“For a caregiver and patient to experience this together strengthens the wholeness and life in both of them. Seeing the "life" that is in the garden, helps recalibrate the life in each of us.”

Bridget, RN NTICU

Physician and administrative engagement



Evaluate

- Research
- Hypothesis
- Analyze
- Understand



Sharing

- Disseminate
- Apply



Sharing

Research journal articles

Trade journal interviews,
presentations,
& publications

- AHTA
- AHS
- ASLA
- IMGA
- WPA
- ANA
- IPPS
- HCD

The Terrace Garden at Legacy Good Samaritan Medical Center in Portland, Oregon, serves birthing rooms, cardiovascular ICU patients, families and employees. PHOTO COURTESY OF LEGACY HEALTH.

DOWNLOAD THIS FLYER AND LEARN MORE AT PlantsomethingOregon.com/pmb

When someone is sick or recovering from surgery, loved ones frequently send flowers or plants. But do plants actually help people feel better? Research proves they do.

In fact, plants and flowers have powerful healing properties. Any exposure to nature, even viewing landscape from windows, makes people feel better and heal more quickly.

Plants Make Life Better
Plants have healing powers.

Studies conducted in health care settings show that exposure to nature promotes healing, both physiologically and mentally.¹ Having plants in patient recovery rooms reduces the time needed for healing.

Flowers and plants are so soothing that even passive exposure to nature promotes healing and can significantly speed up recovery time.²

Hospital patients with plants in their rooms display less fatigue and pain, shorter hospital stays, less anxiety, and higher hospital and room satisfaction, according to another study.³

By Elizabeth Peterson

SOURCES:
Wood, K.L., S. Krueger and K. Fiska. (2014). Healing and Therapy — A literature review. From *Green Cities: Good Healthcare greenhealth.washington.edu*, School of Environment and Great Resilience, College of the Environment, University of Washington.
*Karr, Charles Jr., and Madeline W. Nelson. (2010). Economic, environmental, and health/well-being benefits associated with green industry products and services: A review. *Journal of Environmental Management*, 91(2):96-101.
*Stark, S.H., and R.H. Mattson. (2002). Commercial indoor plants in hospital rooms enhanced health outcomes of patients recovering from surgery. *Journal of Alternative and Complementary Medicine*, 8, 9:97C-982.

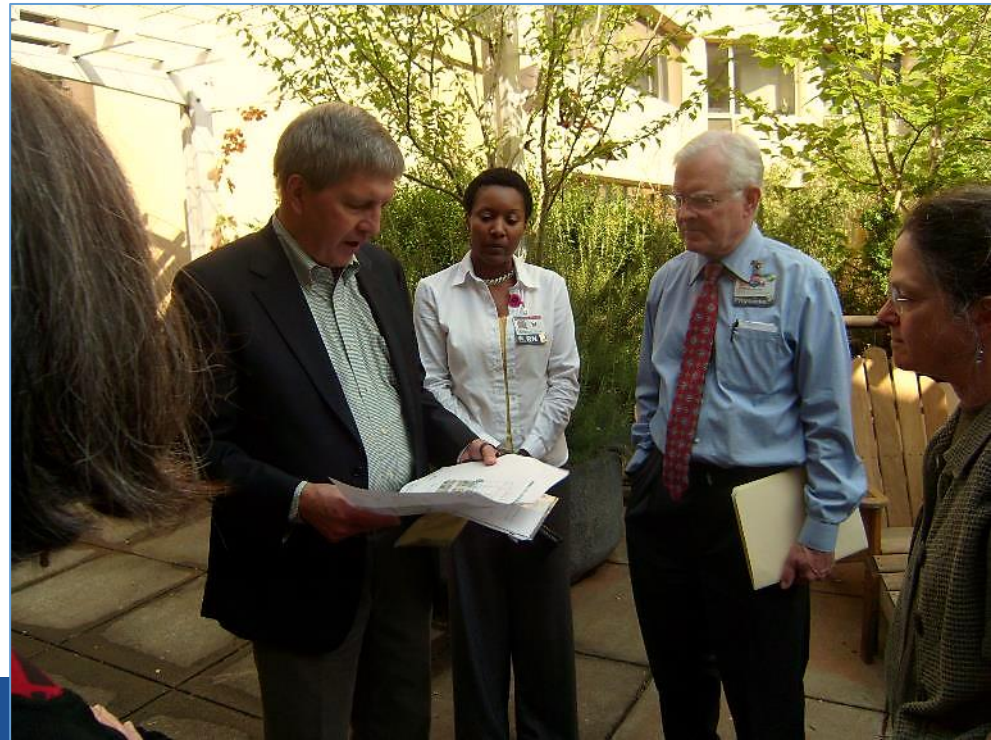
PLANT SOMETHING.
plant-something.org

DIGGERMAGAZINE.COM MARCH 2016 9

Team collaboration



1. Nurses working in high-acuity units
2. Family members of critical care patients
3. Postpartum mothers and their partners



Study 1 -- Nurse Study



Work-Related Burnout

- Occurs when there is a discrepancy between employee ideals and expectations and the actual requirements of the job.
- Comprised of three components:
 - Emotional exhaustion
 - Depersonalization
 - Reduced sense of personal accomplishment
- Nurses also experience secondary traumatic stress, compassion fatigue, and moral distress as forms of work-related burnout.

