SECTION ONE:

Introduction to the Project

The purpose of this report is to present the implementation and formal evaluation of the project, ***Teens Healthy Cooking Together*** **(THCT)** which took place at Regent Park Community Health Centre (RPCHC) in Toronto, Ontario, Canada. This unique program for urban adolescents was planned, implemented and evaluated by the Dietary Risk Factors Working Group (DRFWG) of the Toronto Cancer Prevention Coalition. It combines nutrition education with lived experiences in acquiring life skills to give youth a greater opportunity to make healthy diet and lifestyle choices to maintain and optimize their health.

The report is in several parts. It begins with a summary of the program and its goals and objectives. An overview of the program's methodology and data sources are presented in Section Two. Section Three consists of the formal evaluation techniques used to collect feedback from program participants, community members and key informants. Recommendations and conclusions are described in Section Four.

Background:

Despite the relationship between adequate vegetable and fruit consumption and reduced chronic disease risk, our literature review found very few reports on programming aimed at increasing vegetable and fruit intake among adolescents. Literature review findings revealed a majority of U.S.-based studies and a scarcity of methodologically sound research evaluating effectiveness of community-nutrition intervention programs, specifically designed for youth. Recommendations for developing, implementing and evaluating interventions aimed at bringing about dietary changes in adolescent populations were developed based upon the literature review.

The current project focuses on a Toronto-area program identified in an environmental scan that was completed as part of the preparation for this research. A total of 17 programs were identified (in varied locations) that promote healthy eating among adolescents. Only one of these programs focused specifically upon increasing vegetable and fruit intake – most focused on healthy eating in general. Furthermore, few of the programs identified had undergone methodologically sound evaluations of effectiveness.

Using the recommendations arising from the literature review as a framework, the DRFWG identified two existing projects that most closely reflected 'best practices' in this program area. These two projects were the Teen Cuisine program of the Renfrew County Public Health Unit in Pembroke and the THCT program of the RPCHC in Toronto. Given the extensive preparation, adaptation and implementation work required to bring the Renfrew-based Teen Cuisine project to Toronto, the DRFWG decided to approach the RPCHC concerning the potential for developing a joint program initiative. The THCT program at RPCHC had been informally evaluated with very positive results.

Based on the results of the literature review, the DRFWG believes that adolescents may be better equipped to make healthy food choices (including increased vegetable and fruit consumption)

when they are provided with a supportive and participatory environment to learn about food and food skills, nutrition, healthy eating, and health.

Rationale for Selecting Regent Park Community Health Centre:

In 2000, RPCHC developed THCT as a community nutrition intervention program for inner-city urban adolescents in their community. Recognizing that the teenage years are an important time for learning life skills like cooking, knowledge of food, nutrition, health and healthy eating, the THCT combined nutrition education with real experiences in a kitchen setting. THCT sessions were designed to be fun and interactive.

In 2002 the DRFWG received funds from the Cancer Care Ontario Regional Central East (CCOR-CE) Cancer Prevention and Screening Network, to implement and evaluate THCT. The project applied the knowledge gathered from the literature review and environmental scan to evaluate a promising community-based program piloted in Toronto, aimed at supporting the vegetable and fruit consumption of adolescents.

The THCT program was previously informally evaluated (Summer 2000) at RPCHC with very positive results. The first step in this initiative was to address concerns raised through the informal evaluation. In selecting RPCHC, the program's effectiveness would be formally evaluated. This project will provide a model for the development of nutrition education activities and programs for adolescents in Toronto and beyond.

RPCHC was selected as the site for the re-implementation of the THCT project because the program had been developed and pilot tested there previously. RPCHC also accommodated for issues of accessibility as it is close to public transit and also central in location to two high schools (Eastdale Collegiate Institute and Jarvis Collegiate Institute) which many of the youth in Regent Park attend. RPCHC also provided facilities (kitchen and program areas) at no additional cost. Moreover, the Regent Park community was an ideal location to host such a community nutrition intervention program as it serves a community that is diverse in terms of race, ethnicity, and economic status.

Residents of Regent Park are considered, not only a diverse community, but also one that possesses a number of concerns surrounding safety, academic and social capacity. As such, adolescents living in the Regent Park community are considered to be a unique inner city, urban population being impacted by a variety of circumstances that affect their sense of personal well-being, academic performance, and ability to form relationships addition to the already existing complexities of being an adolescent.

Purposes:

1. To implement the recommendations from the environmental scan report – "Nutrition Interventions for Adolescents: A Profile of the Toronto Area and Review of Promising Practices" through revision of the THCT program RPCHC.
2. To revise the THCT program at RPCHC to address the recommendations arising from the informal program evaluation in 2000.
3. To implement a revised version of the THCT program at RPCHC.
4. To examine the efficacy of a revised THCT program using a sample of urban multi-ethnic adolescents at the RPCHC.

Objectives:

RESEARCH OBJECTIVES:

i. To provide a supportive and participatory environment for adolescents between the ages of 13-17 in which participants can enhance their knowledge and awareness of food, nutrition, health, and healthy eating through participation in the revised THCT program.

ii. To provide an environment in which participants can gain confidence and develop skills through experience with different kitchen tools, food safety, trying new foods and recipes, and different cooking techniques

PROCESS OBJECTIVES:

Financial

- The food budget will be kept below $50 dollars per session.

Program Activity

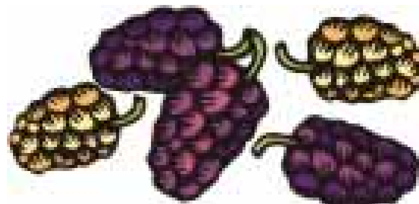
- The program will consist of conducting three (two hour) THCT workshops.
- Program recipes chosen will be simple and quick (under one hour) and be consistent with Canadian guidelines.

