

A New Leaf...Choices for Healthy Living

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INTENT OF THE INTERVENTION

A New Leaf...Choices for Healthy Living is a research-tested intervention designed to help individuals:

- Improve healthy eating behaviors
- increase physical activity
- cease tobacco use
- improve blood pressure or control hypertension
- improve cholesterol or blood lipid profile
- achieve a healthy weight

A New Leaf primarily addresses the individual and inter-personal levels of the socio-ecologic model. (For community level, see **Additional Information**)

OVERVIEW

A New Leaf... Choices for Healthy Living is a structured assessment and counseling tool that emphasizes practical strategies for making changes in dietary and physical activity behaviors. The *New Leaf* program can be used in the prevention and treatment of cardiovascular disease, diabetes, obesity and other chronic diseases.

A New Leaf is designed to:

- Identify positive as well as atherogenic (e.g., diets high in saturated or trans fats, low-intake of fruits and vegetables) dietary behaviors
- Assess types and levels of physical activity
- Assess barriers to diet and physical activity change
- Facilitate goal-setting and self-monitoring
- Guide counseling by non-specialist health care and lay providers
- Serve as a self-help guide or tool for group discussions

A New Leaf is a comprehensive program and contains modules on:

1. Nutrition
2. Physical activity
3. Tobacco cessation
4. Achieving a healthy weight
5. Diabetes prevention and management
6. Bone health
7. Dealing with stress and depression

The modules selected for use will depend upon program goals and the needs of their participants. To achieve a successful program, all of the modules do not have to be used.

Intended Population: *New Leaf* was designed for use with:

- Low-income adults
- Mid-life women (also appropriate for men)
- Residents of the southeastern United States
- Adults with limited literacy skills. It is written at about a sixth-grade reading level, in a user-friendly format that includes numerous graphics and visuals.
- The Spanish language adaptation of the nutrition, physical activity, tobacco cessation and bone health modules of *New Leaf* can be found on this website at [Corazón de la Familia \(Heart of the Family\)](#) intervention materials.

Setting: The program is designed for use in community-based organizations, such as community health care centers, public health departments or churches.

Length of time in the field: The nutrition component of *New Leaf*, originally named *Food for Heart*, has been in the field since 1991. The physical activity and smoking sections were developed for the WISEWOMAN program and have been in use since 1996.

CORE ELEMENTS

Note: The core elements are the aspects of the intervention that are central to its theory and logic and that are thought to be responsible for the intervention's effectiveness. Core elements are critical features of the intervention's intent and design and should be kept intact when the program is implemented or adapted.

1. **Assessments of Diet, Physical Activity, and Smoking:** Risk assessments are used to identify participants' problem areas, barriers to change, and areas where they are doing well. The risk assessments identify participants' current practices and attitudes, helping the health counselor focus on the areas where participants are most ready and willing to make changes. Risk assessments are used to document participants' goals, monitor progress, troubleshoot problem areas, and reinforce successes.
2. **Tailored Feedback¹:** Feedback may affect participants' motivation to change or sense of self-efficacy; it may also provide cues to action. Health counselors should provide targeted and personalized *feedback* immediately or very soon after participants complete the personal risk assessments.
3. **Goal-setting and Action Planning¹:** *New Leaf* risk assessments identify problem areas that participants can select as goals to work on. Goal-setting is a collaborative process between health counselors and participants. Goal setting also includes *action-planning* – having participants make very specific plans for what they will do to reach their goals.
4. **Guidelines and strategies:** “Tip sheets” that correspond to the assessments provide counselors with recommendations to help participants overcome barriers to healthy eating, increasing physical activity, and smoking cessation.
5. **Follow-up and Reinforcement¹:** *Follow-up* is important whenever goal-setting is emphasized. Since goals are set to be accomplished within a specific timeframe, follow-up contacts (by phone, computer, or face-to-face individual or group contacts) should be

¹ **Building participants' confidence (self-efficacy)** is a common thread between these core elements and contributes to the effectiveness of the intervention. By using positive reinforcement and small achievable steps, health counselors can help participants increase their confidence in making lifestyle changes.

planned to assess progress toward reaching goals, to provide positive reinforcement and/or to set new goals. Follow-up contacts also provide opportunities for participants to engage in *problem-solving* with the health counselor.

6. **Social support:** Since support of family and friends can play a key role in lifestyle change, teach participants why, where, and how to generate and sustain a successful social support network.

RESOURCES REQUIRED

Note: When determining the resources required to implement the intervention in your community, consider the intervention delivery method(s) (e.g. will the intervention be delivered in groups, one on one, self-study, etc.); the planned exposure to the intervention including the number (dose) and length (intensity) of contacts; the number of sites that need to be staffed; and the knowledge, skills and abilities of staff.