Moss, et al (2016); Maslach & Leiter (1997)

Symptoms of Burnout

Psychological symptoms

Frustration
Anger
Fear
Anxiety
Inability to feel happy
Being unprofessional
Feeling overwhelmed
Disillusionment
Hopelessness
Lack of empathy
Feeling insufficient at work

Physical symptoms

Exhaustion/fatigue
Insomnia
Muscle tension
Headache
Gastrointestinal problems

Moss, et al (2016); Maslach & Leiter (1997)



Indoor break room examples



Conclusions from nurse study 2018

- Taking a daily break in the garden reduced nurse burnout and immediately reduced feelings of anger and tiredness.
- The garden clearly out-performed quality interior break rooms.
- Taking a break in a hospital-integrated garden could be part of a multi-modal approach to reduce burnout for nurses.



20-30% nurse turnover

12,000 nurses, participants reported stress (71%), frustration (69%), exhaustion (65%) and feeling overwhelmed (58%) in the previous 14 days.

In addition to protecting the well-being of their staff and the safety of their patients, mitigating nurse burnout makes good economic sense. A recent cost analysis of nurse burnout-attributed turnover found that hospitals with burnout reduction measures in place spend about 30% less per nurse per year, and their nurses remain employed in their current hospital 20% longer, compared with hospitals with no burnout mitigation measures.⁵

[why-nurse-burnout-efforts-need-to-target-younger-nurses
\(beckershospitalreview.com\)](https://www.beckershospitalreview.com/why-nurse-burnout-efforts-need-to-target-younger-nurses) 2/21/2023

Burnout before, during and after covid

"Every day, our emergency room has a backlog of anywhere between 25 and 100 patients waiting for a bed upstairs," Melissa Mattison, MD, chief of hospital medicine at Boston-based Massachusetts General Hospital, told *CNN*.

Overall, hospitals are seeing greater volumes of high-acuity patients than they have in the past, coupled with labor shortages.

There were 53,457 ED [visits](#) for flu, RSV and COVID-19 in the U.S. for the week ending Jan. 28. This figure hit a peak in early December, when nearly 236,000 people visited the ED.

'A breath less stressful': Hospital capacity woes persist after tripldemic's peak (beckershospitalreview.com) February 6, 2023

The No. 1 problem keeping hospital CEOs up at night

Most concerning issues hospital CEOs ranked in 2022, along with the score of how pressing CEOs find each issue:

1. Workforce challenges (includes personnel shortages and staff burnout, among other issues) — 1.8
2. Financial challenges — 2.8
3. Behavioral health and addiction issues — 5.2
4. Patient safety and quality — 5.9

[The No. 1 problem keeping hospital CEOs up at night \(beckershospitalreview.com\)](https://www.beckershospitalreview.com) 2/13/23

Our legacy is yours.

Employee Health Leadership

- Healthy eating
- Active living
- Peaceful mind



Minot Cleveland, MD
Medical Director of
Employee Health

Multi-disciplinary work by Good Health Teams,
Sustainability and Therapeutic Garden Programs

[Funding Research on Health Workforce Well-being to
Optimize the Work Environment | Health Care Workforce |
JAMA | JAMA Network](#)



EMANUEL Medical Center

GOOD SAMARITAN Medical Center

MERIDIAN PARK Medical Center

MOUNT HOOD Medical Center

SALMON CREEK Medical Center

SILVERTON Medical Center

RANDALL CHILDREN'S HOSPITAL legacy Emanuel

LEGACY MEDICAL GROUP

LEGACY HEALTH PARTNERS

LEGACY HOSPICE

LEGACY LABORATORY

LEGACY RESEARCH

Good Health Council & 9 Good Health Teams

4 Key Questions

Objective: *Cultivate* a workplace culture of good health

- How do we cultivate a “culture of good health”?
- How do we help make the healthy choice the easy choice?
- How do we engage employees and medical staff who do not usually participate in workplace health promotion projects?
- How do we create environments that support healthy eating, active living, and a peaceful mind?



5P Strategies

- **Preparation**
- **Promotions**
- **Programs**
- **Policies**
- **Physical projects**



Good Health Council & 9 Good Health Teams

Promoting Good Health for Our People

- **Variety of programs / events / physical projects to promote healthy eating, active living, and peaceful mind**
 - > Stair climbing, weight loss challenge, music in the garden, yoga, on-site massage, mindfulness classes
 - > 2018: Sponsored 82 events at LH; 2400 participants
 - > 2019: Sponsored 96 events at LH; 3300 participants
 - > LMP new walking path; Davis Building new garden area
- **Opportunities for night shift employees; 24/7 garden access**
- **Critical collaboration with Medical Staff Wellness Committee**
- **High priority: taking breaks at work to reduce stress**

Therapeutic Gardens & Good Health Teams

Nurse/garden study already has influenced Legacy Health's system-wide employee wellness program for 14,000 employees

1. Therapeutic gardens as a top priority for employee wellness
2. Reducing stress and fatigue
3. Regular breaks in gardens near the medical unit

Minot Cleveland, MD Medical Director for Employee Health Legacy Health



Figure 8

Take a daily break in the garden



Take a break and connect



Take a break in the Salmon Creek Garden



The gardens are the thing that make Legacy innovative, special, and unique in our community. Imagine, a health system that invests in... gardens! How incredible. Sara, RN

Participate in garden events



Take a break in the garden



Participate in sustainability education



Enjoy garden music events



Enjoy summer in the garden activities



Make a bookmark, card or lavender sachet



Get outdoors every day



Kathy Young & Charlyn Wilson will offer beautiful Viola and Flute duets on this glorious day from 12:15 to 12:45 in the Stenzel Garden.



