



COMPREHENSIVE  
CANCER CENTER

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# The Southwest Harvest for Health Study

Cindy Blair, MPH, PhD  
Department of Internal Medicine



THE UNIVERSITY OF NEW MEXICO COMPREHENSIVE CANCER CENTER

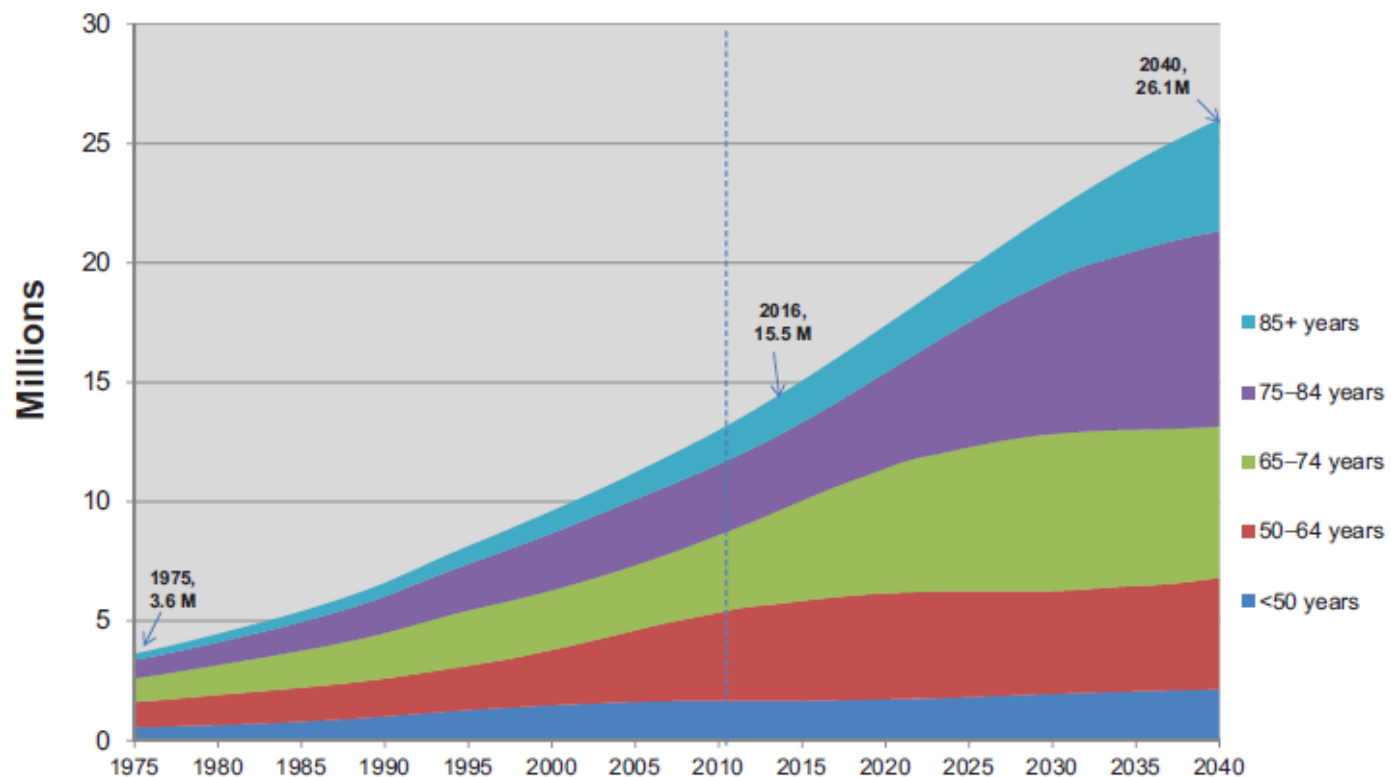


# Overview of Presentation

- Cancer Survivorship
- Health Promotion Interventions
- Southwest Harvest for Health Feasibility Study
  - Adaptation process and outcomes
  - Study design
  - Preliminary results

