NUTRITION AND HEALTH EDUCATION IN RURAL AND URBAN AREAS OF KANSAS

by

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A FIELD EXPERIENCE REPORT

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Abstract

The overall focus of this experience was to provide efficient nutrition education and health promotion with both rural and urban areas of Kansas. To begin the experience, the student concentrated on health promotion and public health nutrition within the Riley County Research and Extension Office. The second phase of the experience was to provide nutrition education to underprivileged families and adults in Riley County through the Expanded Food and Nutrition Education Program (EFNEP). Classes were facilitated in Manhattan, Kansas and on The Flint Hills Job Corps Campus. During classes, clients were provided with knowledge in many areas including: basic nutrition education, low-cost recipes, and a variety of information related to food, food safety, family nutrition and food resource management.

Lastly, to combine coursework, nutrition education experiences, and disease prevention and maintenance, the student established a diabetes education program for JayDoc Free Clinic in Kansas City, Kansas. Every-other Tuesday she volunteered to help educate patients with diabetes during specialty clinic sessions. Instruction was given on insulin use, carbohydrate counting, and prevention and maintenance aspects of this chronic disease to patients and their families.

This field experience contains a broad range of public health aspects and provides the chance to work with variety of ages, community members, and healthcare professionals. Direct work with nutrition education provided the student to utilized her core coursework and own experiences to help enable both rural and urban populations to make better lifestyle choices.

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Secondly, I would like to thank Dr. Tandalayo Kidd and Dr. Paula Peters for agreeing to serve on my graduate committee. Their input and advice with my academics and future was extremely beneficial. I also cannot forget the efforts of Dr. Michael Cates and Barta Stevenson. Thank you for being wonderful program administrators and ensuring that I was able incorporate all of my interests into my course of study.

Majority of my field experience depended on the guidance of Ginny Barnard. I was extremely fortunate to have a preceptor so familiar with the Kansas State MPH program. Her grasp of the public health mentality, resourcefulness of the "Extension way", and involvement in the community taught me the essentials of being an effective and successful public health educator. I had so much fun with the various projects and programs she included me in. Leaving the Riley County Extension Office was difficult due to great personalities of the entire staff. I will always remember my graduate assistantship.

I would also like to thank Dr. Mary Higgins for suggesting the U.S. Diabetes Conversation Maps Program. Without her influence, the third phrase of my field experience could not have been completed.

Lastly, I would like to thank my family. I have could not have asked for a better support system. My parents have always told me to focus on the big picture and have helped me through any problem I've found myself in. I truly appreciate my mother for the endless editing and advice she gave during my studies and for passing on the "keep calm and carry on" mentality. (This little Chinese secret has helped me more than she will ever know.)

Chapter 1—Introduction

The area of public health is constantly changing and advancing due to the population's need for programs, knowledge, and treatments for both preventive medicine and chronic diseases. This relationship can be easily visualized with the assistance the Center of Disease Control's (CDC) colorful diagram; see Figure 1. While nutrition education and health promotion are only two factors in the complex equation of public health, these key components help bridge the gap between medicine and disease. A nutritional and fitness renaissance is crucial to both prevention and enhanced treatments for prevent obesity, diabetes, hypertension, and hyperlipidemia. Thomas Edison stated, "The doctor of the future will no longer treat the human frame with drugs, but rather will cure and prevent disease with nutrition." Malnutrition and infection were the opponents then. Modern advances have altered our access to a safe and abundant food supply in most cases, but we are still far from being disease free. New pharmaceuticals, treatments, and surgeries have been life saving for many patients, yet a growing population lives with preventable chronic disease and the promise of disability and illness. The quest for wellbeing can be best attained through a healthy diet and adequate exercise at an individual level. Programs and education in nutrition, physical activity, and disease management play a key role in America's Health.

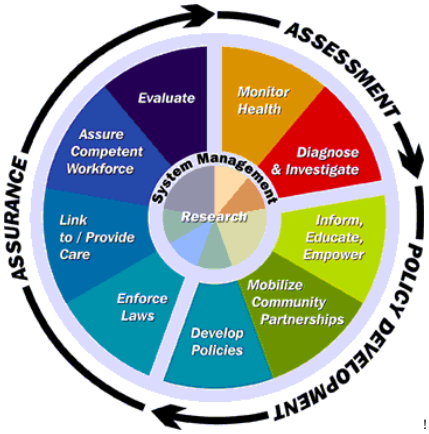

Figure 1: American Public Health Association and Center of Disease Control's Description of Public Health Components, 2000.

Past studies have documented that food availability in the home and parenting behaviors around food and eating, largely influence child dietary behaviors (Cullen, 2009). Improvements in the areas of food security, food preparation, family mealtime rituals, and healthy dietary choices can improve the health of all household members, especially the children. Many programs are available to assist families that have special circumstances such as low-income, disability, or lack of resources. The Expanded Food and Nutrition Education Program (EFNEP) is a program that encompasses the understanding of the social determinants of health, strategic nutrition education theories, and the need for improvements in nutrition, food preparation, and family mealtime.

“ EFNEP has been viewed as a ‘cutting-edge program’ since its beginning in 1969” (Procter, 2011). This channel has provided basic nutrition knowledge to aid families in many areas that allow them to better their health, improve their nutrition knowledge, and make better lifestyle choices for themselves and family members. One of the central aims of this program is to increase the consumption of fruits and vegetables. Classes are taught in tasty and easy food preparation and the nutrients provided. Clients feel confident in choosing these fruits and vegetables at the grocery store and using them during mealtime. Along with programs that educate clients on food choices, planning, and preparation, there are disease specific programs that allow for better understanding of medicines, diet, and illness.

The American Diabetes Association has developed an interactive program that allows for a peer-based education experience*. U.S. Diabetes Conversation Maps* provide a colorful presentation of the many components that are involved in diabetes management. Different sessions are based on different map focal points. By allowing for clients to lead the lesson, the discussion flows in the direction of the client’s needs rather than a sturdy curriculum. The main aspect of this program is better nutrition knowledge for diabetics, but other areas of physical activity, medications, and overall health are also discussed in detail.

The most remarkable aspect of these specific programs is that they are free of cost to the eligible public. The only resources clients and patients must provide are their time and willingness to learn. Kansas State Research and Extension (KSRE) has

provided support for these programs and allows instructors, such as public health students, to implement these courses to benefit both rural and urban populations within the state. This field experience focused on nutrition education, diabetes maintenance, and improvement of overall health within diverse communities through the specific channels of health promotion, EFNEP, and *U.S. Diabetes Conversation Maps.*

Chapter 2—U.S. Dietary Patterns

U.S. Dietary Patterns

The recent findings by the American Heart Association's Epidemiology and Preventive Medicine Scientific Sessions suggest that there are five general eating patterns the United States (American Heart Association *AHA*, 2012). Patterns are strongly influenced by age, race, region, gender, income, and education. The five categories include:

- Southern — fried, processed meats and sugar sweetened beverages
- Traditional — Chinese and Mexican food, pasta dishes, pizza, soup, and other mixed dishes including frozen or takeout meals
- Healthy — mostly fruits, vegetables, and grains
- Sweets — large amounts of sweet snacks and desserts
- Alcohol — proteins, alcohol, and salads

Categorizing food consumption by actual meals rather than segregating dietary intake into nutrients or specific foods, is more applicable to the public and helps researchers to provide better tools for the promotion of a healthier lifestyle.

This labeling is more descriptive of the food patterns of individuals (AHA, 2012). Out of the five, the Southern and Traditional food patterns are the most common. It is alarming to recognize the limited inclusion of fruit and vegetables among these contemporary diets. Many of the groupings have the term "sweet" within the definition and only one category models the "healthy" diet full of fruits, vegetables, and whole grains.

The lack of fruits, vegetables, and whole grains in the documented American diet persists in spite of the promoted dietary guidelines for a balance meal. Many studies have presented data that encourages a diet with a variety of vegetable and fruits and these projects have produced positive health outcomes (Harvard, 2011).