Bring your lunch, relax and enjoy this last offering of Music in the Garden for 2015.

Nature: A stress coping resource for families, visitors, and employees



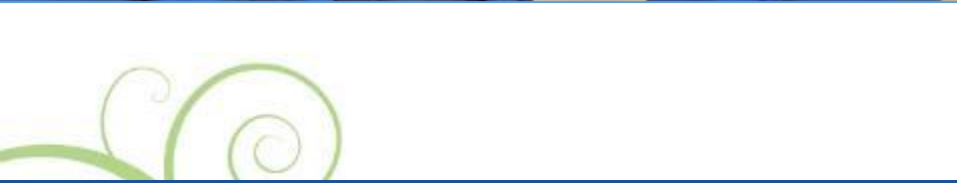
It's
break
time!



Good Health Team music in the garden



Nurses taking a break



Midnight in the garden



[4th Midnight in the Garden.pdf](#)

Midnight in the garden August and February



Midnight in the garden events



Goats in the garden



[BBC World Service - People Fixing The World, Making hospitals less stressful](#)

Three of our trees are among Teresa's favorites; June Snow Dogwood, Golden Raindrops® and Royal Raindrops® Crabapples. The latter is featured in full bloom in the BBC clip at about the 1-minute mark. Take a few minutes to watch this inspiring episode of [People Fixing the World.](#), and explore more of the gardens via our local [KGW newscast](#). Enjoy the trees and the baby goats! Nancy Buley, JF Schmidt tree growers

Goats in the garden



LEMC Good Health Team: Resilience Breaks in June* Goats and Good Health in the Garden

We're not 'kidding' this is Good for your Health!



Mini goats



Chair massage

June 3rd, 11:00am-2:00pm- Interior Courtyard past Cafeteria Cafe
Please wear a mask and maintain physical distancing. Massage sign up for yourself only, in person at event

* June 17th Midnight in Garden - 2nd floor Garden

(we will not be able to host mini goats at Midnight in the Garden due to infection control policies that apply to inside the hospital, apologies for previous miscommunication. There will be Chair Massage and healthy snacks)

Please wear a mask and maintain physical distancing. Massage sign up for yourself only

Healthier choices



Our Good Health
Earth Day Opportunities & Events

2019 Earth Day
April 22nd

Save a Tree
April 22nd, 10am-12pm
Plant a tree in your yard or office.

Earth Day at the Office
April 22nd, 10am-12pm
Bring your reusable water bottle and coffee cup.

Sandy River Watershed Project
April 23rd, 9am-12pm
Join us for a walk and cleanup along the Sandy River.

City of Gresham's Annual Green & Clean Event
April 23rd, 9am-12pm
Bring your reusable water bottle and coffee cup.

