

Executive Summary

**Harvesting Health:
Investigating the Therapeutic Benefits of Gardens**

by

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**A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in partial
fulfillment of the requirements for the degree of**

Master of Science

in

Health: Science, Technology and Policy

**Carleton University
Ottawa, Ontario**

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Project Overview

The purpose of this project was to identify both the health benefits associated with gardens, particularly gardens in institutional or organizational settings, and methods for assessing the various outcomes. Whether found within a home, community, or healthcare setting, gardens vary in purpose to suit any number of specific or general needs, such as assisting healing, providing greater food access to a community, or simply existing as a social space where individuals come together to share a common interest; they serve beneficial purposes in a variety of ways and circumstances (Kingsley, 2009). Research on the ways in which garden settings contribute to positive health outcomes aligns with the growing attention paid to health environments as a key component of health promotion (World Health Organization, 1986; CoPEH, 2015; Canadian Public Health Association, 2015).

The literature indicates that although substantial evidence exists regarding the health outcomes associated with gardens, there is a limited amount of empirical research providing concrete support for the benefits of gardens in health settings, specifically (Ulrich, 2002). This study investigates gardens' therapeutic effects and their related evaluation methods, including the needs for and barriers to evaluation. We conducted an environmental scan of health-related gardens, a literature review (on the topics of health, nutrition, education, and economics, as each related to gardens and similar activities such as farm-to-fork programs, sensory gardens, or yard work) and eight interviews with key institutions and organizations that have gardens intended for health benefits. We also developed a database with relevant tools that can be used to assess the health outcomes associated with gardens (including physical, mental, social and nutrition benefits).

Results

Environmental scan. We identified 124 gardens with online presence whose focus is on health and healing. The report includes a complete list of these initiatives.

Literature review. Results from the literature review indicate that gardens are associated with a range of beneficial health outcomes, including the following areas:

- Healing & Recovery
- Psychological Benefits
 - Stress & anxiety
 - Depression & crisis
- Cognitive Benefits
 - Attention & concentration
 - Memory & other cognitive function
 - Academic performance
- Nutritional, Dietary, & Weight Benefits
 - Nutritional knowledge
 - General attitudes & confidence in healthy eating
 - Preferences & taste ratings of fruits and vegetables
 - Willingness & interest to try new fruits and vegetables
 - Fruit & vegetable consumption
 - Micronutrient intake
 - Obesity & healthy weight

Research interviews. Results from the interviews echo many of these themes found in the literature and link them specifically to institutional and organizational gardens, particularly their various health benefits with respect to physical recovery, psychological wellbeing, and dietary behaviours, among others. The interviews also contextualized the findings from literature within the needs of different groups, such as of those with cancer, dementia and other memory problems, psychiatric illness, and micronutrient deficiencies, among others. Additional benefits included social interaction and skill-based and educational opportunities. Study participants also highlighted some limited evaluation methods they use to assess their gardens' health outcomes, and noted that the ability to evaluate their therapeutic gardens' impacts is critical for a variety of reasons. For example, evaluation results are essential to demonstrate the effectiveness of their gardens from a health perspective, and for accessing additional funds; many foundations and funders want to see specific outcomes related to garden use to justify allocating funding to it. However, study participants discussed important barriers that prevented them from completing more thorough evaluation; for example, a lack of awareness regarding existing evaluations tools.

Measures database. Our review of the literature shows that there are many different ways that therapeutic gardens' health benefits can be assessed. The identified evaluation tools have been captured within the **Measures Database**, provided in **Appendix E**, which we created to address the knowledge gap that participants identified as preventing them from conducting proper and thorough evaluations. The number and diversity of measures included in the evaluation tools database indicates that many different social, physical, and mental health tools can be utilized to evaluate the therapeutic impact of institutional or organizational gardens. This database is an access point and resource for evaluation; it was created to provide institutions and organizations with health-oriented gardens, such as those interviewed in this study, with an easy-to-use compilation of evaluation tools that can be used to assess the health outcomes of their garden. With the database, institutions and organizations can select the types of measures that are applicable to their needs.

Recommendations for Successful Gardens

Some study participants provided recommendations for establishing a successful therapeutic garden. One important aspect of creating a successful garden is that doing so requires adopting a big picture perspective. Beyond economic considerations, the particular social and therapeutic benefits to patient groups should be considered when establishing a health garden in a care setting, and this big picture perspective should be conveyed to the funders themselves. Additionally, community partnerships are necessary, and developing them prior to garden establishment can enhance success by addressing resource issues, such as by helping to provide plants and seeds at a reduced or free cost. In addition, it is important to note that garden use and user feedback is also valuable information to provide when trying to secure funding. For more information regarding considerations for the successful design of therapeutic gardens, institutions can refer to the book *Therapeutic landscapes: An evidence-based approach to designing healing gardens and restorative outdoor spaces* (Marcus & Sachs, 2013).

Future Directions

Priority areas for further research include administrative and economic considerations for establishing gardens with a health-oriented focus, particularly within institutional settings, such as clinical and other care settings. This could include the necessary human resources, funding, space and infrastructure, partnerships, and best practices associated with successful gardens. Institutions and organizations that are establishing, evaluating, or further developing their gardens could benefit from access to resources and documentation regarding best practices, and also by developing meaningful partnerships with local organizations and engaging members of the community as a means to gain support for future projects. Lastly, the construction of a network of health-oriented gardens as a resource for mutual support and advice in these areas would also be beneficial. All of these areas of future research would add to the findings from our study.

Knowledge Mobilization & Research Dissemination

This research project was done in collaboration with Project SOIL (Shared Opportunities on Institutional Lands). A final report of this project is available at <http://projectsoil.ca>. The report was released on April 18th, 2016, at the Hôpital Glengarry Memorial Hospital in Alexandria, Ontario.