

Lift Urban Portland:

A nutrition education program designed to elevate knowledge and cooking skills of low-income city residents.

Prepared for: Lift Urban Portland in association with Oregon Health & Science University

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Executive Summary

Project Goal

To enhance resident health and wellness by increasing participant knowledge of nutrition topics relevant to their personal health needs, and also to enhance participant self-efficacy through cooking lessons and nutrition classes. Improvement in these areas will in turn lead to improved food security for low-income individuals enrolled in the Lift Urban Portland Wellness Program.

Objectives

1. The majority of participants (90%) demonstrate increased knowledge by:
 - a) Identifying three calcium-rich foods and three high-fiber foods based on the education they have received.
 - b) Listing two sources of good (monounsaturated or polyunsaturated) fats and two sources of bad (saturated or trans fats) fats as well as one source of omega-3 fatty acids based on the education they have received.
2. The majority of participants (90%) demonstrate increased self-efficacy by writing at least two recipes based on a provided “grocery list” which utilize the nutritional principles communicated during cooking classes.

Literature Review

I. Article One

Diet Quality is Low among Female Food Pantry Clients in Eastern Alabama.

In this cross-sectional study, Duffy et al examines diet quality, food security, and obesity among female food pantry clients in Lee County, Alabama. The sample included fifty-five food pantry clients between 19 and 50 years of age. Participants filled out a 24-hour recall, which was then used to calculate *Healthy Eating Index-2005* (HEI-2005) scores for each woman. In addition to as-

sessing diet quality using the HEI-2005, the other outcome measures included adult obesity and household food insecurity. Diet quality of the women was generally poor, with a mean HEI of 43 on a 100 point scale. Further, having a low education level (less than a high school degree) and being a smoker were related to lower overall diet quality. Sixty-seven percent of the clients were obese, while 65% were food insecure. Overall, the findings from this study conclude that food pantry clients are characterized by high levels of food insecurity, obesity and poor diet quality. Therefore, increased outreach efforts to improve nutrition education for food pantry clients would be beneficial to their overall health.

Identifying the nutritional risks for food pantry clients is key in implementing effective nutrition education for this population. This study concluded that food pantry clients were at a higher risk of malnutrition than the general population. Based on the findings of the article, it is crucial to develop appropriate nutrition education lessons for the Lift Up Portland food pantry participants. The food pantry clients of Lift Up Portland are in need of nutrition outreach programs in order to assist them with gaining knowledge regarding diet quality and effective utilization of ingredients from food pantry boxes. This will assist our target population in avoiding food insecurity and malnutrition.

II. Article Two

Effectiveness of different methods for delivering tailored nutrition education to low-income, ethnically diverse adults.

In this study, Gans et al aims to evaluate the *Your Healthy Life* intervention among low-income, ethnically diverse, English and Spanish-speaking participants. The objective of this study was to determine which methods of deliverance were most effective for tailor-made nutrition materials aimed at lowering participant fat intake and increasing fruit and vegetable (F&V) intake. *Your Healthy Life* was a randomized controlled trial with four experimental conditions: 1) Nontailored (NT) comparison group; 2) Single Tailored (ST) packed; 3) Multiple Tailored (MT) packed mailed in four installments; 4) Multiple Re-Tailored (MRT) packets re-tailored between mailings via a brief phone survey. Participant recruitment was conducted in the waiting rooms of nine public health clinics, as well as in community centers and public events. A baseline telephone survey collected information

used for tailoring. Evaluation and follow-up evaluation surveys were collected four and seven months later.

This study concluded that tailored interventions were more effective than non-tailored interventions in improving the short-term dietary behaviors of low income, ethnically diverse populations. Both the ST and MT groups reported significantly higher F&V intake at four months as compared to the NT and MRT groups. At seven months, only the MT group still had significantly higher F&V intake compared to the NT group. In terms of changes in fat-related behaviors, both the MT and MRT groups showed more change than NT at four months.

