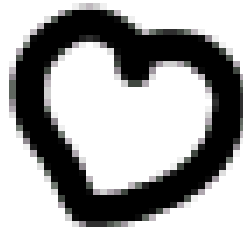
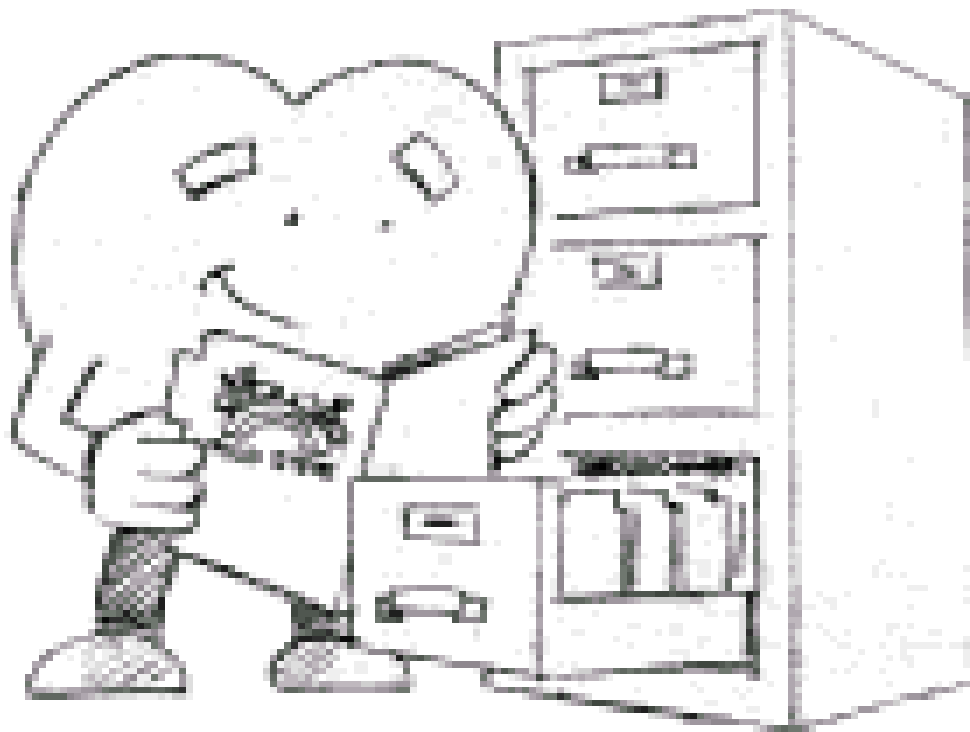


.....



.....



.....

***FOOD STEPS:***  
***Rationale, Theory & Evaluation***

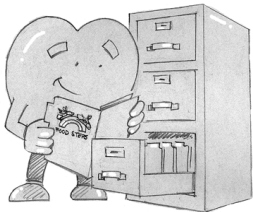


# FOOD STEPS: Rationale, Theory and Evaluation

---

## FOOD STEPS rationale

Traditional, face-to-face programs for healthy eating have limited reach, are labour-intensive, time-consuming, and expensive to implement. They are also suitable only for those individuals who can access the program (e.g., meet the costs, arrange for transportation, obtain child care, regularly attend meetings, etc.).



*FOOD STEPS*, as a self-help, correspondence program overcomes these limitations. With *FOOD STEPS*, there are no meetings for participants to attend, it is inexpensive to deliver, and since the program can be delivered through a variety of ways (e.g., by mail, through worksite programs, or through the health sector), it has the potential for significant population reach. In addition, self-help programs may be the only practical way to reach to reach individuals in rural or remote areas.<sup>13</sup>

Self-help programs are effective long-term at maintaining changes to eating behaviour.<sup>14,15</sup> Their effectiveness increases significantly when they are targeted to a specific audience.<sup>16</sup> Self-help programs that have been targeted to individuals' readiness to change have achieved as great a rate of change as clinic-based programs in smoking cessation and physical activity programs.<sup>17,18,19,20,21</sup> Self-help programs are preferred by many people over face-to-face interventions to improve their eating habits, as the programs are flexible and they can go at their own pace.<sup>22,23,24</sup>