Degree of Participation

- For each session, participant attendance will be 70% of registered capacity.
- At least 50% of the registered participants will attend two or more of the classes.

Stakeholders Issues

- To ensure that at least 80% of participants rate this program as 3/5 or higher (“good”, “very good”, or “excellent”) for developing cooking skills and learning about food, nutrition, health, and healthy eating.



SECTION TWO:
Methodology & Data Collection

Teens Healthy Cooking Together Philosophy:

A supportive environment for healthy eating is a key component for influencing decisions made by adolescents in regards to their diet and health. A supportive environment for healthy eating should be reinforced through the safe preparation of healthy foods. Therefore, eating patterns modeled by this program are consistent with Canada's Guidelines for Healthy Eating, as follows:

- enjoy a variety of foods
- emphasize cereals, breads, other grain products, vegetables and fruits
- choose lower fat dairy products, leaner meats and foods prepared with little or no fat
- achieve and maintain a healthy body weight by enjoying regular physical activity and healthy eating

In addition, the program is designed to ensure that the following goals are met:

- Provide guidance and support to youths as they develop their abilities
- Provide adolescents with positive role models. Teachers, coordinators, facilitators, volunteers and peer leaders must be comfortable with themselves and others. They must possess a positive attitude towards healthy eating and healthy living and be someone who the adolescents can relate to
- Meal and snack times should be pleasant events whereby youths can dine and socialize together
- Access to a variety of nutritious foods

Teens Healthy Cooking Together Program Structure:

The purpose of the THCT program is to provide a supportive, culturally sensitive, and participatory environment for adolescents between the ages of 13 to 17 to develop and gain confidence while learning about food, nutrition, healthy eating, food safety, and cooking skills. Together, these experiences give adolescents a greater opportunity to make healthy lifestyle choices for maintaining and improving their health. The series of three program sessions (Program Plan in Appendix C) were lead by a program facilitator who was assisted by two volunteers.

The THCT program was implemented twice – with two different groups of adolescents at RPCHC. The overall structure of each THCT program consisted of three semi-structured sessions reflecting topics and issues relevant for adolescents. The program sessions were each structured to be completed within two hours, starting at 4:30 p.m. and lasting until 6:30 p.m. All the sessions were divided into two time blocks – the first hour and a half was allocated for food preparation, thus to be held in the kitchen, and the final half hour allocated in the program room (directly beside the kitchen) where students and facilitators would dine and socialize together. This also represented a perfect opportunity to facilitate discussions about nutrition among the adolescents or to have nutrition activities (e.g.: games and presentations about specific nutrition topics that interest adolescents).

During the first half of each session the adolescents prepared food and learned about food safety and safety in the kitchen. The second half of each session was an "Eat and Chat" time that allowed adolescents to enjoy the food they have made while learning about nutrition topics that interested them.

Prior to the commencement of the THCT program, a focus group was held with adolescents (February 2003) residing in Regent Park to obtain their feedback concerning program materials. Recommendations taken from this discussion were incorporated into a revised curriculum. This program plan was delivered during March 2003, when two THCT program groups were conducted at RPCHC. Key informants were also invited to participate by sharing their perceptions and recommendations regarding the THCT program in a focus group with parents (April 2003) and a staff and volunteer survey (April 2003).

Any adolescent who attended the *Pathways to Education*[1] program at RPCHC could register to participate in a series of three fun and interesting food and nutrition sessions. Each session lasted two hours and gave the adolescents the chance to cook, learn about food, and eat together.

PROCESS OF RECRUITMENT OF VOLUNTEERS:

Two adult volunteers were recruited from the Regent Park community through announcements and posters aimed at those who are experienced at preparing food and who enjoy working with youth. Both volunteers received meals during the six evenings they worked with the youth as well as an honorarium of $100.00 for their participation.

The volunteers played a vital role in ensuring that the sessions ran smoothly. They assisted in facilitating the sessions, confirming all participants understood and were engaged in the recipes being made, and supported the Research Assistant with the administration of the program evaluations.

PROCESS OF RECRUITMENT OF PARTICIPANTS:

Given the kitchen space, budget, and volunteer staff, a registration limit of 14 adolescents per session was set. It was anticipated that despite prior registration, there would not be a 100% participation rate. On average, 8 adolescents participated in each program session.

Recruitment and registration were coordinated through the Pathways to Education (P2E) mentoring program (where flyers and brochures about THCT were distributed) and adolescents were encouraged to sign up at the P2E office at RPCHC. The intent of the THCT project was to only recruit adolescents from P2E at this time as this program already had access to teens in the targeted community and age range that the THCT project was seeking. P2E was also sought as a partner in recruiting adolescent participants as it was an already established program within the Regent Park community, it was convenient, their target population suited ours and they already possessed actively engaged participants with a keen interest in learning.

[1] The mission of the *Pathways to Education* program at RPCHC is to break the cycle of poverty and unemployment in Regent Park by providing a blend of educational, social and financial supports that economically disadvantaged, at-risk kids in the community need to get to school, stay in school, succeed in school and move on to post-secondary programs.

Each time the THCT program was run, the same adolescents were scheduled to attend the three sessions. This format had the following advantages:

- the relationship between the session facilitator, volunteers, and participants was strengthened, and also among the participants themselves, as they became familiar with each other
- there was a reduction in administrative work; specifically, no need for pre-registration for each session
- participants could continually build upon nutrition knowledge learned from previous sessions

One drawback to this program structure is the development of long waiting lists since individual program blocks could accommodate eight to 12 adolescents at one time.