Only 32% of the US population eats 2 or more fruit servings a day and 26.3% consume three or more vegetable servings per day (Centers for Disease Control *CDC,*

2009). Our state of Kansas was 8% behind the national's average of fruit intake (CDC, 2009). This is a far cry for the recommended dietary intake of 2-4 servings for fruit and 3-5 servings of vegetables or "5 a day" guidelines.

Fruit and Vegetable Consumption Among Adults, 2009 View 50-State Comparison		
	KS %	US %
% of Adults Consuming Fruit 2 or More Times per Day	23.8%[1]	32.5%[1]
% of Adults Consuming Vegetables 3 or More Times per Day	26.0%[1]	26.3%

Table 1: Analysis completed by Statehealthfacts.org, shows Kansas in comparison of the Nation for fruit and vegetable consumption.

Only a small percentage of the population can classify themselves within the healthy category. Researchers of this study found that participants with an annual income of $35,000 or less or did not have a college degree were more likely to follow the Southern pattern (AHA, 2012). Another findings suggests that the both African-American and Hispanic populations usually consume the Southern or Sweets dietary patterns due to social determinants of health such as low-income and limited resources. The lack of nutrition and wellness knowledge also plays a large role in their food choices and overall dietary pattern.

Food Choice Environment

The reasoning behind dietary patterns and overall lifestyle is complex. Many factors play into the decisions behind food choices such as socioeconomic status, self-sufficiency, nutrition knowledge, and the food choice environment. Large grocery stores in the early thirties had nearly 900 items. Today, the amount of food items is overwhelming. With more than 50,000 grocery items in most commercial stores and nearly 10,000 new items introduced every year, the need for nutrition education and the basic understanding of nutrition labels is extremely important (Contento, 2011).

Although 80% of consumers report that they attempt to read food labels, most admit that they do not always comprehend the information (Contento, 2011).

Unfortunately, nutrition labeling can be deceptive. Phrases such as “low-fat”, “fat free”, or “low carb” may sound appealing to the buyer, but the nutrition definitions of these terms are often misleading.

Another factor contributing to the food choice environment is basic preparation and storage. During the last decade, the amounts of foods prepared and eaten at home have decreased. Over 40% of all food items are eaten away from the home and usually not prepared by a family member (Contento, 2011). This percentage does not include the number of food items that were prepared and purchased, then brought into the home for consumption and meal convenience. Other suboptimal criteria for food item choices lie within culture, religion, personal views and self-efficacy.

With advertising and media overwhelming the consumer with products, the complexity of food choices has increased dramatically. Our ancestors used to choose food items by appearance and cultural traditions. Contento stated, “ (food) items in today’s supermarket bear little resemblance to the simple food stuffs previously eaten by humans”. This makes it nearly impossible for the un-informed or mislead individual to make a decision based on the product’s exterior; emphasizing the importance of nutrition labels and nutrition literate consumers.

The confusion fashioned by food product advertising and the vast quantity of food items available has created today’s complex food environment. Nutrition and culinary education will enable consumers to make better use of resources and the confidence to purchase items and better their health.

Nutritional Health Concerns

Nutrition enables life by providing energy, nutrients, minerals, and other components. Just as good nutrition benefits human health, a deprived diet can lead to disease and disability. The link between dietary intake and progression of chronic diseases is not certain, but many studies have brought forth interesting results.

The rapidly increasing burden of chronic diseases is a key determinant of global public health (Department of Health and Human Services, 2012). Already 79% of deaths attributable to chronic diseases are occurring in developing countries, predominantly in middle-aged men (Food and Agriculture Organization of the United

Nations *FOA*, 2003). One of the largest and longest studies to date, done as part of the Harvard-based Nurses' Health Study and Health Professionals Follow-up Study, included nearly 110,000 men and women whose health and dietary habits were followed for a duration of 14 years (Harvard, 2011). Findings inferred that fruit and vegetable intake is an important part of a healthy diet and is associated with a number of positive health outcomes. These outcomes include reduced risk for chronic diseases, such as cardiovascular disease, stroke, and cancer (Harvard, 2011).

Other diseases such as diabetes mellitus (type 2) and hypertension are also linked to dietary intake. Over 25.8 million children and adults in the United States (8.3% of the population) have diabetes. In 2010, it was reported that 1.9 million new cases of diabetes were diagnosed in people aged 20 years and older (American Diabetes Association *ADA*, 2012). As for hypertension, 32% of non-institutionalized American adults were diagnosed in 2009.

From the previous facts, it is clear that chronic diseases are a major concern for the United States. Risk factors and preventive efforts must be addressed throughout life in order to reverse these trends. As well as preventing chronic disease, there are clearly many other reasons to improve the quality of life of people throughout their lifespan. The intention of primary prevention interventions is to move the public as a whole in a healthier direction. Small changes in the diet or physical activity frequency in the majority who are at moderate risk can have an enormous impact in terms of population-attributable risk of death and disability (Barker et el, 2000). Preventing chronic diseases in large populations, such as reducing blood pressure, blood cholesterol, and monitoring blood glucose can dramatically reduce health costs (FOA, 2003). For example, it has been demonstrated that improved lifestyles can reduce the risk of progression to diabetes by a striking 58% over 4 years (Tuomilehto et al., 2001;Diabetes Prevention Program Research Group, 2002). Other population studies have shown that up to 80% of cases of coronary heart disease, and up to 90% of cases of type 2 diabetes, could potentially be avoided through changing lifestyle factors, and about one-third of cancers could be avoided by eating healthily, maintaining normal weight and exercising throughout life (Beaglehole R, 2002; Stampfer MJ et al, 2000; Key TJ, 2002).

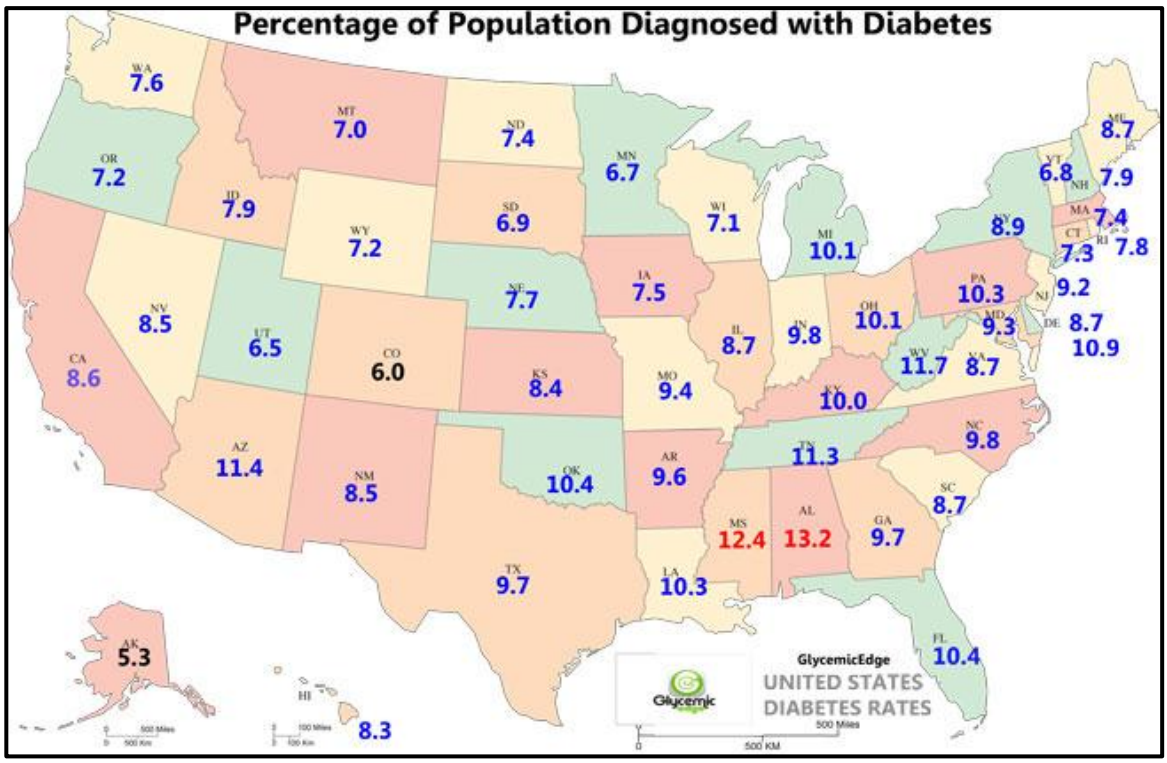

Figure 2—National Diabetes Mellitus Percentages (ADA, 2010).