## FOOD STEPS theory

The concept of readiness to change is based on the Transtheoretical Model of Change (TMC) developed by Prochaska and Di Clemente.<sup>25</sup> This model views behaviour change as an ongoing *process* rather than a one-time event.<sup>18,25</sup> This meta theory states that individuals go through five identifiable stages when changing their eating behaviour:



### 1) Precontemplation

- no thoughts of changing eating behaviour

### 2) Contemplation

- considering the possibility of changing eating behaviour

# FOOD STEPS: Rationale, Theory and Evaluation

---

## 3) Preparation

- preparing to change eating behaviour

## 4) Action

- actively making behavioural/cognitive changes to eating behaviour

## 5) Maintenance

- actively maintaining the new healthy eating behaviour.

Individuals may progress through the stages in a linear fashion or may cycle through these stages several times before successfully changing their behaviour. Depending on their stage, people need different types of interventions to assist their efforts to change. By providing materials relevant to an individual's stage of change, the chances of changing a behaviour increase significantly.<sup>18,25</sup> Current programs for healthy eating are largely targeted to those in the Action stage who are ready to change. Since this may be as few as 3 to 13 percent of people,<sup>26,27,28,29</sup> a large proportion of the population's needs are unmet. Therefore, self-help programs, such as *FOOD STEPS*, which are targeted to an individual's stage of change will have greater population reach than programs which target only those ready to change.

In addition, many traditional healthy eating programs typically do not provide strategies to maintain healthy eating behaviours long-term. Yet Prochaska and his colleagues have demonstrated that it can take many years before an individual, who has undergone a health behaviour change is no longer tempted to relapse.<sup>17,25</sup> Staged-based programs on the other hand, assist individuals to develop the necessary skills and self-efficacy to adopt and maintain healthy eating behaviours long-term. The *FOOD STEPS* program achieves this by incorporating into the booklets, the experiential and behavioural processes which guide individuals through the stages.

# FOOD STEPS: Rationale, Theory and Evaluation

## Processes of change theory

The processes of change are the experiential and/or behavioural strategies that assist people through the stages and help prevent relapse.<sup>18,25</sup> Experiential processes represent the activities which individuals use to change their thoughts and emotions related to their eating behaviour. For example, *FOOD STEPS* builds awareness of why someone eats the way s/he does through self-reevaluation. The behavioural processes, on the other hand, represent the actions and the development of supportive relationships individuals undertake to control their eating behaviour. For example, *FOOD STEPS* encourages individuals to use counter-conditioning, that is, substituting alternative behaviours like going for a walk for problem behaviour like eating high-fat foods. A definition and an example of these processes of change are detailed in Tables 1a and 1b.<sup>30</sup>

**Table 1 a: Experiential Processes of Change in Dietary Fat Reduction**

Process	Definition of Process	Example of Process
Consciousness raising	Increasing information about self and problem: reading, observations, confrontations, interpretations.	I consider articles and other information I have seen about lowering the amount of fat in my diet.
Dramatic Relief	Experiencing and expressing feelings about one's problems and solutions: psycho-drama, grieving losses, role playing	Warnings about the hazards of eating too much fat upset me.
Self-Reevaluation	Assessing how one feels and thinks about oneself with respect to a problem: value clarification, imagery, corrective emotional experience.	I feel better about myself when I limit the amount of fat in my diet.
Environmental Reevaluation	Assessing how one's problem affects physical environment: empathy training, documentaries.	I consider the thought that our country's health care costs would be lower if people are less fat.
Social Liberation	Increasing alternatives for non problem behaviours available in society: ad	I notice it's easier to find low-fat foods in the stores now.