REGENT PARK COMMUNITY HEALTH CENTRE KITCHEN:

The community kitchen was able to accommodate 10-12 people comfortably. It is a well-equipped kitchen with many kitchen utensils and tools. However, some kitchen utensils/tools were not very suitable for this youth group. As mentioned, some of the knives -given the familiarity the participants had with knives that are available for them to practice with at home - were not safe for the adolescents to use. As a result, utensil purchases for the program included individual cutting boards, small paring knives, and chef's knives, among other items.

RECIPES AND NUTRITION EDUCATION:

Recipes were selected on the basis of suggestions, likes and dislikes articulated by adolescents in two sources:

i. Results of the summer 2000 informal THCT evaluation, and
ii. Results of the Youth Focus Group interviews conducted prior to commencement of this study.

Teens Healthy Cooking Together Youth Participants:

Participants were recruited from adolescents who were attending the RPCHC's P2E mentoring program. Study participants were divided into two groups; a control group (N=10) that did not participate in the program but were administered pre-program surveys during the same timeframe as participants in the two intervention groups (N=14) who participated in the program. If the evaluative component determined that the program was successful, control group participants would be provided the opportunity to participate in the program in the future. Participants ranged in age from 13 to 16 years. All participants were attending high schools within the Greater Toronto Area and were in either grade 9 or grade 10.

TEENS HEALTHY COOKING TOGETHER INTERVENTION PARTICIPANTS:

On average, there was a 37.5% participation rate by male adolescents (N=6) and a 62.5% participation rate by female adolescents (N=10). Most of the older female youths had some previous cooking experiences whereas most of the male youths did not. Participants were ethnically and culturally diverse, with over 10 cultural backgrounds being represented (including Canadian, Pakistani, Jamaican, Somali, Ethiopian, Vietnamese, Guyanese and Trinidadian), all residing within the Regent Park community. All of the adolescents could speak fluent English. The majority of the adolescents were of Muslim faith. As a result, recipes chosen and ingredients adhered to Halal food requirements.

TEENS HEALTHY COOKING TOGETHER CONTROL GROUP PARTICIPANTS:

There was an equal participation rate by male adolescents (N=5) and by female adolescents (N=5). Participants were ethnically and culturally diverse, with over nine backgrounds being represented (including Canadian, Pakistani, Jamaican, African, Ethiopian, Vietnamese, Chinese, Asian and Trinidadian), all residing within the Regent Park community. All of the adolescents could speak fluent English.

TEENS HEALTHY COOKING TOGETHER FOCUS GROUP PARTICIPANTS:

A semi-structured focus group was held with a sample of adolescents attending the *Pathways to Education* program prior to the commencement of the THCT to obtain their feedback concerning the program materials. Data that were collected included: key messages of the THCT program; usefulness of THCT program; clarity and appeal of information being presented is effectiveness of THCT for learning about nutrition, food safety, healthy eating and health; additional comments.

Teens Healthy Cooking Together Key Informant Participants:

Participants were recruited from the community and key stakeholders in the Regent Park Community to participate in a parental focus group and a staff/volunteer evaluation of the THCT program.

TEENS HEALTHY COOKING TOGETHER PARENT FOCUS GROUP PARTICIPANTS:

After the completion of THCT, a semi-structured focus group was held with a sample of parents of adolescents attending the P2E program to obtain their feedback of the program materials that were presented.

TEENS HEALTHY COOKING TOGETHER STAFF/VOLUNTEER PARTICIPANTS:

Surveys were administered with RPCHC staff and volunteers to obtain their feedback concerning their perceptions of the efficacy of the THCT program.

Data Collection:

A total of 26 potential participants registered through P2E to participate in the THCT intervention groups. From these registrants, 16 adolescents participated in the initial program data collection, with 14 of them attending two or three program sessions and completing the final evaluation.

An additional 25 key informant participants are also included in data collection and analysis. These are described below:

- Youth focus group (N=9)
- Parent focus group (N=6)
- RPCHC staff, *surveyed* (N=8)
- THCT program volunteers, *surveyed* (N=2)

Written consent was obtained from each adolescent (both program and control group participants), volunteer, staff, and parent participant prior to participation in this study. Toronto Public Health, Education and Research Department granted ethics approval for this research.

For adolescents participating in the program, the pre- and post-program surveys were administered with assistance from program volunteers at the commencement of the THCT program and at the end of the final session. Once the post-program surveys were completed, they were collected by the program volunteers and the Project Manager. With respect to pre- and post-program surveys, participants recorded their responses to each survey item directly on the survey tools. Completion of consent forms and responses to pre-and post-program surveys by control group participants was achieved in conjunction with their attendance at the P2E program. The Project Manager obtained control group participants' signed consent forms and collected their completed pre program surveys.

Semi-structured key informant interviews were arranged on an individual or group basis according to the preference and convenience of participants. Group interviews were tape recorded and subsequently transcribed verbatim by the Project Manager. The completed surveys and interviews were stored in a locked cabinet.

The group interviews conducted with parents and adolescents to test program materials took place in a convenient location accessible by public transit. These group interviews were tape-recorded and transcribed verbatim. The Project Manager conducted these interviews using a semi-structured interview guide (Appendix D).

Outlined below are the following tools that were used to collect data:

Pre-Program Survey: *(Appendix E)*

A pre-program survey was administered to both the control group and intervention group participants prior to the THCT program participation. This survey collected data regarding their knowledge about healthy eating and vegetable and fruit consumption. The type of data that was collected included: demographics (age, gender, school grade level, cultural background); language; and knowledge. The cultural appropriateness and comprehensibility of this tool was determined through two pre-test focus group interviews: one with a group of adolescents and one with a group of parents.