Chapter 3—Nutrition Education

Nutrition education is an evolving and increasingly prominent field in the public health sector (Schiavo, 2007). This venue of public health is influential in areas of preventive health, disease maintenance, and lifestyle improvement. Nutrition education encompasses a variety of teaching theories, environmental factors, personal goals, and the basic knowledge of nutrition and a healthy diet to provide significant benefits to both individuals and the public. In some programs, a variety of other curricula are covered such as: food preparation, food safety and security, family meal planning, and the important relationship between diseases (chronic) and nutrition.

Right now is a very exciting time for nutrition education due to technical advancements, social media, increasing research on nutrition communication, and a profusion of programs that provide colorful and important nutrition knowledge accessible to the public. With popular cooking shows focused around healthy cooking and eating, grocery stores providing dietary advice through menu planning pamphlets, cooking classes, and grocery lists (Hyvee, 2012), and an explosion of internet information regarding diet and disease, it is hard to ignore nutrition's influence on the world. So why is the public struggling with these broadcasted lifestyle changes? What is the missing link?

Unfortunately, although the key components are available, a large number of people do not have the monetary resources, knowledge, skills or self-efficacy to change their behaviors within an environment. In other cases, it is the pure lack of motivation to take action to make lifestyle changes, no matter how simple the goal (Contento, 2011). As you can see in Figure 3, dietary behaviors are a multifaceted web of many variables. The effectiveness of the nutrition educator is driven by the provision of sound advice, motivation, and support to the clients. These mentors are the link between contemplating a healthier lifestyle and achieving one.

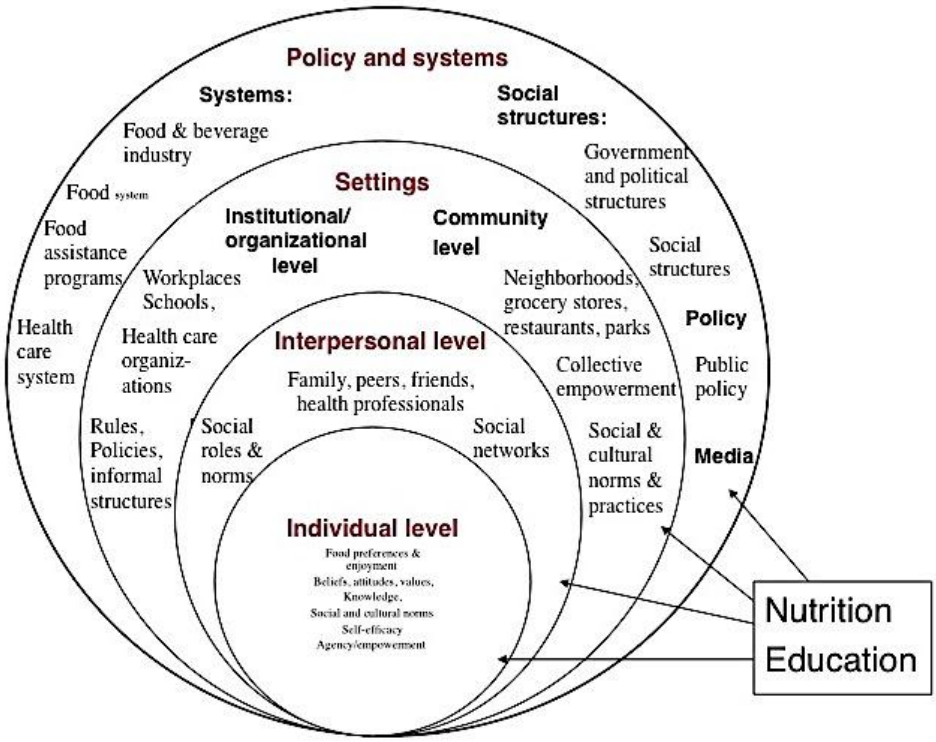

Figure 3—Factors that Influence Food Choices and Dietary Behaviors (Contento, 2011).

The Need

It is not a new idea that the public has a desperate need for nutrition knowledge, but only within the last ten years has dramatic action been taken. Nearly 40 years ago, the first articles, although few, were published about the importance of nutrition. These findings were emphasized to science teachers hoping to combine their knowledge of biology and biochemistry with their assignments and projects to encourage healthier diets (Stronk,1976). Although there was not much significant research about the "American Diet" at that time, many were on the cusp of the idea that nutrition education would be the key to a healthier life. Programs, such as EFNEP, realized the need for this specific education and acted on it with strength and passion.

Good nutrition is defined as the nutrients essential to for growth and development in children, and for health and wellbeing in people of all ages (Contento, 2011). The coupling relationship between nutrition and health involves many dietary components, thus being very difficult to properly assess due to various portion sizes and vast number of food products. Recently, the nutrition education field has begun to see

nutrition as one food item or a type of food pattern to better relate information to the public and generate more successful understanding of diets and dietary behaviors (Contento, 2011; Cullen, 2009).

Responsibilities of the Educator

A nutrition educator is a trained individual that provides children and adults of all ages with nutrition education materials on how to improve their diets and their lives (Food and Nutrition service Office of Research and Analysis, 2010). This is first and foremost the main priority, but during each program, event, or course an educator is engaged in a variety of activities and must play many different roles in order to ensure efficient and successful results. Nutrition education embraces strategies, theories and applies them to the unique demographics to each client or group. By understanding the history of their clients and the food resources available, a trusting relationship can be created between client and instructor to best educate that individual on their specific needs.

Public health nutrition educators not only provide nutrition information to their clients or patients, they take on the roles of: listener, strategist, communicator, motivator, and leader. Successful nutrition education can influence and support the individual or group and community. As a public health educator, there are many barriers that one must face in order to efficiently deliver the message. Creating relationships with in the community and (most importantly) with clients and program participants can help establish a trusting connection to break barriers and promote the healthy living.

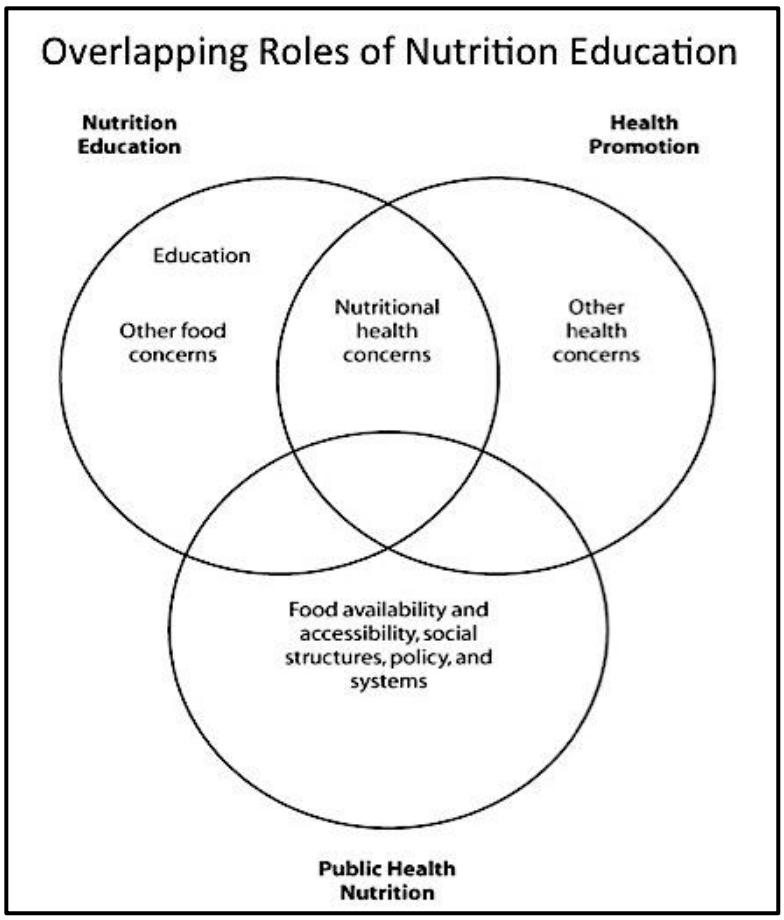

Figure 4— The overlapping roles of nutrition education, public health nutrition, and health promotion (Contento, 2011).