# FOOD STEPS: Rationale, Theory and Evaluation

**Table 1 b: Behavioural Processes of change in Dietary Fat Reduction.**

Process	Definition of Process	Example of Process
Helping Relationships	Being open and trusting about problems with someone who cares: therapeutic alliance, social support self-help groups.	I have someone who listens when I need to talk about changing what I eat.
Reinforcement Management	Rewarding one's self or being rewarded by others for making changes: contingency contracts, overt and covert reinforcement, self-reward.	Other people try to make me feel good when I don't eat foods high in fat.
Self-Liberation	Choosing and commitment to act or belief in ability to change: decision-making therapy, New Year's resolutions.	I make commitments to myself not to eat high fat foods.
Counter conditioning	Substituting alternatives for problem behaviours: relaxation, desensitization, assertion, positive self-statements.	When I'm tempted to eat a high-fat food, I try to distract myself by doing something else.
Stimulus Control	Avoiding or countering stimuli that elicit problem behaviours: restructuring one's environment (e.g. removing alcohol or fattening foods), avoiding high risk cues, fading techniques.	I give away left over high-fat foods so I won't eat them.
Self-Monitoring	Increasing awareness that high-fat food consumption is a problem through information seeking, education and use	I look at my usual recipes to see how I can reduce the amount of fat in them.

## Process use by stage

As individuals progress through the stages, they use different and increasingly greater number of processes. The early stages, Precontemplation and Contemplation are characterized by the use of the experiential processes, where individuals explore their attitudes, feelings and thoughts about their eating habits and potential future health risks associated with them.<sup>25</sup> The Preparation, Action and Maintenance stages use more behavioural processes to modify and control eating behaviour.<sup>25</sup> Table 2, indicates the type and number of processes used at each stage.<sup>25</sup>

In addition to the processes of change, characteristic levels of motivation ("pros" and "cons") for quitting called decisional balance, and self-efficacy for reducing dietary fat are associated with each stage.<sup>17,18,25</sup> These are described on the next page.

# FOOD STEPS: Rationale, Theory and Evaluation

**Table 2: Processes of Change that Mediate Progression Between the Stages of Change**

<ul style="list-style-type: none"> <li>• <b>Consciousness Raising</b> (awareness of the issue)</li> <li>• <b>Dramatic Relief</b> (feelings about consequences of behaviour)</li> <li>• <b>Environmental Reevaluation</b> (relationship of behaviour to environment)</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Self-reevaluation</b> (changing understanding of self)</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Self liberation</b> (belief in one's ability)</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Reinforcement Management</b> (obtaining rewards)</li> <li>• <b>Helping Relationships</b> (social support)</li> <li>• <b>Counter conditioning</b> (substituting alternatives)</li> <li>• <b>Stimulus Control</b> (altering environment to support change)</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Social liberation</b> (belief that environment supports change)</li> </ul>

## Decisional balance theory

Decisional balance indicates the weight individuals give to the *pros*, the reasons for, and the *cons*, the reasons against, reducing dietary fat.<sup>25</sup> In the Precontemplation stage, when individuals do not want to change, the cons outrank the pros for change. During the Contemplation stage as individuals begin to think about their risk of disease, the pros increase significantly and continue to be higher than the cons across the stages. The crossover point, where the pros become more important than the cons is called the decisional balance, and is the point at which the individual decides to change and moves into the Preparation stage.<sup>25</sup> *FOOD STEPS* encourages commitment to take action by providing a decisional balance

# FOOD STEPS: Rationale, Theory and Evaluation

---

instrument in the Contemplation booklet to weigh the pros and cons of eating better.

## Self-efficacy theory

Self-efficacy is the belief or confidence in one's ability to change a behaviour such as, reducing dietary fat. Self-efficacy is lowest in the early stages when individuals believe they can't change.<sup>25</sup> It increases across the stages as success is gained in reducing dietary fat and overcoming temptation to eat high-fat foods. The *FOOD STEPS* program builds self-efficacy by encouraging small changes in dietary behaviour.

The processes of change, decisional balance and self-efficacy are integral components of the *FOOD STEPS* program as they assist individuals to move through the stages and help prevent relapse. Additional skill-building, self-help activities encourage individuals to adopt the behavioural skills needed to maintain healthy eating behaviours long-term. How these components are incorporated into the program is described more fully below.

## Applying theory to practice

On the next few pages is a brief description of the major characteristics of each stage and each of the *FOOD STEPS* booklets. **Note** that in the *FOOD STEPS* program, the Preparation and Action stages have been combined. These stages use the same processes of change and very similar nutrition information, therefore to reduce costs, these stages were combined.