Staff: A health counselor is needed to guide counseling and deliver the intervention. A wide variety of health care professionals and community leaders who may have limited training/experience in nutrition and exercise counseling can be trained to deliver the *New Leaf* intervention. In the past, the intervention has been delivered by physicians, nurses, health educators, nutritionists, and lay (community) health advisors.

Training: Health counselors need to be trained to deliver the *New Leaf* intervention; training should include time to practice assessment and counseling techniques. Health Counselor Instructions to implement *New Leaf* can be downloaded from the Intervention Materials section.

Materials: Participants should receive:

- a looseleaf *New Leaf* binder with assessments and tip sheets
- a recipe book linked to tip sheets
- a stretch (resistance) band
- pedometer (optional)

New Leaf educational materials can be downloaded free of charge. The cost of reproducing the notebooks and cookbooks is the responsibility of the program provider. *New Leaf* notebook covers and spines can be downloaded for reproduction. Binders (1" capacity, 3-ring) can be purchased for approximately \$1.60 from an office supply store. Stretch bands can be purchased from a medical supply company for approximately \$70 per roll. Individual stretch bands are cut from the roll; average length is 4 ft; per band cost is approximately \$1.60.

IMPLEMENTATION

Note: This section of the template provides a succinct outline of the basic steps to implement the intervention. A more detailed implementation guide is available in *Intervention Materials*, providing a more thorough description of the implementation process. This section describes the methods of delivery and the dose and intensity that have found to be effective in prior tests of the intervention. This does not rule out the possibility that other methods, doses, and intensity may be effective.

How It Works:

1. The Counseling Process

A *New Leaf* integrates behavior change theory with nutrition and exercise science in a clinically feasible intervention tool. There are 3 basic steps to the counseling process:

- The diet and physical activity assessments allow a non-specialist to quickly determine the food and activity patterns and attitudes that contribute most to risk of heart disease and stroke, as well as those patterns and attitudes that are beneficial.
- Together, the counselor and participant select goals addressing the more problematic areas of diet and physical activity that are identified on the assessment. The goals are linked by number-and icon-coding with simple, illustrated "Tip Sheets" that provide practical, low-cost strategies for lifestyle change and overcoming barriers. The assessments and tip sheets make it easy for the counselor to provide advice that is tailored to specific concerns.
- Diet-related tips are linked with "southern style" recipes that are low in saturated and trans fats and cholesterol, while emphasizing fruits, vegetables, and fiber. Activity tips are linked with guides for starting new activities, stretching tips, and safety guidelines for increasing physical activity.

2. Method of Delivery and Exposure to the Intervention

Intervention dose and intensity is linked to effectiveness in outcome results. Depending on program objectives and available resources, several different strategies can be used to effectively implement the *New Leaf* intervention: one-on-one counseling (phone contact can be substituted for some in-person counseling), group education counseling, with support by community (lay/peer) health advisors or a combination approach. Below are some examples of *New Leaf* delivery strategies that are *research-tested*:

- Option #1: **One-on-one counseling** - Three sessions per individual; initial session should be in-person; other sessions can be by phone or in-person. About 45-60 minutes should be allocated for the initial counseling session since the risk assessments must be completed prior to goal selection and health counseling. Follow-up counseling sessions last 15 - 30 minutes each.
- Option #2: **Combination approach** - Two one-on-one counseling sessions and three or more group sessions typically lasting 90 minutes each plus brief, phone counseling contacts by peer counselors.
- Option #3: **Group sessions** – 12 group sessions, monthly newsletters, and quarterly reunions (Research tested by Southcentral Foundation in Alaska)
- **Other delivery strategies can also be effective** as long as providers offer sufficient exposure to the materials, time for counseling, and support for behavior change.

Keys to Success:

- Health counselors need training to successfully implement the *New Leaf* intervention. Training should include interactive and "hands-on" exercises such as role-plays that team up training participants as pairs of "health counselors" and "clients" allowing them to practice a counseling session and to use the materials.
- Reproduction of the materials should maintain the number-and icon-coding to link the assessments with the tip sheets. This facilitates efficient counseling by individuals (professional and lay) who are not experts in nutrition or physical activity.
- For best results, complete the entire assessment at the first contact and use this to guide counseling in subsequent encounters. Give a copy of the assessment to the participant to take home and keep a copy for the clinic's records.
- Counseling can be streamlined by setting only a few goals at each visit and encouraging participants to review materials and make additional changes on their own as guided by the number- and icon-coded materials.

Barriers to Implementation:

- Training needs to keep pace with staff turnover
- Amount of staff time required to deliver the intervention
- Multiple counseling contacts needed

EVIDENCE REVIEW SUMMARY

Underlying Theory/Logic: *A New Leaf* draws on numerous conceptual models and theories.