Chapter 4: Project Description and Program Backgrounds

Project Description

(Adapted from the student's field experience application)

The overall focus of this experience was nutrition education and communication with underprivileged families, adults, and children in both rural and urban areas of Kansas. To begin the field experience, the student worked with K-State Research and Extension to organize and facilitate Expanded Food and Nutrition Education Program (EFNEP) classes in Riley County and The Flint Hills Job Corps. This experience provided the opportunity to educate audiences of a variety of ages in the areas of nutrition, food security, food safety, and preparation. During these classes the student provided basic nutrition education, low-cost recipes, and a variety of information related to food, food safety, family nutrition and food resource management. She assisted the participants while they made the featured recipe, so they were more apt to make it for their family.

The student expanded her role as nutrition assistant by creating, organizing, and teaching nutrition education programs in Riley County schools and organizations. Study of chronic diseases allowed her to create pamphlets to educate the community on better health and management relating to hypertension and diabetes.

In the Spring 2012 semester, the majority of the student's hours were utilized by establishing a diabetes education program for the JayDoc Free Clinic in Kansas City, Kansas. Every-other Tuesday she volunteered to help educate patients with diabetes during specialty clinics. She instructed patients on insulin use, carbohydrate counting, and prevention and maintenance aspects of this chronic disease to patients and their families. By working closely with Ginny Barnard and Riley County Extension programs in the previous fall, the student utilized the program management and educator skills, learned from EFNEP and the delivery of nutrition lessons, in the JayDoc Free Clinic.

This field experience contains a broad range of nutrition education aspects and provides the chance to work with variety of ages, community members, and healthcare professionals. Direct work nutrition education provided the student to utilized her core coursework and own experiences to help enable both rural and urban populations to

make better lifestyle choices.

Objectives

- Learn to organize and facilitate EFNEP nutrition education programs

- Experience the challenges and successes of recruiting for nutrition programs and the overall organizing process of health education programs

- Attain the skills to create and analyze evaluation forms so improvements can be made to programs so materials can be adjusted to fit the needs of the community at hand

- Improve skills in oral communication with nutrition education classes and school programs (including multilingual needs)

- Directly observe public health education and prevention through Kansas programs

- Enhance skills to create relationships with businesses and other organizations to provide nutrition education and communication to the community

- Improve written communication skills by creating chronic disease and health informational pamphlets

- Develop counseling skills for patients In a medical clinic by working at JayDoc Free Health Clinic

- Seek the association between core classes and electives of the Master's of Public Health Program and field experience

Activities To Be Preformed

- Facilitate and complete EFNEP programming at the Flint Hill's Job Corps
- Continue EFNEP classes with Riley County residents
- Organize and teach nutrition programs within USD 378 and USD 383.
- Create relationships with local businesses and health organizations to benefit public health Extension programs
- Research and create informational products about current health issues for the public
- Experience different events and programs organized by K-State Research and Extension.
- Instigate and establishing a feasible and creditable diabetes curriculum for JayDoc Free Clinic with the help of directors, dietetic students and medical students of University of Kansas School of Medical
- Educate JayDoc Free Clinic patients about nutritional needs for diabetes type 2 and overall health and wellness.
- Utilize the core classes and electives of the Master's of Public Health Program to establish a well-rounded field experience to prepare for future endeavors.

Nutrition Education Theory

Due to the variety of project, the Logic Model of Theory-Based Nutrition Education was used. This model allowed the educator to efficiently organize the inputs, outputs and expected outcomes of both EFNEP and JayDoc experiences. The beauty of this model is that the structure allows for proper preparation of the program, but also allows flexibility for the uniqueness of each client or group. Specific behaviors and multiple levels of influence are illustrated within the model. Since the socioeconomic

demographics of each educator experience are the same, many of the inputs, outputs, and outcomes overlapped. This model is used in many public health research projects and was heavily focused on a variety of the student's nutrition and public health courses.

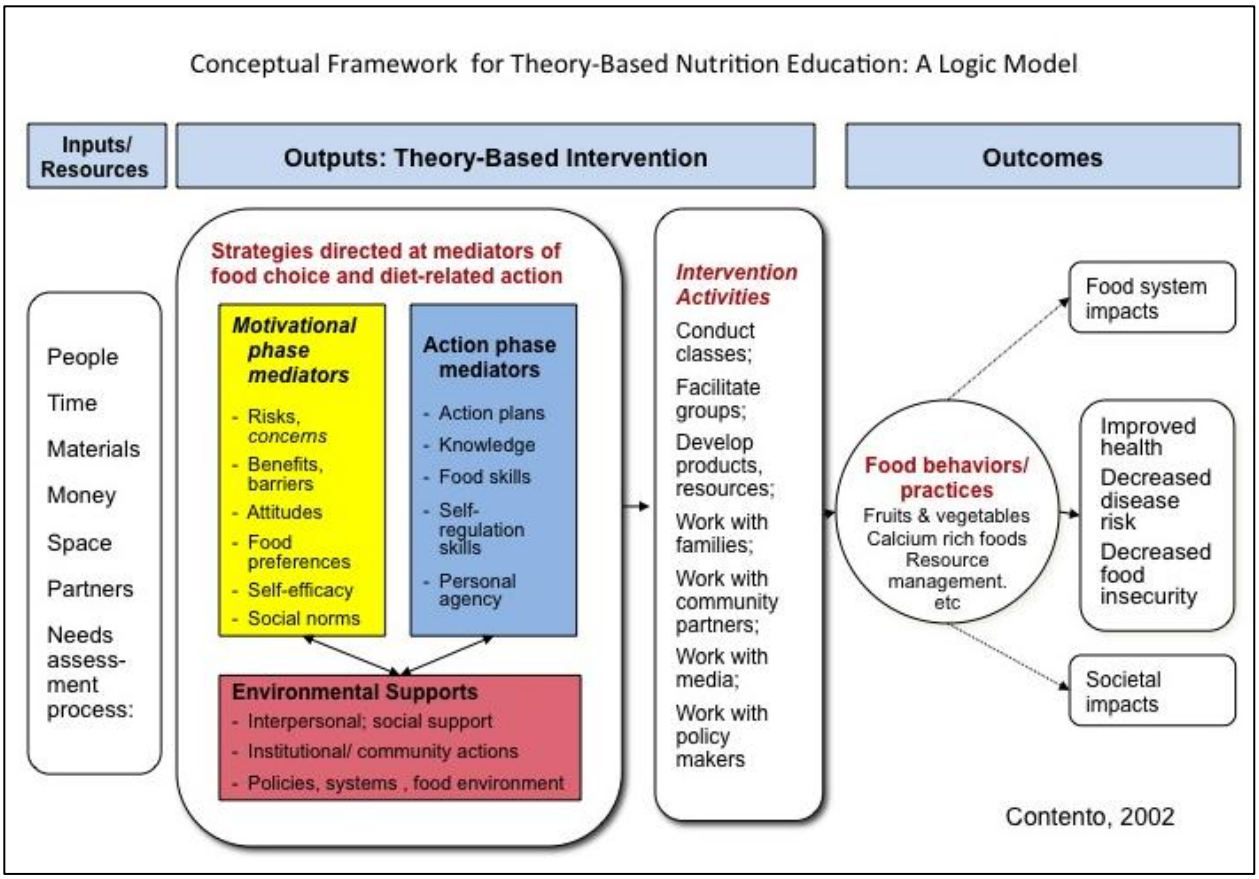

Figure 5—A Logical Model of Theory-Based Nutrition Education

Anticipated Outcomes

- Informational Packets for Chronic Diseases

Student will create a variety of informational sheets and handouts for an array of current chronic diseases. The finalized products will contain helpful information about diabetes mellitus (type 2), gestational diabetes, mental health, and high blood pressure. Nutrition information, symptoms, healthy recipes and published advice will also be included. After final editing and permission, packets will be created with the different awareness resources for easy education on the disease.

