

**Green Thumbs, Healthy Joints: Volunteers, Not Dollars,  
Predict Engagement with Older Adults**

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**Abstract**

*The Green Thumbs, Healthy Joints program utilizes volunteers to help modify gardening activities using ergonomic tools and raised flower beds with the goal of increasing the involvement of older adults with joint pain. Health promotion programs, such as the Green Thumbs, Healthy Joints program, that facilitate physical activity for older adults with disabilities can be therapeutic, helping to lower the prevalence of risk factors such as cardiovascular disease, hypertension, obesity, and depression. This article assesses the characteristics of the Green Thumbs, Healthy Joints program, including its implementation at 23 different project sites. Volunteers built raised flower beds at each project site and older adult participants with joint pain used the flower beds to participate in gardening activities. Project sites that received a greater number of volunteer hours served a greater number of older adults. Neither the number of volunteer hours committed nor the number of older adults served were related to project sites' budget requests or project site type ("community" vs. "assisted living"). This suggests that the number of older adults participating in the Green Thumbs, Healthy Joints program is primarily related to the number of volunteer hours each project site receives, and that the program may be implemented in a variety of sites.*

**Key Words:**

older adults, volunteer, program evaluation

**Introduction**

Physical activity modified for older adults who are suffering from a disability, such as arthritis, can be therapeutic and beneficial (Chen, Gill, & Prigerson, 2005; Kesaniemi, Danforth, Jensen, Kopelman, Lefebvre, & Reeder, 2001). The Green

Thumbs, Healthy Joints program sponsored by the Center for Excellence in Disabilities (CED) at West Virginia University (WVU), and funded by the West Virginia Department of Health and Human Services' Osteoporosis and Arthritis Program under the Bureau for Public Health, modifies

gardening accessibility with the aim of increasing older adults' physical activity. Volunteers are critical to the success of the Green Thumbs, Healthy Joints program. Volunteers involved in the Green Thumbs, Healthy Joints program help to implement the program and build wheelchair- and walker- accessible raised flower beds at a variety of sites. The flower beds are then maintained by participants who are primarily older adults with arthritis and other people with joint conditions. Raised flower beds and ergonomic tools are used to help minimize overuse of joints that are susceptible to arthritis and other musculoskeletal conditions, such as carpal tunnel syndrome.

Despite the important role of volunteers in the implementation of community health programs such as Green Thumbs, relatively little research examines the correlates of volunteers' engagement with health-promotion programs (Bryant, Altpeter, & Whitelaw, 2006; Nutbeam, 1998). In this article, we examine correlates of volunteer and participant engagement in the Green Thumbs, Healthy Joints program. We also consider the resources and needs of sites that implement the Green Thumbs, Healthy Joints program. We begin by providing a description of the Green Thumbs, Healthy Joints program and the sites where it was implemented from 2007 to 2009.

### **The Green Thumbs Healthy Joints Program**

Each year, the CED at WVU receives requests for funding to implement the Green Thumbs, Healthy Joints program from organizations across the state of West Virginia. These organizations include senior and community centers, hospitals, gardening clubs, and residential care centers—among others. Funds (up to \$1,000.00 per year) are requested to support the costs of

constructing wheelchair- and walker-accessible raised flower beds and to implement other modifications to increase the accessibility of gardening activities for older adults and others with disabilities.

In 2009, the CED at WVU allocated funding to 21 different organizations to implement the Green Thumbs, Healthy Joints program. Funding was used to purchase and build equipment that enhanced accessibility to gardening activities. For instance, raised flower beds and seats on wheels minimized bending and stooping, while kneeling pads with handrails made working near the ground more accessible. Some raised flower beds were made portable by placing them on wheels so that they could be rolled indoors to be maintained by people of limited mobility. Additionally, extendable water wands with self-coiling hoses and telescopic tools facilitated access to immobile and difficult to reach plants—particularly for people who were in a seated position, such as people who used wheelchairs. Most hand tools that were used in the Green Thumbs, Healthy Joints program (e.g., ratchet pruners), were ergonomically designed with large grips to reduce fatigue. To help minimize strain from lifting, wheeled carts were used to transport tools and other gardening materials.

The Green Thumbs, Healthy Joints gardens are established and maintained by a variety of groups and help to beautify a range of public and private areas across the state. For instance, gardens have been established at public senior and community centers, private personal care and rehabilitation centers, public parks, churches, and public housing facilities. Moreover, the function of Green Thumbs, Healthy Joints gardens is not just limited to increasing accessibility to gardening activities and beautification. Vegetables have been planted in the raised beds, and

have been used as a tool for nutrition education and as a source of fresh produce at some project sites.

The impact of the Green Thumbs, Healthy Joints program has grown in recent years. In 2007, the program was implemented by five different organizations in West Virginia. In 2008, the program was implemented by seven organizations, and by 2009 the number had grown to 21 different organizations. As of 2009, the Green Thumbs, Healthy Joints program had been implemented at a total of 23 different sites where 245 volunteers and 353 participants were involved. Between 2007 and 2009, these sites included four assisted living sites such as hospitals, group homes, and nursing homes, 13 community sites including senior centers, community centers, and public parks, and six other sites, such as private homes, businesses, and apartment complexes. Thus, Green Thumbs, Healthy Joints is a versatile program. It can be implemented at a variety of sites and serve a relatively large number of people with a range of needs.