Post-Program Survey: *(Appendix F)*

A post-program survey was administered after the THCT program had been completed with intervention group participants. This survey collected data regarding changes in adolescents' knowledge. The type of data collected included: demographics (age, gender, school grade level); cultural background; language; knowledge relating to healthy eating; and measures of participant satisfaction with the program. The cultural appropriateness and comprehensibility of this tool was determined through two post-program focus group interviews: one with a group of adolescents and one with a group of parents.

Key Informant Surveys: *(Appendix G)*

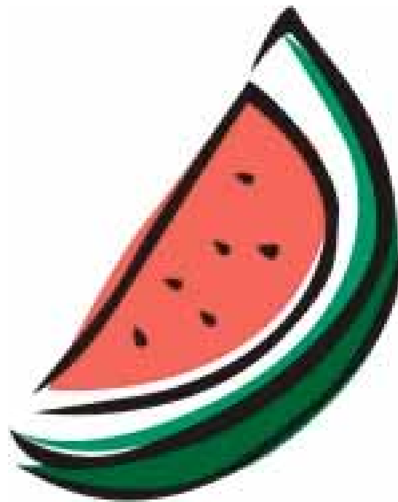
Surveys were administered with RPCHC staff and volunteers to obtain their feedback concerning their perceptions of the efficacy of the THCT program. The type of data that was collected included: key messages of the THCT program; usefulness of THCT program clarity and appeal of the information; effectiveness of THCT for learning about nutrition, food safety, healthy eating and health; if they felt that the THCT program staff communicated clearly with them; additional comments.

Pre-Program Review of Program Materials:

A semi-structured focus group was held with a sample of adolescents attending the P2E program prior to the commencement of the THCT to obtain their feedback concerning the program materials. Data that were collected included: key messages of the THCT program; usefulness of THCT program; clarity and appeal of information being presented is effectiveness of THCT for learning about nutrition, food safety, healthy eating and health; additional comments.

Key Informant Focus Group:

A semi-structured focus group was held with a sample of parents of adolescents attending the P2E program after the completion of THCT to obtain their feedback of the program materials that were presented. The type of data collected included: key messages of the THCT program; usefulness of program information; clarity and appeal of the information; effectiveness of THCT for learning about nutrition, food safety, healthy eating and health; additional comments.



SECTION THREE:
Evaluations & Findings

Teens Healthy Cooking Together Program Budget:

Projected cost analysis of food expenditure for each session was estimated to be approximately fifty dollars. The average amount spent for each session was $50.00. We were able to keep the food expenditure within our budget. This budget was sufficient to prepare two dishes in addition to providing an after-school snack (fruit, trail mix and fruit juice) prepared for the adolescents when they arrived at the program. The snacks and recipes prepared provided enough food to feed at least 12 people in servings consistent with Canada's Guidelines for Healthy Eating.

Besides food expenditure, finances were also allocated towards the purchase of kitchen utensils ($140.00). These purchases included individual cutting boards, small paring knives, chef's knives, a can opener, a pizza cutter, spatula, cheese grater, aprons, hair elastics, dish clothes, tea towels, additional spoons, take-home containers (allowing the adolescents to take food samples home to their families to share) and other small expenses as they arose.

Teens Healthy Cooking Together Program Participation:

In the first group of program participants, nine adolescents attended two out of the three sessions. In the second group of program participants, seven adolescents attended all three of the program sessions.

In their responses to the pre-program survey, THCT participants listed a variety of reasons for registering for the program. These included:

- Their friends asked them to attend
- They wanted to have the experience
- They wanted to learn how to cook / Because they enjoy cooking
- They wanted an opportunity to eat some great food that they made for themselves / Because they enjoy food and eating
- They wanted to have fun
- They wanted to meet new people
- They wanted to learn how to eat healthy

Similarly, the control group participants primarily indicated that reasons they would be interested in attending the THCT program would include:

- Getting to cook food:
  - … with their friends
  - … from different cultures
  - … with quick and easy recipes

- Being able to eat the food you have made

The most frequent reason given for attending the session was the desire to learn how to cook or the enjoyment of cooking (N=8).

The overall attendance of the THCT intervention group participants did not meet the goal of 70% attendance of the registered capacity (attendance group one= 50%; attendance group two=55.5%; see Charts 1 and 2). All but two of the THCT intervention group participants (N=16) attended 2 or more of the sessions. This attendance was achieved in part because of the 24-hour phone call reminders made by P2E administrators to the participants.

CHART 1

PARTICIPATION RATE: Teens Healthy Cooking Together, Group One

DATE	REGISTRANTS (N)	PARTICIPANTS (N)	ATTENDANCE (%)	OVERALL ATTENDANCE (%)
March 17, 2003	14	5	35.7%	**50%**
March 19, 2003	14	9	64.3%	
March 24, 2003	14	7	50%	

CHART 2

PARTICIPATION RATE: Teens Healthy Cooking Together, Group Two

DATE	REGISTRANTS (N)	PARTICIPANTS (N)	ATTENDANCE (%)	OVERALL ATTENDANCE (%)
March 25, 2003	12	6	50%	**55.5%**
March 27, 2003	12	7	58.3%	
March 31, 2003	12	7	58.3%	

At the time of the scheduled THCT sessions, numerous teens “dropped in” to see if they could join the program. If these teens were registered with P2E, they were referred to the P2E office where they could register. However, not all of the youth had connections with P2E and had simply heard about the program from their friends and wanted to become involved. As the THCT program progressed, positive word-of-mouth reports by participants seemed to increase interest among other adolescents.

Teens Healthy Cooking Together Program Structure:

In their responses to the post-program survey the majority of the adolescents said that they were satisfied with the way the program was structured. Many of the younger adolescents expressed an interest in attending sessions during the school year either once a week or once per two weeks. One participant expressed interest in attending sessions twice per week. All the sessions had at least three adult supervisors: one Research Assistant/Facilitator, and two adult volunteers from the community. Volunteers played a vital role in ensuring that the sessions ran smoothly. Moreover, the proximity of the program room to the kitchen helped the sessions flow easily.