## Stage 1

### Precontemplation

In this first stage, individuals have no intentions of changing their eating behaviour in the next six months. Many are defensive about the way they eat and feel that their eating habits are not affecting their health.<sup>17,31</sup> Therefore, they do not spend time thinking about their eating habits. Those that do recognize that their eating habits may put them at risk for future health problems, usually do not take it seriously. Individuals in this stage are resistant to changing their eating behaviour because the cons of changing outweigh the pros.



# FOOD STEPS: Rationale, Theory and Evaluation

---



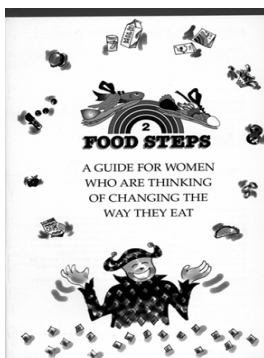
## FOOD STEPS 1: A Guide For Men and Women Who Don't Want To Change The Way They Eat

This booklet raises awareness through self-reevaluation. It does this by getting individuals to think more about their eating habits and how they can affect their health. It focuses on the benefits of eating better, corrects the misunderstandings about health risks due to poor eating habits and personalizes the risk consequences. A “Food For Thought Quiz” helps individuals put their eating habits in perspective. Care is taken not to pressure individuals to change their behaviour, since coerced change is rarely successful. Since Precontemplators are defensive and resistant to recognizing or modifying a problem, the information is imparted in a non-judgmental manner.

## Stage 2

### Contemplation

In the second stage, individuals are more aware of the personal, social, economic and physical costs of the way they eat and the benefits of improving their eating habits.<sup>17,31</sup> They are beginning to think about improving their eating habits, but feel no firm commitment to change. And in fact, the cons may still outweigh the pros for change. Contemplators are at the point where they are seriously considering a change within the next six months but they aren't sure how to go about it. In addition, they may think about the problem forever, without ever acting on it (chronic contemplators).<sup>25</sup> Indecision and lack of commitment are the most distinctive characteristics of the Contemplation stage.



## FOOD STEPS 2: A Guide For Men and Women Who Are Thinking About Changing The Way They Eat

This booklet emphasizes the benefits of healthy eating and focuses on making one behavioural change, reducing dietary fat. This makes the change process seem less overwhelming for the individual. The booklet also indicates how small changes can go a long way towards achieving better eating habits. This emphasis is particularly important in influencing Contemplators to move to the next stage as it builds their confidence (self-efficacy) that they can make the change. The need to prepare for the change is also emphasized. The booklet increases a person's commitment to take action by encouraging them

# FOOD STEPS: Rationale, Theory and Evaluation

---

to list their pros and cons to reducing dietary fat (decisional balance), giving them health facts (consciousness raising) and getting them to assess their risk of heart disease through a heart health quiz (self-reevaluation).

## Stage 3

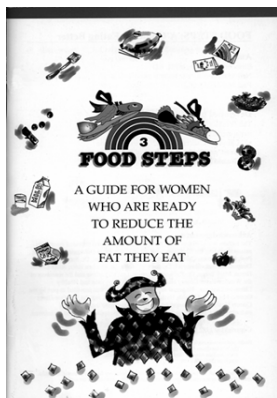
### Preparation

In the third stage, individuals intend to change their eating behaviour within the next 30 days. They are also considered to be in the Preparation stage if they have made unsuccessful attempts to change within the past year (relapse episodes).<sup>17,31</sup> The pros of eating better now outweigh the cons. In this stage, individuals begin to make small, positive changes in their eating habits (for example, cutting back on amount of fat they eat by taking the skin off chicken, substituting low-fat foods for high-fat foods, and so forth). By taking these small steps, they are gradually building their self-efficacy (confidence) but they may still experience anxiety about their potential for success at improving the way they eat. (Preparation material found in *FOOD STEPS 3*).