# Background Cancer Survivors – Good News

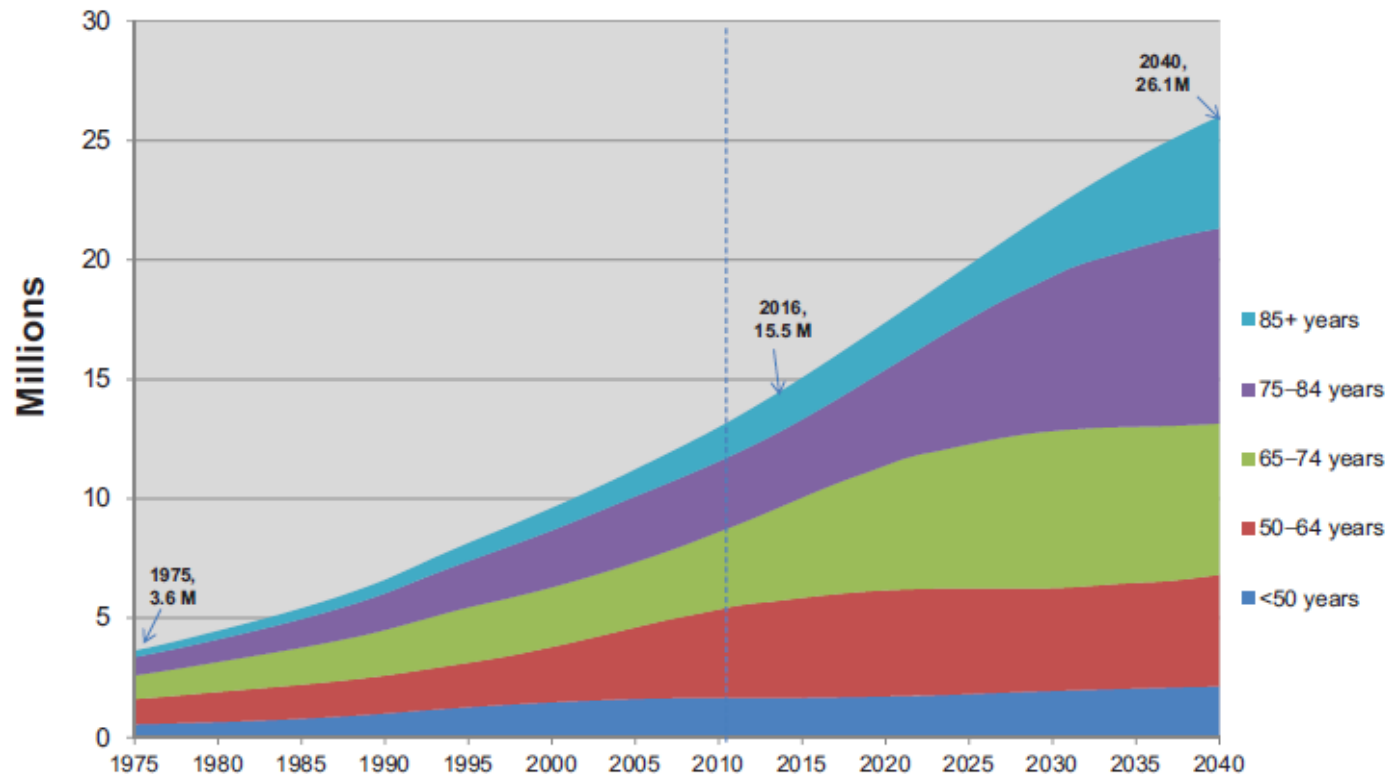
ESTIMATED PREVALENCE OF CANCER BY AGE  
(U.S. 1975-2040)



# Background

## Cancer Survivors – Good News

### ESTIMATED PREVALENCE OF CANCER BY AGE (U.S. 1975-2040)



### CANCER SURVIVORS (CURRENT ESTIMATES FOR U.S.)

- 16.9 million cancer survivors (5% of population)
- 67% of survivors living 5+ years
- 45% of survivors living 10+ years
- 64% of survivors are 65 years or older