- Stages of change – addresses participants' readiness to attempt change toward healthy behaviors.
- Health Belief Model – key concepts derived are self-efficacy and perceived barriers to action
- Social cognitive theory – focuses on the interaction between individuals and their environment and how each effects and influences the other
- Social ecological theory – establishing linkages and partnerships to influence the multi-level social and environmental factors that impact women's health

Research Findings: *A New Leaf...Choices for Healthy Living* and its nutrition only precursor, *Food for Heart*, have been tested in numerous randomized control trials. *Food for Heart* has been in the published literature since 1992 and *A New Leaf* since 1999. Included in this template are the results from two primary studies.

Study 1

Keyserling TC, Samuel-Hodge CD, Jilcott SB, Johnston LF, Garcia BA, Gizlice Z, Gross MD, Savinon CE, Bangdiwala SI, Will JC, Farris RP, Trost S, Ammerman AS. Randomized trial of a clinic-based, community-supported lifestyle intervention to improve physical activity and diet: the North Carolina enhanced WISEWOMAN project. *Preventive Medicine* 46(6): 499-510, June 2008.

In this study 236 women, ages 40-64 and enrolled in one community health center, were randomized to receive the Enhanced Intervention (EI) or Minimal Intervention (MI). The EI consisted of an intensive phase (6 months) including 2 individual counseling sessions, 3 phone calls from a peer counselor followed by a maintenance phase (6 months) including 1 individual counseling session and 7 monthly phone calls from a peer counselor. The MI consisted of American Heart Association pamphlets on diet and physical activity mailed to participants.

Dietary results

- Diet measured by serum carotenoid levels: greater fruit and vegetable intake in the Enhanced Intervention (EI) group, with statistically significant results (92% follow-up at 6 months; $p=.05$)
- Self-report diet results: though DRA* (Dietary Risk Assessment) scores improved in both groups, the dietary improvement in the Enhanced Intervention group compared to the Minimal Intervention (MI) group was statistically significant at both 6 months and 12 months (90% follow-up at 6 months and 74% at 12 months; $p<0.001$)

Physical activity (PA) results

- Self-report PA questionnaire outcomes: at 6-and 12-month follow-up, the EI group reported significantly more moderate and vigorous physical activity than the MI group (92% follow-up at 6 months and 75% at 12 months; $p=0.01$)
- Accelerometer outcomes: both moderate and light intensity PA increased modestly in EI group and decreased modestly in the MI group, the difference between groups was not statistically significant. (75% follow-up at 6 months and 68% at 12 months)

*the Dietary Risk Assessment (DRA) is a validated instrument (See Publications #2 and #19)

Study 2

Keyserling T, Ammerman A, Davis C. A Randomized Controlled Trial of Physician-Directed Treatment Program for Low-Income Patients with High Blood Cholesterol: The Southeast Cholesterol Project. *Archives of Family Medicine*. 1997; Vol 6: 135-145.

This intervention was designed for use in a real world setting, delivered by primary care clinicians. Twenty-two clinicians at eight sites delivered the intervention. Based on chart review, dietary change goals were noted for 78% of patients for the first visit and 65% for the third visit, indicating good implementation for an intervention in a real world setting. Participant retention in the first three counseling sessions was very high. The intervention had a significant effect on self-reported diet and a significant but modest effect on cholesterol levels in the intervention group as compared to the control group.

Cholesterol results

- Total cholesterol and low-density lipoprotein cholesterol (LDL-C) decreased more in the intervention group than in the control group. Overall, the difference in lipid reduction between groups was modest and of borderline statistical significance.

Dietary results

- Dietary Risk Assessment (DRA) score (self-reported measure of dietary risk) decreased significantly in the intervention group.

POTENTIAL PUBLIC HEALTH IMPACT

A New Leaf...Choices for Healthy Living has the potential to improve health for large numbers of people due to its demonstrated effectiveness, feasibility of dissemination and adoption in other settings.

Reach – *New Leaf* was designed for a lower literacy southern population but has been adapted for multiple cultures and regions of the country. Its reach extends to Alaskan Natives, Latinas, and residents of the Midwest and Northeast.

Effectiveness – *New Leaf* has demonstrated effectiveness in reducing risk factors for heart disease and stroke. Results from randomized controlled trials show improvements in 1) self reported diet and physical activity behaviors, 2) objective diet and physical activity measures, and 3) physiologic outcomes. See Evidence Review Section of intervention template for more details.