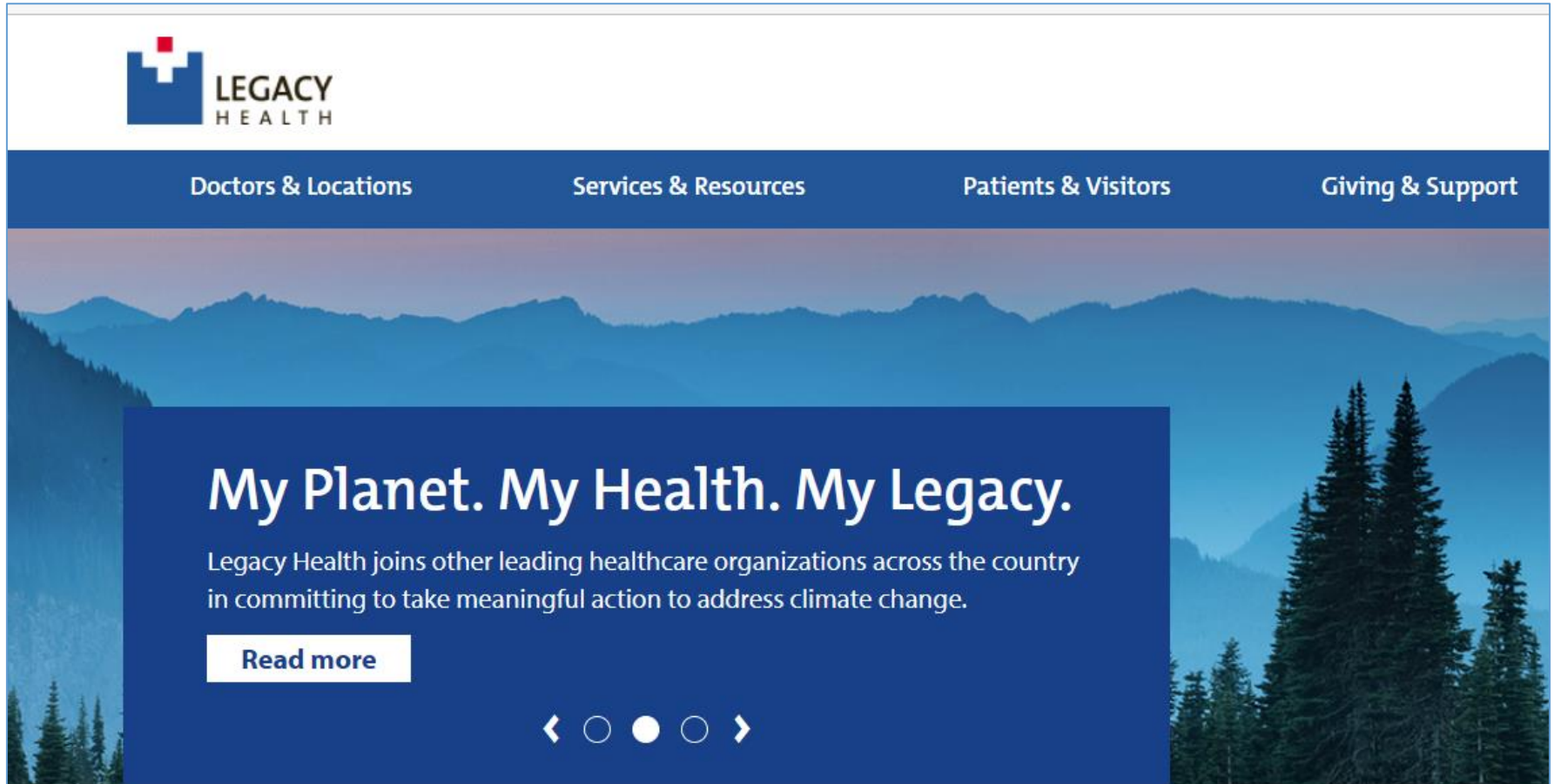
Annual Recycling Event at Gresham City Hall
April 23rd, 10am-12pm
Bring your reusable water bottle and coffee cup.

Free Saturday Literacy & Grief Support
April 27th, 10am-12pm
Call 503-670-2277 for more information.

Healthy eating: Farm stands in the gardens



System-wide policies and programs



The screenshot shows the Legacy Health website header with the logo and navigation menu. Below the navigation is a large blue banner with a mountain and forest background. The banner contains the text 'My Planet. My Health. My Legacy.' and a 'Read more' button. At the bottom of the banner are navigation arrows and a progress indicator.

LEGACY HEALTH

Doctors & Locations Services & Resources Patients & Visitors Giving & Support

My Planet. My Health. My Legacy.

Legacy Health joins other leading healthcare organizations across the country in committing to take meaningful action to address climate change.

[Read more](#)

◀ ○ ● ○ ▶

[Hospitals and clinics in Portland and Vancouver | Legacy Health](#)

Earth Day celebrations



Earth day is every day!



System office event

Earth Day celebrations at Legacy start this week

3/30/2018 2:00 PM | Insight Newsletter

Earth Day takes place worldwide on April 22 each year. The observance arose in 1970 from growing national support for environmental issues. Legacy's Earth Day programs will start early—with a series of 10 events at Legacy sites starting Wednesday, April 4, and continuing through Monday, April 30.

At many of our sites, visiting the events will allow employees to spend time in Legacy's healing gardens to learn about the health benefits of gardens and nature. There will also be opportunities to learn about Legacy's environmental sustainability programs and how you can play a role in ensuring we do no harm to the environment.

At each event there will be a raffle for two garden trees and gardening items. Free lettuce seeds and wildflower seeds will be available to the first 50 visitors at the garden program table.

Participants this year will include site Good Health teams, representatives from renewable power programs, Friends of Trees and commute-related organizations. See details on the Sustainability intranet site.

Event schedule

Legacy's Earth Day events take place from 11:30 a.m. - 1:00 p.m. except where noted.

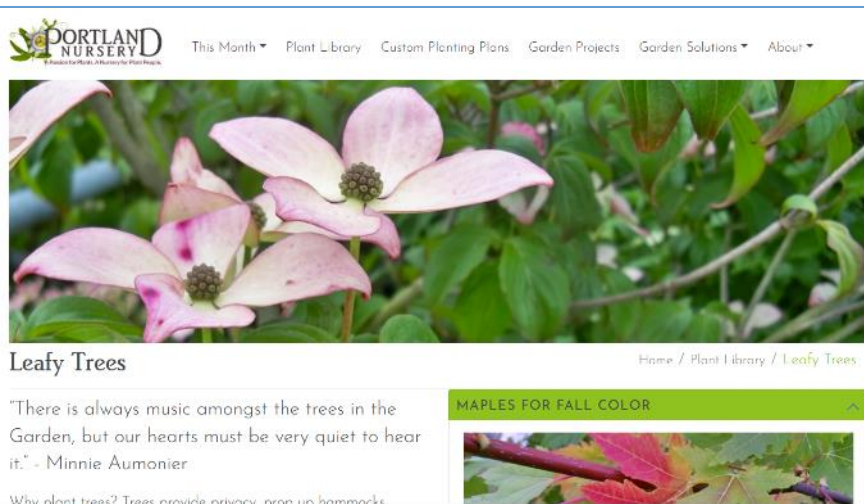
- Wednesday, April 4 — Legacy Silverton
- Thursday, April 5 — Legacy Meridian Park (Lewis & Floetla Ide Heating Garden)
- Tuesday, April 10 — Legacy Good Samaritan (Stenzel Healing Garden)
- Thursday, April 12 — Legacy Salmon Creek (Third floor hallway by the healing garden)
- Friday, April 13 — Holladay Park campus (lobby)
- Tuesday, April 17 — Davis Building (first floor lobby)
- Wednesday, April 18 (2-3:30 p.m.) — Legacy Emanuel (The Children's Garden hallway)
- Thursday, April 19 — Legacy Mount Hood (healing garden pavilions and covered walkway)
- Friday, April 20 — System Office (cafeteria)
- Monday, April 30 (11:30 a.m. - 12:30 p.m.) — NW 31st Building