- Expanded Food and Nutrition Education Program (EFNEP)

With each completed series of EFNEP classes there is an anticipated goal to graduate at least 70% of enrolled clients. After the courses are taught, there will be improvements in participants' nutritional intake, cooking skills, health knowledge, and food safety behaviors. This data will be evaluated by 24-hour Recalls and health and food safety surveys before and after the course.

- *A Compilation of Community Health Events and Presentations*

- *Jay Doc Free Clinic*

The main goal of this experience is to begin a nutrition education program to compliment the current Diabetes education services of this clinic. By November 2011, a feasible diabetes curriculum for JayDoc Free Clinic will be chosen from a committee composed of clinic directors, a dietetics student and myself. Success of this curriculum will be evaluated by surveys created for this project given at the end of each class.

Program Backgrounds

Kansas State Research and Extension

The actual organization of extension is complex, but the idea is simple. **Extension** is defined as **reaching out**. Along with teaching and research, land-grant institutions, such as Kansas State University, **extend** their resources, create solutions for public issues and questions with university resources from “non-formal, non-credit programs” (United States Department of Agriculture *USDA*, 2010). Over a century ago, Congress created the extension system to address exclusively rural, agricultural issues. During this era, over 50 % of the U.S. population lived in rural areas, and nearly 30 % of the workforce was farming (USDA, 2010). Extension's participation with rural America led the way for the American agricultural revolution. This national effect completely changed the farming industry and vastly increased farm productivity. Due to the increasing urban population and development of commercial jobs, research and extension programs have transformed and extension has become the leader in the public health education and wellness, as well as a championing a variety of crucial agriculture programs.

K-State Research and Extension (KSRE) is a short name for the Kansas Agricultural Experiment State and Cooperative Extension Service (Kansas State Research and Extension *KSRE*, 2010). Due to the strong partnerships between Kansas State University and federal, state, and county governments, offices are located in every Kansas district or county. The mission of KSRE is to be “committed to expanding human capacity by delivering educational programs and technical information that result in improved leadership skills in the areas of communication, group dynamics, conflict resolution, issue analysis, and strategic planning that can enhance the economic viability and quality of life in communities” (KSRE, 2010).

K-State Research and Extension focuses its programs in 12 areas:

- **Healthy Sustainable Communities**
- **Positive Child, Youth, and Family Development**
- Positive Adult Quality of Life
- New and Enhanced Products from Agriculture
- Conservation of Soil, Water, and Energy
- Improved Quality of Land, Air, and Water
- Efficient and Sustainable Cropping and Horticultural Systems
- Efficient and Sustainable Animal Production Systems
- Farm and Food Systems Management
- **Safe, Secure, High-quality Food Supply**
- **Enhanced Nutritional Quality of the Food Supply**

All of the areas overlap and are crucial for each other's existence. The bolded areas are specific to this report and the division of Family and Consumer Sciences (FCS). On a state and national level, specialists in the fields of nutrition and community development direct these programs from an administrative role and conduct in-depth research to direct agents and communities with sound and current advice and knowledge. These leaders also develop new publications, programs, and toolkits to bridge current research with Extension's goals. Within the counties, FCS extension agents organize and facilitate a variety of health, wellness, and nutrition programs within the communities. Some examples are *Walk Kansas, Family Nutrition Program* (FNP), *Kids a Cookin',* and *EFNEP.* Agents also share programs within elementary and middle schools and provide assistance with *Farmers' Market* organizations. As stated above, the individuals are also responsible for providing solutions and answers to the public's family and consumer needs.

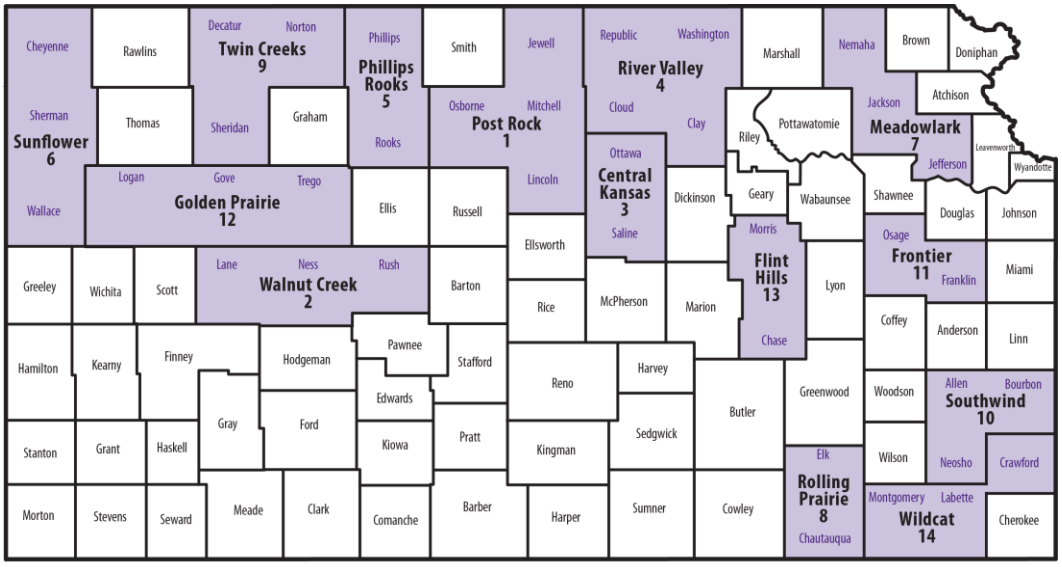

Figure 6—Current County/District Mapping of Extension Areas, (KSRE, 2009).

Expanded Food and Nutrition Education Program (EFNEP)

EFNEP is programmed through the Cooperative State Research Education and Extension Service (CSREES) of the United States Department of Agriculture (USDA). EFNEP has assisted low-income families since 1969. Pilot studies, in the early 1960s, in various states helped identify effective tactics for promotion, teaching and maintenance of these education programs with poverty stricken individuals (USDA-CSREES, 1983). Recommendations based on results of these studies rooted initiation of the EFNEP. This program is specifically administrated through the Family and Consumer Sciences sector of Extension. The goals of FCS, in all extension areas, is to help families become resilient and healthy by teaching nutrition, food preparation skills, positive child care, family communication, financial management, and health care strategies (USDA, 2010). The EFNEP curriculum assists clients by promoting self-confidence in the skills and abilities needed to improve their diet and lifestyle. It is available in over 800 counties in all 50 states and the six United States (U.S.) territories (Montgomery & Willis, 2005).

EFNEP has a substantial background producing positive impressions on clients and community through nutritional, social, and economic impacts. The unique program model effectively reaches low-income clients and teaches them how to make positive behavior changes that lead to better health and wellness (Montgomery & Willis, 2005).

The experimental, hands-on, and peer-discussion friendly lessons allow for clients to learn how to:

- Improve diet and health for the entire family/household
- Choose and purchase food that meets their nutritional needs
- Improve skills in food preparation, storage, and safety
- Improve skills in managing food resources and meal planning
- Integrate more family mealtime into daily meals

The most unique feature of EFNEP is the method of program delivery. The majority of Extension EFNEP Program Assistant(s) (PA's) are paraprofessionals who are native to the areas in which they work. Extension professionals (agents and specialists) hire, train and oversee the PA's as they work individually or with small groups of limited resource families. Research-based subject material focusing on food and nutrition is the primary education content. Educators adapt content according to the clients' unique circumstances and situations. Content areas include: basic nutrition, menu planning, food selection and preparation, food budgeting, food safety, maternal and infant nutrition, child feeding guidelines, and physical activity (USDA-CSREES, 1983).