YOUTH FOCUS GROUP:

A Youth Focus Group (N=9) was held in advance of the THCT program at RPCHC to obtain feedback concerning the program materials. This group identified that they liked the design of the curriculum and the recipes that were going to be made, but that they would enjoy learning how to make a cake or some kind of dessert. Also, they identified that snacks would be something they would like to see included. As a result, both recommendations were added into the program plan prior to implementation. A Hawaiian Fruit Crumble was made for a dessert and daily after-school snacks were prepared for all adolescents to enjoy!

PROGRAM EVALUATION:

Overall, the THCT program was highly rated by the teens (see Chart 3) and was something that 78.5% would recommend to their friends. The rating of the THCT program exceeded the previously stated objective of ensuring that at least 80% of the participants rated the program as a 3/5 or higher (indicating “good”, “very good”, “excellent”). In fact, 100% of the program participants rated the program as 3/5 or higher.

CHART 3

Rating the THCT Program (N=14)

RATING	PARTICIPANTS (%)
Poor	0%
Fair	0%
Good	14.3%
Very Good	50%
Excellent	35.7%

Moreover, when asked if THCT was something that they had discussed with someone outside of the program, 57% (N=8) mentioned that they had talked about it at school, with their families and had mentioned it to “other people”. For example, some participants indicated that they had told their friends that they were in a “really great program” and that they “cook healthy food”. Several of the teens commented that the program was “really fun”, that they wished it had been longer in duration, and that they hoped to be able to participate in it again soon (N=8). In general, the female participants wanted the program to be more extensive which would allow them to cook more food and have more input into what was being made. In contrast, the male participants felt that the three sessions were “enough”.

Most of the adolescents (N=12) commented that the program was what they had expected, with only two participants citing that it had not met their expectations, as they had understood that the program would be longer in duration.

RECIPES AND NUTRITION EDUCATION:

Some adolescents reported that some recipes used in the THCT program were new to them; however, all of the participants tasted all of the foods prepared. Taste was an important component to whether or not a new food would be accepted. The majority of the adolescents were willing to try new recipes, especially when their peers were willing to sample the food(s) and the recipes were for foods that the adolescents were familiar with in the Canadian environment, such as pizza, pancakes or stir-fry. This was confirmed when the adolescents listed foods such as lasagna, beef noodles/casserole, milkshakes, cookies, rice, cakes, soups, fish, steak, and spaghetti that they wanted to learn to prepare. Therefore, providing the opportunity to prepare new foods that the adolescents are familiar with in the Canadian environment and foods which are familiar to their culture are important. Moreover, this appears to be a successful strategy for encouraging youth to add fruits and vegetables to their food choices.

CHART 4			
Rating the THCT Recipes (N=14)			
RECIPE	**LIKED IT (%)**	**DIDN'T LIKE IT (%)**	**NO ANSWER (%)**
Tortilla Rolls	71.4%	7%	21.4%
Apple Berry Punch	71.4%	0%	28.6%
Fruit Pancakes/Stir Fry	85.7%	0%	14.3%
Tropical Fruit Salad	71.4%	14.3%	14.3%
Pizza	92.9%	7%	7%
Hawaiian Fruit Crumble	85.7%	0%	14.3%

In the post-program surveys, over 64% of the adolescent participants surveyed (N=9) said that they learned something new from the program. This specifically included such things as:

- Not to use the same knife with meat and other food products
- How to properly use a knife
- How to make new recipes and new foods
- How to cook
- Healthy foods and what they do for you
- How to eat healthy
- Food can be made with very little effort

The pre-program survey included a brief *Knowledge Quiz* (Appendix E), which was administered to the THCT participants (N=16) prior to participating in the program, as well as after completing the three sessions. The same Knowledge Quiz was administered to Control Group (N=10). Questions in the quiz were based on topics discussed in the sessions. Results of the pre-program knowledge quiz for intervention and control participants are provided in Chart 5.

CHART 5		
PRE-PROGRAM KNOWLEDGE QUIZ: THCT Participants Compared to Control Group Participants		
Question	**THCT Participants Correct Answers (%)**	**Control Group Correct Answers (%)**
1	25%	60%
2	0%	10%
3	12.5%	70%
4	8.3%	20%
5	18.8%	10%
6	31.3%	20%
7	68.8%	60%

CHART 6			
KNOWLEDGE QUIZ: THCT Participants – Comparison of knowledge before and after the THCT sessions			
Question[2]	**Pre-program quiz Correct Answers (%)**	**Post-program quiz Correct Answers (%)**	**Change in Knowledge (%)**
1	25%	57.1%	+ 32.1%
2	0%	21.4%	+ 21.4%
3	12.5%	71.4%	+ 58.9%
4	8.3%	35.7%	+ 27.4%
5	18.8%	28.6%	+ 9.8%
6	31.3%	28.6%	- 2.7%
7	68.8%	78.6%	+ 9.8%

The findings from the post-program evaluations of the THCT participants indicate that an improvement was observed in their awareness and knowledge of the importance of healthy eating and vegetable and fruit consumption. There also appeared to be an increase in the program participants' capacity for life skills around food preparation, food safety, food handling and nutrition.

The findings from the Post-Program evaluations of the Control Group were difficult to assess as only five out of the ten original participants could be recruited to participate in the final evaluation. The overall number of correct answers that Control Group participants had in the knowledge quiz are therefore averaged on a smaller scale and mathematically represent a significantly higher portion of the final percentage (i.e. 20% is equivalent to one person in every five, as opposed to 10% being equivalent to one person in every ten). Therefore, percentages that represented the correct answers for the Control Group's knowledge quiz scores are higher, but do not necessarily indicate that there was an improvement in the participants' awareness and knowledge of the importance of healthy eating and vegetable and fruit consumption.

