

APPENDIX B: Tangible Benefits

Health Condition	Associated Behavior Taught/Measured in EFNEP	Yearly \$ Saved Per Person If Condition Avoided
Heart Disease	<ul style="list-style-type: none"> • Decreased intake of sodium/salt • Prepare food with less fat, less salt • Decreased fat intake • Increased intake of complex carbohydrates, fiber, fruits, vegetables • Using food labels to select food • Meal planning around Food Guide Pyramid (FGP) & Dietary Guidelines (DGs) • Reduce/control weight • Increased physical activity 	\$30,000 per patient
Stroke and Hypertension	<ul style="list-style-type: none"> • Prepare/serve food with less salt • Using food labels to select food • Meal planning around DGs • Reduce/control weight • Increased physical activity 	Stroke: \$22,000 per patient Hypertension: \$348 per year for outpatient care (Total cost = \$17,400,000,000)
Cancer (colo-rectal and several other forms – 35% of all cancer believed to be diet related)	<ul style="list-style-type: none"> • Increased intake of fiber, complex carbohydrates, vegetables, and fruits, vitamins A and C, and calcium • Decreased fat intake • Meal planning around FGP & DGs • Food selection and preparation (to reduce fat and carcinogens such as benzopyrene) 	\$28,000 per patient
Osteoporosis	<ul style="list-style-type: none"> • Increased intake of milk products and calcium-rich foods • Food selection around FGP 	\$11,582 per patient

	<ul style="list-style-type: none"> • Increased physical activity 	
Foodborne illness	<ul style="list-style-type: none"> • Food safety techniques • Kitchen sanitation • Proper food storage • Use of recommended food preservation methods • Safe thawing practices • Safe cooking and handling of meat and eggs • Safety methods for carried meals (lunch, picnics, etc.) 	\$942 per case per year
Anemia	<ul style="list-style-type: none"> • Increased intake of iron • Adequate intake of vitamin C, A and protein • Adequate food intake in pregnancy, infancy, childhood • Use of recommended infant feeding practices • Breastfeeding 	To be determined
Obesity and its results Complications and cost of harmful or ineffective weight-loss methods reduction methods	<ul style="list-style-type: none"> • Increase intake of fiber, complex carbohydrate, fruits and vegetables • Decreased fat and calories • Use of sound weight control methods • Increased physical activity • Decreased intake of Fats and Sweets Group • Food preparation to reduce fat and calories • Using food labels to select food 	To be determined
Diabetes incidence and complications	<ul style="list-style-type: none"> • Increased intake of fiber, vegetables, and fruits • Decreased intake of Fats and Sweets Group • Weight Control • Increased physical activity • Plan foods around FGP and DGs (based on recommendation of physician/dietitian) 	\$11,500 per patient

	<ul style="list-style-type: none"> • Using food labels to select food 	
Low-birth-weight infants Health complications in pregnancy or infancy	<ul style="list-style-type: none"> • Planning meals around FGP and other recommendations in pregnancy • Optimum use of WIC foods • Proper infant feeding/breastfeeding • Following other recommendations in pregnancy and infancy • Appropriate weight gain 	<p>\$10,000 for neonatal intensive care (1 infant) \$14,000 - \$30,000 savings if low-birth-weight is avoided</p>
Avoidable dental disease and problems, excessive dental caries, etc.	<ul style="list-style-type: none"> • Decrease intake of Fats and Sweets Group • Providing nutritious snacks • Adequate mild and calcium intake • Planning meals around FGP • Breastfeeding 	<p>\$27 billion = total cost per year for dental care</p>

APPENDIX C: Initial EFNEP Costs

Personnel cost (salaries, wages, benefits)	To be determined
Office space of state and local staff	To be determined
Equipment, office supplies, and education materials, demonstration supplies	To be determined
Cost of travel and meals	To be determined
Cost of support staff <ul style="list-style-type: none"> • Administration • Secretarial • Computer support • Training costs • Training of supervisors and state personnel • Training of staff (Possible Costs to Participant) • Transportation • Child Care • Time 	To be determined

APPENDIX D: Procedure for calculating the number of EFNEP graduates practicing optimal nutritional behaviors from FPC data

EFNEP participants complete a food practice checklist (FPC) and a 24-hour food recall on entry and exit from the program. The data on each were treated as pre (entry) and post (exit) program scores. Data is entered into the ERS system and stored as database (dbf) files. The dbf files were analyzed to determine graduates practicing optimal nutritional behaviors using the personal computer version of the Statistical Package for the Social Sciences (SPSS-PC).

To be included in the number of graduates practicing optimal nutritional behaviors, the graduate needed to score a 4 or greater where a positive response was desired, or a 2 or less where a negative response was desired from entry to exit assessment on appropriate questions associated with the disease/condition in the FPC. In addition, the graduate needed to have reported 24-hour food recall behaviors in the identified ranges for the appropriate diseases/conditions. After converting the dbf files to SPSS-PC files, the pre and post scores were examined using the following procedure.

- 1) The appropriate criteria were applied to pre and post data independently. Only those graduates satisfying the criteria were selected (saved as two files).
- 2) The files were then merged.
- 3) If, after merging the files, both pre and post records existed for a graduate, then the graduate was rejected, because it was evident that they were already practicing optimal nutrition behaviors and hence EFNEP did not influence their practices.
- 4) If, after merging the files, only post records existed for a graduate, then the graduate was selected as one who had benefited from EFNEP and was practicing optimal nutritional behaviors related to the disease/condition.

This procedure was applied to each data set for the 26 counties in Virginia EFNEP.