Adoption – *New Leaf* has a history of high acceptability among health counselors and program participants. It was designed for streamlined implementation in busy clinical settings but a variety of community-based settings have also adopted it. It has been adopted and adapted by several CDC funded WISEWOMAN programs in states and tribal organizations. *New Leaf* has been adapted to address other chronic diseases including diabetes, cancer, and obesity prevention. Clinical and public health organizations charged with reaching the underserved have easy access to the *New Leaf* program.

Implementation – *New Leaf* is designed for flexibility regarding the people who deliver the intervention and the strategies they employ. The people who deliver the intervention can be non-specialist health care and lay providers. The strategies that have been used for delivery include one-on-one counseling, group sessions, as a self-help packet, using lay health advisors or a buddy system. A combination approach can also be used.

Maintenance –Developed for the North Carolina WISEWOMAN program, *New Leaf* has been in the field since 1995. Other WISEWOMAN programs in states and tribal organizations have adopted/adapted *New Leaf* in its entirety or have implemented the nutrition/dietary component either by itself or in conjunction with the healthy weight module.

INTERVENTION MATERIALS

In 2007, the *New Leaf* materials were updated to incorporate the latest U.S. federal guidelines on nutrition and exercise science.

In addition to nutrition, physical activity and tobacco cessation, the *New Leaf* program includes content on achieving a healthy weight, diabetes prevention and management, osteoporosis prevention, and dealing with stress and depression. *A New Leaf* includes several different types of materials: risk assessments, tip sheets with behavior change suggestions, general information, an exercise module, and a recipe book. Risk assessments with corresponding tip sheets include:

Risk Assessment

Dietary Risk Assessment
What Makes It Hard to Eat Healthy?
Physical Activity Assessment
What Makes It Hard to Keep Active?
What Limits Your Activity?
My Weight
How Healthy are Your Bones?
Smoking and Quitting Assessment

Tip Sheet

Healthy Eating Tip Sheets
Hot Tips for Healthy Eating
Physical Activity Tip Sheets
Being More Active
Being Active with Physical Limitations
Healthy Weight Tip Sheets
Keeping Your Bones Healthy
Smoking and Quitting Tip Sheets

New Leaf materials are in PDF format and may be downloaded and saved from this site. The materials should not be modified without express written permission in advance from the UNC Center for Health Promotion and Disease Prevention (HPDP). If you wish to modify or adapt *A New Leaf* for your context, UNC HPDP and the Center TRT will provide technical assistance for cultural/regional adaptations.

Products

<i>A New Leaf...Choices for Healthy Living</i>	Participant notebook
<i>New Leaf Cookbook</i>	Participant cookbook
<i>New Leaf Exercise Module</i>	Low Intensity Exercises for Participants
<i>Health Counselor Instructions for A New Leaf...Choices for Healthy Living</i>	Implementation guide

For Spanish language adaptation of the *New Leaf* notebook and cookbook, see [Corazón de la Familia \(Heart of the Family\)](#) on this website.

TRAINING AND TECHNICAL ASSISTANCE

- A guide to implementing the intervention can be downloaded from this site.
- The Center TRT offers telephone consultation to states interested in implementing *A New Leaf* intervention.
- Anyone who will be involved either directly or indirectly with *A New Leaf* intervention should be trained; this includes health counselors, educators, nutritionists, and others providing clinical services.
- Online instruction will be available soon at www.center-trt.org

ADDITIONAL INFORMATION

The information contained in this document provides an overview of this intervention and the evidence available to support it. If you would like to know more and/or want to explore possible adoption/adaptations of this intervention in your community, please contact:

New Leaf Contact for the WISEWOMAN Program:

Tarisha Cockrell
CDC WISEWOMAN Program (Contractor)
Division for Heart Disease and Stroke Prevention
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention
4770 Buford Highway
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Telephone: (770) 488-5032
Email: tcockrell@cdc.gov

Contact for all others:

Beverly Garcia, MPH
UNC Center for Health Promotion and Disease Prevention
919-966-6088
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Related Resources:

Community Links for Better Health, A Step-by-Step Guide for WISEWOMAN Projects and other Community-based Health Promotion Projects

Community and neighborhood resources can make it easier for women to turn new, healthy behaviors into lifelong habits. By developing and using community resource tools, programs can help participants become more aware of the resources in their community and can encourage them to regularly use such resources. By using the community assessment, tip sheets, and resource guide templates provided in *Community Links for Better Health*, WISEWOMAN Programs can create tailored community resource tools.

The complete guide can be downloaded from

http://www.hpdp.unc.edu/CLBH/Community_Links_for_Better_Health_Manual.pdf

Community Links component documents can be downloaded in PDF format and Microsoft Publisher format for editing from <http://www.hpdp.unc.edu/index.cfm?fa=research.CLBH>

Publications:

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