Earth Day celebrations at all campuses



Earth Day (month) & community partners



 **New Availabilities!**
Bare Root | Container | B & B | Root Bag | NWST

February 8, 2023

New availability lists for all product lines are posted to our website.

[JFS Reference Guide PDF Download](#)
jfschmidt.com



Earth month and tree promotion



Magnolia liliflora x stellata 'Susan' **Susan Magnolia**

Small Tree

Height: 10'

Spread: 10'

Shape: Upright spreading

Foliage: Medium green

Flower: Reddish purple 5" heavy flowering

Download a tree reference guide:

<http://www.jfschmidt.com/rg/>

Planting and caring for a new tree:

<https://catalog.extension.oregonstate.edu/ec1438>

Thank You Event Sponsors:

Friends of Trees

J Frank Schmidt & Son

Take a break in the Legacy Health Gardens

www.legacyhealth.org/gardens



EARTH DAY 2023

Invest in our
planet.

Plant trees

[ED2023-Action-Toolkit.pdf](#)
(earthday.org)



April earth month



Legacy's annual Earth Day event

All are welcome.

11:30 a.m.–1 p.m.

**Sustaining Our People,
Our Patients,
Our Community and
Our World.**



Presented by:

Sustainability
Therapeutic Garden Program
Your Good Health Team

This way to our annual event.



Earth celebration programming



Programming for employees and everyone

Celebrate Summer in the Garden

Join the Good Health Team, Sustainability and Therapeutic Garden programs
July 21, 11:30 – 1:00



in the Healing Garden to celebrate summer.

Enter the garden raffle for a salad bowl and other nature and gardening goodies. Free wildflower seeds with planting directions. Garden resources available.

Learn about Legacy Sustainability initiatives with **Pat Lydon**, Manager of Sustainability.

Good Health Team review **Check on You, Check on Two**

https://mylegacy.lhs.org/newscenter/Pages/Insight_2020_07_07_check-you-check-on-two-employee-wellness.aspx and other employee resources for our good health.

Take a garden break and enjoy lunch. Masks and distancing required.

Free fresh air, sunshine and peace.



For more info:

Teresia Hazen, MEd, HTR, QMHP
Coordinator Legacy Therapeutic Gardens
thazen@lhs.org

Legacy Emanuel Medical Center

Terrace Garden Summer 2014



Please help us celebrate our first Summer in the Garden events. The garden was dedicated April 14, 2014.

Join us at 2:00 – 3:30 for garden tours, music and nature activities.

June 30

July 21

August 25

We are located on the second floor of Emanuel Medical Center 2801 N. Gantebein
www.legacyhealth.org/maps

See more about the Legacy Therapeutic Garden program at www.legacyhealth.org/gardens and <http://www.opb.org/radio/programs/thinkoutloud/segment/international-health-care-design-researcher-roger-ulrich-on-gardens/>.

For more information contact thazen@lhs.org or 503-413-6507.



Sustaining programs

- Funding in place for construction and/or planned phases
- Maintenance funding in place 20-year planning
- Long term budgets
- Tied to clinical programs and patient services
- Quality and safety daily, weekly, monthly, seasonally, annually
- In someone's job description



Safety and well-being through sustainability



3/17/2023

Legacy Health

Legacy Mount Hood Medical Center Healing Garden Sustainable Design

Did you know that all of Legacy's Therapeutic Gardens are designed with environmental sustainability in mind?