## Stage 4

### Action

The fourth stage begins when individuals actively engage in reducing fat in all aspects of their diet including the purchasing and preparation of lower-fat foods, and their selection of foods when they eat out at restaurants, at parties or when travelling. This stage lasts approximately 6 months while they continue to re-structure their environment and lifestyle to reduce the amount of fat they eat.<sup>17,31</sup> This is the most stressful stage of change as many strategies may be undertaken all at once and the risk of relapse is great.



### FOOD STEPS 3: A Guide For Men and Women Who Are Ready To Reduce The Amount of Fat They Eat

This booklet combines the Preparation and Action stages. It supports efforts to reduce dietary fat and provides strategies to build self-efficacy to help prevent relapse. It helps individuals reduce dietary fat by providing them with information about fat, sources of fat in the diet, how to calculate how much fat they require and how to estimate what they are currently eating. It also establishes realistic goals and puts dietary fat reduction in the context of a total diet. It provides a ten week

# FOOD STEPS: Rationale, Theory and Evaluation

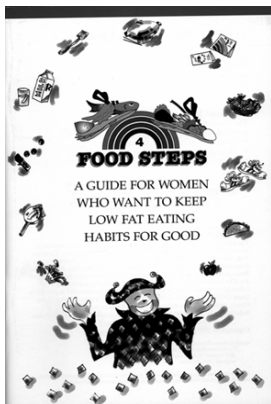
---

action plan that includes a variety of fat-reducing strategies. It builds self-efficacy by helping individuals to identify and use a range of healthy coping strategies (behavioural processes) and it encourages them to identify friends, family and coworkers who can provide them with social support to assist them through the change process. These interventions enhance self-efficacy for improving eating behaviour and reduce the risk of relapse to a higher-fat way of eating.

## Stage 5

### Maintenance

In the fifth and final stage, individuals who have successfully reduced their fat intake for at least 6 months are considered to be in Maintenance.<sup>17,31</sup> In this stage, individuals continue to build on the gains made while in the Action stage, build new knowledge, skills, attitudes and beliefs, and guard against relapse. Maintenance is therefore a continuation of the change process and not a static period. There is still a risk of relapse, but self-efficacy is high.<sup>17</sup> While maintaining healthy eating behaviours long-term may be a continual struggle for some, eventually, most begin to feel that they can maintain a low-fat way of eating for good. Many start to improve other aspects of their diet such as, increasing consumption of fruits and vegetables and fibre.



### FOOD STEPS 4: A Guide For Men and Women Who Want To Keep A Low-Fat Way of Eating

This booklet identifies common causes of relapse and provides skill building exercises to prevent relapse. This booklet provides individuals with more information on nutrition, helps individuals to identify high-risk situations and to develop appropriate coping responses. It reinforces the benefits of eating lower-fat and when slips (small relapses) in behaviour occur, it helps individuals to reaffirm their reasons for, and commitment to, following a lower-fat way of eating. It encourages continued use of behavioural management techniques (i.e., self-rewards, self-monitoring, environmental control, etc.) to deal with unforeseen circumstances that may provoke eating of high-fat foods. It also provides praise to support and encourage individuals in their efforts to retain a lower-fat way of eating.

# FOOD STEPS: Rationale, Theory and Evaluation

---

## Program matched to stage

The aforementioned four stage-based booklets make up the *FOOD STEPS* program. Individuals enter the program at a level consistent with their current stage of change. For example, individuals who are ready to reduce the amount of fat they eat are *not* required to complete earlier parts of the program which are directed at Precontemplators or Contemplators. Instead, they can begin immediately with program materials which address the cognitive and behavioural tasks of the Action stage of reducing dietary fat. This matching of materials to stage can significantly increase an individual's ability to reduce dietary fat and *retain* a lower-fat way of eating long-term.<sup>17,31</sup>

## Determining stage of change

Determining what stage an individual is at is done by means of a staging algorithm. This is a series of questions which helps to identify an individual's readiness to change. At the time of the development of the *FOOD STEPS* program, only a few studies had applied the Transtheoretical model to the reduction of dietary fat. Therefore, the staging algorithm was still in the developmental stages. The proportion of individuals in each stage varied widely across the research studies depending on the question used to stage individuals, and whether the staging was done separately for men and women. However, in general, it has been found that approximately 18% to 35% of individuals are in the Precontemplation stage; 13% to 18% are in the Contemplation stage; 4% to 8% are in the Preparation stage, 3% to 13% are in the Action stage, and 43% to 57% are in the Maintenance stage.<sup>32,33,34,35</sup> And, regardless of which staging question is used, a significantly greater proportion of women than men are in the Action and Maintenance stages.<sup>32,33,34,35</sup>