While the Control Group participants generally had higher Pre-Program scores on the knowledge quiz that was administered (with four out of the seven questions they answered ranking as a higher number of correct answers received), after the THCT program, the THCT Program Participants had higher Post-Program scores (with four out of the seven knowledge quiz questions ranking with a higher number of correct responses).

When referring to Chart 8 and Chart 9, a further comparison was done on the *"change in knowledge"* in the number of Control Group participants and the number of THCT Program

[2] Questions comprised of the following topics: 1) Fruits and vegetables as healthy food; 2) Importance of refrigerating food; 3) Food safety; 4) Knife handling techniques; 5) Proper method of tasting food; 6) Healthy snacking; 7) Sports nutrition.

Participants, as comparison by percentages was previously identified to not be the most effective method of assessment. This data clearly indicates that the number of THCT program participants who had a change in knowledge consistently increases (with the exception of question six), while the number of Control Group Participants who had a change in knowledge only increases in two questions (four and six). This demonstrates how the percentages of *"correct answers"* can be misleading in assessing the effectiveness of the THCT program for its participants.

Priority issues for future educational programming were also identified. When surveyed, adolescents suggested the following food, nutrition, and healthy eating topics that they would like to learn more about in future sessions:

- Nutrients – what are they?
- What to eat and what not to eat
- How to make green vegetables more tasty and interesting
- What type of nutrition will help your body to develop
- Foods that you can eat while losing weight
- Foods that young children and pregnant women should eat
- The Four Food Groups
- How to make a healthy lunch
- Different cultural styles of food

CHART 7		
POST-PROGRAM KNOWLEDGE QUIZ: THCT Participants in comparison to Control Group		
Question	**THCT Participants Correct Answers (%)**	**Control Group Correct Answers (%)**
1	57.1%	100%
2	21.4%	20%
3	71.4%	40%
4	35.7%	60%
5	28.6%	20%
6	28.6%	60%
7	78.6%	60%
*** THCT Participants totaled 14; Control Group Participants totaled 5 ***		

CHART 8

KNOWLEDGE QUIZ: THCT Program Participants, comparison of knowledge before and after the THCT sessions

Question[3]	Pre-program Correct Answers (%)	Pre-program Participants with correct answer (N)	Post-program Correct Answers (%)	Post-program Participants with correct answer (N)	Change in Knowledge (%)	Change in Knowledge (N)
1	25%	4	57.1%	8	+ 32.1%	+ 4
2	0%	0	21.4%	3	+ 21.4%	+ 3
3	12.5%	2	71.4%	10	+ 58.9%	+ 8
4	8.3%	1	35.7%	5	+ 27.4%	+ 4
5	18.8%	3	28.6%	4	+ 9.8%	+ 1
6	31.3%	5	28.6%	4	- 2.7%	- 1
7	68.8%	11	78.6%	11	+ 9.8%	0

CHART 9

KNOWLEDGE QUIZ: THCT Youth Control Group, comparison of knowledge before and after the THCT sessions

Question[3]	Pre-program Correct Answers (%)	Pre-program Participants with correct answer (N)	Post-program Correct Answers (%)	Post-program Participants with correct answer (N)	Change in Knowledge (%)	Change in Knowledge (N)
1	60%	6	100%	5	+ 40%	- 1
2	10%	1	20%	1	+ 10%	0
3	70%	7	40%	2	- 30%	- 5
4	20%	2	60%	3	+ 40%	+ 1
5	10%	1	20%	1	+ 10%	0
6	20%	2	60%	3	+ 40%	+ 1
7	60%	6	60%	3	0%	- 3

*** The number of control group participants in the pre-program quiz was 10; the number of control group participants in the post-program quiz was 5 ***

[3] Questions comprised of the following topics: 1) Fruits and vegetables as healthy food; 2) Importance of refrigerating food; 3) Food safety; 4) Knife handling techniques; 5) Proper method of tasting food; 6) Healthy snacking; 7) Sports nutrition.

Future Teens Healthy Cooking Together Planning & Implementation:

PARENT FOCUS GROUP FEEDBACK:

A number of comments were obtained through a focus group discussion with parents residing in the Regent Park community. All of the parents were highly supportive of the program and were very eager to have their child become involved – now and in the future. Discussion of the THCT sessions and materials largely focused around the life skills and cooking components. The parents felt that it was good to include a variety of recipes and to include volunteers who were consistently present at the program so that the adolescents could “form a bond” and be “more likely to participate”. There were also a number of concerns that were addressed, including:

- The parents did not know about the THCT program
- Their adolescents do not tell them what is going on (if there is a program going on, or if they are participating in it)
- The parents were not actively involved in the THCT program, as many were very supportive of it and would have liked to have been involved
- Adolescents are picky eaters
- Adolescents identify that they need to talk about issues beyond those of food, nutrition and healthy eating during educational programming sessions (such as issues of safety, healthy relationships, etc.)
- Each THCT program was only three sessions
- The THCT recruitment process only allowed adolescents to participate in the sessions if they had previously registered for participation

These were discussed extensively, with solutions being suggested for future THCT programming. These will be further discussed in the *Recommendations Section*.

STAFF & VOLUNTEER FEEDBACK:

A number of comments were articulated through the survey of RPCHC staff and volunteers who assisted with the THCT program. In total eight individuals completed the THCT Post-Program feedback evaluation form.