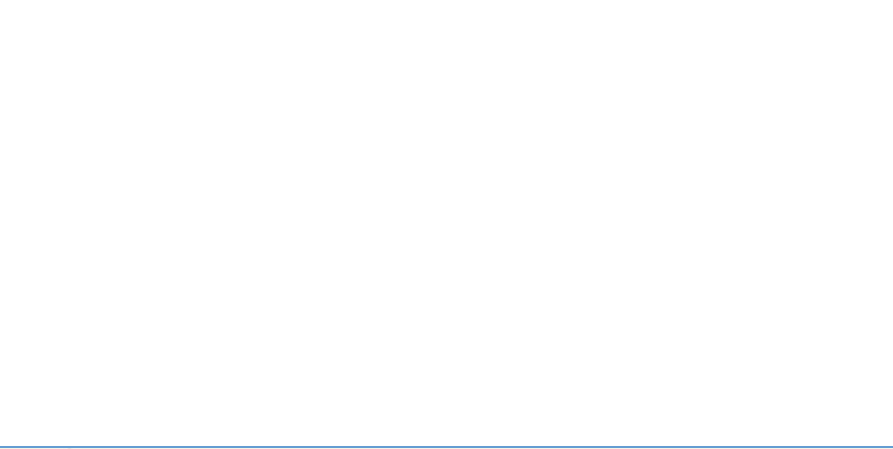
- Organic and safe methods used in garden maintenance
- Use native, drought tolerant plants
- Neonicotinoid-free plants to avoid harm to insects
- Plant many plants to encourage pollinators to visit and work
- Bioswales to more effectively manage storm water
- Environmentally friendly techniques used to avoid and treat pest issues
- Educational signage
- Audubon approved bird houses made of recycled, repurposed materials
- Year-round events hosted in gardens emphasizing benefits of gardens and green spaces, good health and environmental stewardship
- National Wildlife Federation certification
<https://www.nwf.org/Garden-for-Wildlife/Certify>
- Designed in accordance with Sustainable Sites Initiative principles -
<http://www.sustainablesites.org>
- Inspiration for creating your own healthy environments

Community engagement



Legacy Good Samaritan Park 2017 dedication





Take a break in the GS Park at 21st & Lovejoy

[LGS Park NW 21st Lovejoy.pdf](#)



Legacy gardens community volunteers 20 – 25 year-round





Garden volunteers



Community engagement partners (a sample)

- Portland Audubon
- Intertwine Alliance
- Commute Options
- Local garden centers
- Friends of Trees
- Portland Japanese Garden
- Hardy Plant Society of Oregon
- Farm stands and CSAs
- Neighborhood Associations

Portland Memory Garden



The Portland Memory Garden - Portland, Oregon



PMG Partners

Initial partners:

Alzheimer's Association

ASLA

Center of Design for an
Aging Society

Portland Parks

Legacy Health



April 4, 2021, *Growing the urban tree canopy equitably* presented by Friends of Trees at Portland Parks and Legacy's Portland Memory Garden

<https://www.youtube.com/watch?v=wHtIQBEVxY8>

Please join us for June 22, 2023, 21st anniversary celebration in the garden

[June 22 2023 21st anniversary celebration info.pdf](#)



Portland Memory Garden
Hours: 9 am - 4 pm, all days



Oregon Association of Nurseries



January 23, 2020, Oregon Association of Nurseries trade journal, *The healing power of trees*, [The healing power of trees \(diggermagazine.com\)](http://diggermagazine.com)

Oregon Association of Nurseries

plant-something.org

The Terrace Garden at Legacy Emanuel Medical Center in Portland, Oregon, serves birthing moms, cardiovascular ICU patients, families and employees. PHOTO COURTESY OF LEGACY HEALTH

DOWNLOAD THIS FLYER AND LEARN MORE AT PlantSomethingOregon.com/pmib

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Flowers and plants are so soothing that even passive exposure to nature promotes healing and can significantly speed up recovery time.³

By Elizabeth Petersen

SOURCES:

¹Wolf, K.L., S. Krueger and K. Esco. (2014). Healing and Therapy – A literature review. From *Green Cities: Good Health* (www.greenhealth.washington.edu), School of Environmental and Forest Sciences, College of the Environment, University of Washington.

²Lee, Charles R., and Madeline W. Dickson. (2011). Economic, environmental, and health/well-being benefits associated with green industry products and services: A review. *Journal of Environmental Horticulture*, 26(2):96-103.

³Park, S.H., and R.H. Malbon. (2009). Ornamental indoor plants in hospital rooms enhanced health outcomes of patients recovering from surgery. *Journal of Alternative and Complementary Medicine*, 15, 930-933.

PLANT SOMETHING
plant-something.org

DIGGERMAGAZINE.COM MARCH 2016 9

Tree promotion & local growers



Friends of Trees



FRIENDS
of TREES

FEBRUARY 25: WEST VANCOUVER NEIGHBORHOOD PLANTING



**PLANT IT
VANCOUVER!**

HELP PLANT TREES IN VANCOUVER



TREES + COMMUNITY

**VOLUNTEERING TO PLANT TREES IS A
HEALTHY AND EMPOWERING CONNECTION
TO COMMUNITY AND ENVIRONMENT.**

**Thank You
Tree Planting Partners**

**City of Portland
VOZ
Friends of Trees
People-Places-Things**



VOZ
VOZ is a worker-led organization that represents the interests of workers and promotes the integration of workers' voices into the workplace. We are a 501(c)(3) non-profit organization.

Partners for healthier communities



June 26, 2019 Legacy Emanuel Medical Center to Begin Large Tree Planting Project around 50-Acre Campus” <https://eliotneighborhood.org/2019/06/26/legacy-emanuel-medical-center-to-begin-large-tree-planting-project-around-the-50-acre-campus/>

Job training



National Initiative for Consumer Horticulture

Mission: Growing a healthy world through plants, gardens, and landscapes.

National Initiative for Consumer Horticulture

NICH
NATIONAL INITIATIVE FOR CONSUMER HORTICULTURE

#PlantsDoThat Inside!
Where We Live

GREENING THE GREAT INDOORS
Having plants in our homes is an important component of creating a sustainable indoor ecology and healthy minds and bodies. Indoor plants lead to improved overall environmental quality.