Tailoring specific nutrition education materials prepared with low literacy requirements for low-income participants can be effective in achieving dietary change. It is crucial to consider the target population when creating nutrition education materials. When developing nutrition education lessons for the food pantry clients of Lift Urban Portland, it is essential to consider the means chosen to disseminate information, such as video, in-person lessons, cooking demonstrations, posters, or handouts.

III. Article Three

Effects of a Nutrition Education Program for Urban, Low-Income, Older Adults: A Collaborative Program Among Nurses and Nursing Students.

A study conducted by Klinedinst examines the impact of the *Eat and Learn Nutrition Program* on nutrition knowledge of low-income older adults residing in an urban Northeastern U.S. area. The planning, implementation, and evaluation of the program, backed by the Health Belief Model, was a collaborative effort among graduate nursing students, college faculty members, a public health nurse, the building management, and the program participants. After a needs assessment was conducted, a series of three discussions on nutrition topics related to cardiovascular disease (CVD) was presented in the common room of the participants' residence. On average, participants exhibited increased nutrition knowledge, including enhanced knowledge of alternative methods for healthy eating, as well as displaying increased self-efficacy by sharing culturally diverse nutritious recipes with each other.

Past research has shown nurse-delivered nutrition counseling and dietitian-led nutrition education programs to be effective in increasing knowledge, positive outcome expectations, self-efficacy, and decision-making skills for disease management. This study concluded that a collaborative effort for all phases of developing a community program may serve most effectively in targeting low-income residents in community dwellings. Therefore, health education programs, collaborative in nature, can serve as a basis for social support among low-income adults while increasing nutrition knowledge. When developing, implementing and evaluating the nutrition education lessons for the participants of Lift Up Portland, it will be essential to utilize the skills of program managers, building management, and the participants.

IV. Article Four

Coping Strategies and Nutrition Education Needs Among Food Pantry Users.

Hoisington et al were commissioned to investigate high reported rates of food insecurity in Washington by an ad hoc committee convened by the Washington State Department of Health. Hoisington and her team aimed to define access and barriers to food, coping strategies for food insecure households, and nutrition education needs among food pantry users. Food pantry users were chosen because this group is often indicative of individuals who continue to experience food insecurity despite their utilization of other nutrition assistance programs. The study was conducted via focus groups, which took place in nine food pantry locations, each with a unique demographic and location across the state of Washington. Study participants were selected based on the following criteria: being the main purchaser and preparer for household meals, having at least one child under 18, and being currently employed or enrolled in an employment-assistance program. The 90 survey participants selected were found to be mostly Caucasian (79%) and female (69%). Additionally, 40% reported having a disability which limited activities of daily life.

Participants were asked about their daily food and nutrition behaviors and experiences, coping mechanisms for food insecurity, and primary sources of nutrition education. They were also asked to select the two nutrition education topics of the greatest personal interest to them from a pre-set list of seven topics. The most selected topics were: “shopping and stretching food dollars” (49%), “cooking and making tasty, low-cost food” (35%), and “healthful foods and nutrition” (29%).

This study recommends that future projects focus on how to successfully empower individuals who are the primary food provider for their families. The team also suggests that this research should then be applied at the community level in order to enhance the ability of food and nutrition assistance programs to bolster self-efficacy among their participants. This would likely be best accomplished through coordination of resources and the use of cooperative strategies. This knowledge is directly applicable to our outreach project with Lift UP and will help to define both our goals and the framework we employ to achieve them.

V. Article Five

The impact of nutrition education on food insecurity among low-income participants in EFNEP.

Dollahite et al aimed to evaluate the efficacy of nutrition education on food security status independent from financial aid or nutrition assistance programs. This research was conducted in a pretest-posttest comparison group design that targeted 16,146 individuals enrolled in the *Expanded Food and Nutrition Education Program* (EFNEP) in New York from 1999-2001. The EFNEP is a community-based nutrition education program funded by the USDA that targets child-rearing families living at or below 185% of the poverty line. Of this cohort, 15,846 participants graduated the program and 300 participants exited with partial completion (labeled as “terminated” participants in this study). 1,014 enrollees were excluded from the study because their food security status was not documented at both program entry and exit.

