

Growing Health and Wellness in the Community Garden

Jill Litt, PhD, led research demonstrating that participation in community gardening is associated with decreased cancer risk.

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There's a growing body of research supporting the satisfactions of gardening, from its [positive impact](#) as a mental health intervention to [its association](#) with improvement in cognitive function and reduction in stress, anger, and fatigue.

Anyone who's ever dug their hands into soil and reaped a late-summer harvest can probably attest to what they have gained from the experience.

Now, a first-of-its-kind randomized controlled trial demonstrates that participation in community gardening is associated with decreased cancer risk.

University of Colorado Cancer Center member [Jill Litt, PhD](#), a professor of environmental studies at CU Boulder, led [research recently published](#) in The Lancet Planetary Health and funded by the American Cancer Society showing an association between community gardening and an increase in fiber intake and physical activity, as well as reductions in stress and anxiety, factors demonstrated to reduce cancer and chronic disease risk.

"One of the things I love about this research is that it gives us scientifically sound evidence for something that a lot of people might just sense, which is that gardening is good for you," explains Litt, who currently is in Barcelona, Spain, as a senior researcher at the [Institute for Global Health](#).

Gathering data in the garden

Litt, an environmental epidemiologist, came to this work by first researching environmental toxics and cancer risk in Baltimore, Maryland. As she studied the clean-up and redevelopment of valuable urban land, and the policy decisions underlying whether and how green space was incorporated into the redevelopment, she gained perspective on how that land could potentially benefit communities.

After coming to CU, she was contacted by [Julie Marshall, PhD](#), professor emeritus of epidemiology in the [Colorado School of Public Health](#), about an opportunity to partner on research with [Denver](#)

[Urban Gardens.](#)

“Michael Buchenau, then executive director of Denver Urban Gardens said, ‘We have this system of urban gardens, we think it has benefits, but we haven’t studied it in a systematic, scientific way to gather data on health and well-being’,” Litt recalls. “I was able to work with John Brett, who’s a nutritional anthropologist at CU Denver, and we generated some really fascinating pilot data.”

Supported by a [K Award](#) from the Centers for Disease Control and Prevention, Litt partnered with specialists in architecture, urban planning, urban design, land use, and social science to understand the health and social benefits of community gardening using a battery of mixed methods including [population-based surveys](#) in Denver.

“We were able to publish a lot of papers, but the research still felt vulnerable to the limitations of observational studies,” Litt says. “So, we proposed research that would be run like a drug trial, with the same adherence to blinding, quality control, and quality assurance procedures.”

Studying research outcomes

Litt worked closely with [Cathy Bradley, PhD](#), deputy director of the CU Cancer Center, and other partners to push this research idea over the funding line. They developed a trial in which 291 adults from the Denver metro area were recruited and randomized to observer-blinded community gardening treatment and control groups. Participants were required to be at least 18 and to not have gardened in the previous two years, and researchers were masked to group allocation.

Those in the community gardening group received seeds and seedlings, a free community garden plot, and an introductory gardening course. Those in the control group were asked to wait one year to start gardening, and then received a garden plot as a thank-you for their participation.

Participants in both groups took spring, autumn, and winter surveys about their nutritional intake, health status, social activities, nature engagement, and mental health; wore activity monitors; and provided body measurements. Participants’ average age was 41, more than half were from low-income households, and more than a third identified as Hispanic.

The research happened in three one-year waves with approximately 100 participants in each wave, and researchers focused on three outcome areas: nutrition, physical activity, and mental health. In analyzing the data, Litt and her co-researchers found that study participants in the gardening group, compared with those in the control group, consumed 1.4 grams more fiber per day, did 5.8 more minutes of moderate-to-vigorous physical activity per day, and showed greater reductions in perceived stress and anxiety.

Gardening and wellness

“I feel really good about the rigor of this study,” Litt says. “We were so disciplined in how we

conducted it, to the point that we had times where people were coming in for assessments and we had to intercept them at the door because they were carrying boxes of their bounty. On one hand, as a human being, that's absolutely wonderful, but it was so important that we maintain our blinding."

The data gathered in the research aligned with previous studies indicating that gardening is associated with improved health outcomes, including outcomes in risk factors for cancer. Litt says she would like to follow up with the research cohort, of which more than half continued gardening in the community plots and another quarter began gardening at home.

"Another thing I love about this research is the idea of 'stealth health'," Litt says. "In general, people don't garden because they're specifically saying, 'I want to be healthy,' but more because they want to be in contact with the earth and it makes them feel good. The thing we hear over and over is, 'I want to get my hands dirty.' I could tell you how to say that in probably 20 languages. It makes people feel good and they enjoy the satisfaction of seeing things grow."

"If you look at self-determination theory and work from this idea of trying to find out what motivates people, what makes them tick, then gardening is a good example. Instead of lecturing people and telling them what to do, telling them to change their behaviors, if we start from a place of, 'What do you like to do?' then gardening becomes about just trying to be well."

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