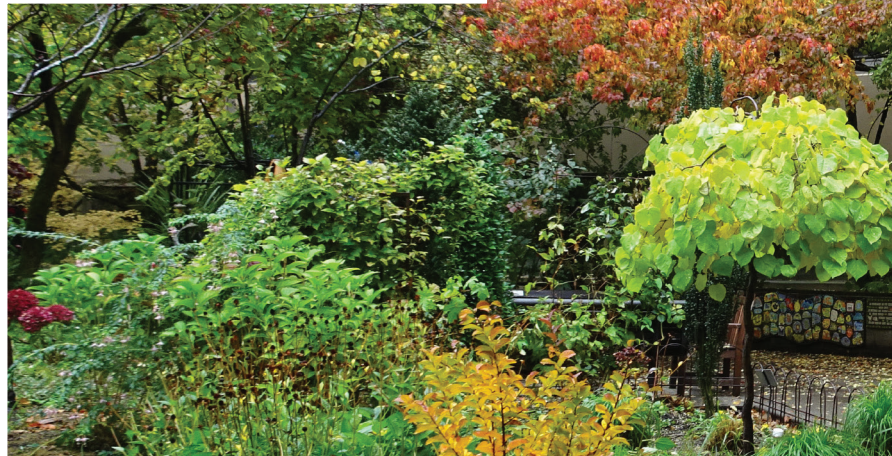


Top: Legacy Health Systems Therapeutic Garden Program installed green spaces to expose patients to the health benefits of trees.

Bottom: Legacy Health Systems now maintains 12 gardens on the grounds of its various hospitals.

PHOTOS COURTESY OF THERESIA HAZEN



The healing power of trees

BY TRACY ILENE MILLER

SCIENCE IS FINDING that, figuratively speaking, a tree a day keeps the doctor away.

Regular exposure to trees and nature can help people recover from illness and lead to better mental and physical health, according to an ever-growing body of research. To the working members of the green industry, such declara-

tions may seem like a given, but scientists have been working hard to substantiate the connection. They've turned up solid evidence that advocates hope will influence health regulations, urban planning and even economic policy.

For growers and retailers in the green industry, this growing body of research offers opportunities to promote trees in several

arenas, including policy and advocacy, as well as commercial and retail marketing.

Health and lifestyle trends

The research showing the health benefits of trees comes as the world becomes more urban, health care costs keeps rising and the threat of climate change looms.

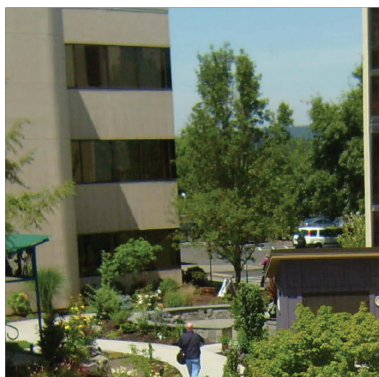
According to the United Nations, 89 percent of Americans will live in urban environments by the year 2050. That represents a 25 percent increase from 1964 and a 5 percent increase from today. Worldwide, 68 percent of the population is expected to live in cities by 2050.

Since the mid-1960s, health care spending as a percentage of the overall U.S. economy has been increasing, and it has done so at a faster rate than in other countries of the Organization for Economic Cooperation and Development, which includes 34 democracies. In 1970, the U.S. spent 6 percent of its gross domestic product (GDP) on health care, compared to 5 percent in the other countries.

Then, in the 1980s, U.S. health spending began to grow even more rapidly.

By 2017, at \$10,224 annually, the U.S. was spending 28 percent more per capita than the next-highest spender (Switzerland), according to a collaborative analysis by the Peterson Center on Healthcare and the Kaiser Family Foundation. The total bill came to \$3.6 trillion, or 17 percent of GDP.

Although the number of research studies that specifically address the role of trees and health remains small compared with the vast number focused on human health and well-being, one review of the literature found a 140 percent increase in such studies since the 1980s. Also in the 1980s, in the midst of what were the warmest years on record at the time, scientists began to pay more attention to climate change.





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Green Cities: Good Health

The scientific community has been working consistently to research how plants and trees are more than just artistic decoration or a creative outlet — they fulfill basic needs in the lives of people.

Kathleen L. Wolf, a research social scientist with the College of the Environment at the University of Washington (Seattle), has made the human benefits of trees and nature the focus of her work. She started her career as an urban forester in South Florida and a landscape architect in the Midwest. Now she studies the principles of environmental psychology and the ways humans interact with — and benefit from — open space, urban forestry and natural systems.

One of her projects, a research review known as Green Cities: Good Health, has been conducted jointly with the U.S. Forest Service and the University of Washington.

As project director, Wolf has compiled a database of more than 4,500 peer-reviewed publications to create an “overview of the scientific evidence of human health and well-being benefits provided by urban forestry and urban greening.”