# Background

## Cancer Survivors – Bad News

- Increased risk for morbidity, premature mortality, and diminished quality of life
  - Recurrence and second malignancies
  - Chronic disease
    - Cardiovascular disease
    - Diabetes
    - Osteoporosis
  - Impaired physical functioning
- \$137 billion annually

NCI Cancer Trends Progress Report  
[https://progressreport.cancer.gov/after/economic\\_burden](https://progressreport.cancer.gov/after/economic_burden)

# Background

# Health Promotion Interventions

- Goal: to prevent, delay, or mitigate the age- and treatment-related effects
- Improve diet quality
- Increase physical activity
- Weight loss / avoidance of weight gain
- Improve health-related quality of life (QOL)

# Background

# Health Promotion Interventions

**Efficacious interventions exist to  
improve diet, physical activity, or  
physical function,  
HOWEVER ...**

# Background Research Gaps

- External generalizability is limited
- Long-term durability is unknown
- Dissemination and scale-up are limited





## SOUTHWEST HARVEST FOR HEALTH

# Background

# Vegetable Gardening

- Health benefits
  - Healthier diet
  - Healthier body weight
  - More physically active
- Psychosocial benefits
  - Enhanced self-esteem
  - Increased independence
  - Increased zest for life
- Additional benefits
  - Potential for sustainability (variety of tasks, natural motivation)
  - Holistic approach to modifying lifestyle behaviors

# Background

## Harvest for Health

- Home-based, mentored vegetable gardening intervention
- Pairs cancer survivors with a Master Gardener (MG) from Cooperative Extension
- Gardening supplies and educational materials provided by the study
- Survivor/MG dyads plan and plant 3 gardens during the year
- Survivor/MG dyads work together to harvest, rotate plantings, & troubleshoot problems
- Communication via monthly home visits and support provided monthly via telephone or e-mail

## Background

# History of Harvest for Health

- Developed in Birmingham, Alabama by Dr. Wendy Demark-Wahnefried, PhD, RD
- Community-based partnership: UAB and the Alabama Cooperative Extension Service
- 3 Pilot studies completed
- R01 (state-wide) on-going

# Harvest for Health Preliminary Results

- Increased vegetable intake
- Increased physical activity
- Improved physical functioning
- Improved health-related quality of life



And equally important ...

- High satisfaction from participants and master gardener's

**Harvest for Health**

**Designed with dissemination in mind**

# Harvest for Health

## Designed with dissemination in mind

- Cooperative Extension Service (Extension)
  - Education and outreach arm of land-grant universities nationwide
  - Recruit and train volunteers to help deliver research-based information & education

# Harvest for Health

## Designed with dissemination in mind

- Extension Master Gardener Program
  - An examples of an educational outreach program
  - Exists in each U.S. state and territory
  - Volunteers receive training in research-based gardening education
  - Perform community-service in return for their training



# Next steps ...

**Adapt Harvest for Health  
for the unique culture  
and environment  
of the Southwest**

# Adaptation

- Definition: “a process of thoughtful & deliberate alteration to the design or delivery of an intervention, with the goal of improving its fit or effectiveness in a given context” (Stirman, 2015)
- A balance between achieving fit and maintaining fidelity
- Context matters: Adapting interventions to fit the implementation context is important to achieve the desired impact.
- A critical first step towards widespread dissemination, implementation, and scale-up of an evidence-based intervention.