Study participants were assessed for food security using the *Cooperative State Research, Extension, and Education Service* (CSREES), a standardized tool which measures food security through one survey question: “How often do you run out of food before the end of the month?” By program exit, both EFNEP graduates and terminated individuals reported a significantly lower frequency of these incidences, with graduates reporting lower incidences of insufficient food at a level approaching statistical significance ($p= 0.55$). Nutrition education lessons were tracked for all participants, which allowed the researchers to correlate each additional lesson with a 0.015 decrease in food insecurity. This establishes a dose-response relationship between the number of lessons and the decrease in food insecurity.



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More research is necessary to clarify some discrepancies in study results. For example, a greater change in food security was seen in individuals who received more individual education than those who received more group-based education. Also, Caucasian and Hispanic participants demonstrated a greater result from their nutrition education than Asian participants did. Farm residents and older adults also showed less impact of education on food security. By focusing our partnership with Lift UP on a predominantly senior population with low economic status, we can help to explore the educational techniques required to create maximum efficacy within this particular group.

Significance

Low-income older adults represent a segment of the population that is in need of better access to nutrition education. This target group is in need of education regarding how to access good quality food on a limited budget and how to effectively utilize the food items acquired in their pantry boxes. This group also requires more education regarding prevalent disease states in the older population (such as heart disease, diabetes and osteoporosis). Promoting optimal nutrition status in this population through nutrition education is crucial because the nutritional problems of low-income and older adults are not only related to a lack of knowledge, but also to a lack of access to quality food. Research regarding program planning, implementation and evaluation is necessary in order to refine nutrition education methods for low-income older adults and facilitate the delivery of this knowledge, which has been proven to effectively reduce food insecurity. As nutrition educators, we must recognize the unique characteristics and needs of low-income older adults participating in food pantry programs as well as the critical need to provide optimal nutrition education to this group.

Lift Urban Portland runs a food pantry affiliated with the Oregon Food Bank. Pantry participants within eligible income guidelines and residing at any of these four residential buildings are able to visit the pantry once a month and select from different food items such as pasta, meats and produce. Lift UP has recently received grant funding in order to expand its successful Adopt-a-



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High Rise Wellness Program, which currently operates in four apartment buildings (Gallagher Plaza, Medallion Apartments, Williams Plaza, and NW Tower and Annex) for low-income residents. As a result of this grant, we will be implementing two nutrition education lessons that will be provided to residents at the four residential sites. The education lessons will provide participants with a rare program offering hands-on cooking and nutrition education classes at their own residential dwellings. The classes will target the specific needs of the residents with the aim of increasing their knowledge regarding food and nutrition principles, cooking methods, practical shopping, and meal planning, which in turn will provide them with skills to increase their food security and quality of life.

Methods and Design

Target Audience

Lift UP Food Pantry participants residing at Gallagher Plaza, Medallion Apartments, Williams Plaza, or NW Tower and Annex will have the opportunity to participate in focus groups and nutrition education lessons. Inclusion criteria for the nutrition education lessons was defined as current residency at one of the four NW Portland residential buildings and active participation at the Lift UP food pantry (defined as receiving at least one emergency food box each month). Participants who did not meet this criteria were excluded.

Implementation Details

Two nutrition education lessons will be developed for the residents living at the four residential dwellings in NW Portland. The first lesson will be directly implemented as part of this community outreach effort, and the second lesson will be submitted to the program manager for future implementation by program staff or volunteers. The nutrition education lessons will include topics identified by performing a needs assessment of the population and by holding focus groups with the residents (see Appendix A for the focus group recruitment flyer). Examples include: the importance of fiber, calcium-rich foods, following a heart healthy diet, and how to effectively utilize food boxes distributed by the Lift UP pantry. Each lesson will also include an interactive cooking demonstration relevant to the lesson content. Participants will be able to taste the food samples prepared and

will also be provided with recipes and brochures highlighting the lesson topics. This combination of demonstration and active participation will allow this program to achieve self-efficacy objectives as well as education-based objectives.