The literature review takes in more than a dozen research categories, such as “healing and therapy,” “mental health and function,” and “wellness and physiology.” People exploring the project website (<http://depts.washington.edu/hhw/b/>) can view fast facts for each of these categories, then scroll down to review the detailed research, including references.

Horticulture as therapy

Teresia Hazen works for Legacy Health, a health care organization serving Oregon and Southwest Washington. The nonprofit has six hospitals and several allied programs that combined include 14,000 employees, 3,500 medical staff and 2,500 volunteers. >>

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The healing power of trees

Legacy Health gardens serve both patients and hospital employees.

PHOTO COURTESY OF THERESIA HAZEN



Hazen serves as coordinator of Legacy's Therapeutic Garden Program, launched in 1991, which incorporates academic research about the benefits of trees and nature into patient care. She pioneered Legacy's horticultural therapy initiatives and the construction of a therapeutic garden for Legacy's long-term care and skilled nursing patients.

The first therapy garden took five years to complete, serving as the strong basic model to emulate. A second garden followed in 1997, and today, Hazen oversees an integrated system of 12 hospital gardens for patient rehabilitation, recovery and restoration. These gardens have also become a place where employees can recharge, and Legacy encourages them to do so.

"We have 'troopers' who love to do patient care, and we have to remind them to take breaks — self-care," Hazen said.

In the research, gardens that are labeled "well-designed native settings" are ones that are designed in such a way that they require no direct attention by users looking to rejuvenate.

"Restoration happens automatically," Hazen said. "You don't have to think about it." Last year, the therapeutic design of Legacy's second-floor terrace garden at Legacy Emanuel Medical Center in Portland won the Center for Health Design's Evidence-Based Design Touchstone Award-Platinum.

The design was acknowledged for including a number of research-supported features of gardens that reduce stress. It incorporates an informal, natural style with abundant vegetation and is easily accessible for people with crutches and other mobility aids, while still offering privacy and shade.

"In our gardens, trees are the framework for our therapy," Hazen said.

Physicians make use of the gardens and will often prescribe garden time for their patients. They know the act of getting outside can improve patient strength and endurance. Moreover, the gardens serve as a desired destination, and as such, they provide patients with the motivation to move, engage and get back to good health.

"Coming to a garden with carefully placed and selected trees also provides

a supported setting where families can come together to take care of each other," Hazen said.

The gardens are open to the public and include botanical signage. While Hazen has planted familiar species as a comfort to patients, she likes to inspire and is always looking for new tree varieties to include. She seeks out plant material that offers sustainability, as well as disease and pest resistance.

Since the Therapeutic Garden Program first began, the J. Frank Schmidt Family Charitable Foundation has been donating trees to it.

"We invested in giving them the resources 20 years ago, and their research is now going mainstream," said Nancy Buley, director of communications at **J. Frank Schmidt & Son Co.**, a tree breeder and grower based in Boring, Oregon. "The recognition of the health benefits is vaulting from science to the mainstream."

For instance, the Nature Conservancy, normally known for its support of wild places, published a white paper in 2017 on urban trees that champions tree-planting projects in cities. This past summer, *Science* magazine published an article on the potential of forest canopies worldwide to mitigate climate change.

And in late 2019, the *New York Times* reported that the City of Los Angeles is now focused on bringing trees to underserved communities in part to address tree deficiencies in those areas. Officials see it as a public health issue. Those living in areas with more trees experience lower asthma rates, reduced hospital visits during heat waves, and improved mental health, as compared with residents of communities that have fewer trees.

Marketing opportunities for growers

According to Buley, this attention on the health benefits of trees opens up some distinct, and long overdue, marketing opportunities for growers.

"As growers of trees, shrubs, grasses, ground covers and all things green, we're an essential part of the solution, but generally speaking, we're not even part of the conversation," she said.

All sorts of tools — scientific research, websites, non-profit organizations — are available, with the information going mainstream, and there's room to embrace it, to add value to products and use the information to sell trees, she said.

The "Trees Are the Answer" trunk wraps Schmidt created four years ago to promote the health benefits of the trees represents one kind of tactic for growers.

"The wraps are very popular with our customers," Buley said. "They're colorful, carry a good message and attract the attention of garden center customers."

There are also partners like the Arbor Day Foundation, whose mission is to inspire people to plant, nurture and celebrate trees. "Studies give us this cumulative idea that trees are good for our health," said Pete Smith, urban forestry program manager at the foundation. "17 to 19 percent of our GDP is tied to trees."

The foundation has posted valuable research on the health benefits of trees on its website at www.arborday.org and has established national programs, including Tree City USA and Tree Campus USA. Tree City USA recognizes cities for meeting certain standards of tree cover. Tree Campus USA recognizes educational institutions that establish and sustain healthy community forests, and which involve students in these goals.

More recently, the foundation added two new recognition programs: Tree City K-12 and Tree Campus Healthcare. These provide an opportunity for those campus grounds managers and sustainability staff of health facilities, respectively, to look beyond the footprint, engage tree professionals and contribute to the health of the community, Smith said.