# Study Design

## Specific Aims

- To adapt Harvest for Health to the drastically different climate and growing conditions of New Mexico, using recommended adaptation frameworks
- To pilot test the adapted intervention, Southwest Harvest for Health, and evaluate:
  - Acceptability
  - Appropriateness
  - Feasibility

# Study Methods

## Recruitment

### CANCER SURVIVORS

- Targeted accrual = 25
- Recruitment methods
  - Cancer Centers
    - Referrals from oncologists, navigators
  - Cancer Support Groups
  - Word of mouth

### MASTER GARDENERS

- Targeted accrual = at least 25
- Recruitment methods
  - (UNM) Presentations at community gardens, Extension
  - Flyers and word of mouth
  - Project listed as an approved volunteer opportunity

# Study Methods

## Eligibility Criteria

### CANCER SURVIVORS

- 50 years and older
- Bernalillo or Sandoval Counties
- Cancer diagnosis (any type, any stage)
- <5 F&V servings/day;  
<150 minutes/week of exercise
- Able to participate in daily light physical activity
- Adequate space, sunlight, & running water

### MASTER GARDENERS (MG)

- Certified MG from Bernalillo or Sandoval County MG Program
  - MG intern (to be paired with veteran MG)
- Willing to mentor a cancer survivor one-on-one for 9 months

# Outcomes

- Primary
  - Systematic documentation of adaptation process (FRAME framework)\*
  - Acceptability, appropriateness, and feasibility

\* Stirman, Implement Sci, 2019

# Outcomes

- Primary
  - Systematic documentation of adaptation process (FRAME framework)\*
  - Acceptability, appropriateness, and feasibility
- Secondary
  - Vegetable servings per day
  - Physical activity and sedentary behavior
  - Physical performance
  - Health-related QOL

\* Stirman, Implement Sci, 2019

# Adaptation Process and Outcomes



# Adaptation Steps

Adaptation Step	Description
1. Assess Community	<ul style="list-style-type: none"><li>• Vegetable intake, physical activity, and QOL in NM cancer survivors</li><li>• NM Extension → capacity (number, location, size) Master Gardener Programs; volunteer opportunities</li></ul>
2. Understand the intervention	<ul style="list-style-type: none"><li>• Discussions with developers of intervention → UAB researchers, AL Extension &amp; Master Gardener Program experts</li></ul>
3. Select intervention	<ul style="list-style-type: none"><li>• Selected a priori</li></ul>
4. Consult with experts	<ul style="list-style-type: none"><li>• Consulting &amp; ongoing incorporation of advice from intervention developers</li></ul>
5. Consult with stakeholders	<ul style="list-style-type: none"><li>• Discussions with NMSU Extension leaders, agents, members of local Master Gardener program</li><li>• Identify champions for intervention</li></ul>
6. Decide what needs adaptation	<ul style="list-style-type: none"><li>• Determine how original and new target populations &amp; context differ</li><li>• Identify what elements need to be adapted for new context/population, while maintaining fidelity to the intervention</li></ul>

Intervention adaptation steps from scoping study of adaptation frameworks, Escoffery et al, TBM, 2019:9:1-10

# Adaptation Steps

Adaptation Step	Description
7. Adapt original program	<ul style="list-style-type: none"><li>• Work with consultants &amp; key stakeholders to adapt intervention for the SW</li><li>• Systematically document adaptations using a framework</li></ul>
8. Train staff	<ul style="list-style-type: none"><li>• Master Gardener leadership team provides technical support (vegetable gardening) at start of study &amp; throughout</li><li>• UNM researchers provide research background (cancer survivorship, study goals and objectives, fidelity to the intervention)</li></ul>
9. Test adapted materials 10. Implement	<ul style="list-style-type: none"><li>• Implement the adapted intervention</li></ul>
11. Evaluate	<ul style="list-style-type: none"><li>• Evaluate process &amp; outcomes of adapted intervention as implemented (acceptability, fidelity, barriers &amp; facilitators)</li><li>• If needed, further adaptations per feedback from cancer survivors, Master Gardeners, Extension leadership, etc.</li></ul>

Intervention adaptation steps from scoping study of adaptation frameworks, Escoffery et al, TBM, 2019:9:1-10