Project Timeline

See Appendix B for Project Timeline.

Application of Theory

Nutrition education design uses existing theories from the social and behavioral sciences in addition to biological sciences.⁶ Designing nutrition education programs using theories that address behavior change assists an educator in using the individual or group's personal experiences in the lesson, as well as scientific research that can aid in behavior change. Food and dietary behavior, just like an individual or group, is very complex and full of factors. Nutrition education does not have to be solely based on one dominant theory; instead, different constructs from multiple theories can be integrated and applied to help describe and change dietary behaviors.

There are important constructs of each theory that can be incorporated into nutrition education for low-income older adults. Many of the health behavior theories include the construct of self-efficacy, or a similar construct related to an individual's confidence in performing a behavior change. Self-efficacy is considered to be a direct predictor of intention and also of behavior. Therefore, it is an important construct to consider during focus group discussion and lesson planning, determining whether a behavior change will be initiated, how much effort will be used, and how long the change will be sustained when obstacles arise.

Health Belief Model and Social Cognitive Theory

The Health Belief Model explains psychological readiness for performing simple health-related behaviors. Including constructs from this model can aid in creating an education lesson by identifying the overall barriers and benefits for a specific behavior change.⁷ Similarly, The Social Cognitive Theory focuses on combining external and internal factors that influence the behaviors of

an individual. However, this model incorporates cognitions in addition to environmental stimuli, which is proposed to continuously interact in order to create specific behavioral habits. In addition, one key foundation of this theory is the inclusion of observational learning and modeling. This form of learning may be crucial for a visual learner, thereby incorporating this concept may be viewed as a necessary component when creating an educational lesson for this target group.⁷

Transtheoretical Model

The Transtheoretical Model emphasizes how cognitions can be used to explain behaviors. There are common processes that individuals undergo when making behavior changes, and this theory helps to identify exactly what stage an individual is in dependent on their readiness to perform behavior change. Given the range of ages, ethnicities, nutritional issues, and other variables that may be present in this group educational setting, this specific theory is one where its use, along with other constructs from other theories, would be more applicable to reach a target group who would not necessarily all be in the same “stage of change”.

Evaluation of Results

Survey evaluation will be administered before and after each class in order to assess knowledge gained from the nutrition education lesson. Differences in pre- and post-test scores will be analyzed by a one-sided paired t-test. See Appendix C for a sample evaluation tool.

Facilities and Personnel Required

Personnel and Staffing

Program Coordinators: Ms. Amanda Gerson, MS, and Ms. Jane Riebold

Lesson development and marketing strategies for participant recruitment. Program coordinators will lead focus groups and lessons, and will also conduct program evaluations.

Program Director: Ms. Bethany Wofford, MSSW

Manages all Lift Urban Portland (Lift UP) programs, including: food pantry, warehouse, home delivered food boxes, Food for Kids Backpacks, gardens, individual volunteer match requests, and wellness programs for low-income high-rise buildings.

Resident and Community Services Coordinators: Mr. Anthony Zanolli, MSW, and Mr. Steven Keenan

Assists residents in improving their economic stability and provides information to residents on housing success, crisis intervention, employment, education, health and safety. Specifically to this project, each coordinator will serve as a liaison between the program coordinators and the residents in order to develop and implement appropriate and successful nutrition education lessons.

Facilities Available

See Appendix D for facilities available.