YOUR BRAIN ON NATURE
Indoor plants psychologically link us to nature.

BREATHE EASY
Indoor plants improve air quality by removing carbon dioxide, particulates, benzene and up to 90% of formaldehyde.

BRING ON THE OM
Plants stimulate both a physiological and psychological relaxation response.

COMFORT IS KING
Plants increase ambient humidity in dry indoor environments. Plants are known to increase room humidity from 20% to a more comfortable 30% under bright lighting conditions.

FAST FACTS
Plants in the room both stabilize and reduce CO₂ levels.
Each 1% addition of plants in a room results in a 6-7% decrease in formaldehyde.
Rooms with plants have fewer pollutants (like volatile organic compounds or VOCs).

FRIENDLY FLORA
Houseplants supply beneficial bacteria and increase the microbial diversity in the indoor environment - benefitting human health indoors.

Our legacy is yours.

Summary and Implications

- The three studies together provide strong evidence that the garden has positive effects on different hospital populations.
- The garden is robustly effective in reducing stress for family of ICU patients and reducing stress and burnout among nurses.
- Abundant presence of nature, seating choices, privacy access, and close proximity to users appear important for the garden's effectiveness.





Summary and Implications

- The findings imply that allocating spending to provide several modestly-sized gardens, each located close to targeted populations, may have greater overall positive impact than providing a few large gardens located far from stressed hospital populations.
- By demonstrating that a garden can outperform costly interior spaces in reducing stress and even burnout, the findings suggest a new direction for creating a strong business case (ROI) for gardens.



Legacy receives \$2m federal grant

Promoting Resilience and Mental Health Among Health Professional Workforce Program



Legacy received a three-year \$2.2 million federal grant through a program run by the Health Resources & Services Administration (HRSA). The grant, from HRSA's Promoting Resilience and Mental Health Among Health Professional Workforce Program, will be used to develop and enhance programs that reduce health care worker stress, improve employee wellness and help retain workers.

[Legacy Health Awarded \\$2 Million Federal Grant | Legacy Health](#)

[29 mil 10 grantees Health Workforce Resiliency Awards | Bureau of Health Workforce \(hrsa.gov\)](#)

Our Good Health and Well-Being Program

Development and implementation of system-wide and site-specific programs that focus on whole-body wellness, disease prevention, proper nutrition, connection to community, healthy mental and emotional coping mechanisms, reduction of moral distress, and an engaged workforce. Coordinates an inter-disciplinary team to design and evaluate policies, initiatives, and interventions that ensure a comprehensive approach to wellness at Legacy Health. Facilitates the Good Health Council and collaborates with Employee Health Services, Medical Staff Wellness Committee, and the Legacy Benefits Department.

Shamai Larsen, Program manager

Goal: Maximize employees' physical, psychological, and professional safety in the workplace. **Sub-goal:** attain NIOSH Total Worker Health affiliate status for Legacy – an evidence-based approach that prioritizes a hazard-free environment for all workers and recognizes that work is a social determinant of health.

Multi-disciplinary team members

Integration:

Some of the many services and departments we are bringing together in this journey

- Spiritual Care
- Environment of Care
- Violence in the Workplace Prevention
- Ergonomics
- Employee Health site nurses
- Benefits Department
- Senior Leaders
- Managers
- Educators (residency programs)
- Volunteer Services
- Diabetes Management Program
- Good Health Teams
- Policies and Practices
- Diversity, Equity, and Inclusion
- Nutrition Services
- Therapeutic Garden Program

Funding Research on Health Workforce Well-being to Optimize the Work Environment

Health care is a \$4 trillion component of the US economy, and the well-being of the clinician workforce is a major factor determining its effectiveness

Therapeutic Garden Program Manager is co-chair of Team Health for the HRSA 3-year grant

Collection of data about how employees use the gardens and how to improve their ability to use them

Continued garden programming for employees 24-7

Maintenance of gardens through all seasons

[Funding Research on Health Workforce Well-being to Optimize the Work Environment | Health Care Workforce | JAMA | JAMA Network](#)

Elevator speech

- ✦ a short description of an idea, product, or company
- ✦ explains the concept in a way such that any listener can understand it in a short period of time
- ✦ typically explains who the thing is for, what it does, why it is needed, and how it will get done
- ✦ usually at least explain what the idea, product, company, or person is and their value
- ✦ deliver summary in the time span of an elevator ride, or approximately thirty seconds to two minutes

Into the future: The drivers and issues...