SPSS-PC procedure for selecting numbers of EFNEP graduates practicing optimal nutritional behaviors from each VCE unit for the CBA study

1. Go to File - Open (Files of type: All Files)
2. Open recall.dbf file
3. Go to Data - Sort Cases
4. Sort cases by the variable "id" in ascending order
5. Go to Data - Select Cases
6. Select - If condition is satisfied
7. Select if variable "isexit" = 'T' (unselected cases are deleted)
8. Save this file to the A drive (name = recall)
9. Repeat steps 1-8 for the cklist.dbf file on the disk
10. After saving the cklist file to the A drive (name = cklist), leave it open and go to Data - Merge Files - Add Variables
11. At the Add Variables: Read File box, double click on the previously saved recall file (saved in step 8)

12. At the Add Variables from: A:\ recall.sav box:
 - a. Check (click) the small box to turn on the option "Match cases on key variables in sorted files" (lower left)
 - b. Click once on id (+) in the Excluded Variables box to highlight it (upper left)
 - c. Click on the > box to add the id (+) variable to the Key Variables box (lower right)
 - d. Click the OK box (upper right)
 - e. Click the OK box on the warning message
 - f. Do not save contents to cklst.sav to data editor (if this box appears)
13. The data from the two files will be merged into one file by id (can you believe it!)
14. Go to Data - Select Cases
15. Select - If condition is satisfied
16. Enter select criteria from the FBC and Food Recall criteria (unselected cases are deleted)
17. The results are the number of graduates practicing optimal nutritional behaviors for the disease/condition for that unit (with all data on the disk – may include 93 and 94 data)
18. Save the file (name = optim)
19. Print a copy of this file and then cross out all cases with a date before October 1995 (these are what we will use in the CBA)
20. Repeat above steps for the other units
21. Repeat steps 1-13 (in step 7 select, "is exit" = F)
22. In step 14, save the file as pre-merged
23. To select the participants who satisfy optimal nutrition behaviors for avoidance of disease, the following steps are applied to the pre-merged file
24. Repeat steps 14-18 for each disease
25. Repeat steps 1-18 for each county
26. To create the exit data, the exact procedure is applied to the chklst.dbf and the recall.dbf.files. In Step 7, select "is exit" = T
27. Continue through step 18
28. Using hard copies of the entry and exit data, delete those participants who:
 - a) appear on both entry and exit data
 - b) have exited from the program before October 1st 1995

The resulting exit data contains only those participants who satisfied the optimal nutrition behaviors on entry to the program, and who have exited after October 1st 1995 from the program.

APPENDIX E: Number of 1996 Virginia EFNEP graduates practicing optimal nutritional behaviors

County/City	Heart Disease	Stroke and Hypertension	Cancer, Obesity, Diabetes	Osteoporosis	Commonly Avoided Infant Diseases	Foodborne Illness	LBW infants
Amelia	0	0	1	4	0	13	3
Appomattox	0	0	0	3	0	7	0
Arlington	1	1	3	16	5	54	0
Bedford	0	0	0	3	3	4	6
Charlotte	1	6	1	16	0	47	1
Chesapeake	7	38	10	135	4	271	1
Dickenson	0	0	0	0	0	4	0
Hampton	0	4	5	140	27	155	3
Lancaster	0	7	0	22	3	65	0
Lee	0	2	0	6	1	29	0
Louisa	0	2	0	12	1	33	0
Mecklenberg	0	2	0	11	0	49	8
Newport News	0	11	1	29	0	124	3
Norfolk	2	25	6	75	3	173	6
Pittsylvania	1	25	1	20	2	30	7
Pulaski	1	4	1	7	17	9	1
Richmond	7	30	7	36	1	91	3
Roanoke City	11	92	18	139	3	167	14
Russel	0	0	1	8	0	19	0
Scott	0	0	0	3	0	5	0
Smyth	1	2	2	17	0	27	3
Suffolk	0	5	1	48	0	77	5
Tazewell	0	1	0	15	1	35	0
Virginia Beach	1	21	1	97	6	121	12
Washington	0	1	0	4	0	11	0
Wise	1	10	1	19	10	44	8
Total	34	290	60	885	87	1664	84

APPENDIX F: Procedure used to adjust treatment costs for diseases

When an economic analysis is done, data are often collected from years besides the base year of the study. To ensure that all figures are comparable and that figures can be weighed against figures that occur in the same time period, it is necessary to standardize the figures to one time unit. There are several methods that have been used to adjust figures for inflation. The approach taken in this study is based on the Gross Domestic Product deflator index provided by the federal government.

To adjust the treatment cost of a disease in this study reported for a year before the base year (i.e., 1996), the procedure used was to divide the index value for the base year by the index value for the year in which the treatment cost was reported. Then multiply the results by the unadjusted value of the treatment cost for the disease. The table below contains the calculations for the treatment cost for each disease.

Disease/ Condition	Base year index (1996)	Year cost reported – associated index	Unadjusted cost	Adjusted cost
Colorectal cancer	1.0990	1990 - 0.9312	\$28,000	\$33,046
Heart disease	1.0990	1990 - 0.9312	\$30,000	\$35,406
Stroke	1.0990	1994 - 1.0511	\$22,000	\$23,002
Hypertension	1.0990	1994 - 1.0511	\$348	\$364
Osteoporosis	1.0990	1995 - 1.0762	\$11,582	\$11,827
Type 2 diabetes	1.0990	1992 - 1.000	\$5,625	\$6,182
Obesity	1.0990	1992 - 1.000	\$569	\$625
Foodborne illness	1.0990	1993 - 1.0263	\$942	\$1,009
Commonly occurring infant diseases	1.0990	1993 - 1.0263	\$1,435	\$1,537
LBW infants	1.0990	1990 - 0.9312	\$30,000	\$35,406