Smith wonders whether the nursery industry could reach out more to targeted audiences — perhaps at health care or education conferences — and spread the word. Trees can clean water, clean air and improve human health, whether at home, work or a hospital, Smith said.

"It is helpful for growers to have an understanding that they are not just in the business of marketing this product, but part of what they are selling is the sizzle of

The Children's Garden was built for young patients.
PHOTO COURTESY OF THERESIA HAZEN



the tree, the benefits those trees provide,” he said. “You’re planting an energy-saving device when you provide a shade tree that will provide summertime cooling. You’re planting a new mechanism for healing.”

Nicholas Staddon served as director of new plants and national spokesperson for **Monrovia Nursery Company** (based in Azusa, California) for more than 27 years. He now works for **TreeTown USA** (based in Houston, Texas, with significant growing operations in Oregon) in the areas of intellectual property, new plants and marketing, and Mountain States Wholesale Nursery (Glendale, Arizona) in intellectual property and marketing.

Like others, Staddon feels more could be done to market the health benefits of trees and plants.

“If I was standing in a room of 100

growers and asked: ‘When you think of your plants, what’s the first thing you think about?’ Chances are the first thing they think about is profit,” Staddon said. “They’re growing plants to make money. But how good a job are we doing as a group in communicating the benefits of trees?”

Staddon met Hazen of Legacy Health years ago, and ever since, he has been a speaker (and a self-proclaimed “flag carrier”) on the topic of horticultural therapy.

“Plants have become a therapy whether



we realize it or not,” Staddon said. “When people look at or smell flowers, or it’s a hot day and they’re rescued under the shade of a tree, or eat an apple, their emotions are revitalized. Horticulture stimulates emotions in the best way.”

“Our professions, whether growing plants or creating landscapes, are on the precipice of an opportunity as people begin

to realize how important plants are for their health and well-being,” he said. “There’s an opportunity to seriously focus on the emotion and the good trees do.”

There’s the financial side, and there is the health side that sales teams could be marketing as well, Staddon said.

“We can talk about that they are >>



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The healing power of trees

Events are held in the hospital garden to draw people to the spaces. COURTESY OF THERESIA HAZEN

seedless, what they look like in fall, their flowers and that they are 15 feet high, but are we talking about the benefits of these plants, whether in cities or individual landscapes?" he asked. "The door is wide open to become educated and to promote plants, to have materials to support the benefits, and communicate that to sales team and the communities they live in."

Marketing opportunities for retailers

On the retail end, in 2007, the Arizona Nursery Association (ANA) hired a marketing firm to help it develop comprehensive messaging for retail garden centers. The advice the association got?

"This industry needs to promote the environmental, financial and health benefits of trees," ANA Executive Director Cheryl Goar Koury said.

Out of that came the Plant Something program (www.Plant-Something.org). ANA has signed up 25 state and provincial partners, including the **Oregon Association of Nurseries**, who provide marketing materials and messaging that their members, and those in other participating states, can use.

For example, OAN created its Plants Make Life Better flyers under the Plant Something banner. These are available at www.plantsomethingoregon.com/pmlb.

It's not enough anymore to promote trees and plants only for their looks, that they are pretty, Goar Koury said. "The advice was to talk about the benefits of plants and trees, what trees do for you," she said. "Our industry needs to stand up and talk about those benefits."

The campaign is geared primarily to single-family homeowners who shop at retail centers, said Goar Koury. ANA found that retailers using the program aggressively reported 10 percent increased sales year over year. "It's another tool in the toolbox," Goar Koury said. "Our retailers find value in using the marketing tools we created. Trees, and the industry, have a positive effect, and we are at the point where people care about that."

Making climate change personal

Buley said she hadn't thought about the personal nature of health as it relates to trees until attending the November annual meeting of the American Society of Landscape Architects in San Diego, California. There she heard former EPA administrator Gina McCarthy talk about climate change.

McCarthy mentioned that health makes climate change personal, and gives people a reason to care. That in turn can motivate action.

Wolf described it this way: "Health is not just access to care facilities, hospitals and doctors, but it's much more. It's the physical, mental and social well-being of people."

Her work with colleagues to comprehensively review research found specific scientific support that nature in cities improves air quality and many diseases associated with poor air quality as well as supports good health and stress reduction.

The next steps of economic valuation are the hardest, but necessary.

"Classic economics, of supply and demand, can't apply to urban forests," Wolf said. "We can determine the costs, but determining the benefits is quite difficult. We don't have market values that establish these price points."

But nonetheless, that is Wolf's goal, and that of her colleagues. They want to identify the economic value of nature to human health and wellness, so that politicians, economists and planners can more easily rely on it for decision-making.

As this emerging research moves toward pinpointing the cost-to-benefit analysis of urban forests, growers and retailers can be watching as the literature for the health benefits of trees continues to evolve to bolster messaging to customers that trees are inextricably important to us all for our economy and for our personal health. ☺

Tracy Ilene Miller is a freelance writer and editor who covers several topics, including gardening. She can be reached at tracyilenemiller@gmail.com.