- A whole new set of drivers has emerged in recent years – from staff well-being, climate change, and equity and access, to resiliency, community health and regulatory issues.
- Prepare for these impending changes and challenges with the best and latest forward-looking design solutions throughout all healthcare settings.
- Leading for healthier communities---the future of OIAA
- [Workshop: Into the Future: Drivers Influencing Healthcare and Healthcare Design | The Center for Health Design](#) 2/14/23

Whole health and OIAA

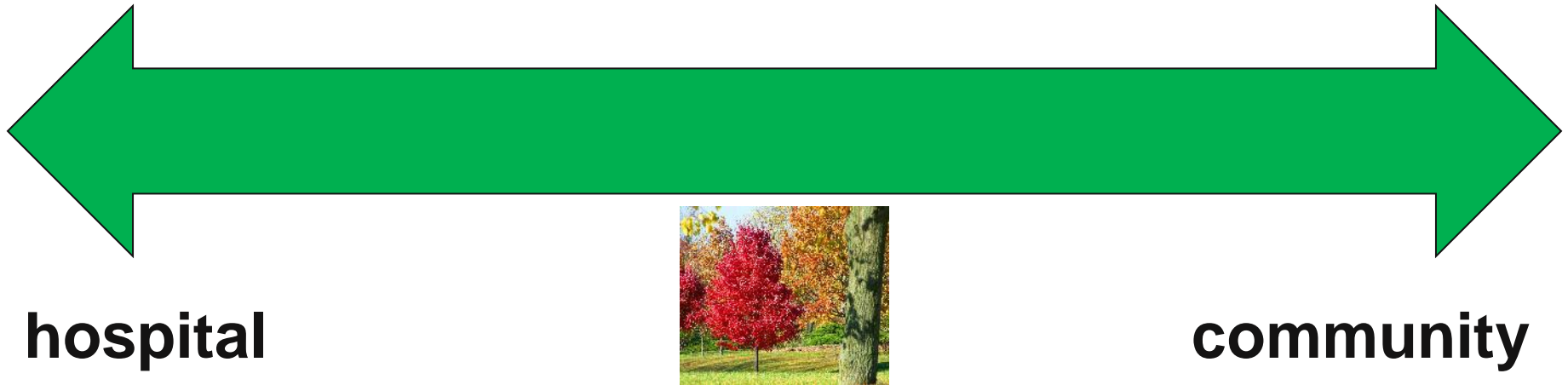
- *Whole health* is physical, behavioral, spiritual, and socioeconomic well-being as defined by individuals, families, and communities.
- *Whole health care* is an interprofessional, team-based approach anchored in trusted relationships to promote well-being, prevent disease, and restore health.
- It aligns with a person's life mission, aspiration, and purpose.
- It shifts the focus from a reactive disease-oriented medical care system to one that prioritizes disease prevention, health, and well-being. It changes the health care conversation from "What's wrong with you?" to "What matters to you?"
- [Achieving Whole Health: A New Approach for Veterans and the Nation](#)
[The National Academies Press](#)

Opportunities and community impact

- ***Trees and Human Response Series*** could help individuals and organizations make a difference by illuminating key opportunities, strategies, and innovations while providing a clear link to helpful and thought-provoking resources promoting integration of trees and nature for healthier communities.
- With a goal of promoting well-being, preventing disease, and restoring health.



Health care landscape across our communities



How are businesses, care agencies, local government, and others advancing health and wellness and addressing inequities in care in our communities?

Opportunities and possibilities for OIAA leadership.

Health and nearby nature

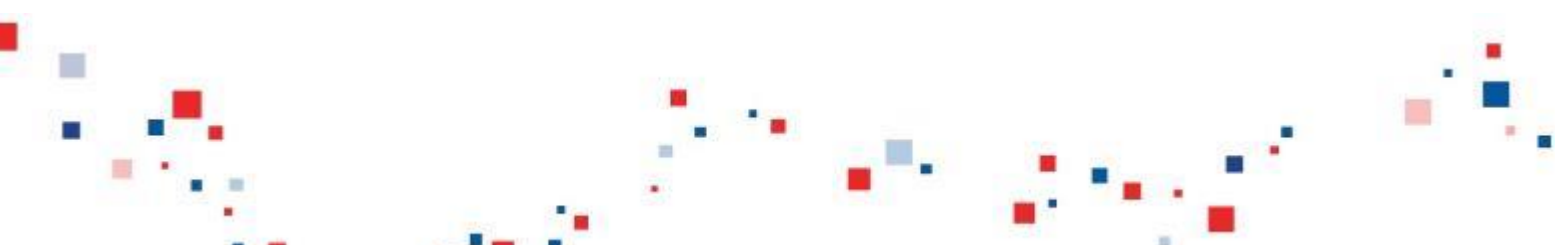


Our legacy is yours.



We are all on the same good health team!

Green in every everyday place!



| | | | | | | |
|---|--|---|--|--|---|-----------------|
| EMANUEL <small>Medical Center</small> | GOOD SAMARITAN <small>Medical Center</small> | MERIDIAN PARK <small>Medical Center</small> | MOUNT HOOD <small>Medical Center</small> | SALMON CREEK <small>Medical Center</small> | SILVERTON <small>Medical Center</small> | |
| RANDALL CHILDREN'S HOSPITAL <small>Legacy Emanuel</small> | | LEGACY MEDICAL GROUP | LEGACY HEALTH PARTNERS | LEGACY HOSPICE | LEGACY LABORATORY | LEGACY RESEARCH |

OIAA,
thank you
and trees



for growing
healthier
communities!

Brief quiz

1. What is the name of Teresia's walnut tree wildlife habitat stump?

Wally Walnut

2. How many times does your heart beat each day?

100,000 !

3. How many gallons of blood does your heart pump each day?

2,000 !

4. Name two strategies or projects that you could build on or start in order to help your community.

5. What is a favorite research study that could prove valuable in your workplace environment or community projects?

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