Client Eligibility

EFNEP primarily targets low-income adults and youth. The majority of clients are the primary caretaker of the household and usually enrolled in one or more national assistance programs (e.g. WIC, SNAP). All eligible people are to have equal access to the program and facilities regardless of race, color, national origin, sex, age or disability (USDA-CSREES, 1983). Lessons are given as both group and individual sessions.

In 2005, the federal EFNEP Impact Report noted that the program reached a total of 411,849 youth and 150,995 adults in the U.S. and U.S. territories that year. National demographic summaries of 2005 concluded: 36% Hispanic, 31% white, 27% black, 4% Asian or Pacific Islander, and 2% were American Indian or Alaskan (Montgomery & Willis, 2005).

Cost Effectiveness

Among the other positive benefits of EFNEP, it is also cost-effective. In 2002, a cost-benefit analysis was performed on Virginia's EFNEP program. Findings suggested an average healthcare savings of $10 per every $1 spent on EFNEP (Radhika, Cox, Lambur, & Lewis, 2002). Oregon EFNEP embraced Virginia's analysis and observed a $3.63 savings in healthcare for every $1 spent on EFNEP (Schuster et al., 2003). Lastly in 2002, Burney and Haughton conducted a prospective, quasi- experimental study on the cost-effectiveness of EFNEP in Tennessee. This study found a positive association for EFNEP participants and financial savings. Results concluded an average of $124 to $234 per household/annually and an average savings of $10-$20/monthly on grocery bills (Burney, 2002).

Jay Doc Free Clinic

JayDoc Free Clinic began as an advantageous thought by a medical student studying at the University of Kansas Medical Center. In 2003, Jenny Koontz took initiative and saw the great need for free or low-cost medication, tests, and care for many of the individuals in the Kansas City area, especially in Wyandotte County (JayDoc, 2011). Due to the high poverty level of this population, many residents could not afford health insurance and expensive clinical procedures and medication. Other social determinants to health in the area played key roles in Koontz ideas of a volunteer-student run clinic. With financial donations, student and physician volunteers, and many hours of frustration and success, the JayDoc Free Clinic became a reality.

Mission

JayDoc exists to provide quality health care to the uninsured and under-insured populations of Greater Kansas City while creating invaluable opportunities for University of Kansas medical students to apply their world-class medical education in service to the community (JayDoc, 2011).

JayDoc Today

The clinic specifically targets indigent, Hispanic, uninsured, and underinsured

populations in Greater Kansas City. The volunteers address linguistic, cultural, and financial barriers to health care by providing primary care services with a focus on urgent care and preventative education at no charge, integrated with on-site language interpretation. The clinic is open to all individuals who seek non-emergent medical attention.

JayDoc continues to evolve into Koontz's vision by providing healthcare to greater Kansas City. The clinic has expanded and allows for a variety of positions from receptionists to an on-call physician. Through significant growth in support, the clinic is able to provide in-house laboratory testing. By utilizing in-house resources, the clinic is able to cut costs and quickly give results to patients. Community support has been a very important factor in this thriving clinic. Agreements with outside laboratories allow students and doctors to order expensive tests at reduced costs.

Recently, new improvements and programs have been allowing this clinic to provided treatment and education the public in more advanced methods. In 2010, electronic medical records were introduced to transition smoothly in the advancing health care field. In January 2012, a diabetes education program was started to help inform patients about their disease and how it can be managed with the American Dietetics Association's dietary guidelines, glucose monitoring, and increase in physical activity. This education channel is unique because it focuses on peer-lead education in a very relaxed and comfortable situation. Map conversation facilitators aid in the instigation of the discussion and provide sound advice and guidance.

Patients have four different appointments that focus on a new map each session. The maps include: Overview of Diabetes, Healthy Eating, Monitoring and Using Your Results, and Natural Course of Diabetes (Healthy Interactions, 2009). A map focusing on the specifics of gestational diabetes is also available. For the clinic, maps in both English and Spanish (with interpreters) are available to aid the majority of the clinic's attracted population. To be a conversation leader, volunteers participated in a training session that reviewed common medications, carbohydrate counting, and glucose monitoring. During this session, students formed mock groups and each lead a mini conversation. Within the last four months, over 20 patients have completed the first map and more are being scheduled.

Since their launch in 2003, this non-for-profit organization has served approximately 2,000 patients annually (JayDoc, 2011). Volunteerism is not an issue with the KUMC students. The clinic is actively progressing to ensure that patients receive the best care and preventive medicine education available.

Chapter 5: Field Experience Application

Public Health is the science of protecting and improving the health of communities through education, promotion of healthy lifestyles, and research for disease and injury prevention (Harvard, 2011). Public health professionals, whether in education, health-care, research, or policy, analyze the effect on health of genetics, personal choice and the environment to develop programs that protect the health of your family and community. The student utilized a variety of personal skills meshed with coursework and previous educational experiences to progress from health promotion to programming.

During this field experience, health was improved in both rural and urban Kansas's communities by implementing programs specific to healthy nutrition choices and disease maintenance education. Promotion of healthy lifestyles was channeled though pamphlets, community events, programs and diabetes education.

Kansas State Research and Extension

The student was offered an assistantship with the Riley County Research and Extension Agency in Manhattan, Kansas. This volunteer position provided ample opportunities in health promotion, community programming, and an essential understanding of public heath nutrition. By working with extension agent, Ginny Barnard, and Kansas State Extension Specialist, Dr. Sandy Procter, a variety of activities were completed to help the student apply coursework and personal professional skills to real world experiences.

The student assisted in grant writing, health department meetings, and various health-promotion programs in Riley County. Informational handouts, comprehensive reports, and presentation materials for programs were created for the duration of the internship to inform a variety of Manhattan residents. The student also planned and executed nutrition programs in local elementary schools focusing on healthy eating and basic nutrition knowledge. As the internship progressed, presentations on community health and wellness were given to healthcare professionals in local nursing homes and clinics.

Listing of Activities and Products

- Health Promotion and Informational Products
  - Gestational Diabetes Informational Pamphlet**:** created by the student for educational use for the pregnant and nursing mother with diabetes.
  - High Blood Pressure and Cardiovascular Health Booklet: Pamphlet created by the student emphasizing blood pressure assessment, sodium intake, organ damage, and exercise and nutrition goals.
  - Diabetes mellitus (Type 2) Informational Packets**:** selected by the student for diabetes prevention and maintenance.

- Nutrition Education Programs – Manhattan Community
  - Food Pyramid Party/ Pyramid Week
  - Fruit and Vegetable Rainbow
  - Book in a Bag
  - Fall Activity- Pumpkin/Vitamin C
  - Junior Gardeners
  - Kids a Cookin' Recipes

- Health Presentations and Informational Displays
  - "Healthily Ever After "—This program was created for local Head Start children and families for National Public Health Week. The student, with the help of an undergraduate intern, organized and performed skits consisting of Little Miss Muffet and the importance of a variety of fruits and vegetables. The character Humpty Dumpty, portrayed by a community volunteer, discussed the safety issues for biking riding and playing outside to the parents and children. The student organized and prepared a balanced meal for the audience (n= 60) compiled of Kid a Cookin' Recipes. This program was altered for a summer library event.

- ”Artificial Sweeteners: The Sweet Scoop” –The student researched and prepared a presentation regarding the differences of popular artificial sweeteners and the products they are in. The presentation allowed the audience to taste the intensity of the different sweeteners. The audience consisted of health professionals at the Lafene Health Clinic associated with the Kansas State University.

- Beverage and Sugar Presentation—During the beginning of the internship, this presentation was created for a health fair at Meadowlark Hill’s Retirement Community (Manhattan, KS). This exhibition showed the different amounts of sugar within popular beverages and provided healthier substitutions. Handouts discussing diabetes, cardiovascular disease, and high blood pressure were also available for the audience.