The first component of the evaluation asked staff and volunteers to address what they felt the most significant messages of the THCT Program were (Chart 10). Most staff and volunteers (87.5%) agreed that the THCT program helped participants to gain an increased knowledge of nutrition and healthy eating. The second most significant message (62.5%) they identified from the program was the opportunity for the program participants to socialize with other teens. Other messages they identified included: life skills development; learning kitchen safety skills; learning safe food handling skills; learning how to cook; and having fun and eating.

CHART 10

EVALUATION: THCT Program Feedback from Staff and Volunteers
"What are the main messages of the THCT Program?"

THCT Program Message	Responses (N)	Responses (%)
Increased knowledge of nutrition and healthy eating	7	87.5%
Socialization with other teens	5	62.5%
Life skills development	4	50%
Learning kitchen safety skills	4	50%
Learning safe food handling skills	4	50%
Learning how to cook	3	37.5%
Have fun and eat	1	12.5%

Staff and volunteers also widely agreed that a variety of the THCT Program aspects were most useful to adolescents (Chart 11). Learning kitchen safety skills ranked most important with a response rate of 75%. Having the adolescents gain increased knowledge of nutrition and healthy eating *and* learning how to cook were ranked a close second with 62.5% of all evaluation participants indicating they felt these were important. Other important THCT Program aspects included: learning safe food handling skills; socializing with other teens; life skills development; and the opportunity for the adolescents to have an adult role model practicing in the career field of nutrition.

CHART 11

EVALUATION: THCT Program Feedback from Staff and Volunteers
Most Useful Aspects of the THCT Program

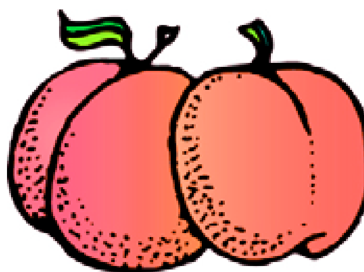
THCT Program Aspect	Responses (N)	Responses (%)
Learning kitchen safety skills	6	75%
Increased knowledge of nutrition and healthy eating	5	62.5%
Learning how to cook	5	62.5%
Learning safe food handling skills	4	50%
Socialization with other teens	3	37.5%
Life skills development	3	37.5%
Having an adult role model (e.g. Nutritionist)	1	12.5%

Staff and volunteers were also asked to comment on the aspects of the THCT Program that they felt were least useful to the adolescent participants (Chart 12). The most common response was life skills development, with a response rate of 37.5%. The second most commonly identified aspect of the program that was not considered as beneficial for the participants was the opportunity for them to socialize with other teens. Other aspects which were identified by respondents included: learning kitchen safety skills; and learning safe food handling skills.

CHART 12		
EVALUATION: THCT Program Feedback from Staff and Volunteers Least Useful Aspects of the THCT Program		
THCT Program Aspect	**Responses (N)**	**Responses (%)**
Life skills development	3	37.5%
Socialization with other teens	2	25%
Learning kitchen safety skills	1	12.5%
Learning safe food handling skills	1	12.5%
Increased knowledge of nutrition and healthy eating	0	0%
Learning how to cook	0	0%

All of the staff and volunteer respondents felt that both the information provided to the adolescent participants was appealing and that it was an effective way for adolescents to learn about food, nutrition, and healthy eating. Suggestions for future THCT programs included:

- ensure that all recipes remain easy for participants to make
- have participants learn a basic recipe and then have them share adaptations to this recipe with the group
- have more cooking classes available in different communities
- incorporate an educational video into one of the program “Eat and Chat” sessions for the participants to enjoy, and
- how to substitute healthy food choices into your diet.



SECTION FOUR:

Recommendations & Conclusions

Recommendations:

From the data collected during this project, a number of recommendations can be made for future nutrition intervention programming for adolescents. These include the following:

1. ***Develop a specific action plan to have greater youth involvement in the planning and implementation of the program.***

   As one parent commented, while the adolescent participants of THCT may have felt comfortable giving written evaluations of the program, many of the Youth Focus Group participants may not have felt comfortable giving their criticisms verbally. The parent felt that due to the nature of the community many adolescents may “take a longer period of time” to “connect with you”; this is due to the fact that they “are used to people popping in and out of their lives and dumping them.” As such, any future *Youth Focus Groups* designed to obtain feedback on program materials should be facilitated primarily by existing mentors of youth groups. Such facilitators could include homework club mentors, older peers (grades 11 an 12) who act as mentors in the P2E program, and other role models from the community with whom the adolescents are familiar and have previously connected with. This will ultimately allow for more dynamic and comprehensive feedback of program materials.

2. ***Develop a specific action plan to have greater parent involvement in the planning and implementation of the program.***

   This would include investigating existing community partners, such as parent’s groups, community groups, and schools. Discussion in the *Parent Focus Group* showed that parents are very interested in supporting and helping to implement this program. One participant proposed that a group of parents who have an adolescent enrolled in THCT could form a *Parent Advisory Group*. This group could work together to help advertise, advise, and support the THCT program. Concerns and issues around the program could be discussed at regular meetings. Moreover, the program volunteers (parents residing within the RPCHC catchment area) could work with the parent group in planning and acting as liaisons for the program, advising parents of what is happening in the sessions. This would help to overcome the fact that adolescents do not always communicate about programs with their parents. Parents would ultimately have a more comprehensive understanding of what their child is learning, and as such, what additional things they feel would benefit the program’s effectiveness.

   Other issues of concern during the *Parent Focus Group’s* feedback pertained to direct parental involvement and observation of the program “in action”. Suggestions provided by parents at the Focus Group pertaining to this concern included: having the parents involved in the aforementioned *Parent Advisory Group*; having the parents volunteer with the program on a

consistent basis; and having the adolescents host a *"Family & Friends Night"* where they could invite their family and friends to attend a small dinner that they have prepared with their peer participants. These activities would help parents to understand the nature of the program and what their adolescents have been learning.