Summary of Project Costs

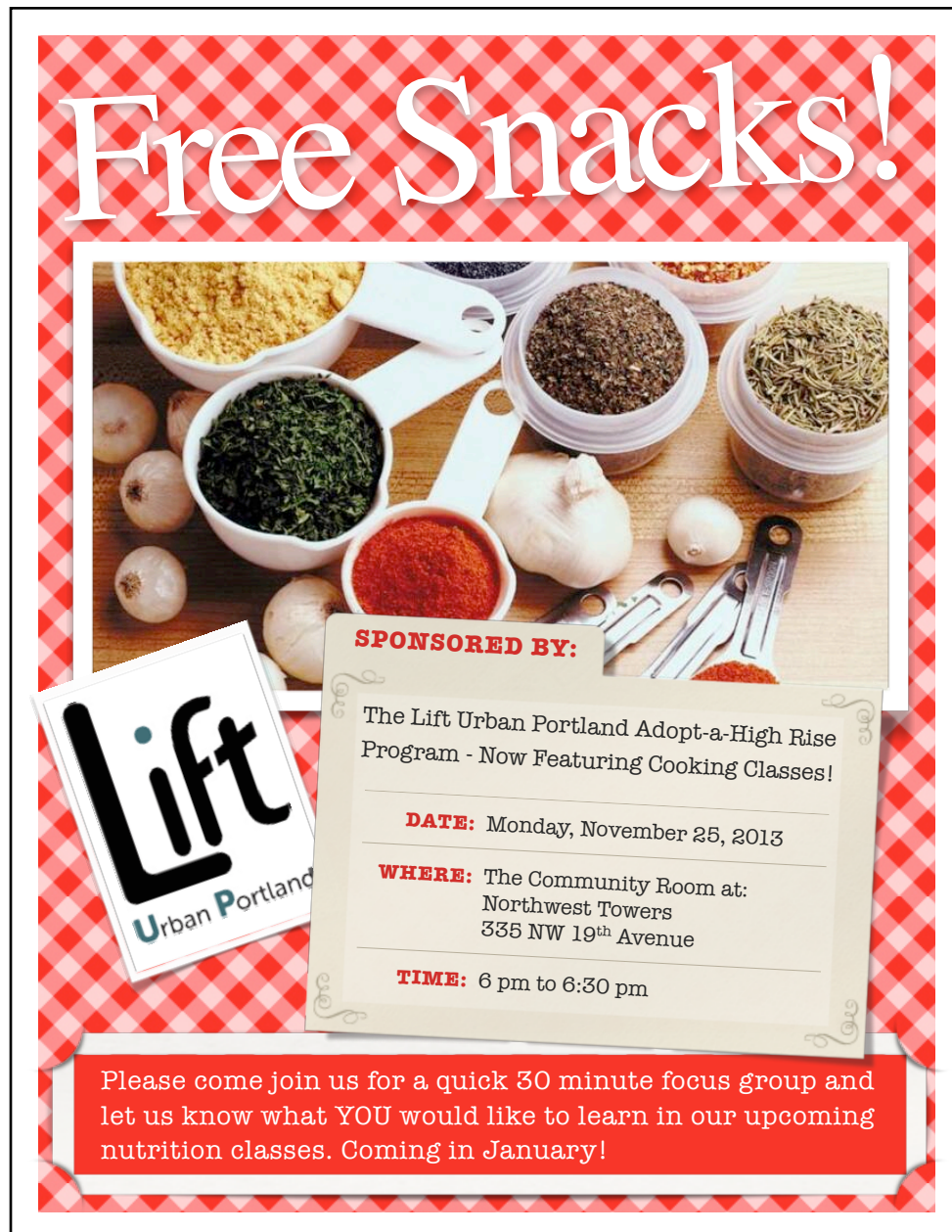
See Appendix E for a summary of project costs.

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Appendix

Appendix A: Flyer for Focus Group Recruitment



Free Snacks!

SPONSORED BY:
The Lift Urban Portland Adopt-a-High Rise Program - Now Featuring Cooking Classes!

DATE: Monday, November 25, 2013

WHERE: The Community Room at:
Northwest Towers
335 NW 19th Avenue

TIME: 6 pm to 6:30 pm

Please come join us for a quick 30 minute focus group and let us know what YOU would like to learn in our upcoming nutrition classes. Coming in January!