- ”Compost 101”—The student created a display for Riley County’s annual Garden Show sponsored by the Master Gardeners program. This exhibit presented the basic steps for starting a compost pile, tips for composting, and the benefits of having a compost pile. A mini compost model was prepared to show the different layers and kinds of organic materials.

Expanded Food and Nutrition Education Program (EFNEP)

The curricula for EFNEP was constructed from research-based content in the area of food and nutrition for both adult and youth audiences. Instruction was adapted to the clients' nutritional needs, cultural heritages, and specific health topics. Subject matter included basic nutrition, menu planning, food selection and preparation, food budgeting, food safety, maternal and infant nutrition, child feeding guidelines, and physical activity (USDA-CSREES, 1983). In 2011, the curriculum was tailored for fit updated dietary guidelines and nutrition factors. This included popular topics as energy balance, calcium and vitamin D consumption, intakes of potassium and sodium, and the continuation of building healthy eating patterns (Procter, 2011). The recent changes are a prime example of the evolving nature of the EFNEP program and how it continues to strength communities by improving health through food choices and diet behavior changes.

Client Demographics

EFNEP specifically targets two audiences: low-income adults and youth. **"**EFNEP participants and similar low-income audiences may be at particular risk for an unhealthy food and physical activity environment" (Procter, 2011). Clients include individuals living in rural or urban areas who are accountable for planning and preparing family meals, specifically in households with young children. EFNEP clients are a variety of care-takers: mothers, fathers, single parents, foster parents, teen parents, grandparents caring for grandchildren, child care providers, and pregnant women. Recruitment for this practicum's clients involved many partnerships between WIC, Riley County Research and Extension Agency, The Flint Hill's Job Corps, and a variety of other community organization that promote healthy lifestyles.

The Flint Hill's Job Corps

This course was introduced as a supplemental class for residents of the single-parent dorm on the Job Corps Campus. Promotion included a basic trivia activity that applied basic nutrition knowledge, simple cooking prizes (e.g. spatulas, stickers) and colorful reminder cards for the next week's class. All 14 clients were female and ranged

from 17-23 years of age. Forty-five percent had 2 or more children under the age of 5. Almost 60% of the client population had not completed high school but with the programming of Job Corps, many were in the process of obtaining their GRE or some technical degree in the field of food production or medical technicians. A total of 11 clients completed the program.

Manhattan Residents Course

Recruitment for these clients relied upon the strong relationship between Riley County Extension and WIC. Postcards and posters were utilized to attract WIC participants to join the course. A total of 3 of the 4 clients completed the program. The clients have a very wide age range from 23 years to 64. All clients were female and have a variation of family size. Two clients were pregnant, one individual had 3 children, and the eldest client was single. In contrast to the Job Corps population, all the individuals completed high school and 75% of the population had at least one year of college.

Curriculum

The curriculum for Riley County EFNEP was adapted from North Carolina Cooperative Extension. Lessons include:

Introduction to EFNEP

- Introduction to EFNEP

Moving More, Everyday, Everywhere

- Choosing to Move More Throughout the Day
- Choose, Plan, Do for a Healthier You
- Healthy and Strong
- Limit TV

Eating Smart at Home

- Plan: Know What's for Dinner
- Shop: Get the Best for Less
- Fix it Fast, Eat at Home
- Shop for Value, Check the Facts
- Fix it Safe
- Choosing More Fruits and Vegetables
- Smart-size Your Portions and Right-size You

Eating Smart on the Run

- Making Smart Breakfast Choices
- Making Smart Lunch Choices
- Making Smart Choices When Eating Fast Food
- Making Smart Choices When Eating Out
- Making Smart Drink Choices

Eating Smart Throughout the Life Cycle

- Pregnancy
- Breastfeeding
- Infants
- Children
- MyPyramid: Steps to a Healthier You

Curriculum Utilized in Field Experience

Lesson duration differed between the Job Corps and Manhattan. For the Job Corps clients, sessions lasted approximately 60 minutes. For Manhattan clients, sessions lasted between 1.5 to 2 hours depending on discussion and material covered. All lessons included handouts related to the curriculum (e.g. food preparation tips, food pyramid handouts, external KSRE resource handouts) and a nutritious recipe (prepared during class by the participants) each week. Appendixes D-E present a few examples of what information clients received and a schedule of a sample lesson.

Due to the numerous lessons and only 9 weeks to organize the educational course, many of the lessons were combined during the weekly session. For this practicum, 15 lessons were covered over the course of 9 weeks:

Week 1— Introduction to EFNEP/My Pyramid: Steps to a Healthier You

Week 2— Choose, Plan, Do for a Healthier You/Children/Limit TV

Week 3— Choosing More Fruits and Vegetables

Week 4— "*Portion Distortion"*: Smart-size Your Portions and Right-size You

Week 5— *"Smart Shopping!*" Shop: Get the Best for Less/ Shop for Value, Check the Facts

Week 6— Fix it Safe

Week 7— *"Meal Time Mania!"* : Making Smart Breakfast Choices/Making Smart Lunch Choices/Plan: Know What's for Dinner

Week 8— *"Nutrition Smarts!"* Making Smart Choices When Eating Fast Food/Make Smart Choices When Eating Out/Making Smart Drink Choices

Week 9— Conclusion/ Review

Teaching Outcomes

For evaluation purposes, during week 1, forms (24-HR Recall, Behavioral Checklist, and a household information form: Appendixes F and G) were completed by the clients and during week 9 they were repeated to see improvements or maintenance of dietary behaviors and nutritional intake. A total of 78% of the Job Corps population and 75% of the Manhattan course completed the program; averaging a 76.5% completion rate. Many of the comments on the evaluation forms expressed that clients would recommend the program to their friends or family and that they thought the program helped them live healthier lifestyles for themselves and their children.

Within all courses there were reported improvements in fruit and vegetable consumption, low-fat diary, and healthy grains. A total of 80% percent had a positive change in vegetable consumption and a 5% (2.5 point) increase in diet variance. For other dietary factors, the Manhattan clients reduced sodium intake by 50%. Findings showed a 32% increase in physical activity and 100% participation in at least some sort of physical activity.

A variety of behavioral changes were also observed after both courses:

- 50% Improvement in Planning Meals
- 40% Improvement in Utilization of Grocery Lists
- 44% Improvement of Nutrition Label Reading
- 40% Improvement in Choosing Healthy Foods
- 45% "Almost Always" Had Family Meal Time
- 10% Increase in Demonstrating "Acceptable Practices of Food Resource Management"

These results demonstrated improvement in not only nutrition knowledge, but the client's ability to apply the information to daily life. Not only is the actual nutrition information important, the abilities to choose healthy foods, plan and prepare meals,

and enjoy them in a family setting are all factors of a healthy lifestyle.

Jay Doc Free Clinic

This final component of the field experience compiled all of the student's graduate coursework and previous public health experiences. The student utilized administration, research, and motivational skills to instigate an efficient and feasible diabetes education curriculum. With a team of other health students (medical, pharmacy, and dietetics), the U.S. Diabetes Conversation Map Program was selected. The student-led education sessions to adult patients and families with diabetes emphasizing prevention, maintenance, and overall health improvement.

Client Demographic

Majority of JayDoc's patient population consists of low-income, uninsured or underinsured individuals in the Kansas City area. During the 8 sessions, the student saw 20 patients. Patients ranged from 25-56 year of age. Sixty-five percent of the patients were women. All of the patients were diagnosed with diabetes mellitus type 2.

U.S. Diabetes Conversation Maps Program

Patients at the clinic make appointments for A1c monitoring and physical check-ups and education sessions. Patients participate in a total of four sessions within a year span to cover the individual conversation maps. Sessions ranged from 1.5 to 2 hours depending on patient availability and discussion. At each appointment, medical students saw the patients and completed basic physical and hemoglobin A1c test; patients then began the education section. Family members were also included in the discussions in order to assist the patient with the lifestyle changes and absorption of information. Educational sessions were held twice a month from January to April 2012.