# FRAME: Framework for Reporting Adaptations and Modifications to Evidence-based interventions

## Documenting adaptations

1. When modification occurred (pre-implementation, implementation, scale-up)
2. Whether modification was planned (proactive) or unplanned (reactive)
3. Who participated in decision to modify (researcher, community members, intervention team)
4. What was modified (content, context, training and evaluation)
5. For whom modification was made (individual, organization, network system)
6. Nature of content modification (adding or removing intervention elements; shortening or lengthening intervention)
7. Whether modification was fidelity consistent or inconsistent re: core elements of intervention
8. Reasons for modification, including the goal (reduce costs, increase reach/engagement) & contextual factors (cultural norms, available resources)

# Summary of adaptations using FRAME

## Documenting adaptations

1. When modification occurred: **pre-implementation / planning stage**
2. Modifications were **planned (proactive)** vs. unplanned (reactive)
3. Who participated in decision to modify: **researchers and intervention leadership team**
4. What was modified: **content and context**
5. For whom modification was made: primarily **individual level**
6. Nature of content modification: **tailoring, tweaking or refining content**
7. Modifications were **fidelity consistent**
8. Reasons for modification: **to improve feasibility, increase engagement, or better fit local context** (climate, growing conditions)

# Summary of adaptations using FRAME

## Documenting adaptations -- Due to COVID-19 pandemic

1. When modification occurred: ~~pre-implementation / planning stage~~ **during implementation**
2. Modifications were **planned (proactive)** vs. unplanned (reactive)
3. Who participated in decision to modify: **researchers and intervention leadership team**
4. What was modified: ~~content and context~~
5. For whom modification was made: primarily **individual level**
6. Nature of content modification: ~~tailoring, tweaking or refining content~~ **N/A (contextual)**
7. Modifications were **fidelity consistent AND inconsistent**
8. Reasons for modification: ~~increase engagement, or better fit local context (climate, growing conditions)~~ **to start the intervention & keep it going during a pandemic**

# Examples of adaptations to Harvest for Health

Program Component	Adaptation
Duration of study	Shortened to 9-months (climate)
Meet & Greet Event	Provided small gardening supplies (engagement)
Participant study notebook & garden journal	Additional safety articles (e.g., sun safety); replace AL Extension articles with NM; modified dates for growing season & list of vegetables
Gardening supplies	Distribution center instead of home deliveries (COVID-19)
Master Gardener Mentors	*** monthly home visits replaced with telephone call (COVID-19); pairing interns with veteran Master Gardeners
Recipes	Adapted for the Southwest, NM, cultural preferences
Evaluation of adherence & intervention fidelity	Participants email/text garden photos to study team; monthly web-based surveys to replace emails to encourage timely feedback
Evaluation of acceptability of the intervention	“Bounty Party” and additional qualitative data collection in addition to quantitative

# Preliminary Results

# Results

## Recruitment and retention

### CANCER SURVIVORS

- 30 participants enrolled between Jan 2<sup>nd</sup> and Feb 25<sup>th</sup>
- 100% retention (so far)

### MASTER GARDENERS

- 34 veteran MGs and 4 interns enrolled between Sept and Feb
- 92% retention



# Results

## Characteristics of study participants

Characteristics	Mean (SD) or Frequency (%)
Age	68.0 ± 7.2
Female	70%
Non-Hispanic White	73%
College degree	57%
Income >\$50K	50%
Number of comorbidities	3.2 ± 2.0
≥5 years since diagnosis	57%
Cancer Type	breast (37%), prostate (20%), lung (13%), other (30%)

# Results

## Characteristics of study participants

Characteristics	Mean (SD) or Frequency (%)
Former/current smokers	47%
BMI	29.4 ± 5.6
F&V servings/day	4.4 ± 2.5
Moderate PA*	24.7 ± 39.5
Light PA*	94.4 ± 99.0

\* Minutes per week

# Study Status

- Final data assessment: ongoing
  - Home visits replaced with mail/phone/REDCap surveys + activity monitor
- Bounty Party: cancelled due to COVID-19
- Post-intervention debriefing (participants & Master Gardeners)
  - Survey
  - Telephone interviews
- Key informant interviews
- R01 submission (June 2021)

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