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Appendix B: Project Timeline

Planned Activity	Duration
Begin Partnership with Lift UP	September 10 th 2013
Proposal Development	October 1 st -November 14 th
Qualitative Research via Focus Group(s)	November 25 th
Proposal Presentation for Nutrition 510: Public Health Nutrition (Oregon Health & Science University)	December 1 st 2013
Cooking Lesson at Site #1 (Gallagher Plaza)	January 9 th 2014
Cooking Lesson at Site #2 (Medallion Apartments)	January 16 th 2014
Cooking Lesson at Site #3 (Williams Plaza)	January 23 rd 2014
Cooking Lesson at Site #4 (NW Tower & Annex)	January 30 th 2014
Evaluation of Results	January 9 th -February 6 th 2014
Presentation of Materials and Plans for Lesson #2	February 6 th 2014
Closing Meeting with Lift UP	February (Exact Date TBD)
Presentation with Portland Academy of Nutrition and Dietetics (PAND)	April 16 th 2014

Appendix C: Sample Evaluation Tool

Lift UP Nutrition Survey

Please respond to all questions below to the best of your knowledge.

DEMOGRAPHIC INFORMATION

Please check the appropriate box for each question below:

Gender:	Male: <input type="checkbox"/>	Female: <input type="checkbox"/>
Age:	Actual: _____ years old	Decline to State: <input type="checkbox"/>
Race/ Ethnicity:	<input type="checkbox"/> Asian <input type="checkbox"/> Black/African American <input type="checkbox"/> White <input type="checkbox"/> Hispanic or Latino	<input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Decline to state <input type="checkbox"/> Other _____
What is the highest level of education that you have completed?:	<input type="checkbox"/> College degree <input type="checkbox"/> Some college <input type="checkbox"/> Graduate degree	<input type="checkbox"/> High school/GED <input type="checkbox"/> Some high school <input type="checkbox"/> Declined to state

1. Please circle **four** foods high in calcium:

Yogurt Kale Cheese Spinach Margarine Soy Milk

2. Please list **three** foods high in calcium (*please do not repeat from above*):

3. Please circle **three** foods high in fiber:

Banana Potato White bread Baked beans Orange

4. Please list two foods that are high in “bad” or saturated fat:

5. **True or False:** Avocados contain “healthy” or monounsaturated fats.

6. **True or False:** Salmon has mostly omega-6 fatty acids.

Appendix D: Facilities Available

Facility Name	Occupancy	Location	Equipment On Site
Gallagher Plaza	85 Units (1BR)	2140 NW Kearney Street Portland, OR 97210	<ul style="list-style-type: none"> • Community Room (Large) • Kitchen • Sink • Refrigerator • Commercial Oven
Medallion Apartments	90 units (1BR, 2BR)	1969 NW Johnson Street Portland, OR 97209	<ul style="list-style-type: none"> • Community Room (Small) • Kitchen • Sink (Small) • Commercial Oven
Williams Plaza	101 units (Studio, 1BR)	2041 NW Everett Street Portland, OR 97209	<ul style="list-style-type: none"> • Community Room • Kitchen • Sink • Refrigerator • Commercial Oven
Northwest Tower	150 units (Studio, 1BR)	335 NW 19th Avenue Portland, OR 97209	<ul style="list-style-type: none"> • Community Room (Large) • Kitchen • Sink • Refrigerator • Commercial Oven
Northwest Tower Annex	30 units (2BR, 3BR)	1936 NW Flanders Street Portland, OR 97209	N/A

Appendix E: Summary of Project Costs

Overhead Expenses	Value
Printing of Flyers (20 copies)	\$20
Printing of Lesson Materials	\$40
Cost of Food	\$80
In-Kind Contributions	
Amanda Gerson, Volunteer Staff (80 X \$15)	\$1,200 (donated)
Jane Riebold, Volunteer Staff (80 X \$15)	\$1,200 (donated)
Total Project Cost	\$2,540