### **Resources and Needs**

The degree of funding required and the cost-effectiveness of programs are important considerations when designing health promotion programs (Goetzel & Ozminkowski, 2008; Hatziandreu, Koplak, Weinstein, Caspersen, & Werner, 1988). At the beginning of each year, all of the organizations responsible for implementing the Green Thumbs, Healthy Joints program submit a project budget for the upcoming year, followed by an annual report at the end of each year, which are reviewed by the CED at WVU. These budget requests and annual reports provide information regarding the needs, as well as volunteer and participant engagement, at each site. Project budgets include anticipated need for

monetary support in each of the following categories: materials, tool costs, outreach costs, total estimated budget, and total Green Thumbs, Healthy Joints budget request. Importantly, however, the total number of hours that volunteers commit at Green Thumbs, Healthy Joints project sites is not related to any part of sites' budget requests. Moreover, the number of participants with joint conditions who are served is not related to any aspect of project sites' budget requests. Indeed, the organizations that implement the Green Thumbs, Healthy Joints program are able to engage volunteers and serve participants with little or no regard to the amount of monetary support they request from the CED at WVU (see Table 1.)

### **Volunteer and Participant Engagement**

Project sites' annual reports indicate that volunteer engagement is particularly important within the Green Thumbs, Healthy Joints program. Specifically, the number of participants with joint conditions who are served is positively related to the total number of volunteers. Moreover, the number of participants with joint conditions who are served is also positively related to the total number of hours that volunteers commit. This raises the question of what factors might enhance volunteer engagement.

One factor that may be related to volunteer engagement is the type of Green Thumbs, Healthy Joints site; some sites might be more accessible to volunteers than others. However, when comparing the three types of project sites ("community", "assisted living", and "other"), there is no significant difference in number of volunteer hours committed across the three site categories. Thus, although each project site differs in a number of ways, the Green Thumbs, Healthy Joints program receives a

comparable degree of volunteer commitment across a variety of different sites.

### **Conclusions and Improving for the Future**

The Green Thumbs, Healthy Joints program is versatile—both in terms of the manner and site in which it can be implemented, and in the purpose that it serves. Green Thumbs, Healthy Joints can be primarily or entirely volunteer-implemented at both public and private facilities. Additionally, the program's function can include the facilitation of physical activity for people with joint conditions, community beautification and rejuvenation, horticultural and nutritional education, and the provision of fresh produce.

The importance of having committed teams of Green Thumbs, Healthy Joints volunteers cannot be understated. The relation between the number of Green Thumbs, Healthy Joints volunteers, volunteer hours and the number of participants served suggest that volunteers (and not necessarily budget requests) are most closely related the participation of older adults with arthritis and others with joint conditions. These findings are particularly relevant given the current economic climate where many public and non-profit programs are experiencing budget shortfalls and funding restrictions (Gatty, 2010).

Efforts should be directed toward understanding the reasons why volunteers choose to become involved in health-promotion programs. Indeed, the relevance of understanding factors such as volunteer motivation (Millette & Gagné, 2008) should be made clear to directors of volunteer-implemented health promotions programs. Directors of health promotion programs could collect such information and use it to

improve volunteer recruitment and retention.

The consequences of program participation for participants' health and the health of volunteers should also be investigated in future research. Health promotion programs that increase physical activity can lower the prevalence of depression and risk factors for cardiovascular disease such as hypertension and obesity (Nelson et al., 2007; U.S. Department of Health and Human Services, 1996). Measures that may be appropriate to incorporate in the Green Thumbs, Healthy Joints program, and other similar programs, include the Rheumatoid Arthritis Disease Activity (RADAI; Stucki, Liang, Stucki, Brühlmann, & Michel, 1995), self-reported stress (Cohen, Kamarck, & Mermelstein, 1983), or the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Collecting such information from both volunteers and participants would clarify whether and how a given health promotion program impacts both groups, and may highlight the need for such programs.

In summary, the success of volunteer-implemented health promotion programs, such as the Green Thumbs, Healthy Joints program, may ultimately depend on the commitment of volunteers; a valuable asset that may be obtained with little or no regard to program funding. The Green Thumbs, Healthy Joints program is a relatively low-cost, volunteer-implemented health promotion program that is adaptable to a range of purposes, and which may be employed in a variety of sites. Because of these characteristics, the Green Thumbs, Healthy Joints program is a strong candidate for replication in areas where volunteer-implemented health promotion programs aimed at older adults are needed.

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Table 1

*Pearson Correlations for Total Volunteer Hours, Total Number of Volunteers, Number of Participants, and Budget Requests*

	1	2	3	4	5	6	7
1. Total Volunteer Hours	1						
2. Total number of volunteers per project site	.228	1					
3. Number of participants with joint conditions	.773**	.494*	1				
4. Materials budget request	-.043	.390	-.088	1			
5. Tools budget request	-.093	.119	.157	-.269	1		
6. Outreach budget request	.063	.029	.176	-.156	.650**	1	
7. Total budget request	-.108	-.084	-.198	.376	-.210	-.038	1

\*\*  $p < .01$  \*  $p < .05$

### **About the Authors**

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