The staging algorithm used in the *FOOD STEPS* program was developed and validated by Green and associates<sup>16</sup> and is based on the question: *Do you consistently avoid eating high-fat foods?* This algorithm has been found to correlate well with the actual consumption of fat. That is, individuals in the Precontemplation and

# FOOD STEPS: Rationale, Theory and Evaluation

---

Contemplation stages were found to consume greater than 30% of their calories from fat, while those in the Action and Maintenance stages were found to consume 30% or less of their calories from fat.<sup>16</sup> An example of this staging algorithm appears in the “Go” section of this guide.

## Summary

*FOOD STEPS* is a unique, theory-based, self-help, correspondence program with an emphasis on the reduction of dietary fat. The program consists of four, gender-specific booklets based on the stages of change. Each booklet is matched to an individual's stage of change by means of a staging algorithm. The program provides participants with the types of information and behavioural interventions that are appropriate to the individual's particular stage of change. Thus, the program assists individuals to develop the knowledge, understanding, self-efficacy, social support and skills needed to progress through the stages of change that lead to improved eating behaviour and long-term maintenance of a lower-fat way of eating. The *FOOD STEPS* resource therefore, has the potential to move a large segment of the population of Ontario closer to adopting and maintaining dietary fat intakes that are consistent with *Canada's Guidelines For Healthy Eating* and with public health goals.

The *FOOD STEPS* program has undergone extensive evaluation including formative, process and assessment for efficacy. This is described in the next section.

# FOOD STEPS: Rationale, Theory and Evaluation

---

## FOOD STEPS: evaluation



### Formative evaluation

The *FOOD STEPS* program was evaluated as it was developed to ensure a high quality product. The first step was the formation of an Advisory Committee to support the development of the program. The Committee, which included representatives from the Ontario Ministry of Health, Health Promotion Branch, the Ontario Ministry of Health, Public Health Branch, the Heart and Stroke Foundation of Ontario, the Canadian Cancer Society of Ontario, and the Universities of Guelph and Ottawa, reviewed the program during the developmental phase and helped to establish the format and focus of the program. Additional experts in the use of the TMC and/or nutrition reviewed the first draft booklets.

The draft booklets were then focus-tested with members of the target population. Three staged-based ads were placed in the Windsor Star, and readers were informed that they would be paid \$25.00 to review the booklets. Over 300 men and women responded to the staged-based adds, and eight focus groups were established, one for each sex and each booklet. Based on a brief telephone intake interview, volunteers were staged, sent a booklet that matched their gender and stage of change, along with a brief questionnaire about the format, appeal, ease of use and readability of the booklets. The focus groups consisted of 8 to 10 men or women in the same stage of change who represented a range of ages, educational levels and ethnic backgrounds. A neutral facilitator conducted the sessions using standardized procedures designed to elicit detailed feedback on the format, content and perceived value of the booklets.

The booklets were then revised based on the feedback from the expert review and the focus groups. Wherever there was disparity between the experts and the focus testing, precedence was given to the focus results as long as they were technically correct. It was felt that for these booklets to be effective, they must speak to the client audience and represent their desires and needs. For example, there was disparity between experts and clients over the term “junk” foods. Though the term “junk” food is objectionable to nutritionists, it is a term that is well understood by the client population and preferred

# FOOD STEPS: Rationale, Theory and Evaluation

---

by the focus groups over a phrase such as, “less healthy foods.” Therefore, the term “junk” foods was left in the booklets.

The revised booklets were sent to a clear language consultant for assessment of literacy. The booklets were again revised based on the consultant’s feedback. Earlier feedback from the expert reviewers and the focus groups had indicated that new, gender-neutral graphics were required. Therefore the draft booklets were sent to a graphic artist to design these new graphics as well as a cover, name and logo for the program. The name *FOOD STEPS: A Guide To Eating Better* was devised.