3. Develop a specific action plan to have the program activities become self-sustaining through a peer educator model.

The philosophy behind the peer education model is that practical experience with peers and advice from peers will impact behavior. Peer education would be a cost-effective and sustainable way to deliver culturally relevant messages within communities. The peer educator approach has the ability to range from classroom-style, to neighborhood health education sessions, to informal or one-on-one counseling and general discussion sessions. Messages portrayed through a peer education model should include key messages and consistent advice, which program participants frequently hear (e.g.: eat fruits and vegetables regularly).

As the P2E program evolves and develops, participants of the program grow from being mentored, to becoming mentors of new and younger P2E participants. Future THCT programming, through the facilitation of peers, could include messages being relayed to program participants through skits, poster campaigns (designed by participants) and "eat and chat" sessions in local languages. These strategies have the potential to increase program outreach. This in turn supports the long-term goal of the THCT program of ensuring that it becomes self-sustaining – with one option including that the THCT program continue through the model of peer education.

4. Redefine clear goals and learning objectives for variations of the THCT program.

This can be accomplished through the preparation of schedules for each session, identifying key messages and ensuring that all participants are engaged in the activities.

5. Recruit volunteers for the program and train them appropriately.

Ensure that volunteers receive a "Welcome Package" and that a brief training session is scheduled with them prior to the commencement of the program. This discussion allows an opportunity for expectations to be communicated and program schedules to be reviewed and clarified. Volunteers should receive extensive training in the future, including a thorough overview of the kitchen facilities, sanitation techniques, and information and recipes contained in each of the program's sessions.

6. Ensure that parents in the community are aware that the program is available.

Engage in connecting with local parent groups, community programs (which have parent involvement) and schools.

7. Ensure that the program is sufficiently long in duration.

Adolescents, parents, program staff and volunteers all felt that for adolescents to adequately learn the vast amount of information that can be taught to them in regards to food, nutrition, healthy eating, food safety, and cooking skills messages, three sessions was not an adequate length of time. Furthermore, to assess a change in vegetable and fruit consumption among adolescents, changes in healthy eating behaviours would need to be observed over a more significant period of time.

8. Ensure that registration does not limit the access of adolescents to the THCT program.

Specifically, parents and adolescents both voiced that they felt the program should be open to those outside of the P2E program. Several adolescents arrived at the sessions assuming that they would be permitted to participate despite not having registered or being affiliated with P2E. Parents also voiced that a lot of times programs in their community are more successful if they are operated as a "drop-in". You could advise the adolescents of what time you will be operating the program, but allow them the independence and freedom to come on their own time. This perspective gives a unique opportunity for adolescent participants to exercise their independence and ability to make their own choices. At the same time, however, concerns around this suggestion need to be investigated – namely the limitations of available space and facilities.

9. Educational topics and issues of concern should be expanded upon during future THCT sessions.

Topics relating to this age group that can be potentially addressed include:

- Body image
- Healthy eating patterns that include breakfast
- Healthy snacking
- Sports nutrition
- Nutrients – what are they?
- What to eat and what not to eat
- How to make green vegetables more tasty and interesting
- What type of nutrition will help your body to develop
- Foods that you can eat while losing weight
- Foods that young children and pregnant women should eat
- The four food groups
- How to make a healthy lunch
- Different cultural styles of food

One participant of the Parent Focus Group also identified that often programs such as these that involve teamwork and a social atmosphere provide an excellent opportunity for urban adolescents who need to talk about more issues than just nutrition. Such examples included healthy relationships and sexual health. While these topics are not within the scope of nutrition programming, the THCT program could refer participants who are interested in additional support to other suitable adolescent programming.

10. Allow program participants to become actively engaged in planning their own recipes and educational sessions.

This can be accomplished by allowing adolescents to experiment with foods that they are curious to learn how to make (other than recipes which are provided in the program plan). Program groups often have very different dynamics and will desire both different foods and different discussion topics than previously determined. While some structure should be provided in the THCT framework, adolescents should have the opportunity to design their own learning opportunities. This, in turn, assists the group in becoming self-sustainable in the program's content, as the adolescents continue to explore a wide variety of educational topics and recipes that they are all interested in. For reasons of comfort level, the program could begin by asking adolescents to share their favorite ingredients for upcoming recipes on the agenda. This could eventually shift to having the participants plan their own menus and programming activities.

11. Provide training to all THCT facilitators.

Training should be sought from recognized and licensed authorities in the field of public health. Examples of such training programs in the City of Toronto include: Toronto Public Health, "Cooking Healthy Together"; Toronto Public Health, Food Handler Certification; and FoodShare, "Cooking Out of the Box: Starting a Community Kitchen (in Toronto)".

12. Ensure that cultural diversity within each community that implements THCT is sensitively acknowledged, understood and incorporated into the program.

The specific needs of the community participants and the stakeholders (both the participants and those who are supporting the project) need to be fully addressed. Research shows that all stakeholders (staff, volunteers, parents, youth and community members) have clearly indicated that they want to be engaged and involved in projects such as THCT. Resources are available for referral for future programming initiatives in Appendix B.

Conclusions:

Given the small convenience sample size, and quasi-experimental design of this research, our intentions are not to generalize the results of this study to other populations. However, we believe that the results will be valuable as a means of informing the development of similar programs among groups of adolescents whose age and ethnocultural backgrounds are similar to that of our study participants. Program materials, evaluation methodologies and tools, and data analysis approaches used in this research may be adapted and used by other nutrition professionals in the development of culturally appropriate fruit and vegetable programs for adolescents.

Overall, the effectiveness of the revised THCT program implemented through this study was considered to be rated very positively by participants, parents and other key informants. Further improvements to this program can be achieved by integration of the recommendations contained in this report.