The program was then tested in the field at five different locations for a period of one year. Qualitative data collected during these field tests indicated that the program was very well accepted by the clients and the service providers. Minor revisions were made to the program to accommodate client requests for additional information. The pilot sites also field tested the sample promotional materials included in this Guide. In addition, their experiences in pilot testing the program have indicated the likely success of various methods in promoting the program. These experiences are documented in the “Pilot Site Experiences” section of this Guide.



## Process evaluation

A log book of the communication campaign including recruitment procedures, planning, rationale for methods used, implementation, number of participants recruited, and where clients heard about the program was kept by the pilot sites. In addition, the log books recorded program delivery procedures, tools and records used, problems and solutions, and enquiries from clients and service providers. The information was reviewed and suggestions for improvement incorporated into this Leader’s Guide.

## Outcome evaluation to=date

*FOOD STEPS* was evaluated in an Outcome study in Windsor-Essex County. In this study, which was conducted over a period of one year, *FOOD STEPS* and a control program were evaluated against the



# FOOD STEPS: Rationale, Theory and Evaluation

---



stages of change theory. The major long-term objectives of the study were:

- To determine if the *FOOD STEPS* program assisted participants to a) move through the stages of change, b) use various processes of change, c) increase levels of self-efficacy and d) reduce dietary fat intake.
- To determine if the *FOOD STEPS* program was as effective as a *usual* mail-based intervention in helping participants to a) move through the stages of change, b) use various processes of change, c) increase levels of self-efficacy and d) reduce dietary fat intake.
- To determine if participants who reduce their dietary fat intake do so in the context of a healthy diet.

These objectives were evaluated through the use of self-administered surveys which measured the processes of change, decisional balance, self-efficacy, fat and fruit and vegetable consumption behaviour, and staging data. In addition, basic demographic information on age, sex, gender, income, education, number of individuals in a household, and who was responsible for food purchasing and preparation, was also collected. An additional fifteen per cent of the sample received food frequency questionnaires to measure their intake of fat.

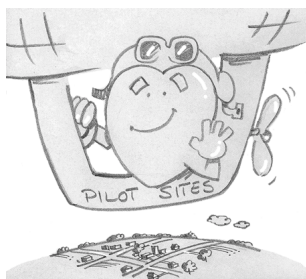
These surveys were collected at baseline, six months and twelve months. The six and twelve month surveys also collected qualitative data through open-ended questions on participants' perceptions of the *FOOD STEPS* program.

Preliminary results indicate that the *FOOD STEPS* program has met its objectives and is at least as effective as a control program in achieving these objectives. Analysis is still ongoing and the final results will be distributed to holders of the Leader's Guide when they become available.



# FOOD STEPS: Rationale, Theory and Evaluation

---



## Pilot site dissemination study

Four pilot sites were involved in a dissemination study to determine the barriers and opportunities to delivering the program through various health agencies. Two public health units and two non-government organizations in different geographic regions of the province participated in the study. Because the efficacy of the program was being tested in Windsor-Essex County, the other pilot sites conducted only a limited outcome study of the effectiveness of the program in their communities. This included: staging individuals, collecting basic demographic data and participants' perceptions of the program as outlined above, and the fat and fruit and vegetable consumption behaviour scale. As with the outcome study, surveys were administered at three time points. No control program was used for comparison. Samples of these surveys and how to use them are included in Appendix C. Analysis of this data is ongoing and will also be made available to the holders of the Leader's Guide.

## Summary

*FOOD STEPS* has undergone extensive formative evaluation including expert review, focus testing and assessment for literacy. It has also been assessed for efficacy in an outcome evaluation and pilot tested to determine the best practices for delivering the program through multiple providers. The program is effective and can be used with confidence by service providers to assist individuals to move through the stages of change and to reduce dietary fat intake. The program is suitable for many nutrition initiatives including heart health programs. Used alone, or in combination with other strategies, *FOOD STEPS* can provide an efficient means of reaching adults in the workplace, through health professionals, or in the community at large.

Now that you have a good idea of what the program is about, you are ready to implement it. The next section gets you started.