The use of conversation maps allows for informal, patient-based communication about medication, diet, and challenges of diabetes type 2 for patients and families. The maps include four core maps: Overview of Diabetes, Healthy Eating, Monitoring and Using Your Results, and Natural Course of Diabetes. A supplemental map focusing on the specifics of gestational diabetes is also available. See Appendix H for sample maps.

A unique aspect to this program is that the map leader is not the prime educator during the session. To begin the discussion, the map leader initiates the conversation and then asks open-ended questions to allow for peer education. The nutrition educator merely provides sound advice and suggestions to the client and keeps the group on task. At the end of each session, short and long term goals and discussed and the patient physically writes down goals to act upon until the next map session. At the remaining appointments, short-term goals are discussed and successes are celebrated to motivate patients and keep them on the path to a healthier lifestyle.

Teaching Outcomes

A total of 20 patients from the initial 30 participated in the course. One hundred percent of the first map participants have signed up for their second appointment. Fifty percent of these patients have made all four appointments. To evaluate the program efficiency, pre- and post-survey forms are completed by the patients. The pre-evaluation is given during the first session and the post-evaluation is given after the last map discussion. After each session, a satisfaction survey is completed and informational handouts, specific to the material covered, were given to the patient for additional support.

Ninety percent of the Map 1 (Overview of Diabetes) found the program extremely useful and planned on bringing a family member(s) to the next session. Unfortunately, due to the novelty of the program within the clinic, final program evaluations have not been completed by the patients. The first group to complete the program will finish in Fall 2012. The student plans to volunteer for the remainder of the year to ensure consistency and leadership within the program.

Chapter 6: Reflection

Upon reflection, this field experience provided me with valuable lessons, skills, and memories that will forever impact my career. During the beginning of my graduate studies I found that public health education is truly about serving the people around you by providing them with the best information and resources that will benefit their needs. My work through KRSE, EFNEP, and JayDoc Free Clinic molded my perception of public health to fit the areas that are (now) most passionate for me: childhood obesity, nutrition education, and diabetes prevention and maintenance education.

The experience provided an excellent overview of health promotion and public health programing. Each phase of my field experience provided building blocks to assist me in the final goal of implementing a new public health education program. “ If you build a wellness program to help people lead healthier lives, they will come” (Seifert, 2012). This quote was given to me by my preceptor and guided me through my journey with EFNEP and JayDoc. From my experiences, this statement could not be more truthful.

On an emotional level, the practicum was extremely rewarding. The feeling of satisfaction when realizing clients and patients are utilizing the information about their nutritional or health needs is unlike any other. I will always remember one of my EFNEP clients and her passion to create a better diet for herself and the entire Job Corps Campus. This individual adapted a lesson on meal planning and budgeting and created a healthy menu for the campus cafeteria. After carefully critiquing and calculating nutritional information, the menu met EFNEP’s guidelines and was very appropriate for the organization. Her passion and excitement for a healthier lifestyle motivated me during times of frustration with non-participating members. During the experience, I also quickly learned to utilize a variety of interpersonal skills to allow me to most efficiently communicate to a wide variety of individuals and demographics.

Associated with the strengths of these experiences there were also challenges. Administering the 24-Hour Recall and Behavioral Survey to the EFNEP clients was difficult in some settings due to their lack of knowledge of portions and food groups. The time that was utilized to complete the EFNEP forms also seemed daunting to the clients. Although, the completion of the post 24-Hour Recall form improved, some of the

women at Job Corps did not take it as seriously as those within the Manhattan group. This affected the Job Corp's overall results relating to serving measurements of different food groups. I also struggled with the limited time frame I had with the Job Corps cohort. More time would have been appreciated but the client's schedules would not allow for more than an hour.

JayDoc also provided new challenges. This was my first experience collaborating with a variety of young health care professionals, on a graduate-level, to introduce a new program within a rooted organization. I found that although the students I worked with had excellent knowledge in basic sciences, the importance of nutrition education was not high on the clinic's priority list. After a few sessions, many non-nutrition focused students started to realize the impact of the program as clients found new motivation to continue with regular check-ups and glucose monitoring.

With each step of my field experience, I was utilizing coursework, past experiences, and my mentors' advice to benefit the public. By adapting my education to fit my focus areas, the practicum developed into an opportunity that will guide me to my next phase as a young public health professional.

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Kansas State Research and Extension

Gestational Diabetes

What Is Gestational Diabetes (GDM)?

Gestational (jes-TAY-shun-ul) **Diabetes** is usually diagnosed during the first pregnancy. This type of diabetes acts the same way as regular diabetes but affects mom and baby.

So… What is diabetes? If you have diabetes, this means that your blood sugar is too high. Your body uses sugar (glucose) for energy. **BUT** too much glucose in your blood can be harmful. We do not know what causes gestational diabetes, but we have some clues. Hormones from the placenta help the baby grow. Sometimes these hormones can block the action of the mother's insulin to her body. This is called insulin resistance, another way to describe gestational diabetes.

SYMPTOMS:

- Constant Thirst
- Frequent Urination
- Extreme Hunger
- Blurred Vision.

Are You at Risk?

"In the United States, 135,000 cases of gestational diabetes occur each year."

- American Diabetes Association

It seems that more women are experiencing this problem. To the right you will see a check list that will help you learn about your risks. Please talk to your doctor at your **FIRST** prenatal visit.

To see if you are at risk, check all that apply:

- ☐ I have a parent or sibling with diabetes
- ☐ I am African American, American Indian, Asian American, Hispanic/Latino, or Pacific Islander
- ☐ I am 25 years old or older
- ☐ I am overweight
- ☐ I have had gestational diabetes before, or I have given birth to at least one baby weighing more than 9 pounds.
- ☐ I have been told that I have "pre– diabetes," "impaired glucose tolerance," or "impaired fasting glucose."

If you have checked one of more of the boxes, you could be at risk for Gestational Diabetes.

When Will I Be Checked?

Depending on your past medical history and estimated risk factors, your doctor will decide when is the best time to check for gestational diabetes.

There are **3 levels of risk .**

· **Low risk**, your doctor may decide you do not need to be checked.

· **Average risk**, you will be tested sometime between weeks 24 and 28 of your pregnancy.

· **High risk**, your blood sugar level may be checked at your first prenatal visit. If your test results are normal, you will be checked again around week 24 of your pregnancy.

Remember– Do not be afraid. Ask questions about testing at anytime before or during your pregnancy.

http://www.babystepsfit.com

"Out of every 100 pregnant women in the United States, 3 to 8 get gestational diabetes"

-NIDDK

(National Institute of Diabetes and Digestive and Kidney Diseases)

How is Gestational Diabetes Diagnosed?

Your health care team will check your blood sugar (glucose) level. Depending on your risk and test results, you may have one or more of the following tests:

Fasting Blood Glucose

Before this test, your doctor or nurse will ask you to fast. Fasting means that you will have nothing to drink or eat for 8 hours. This test is usually done in the morning . By not eating or drinking anything, the body will be "empty" and the actual glucose level in your blood can be tested without the added sugars found in food and beverages.

Random Blood Glucose

If your doctor does not perform a fasting blood glucose test, he or she may check your blood glucose at a random part of the day.

Screening Glucose Challenge Test

For this test, you will drink a sugary beverage and have your blood glucose checked an hour later. This test can be done at anytime of the day. If results are normal, you may need others.

Oral Glucose Tolerance Test

If you have this test, your nurse or doctor will give you special directions to follow. They will be somewhat like this— For at least 3 days before your test, you should eat normally. Then, you will fast for at least 8 hours before the test. The nurse will check your blood glucose level before the test. You will then drink a sugary beverage. The nurse will check your levels at 1 hour, 2 hours, and 3 hours. If your levels are above normal at least twice, you have gestational diabetes.

How Will Gestational Diabetes Affect My Baby and Body?

Gestational diabetes can affect you and your baby in many ways. Some of the problems occur during pregnancy or at birth.

Affects On Baby

Untreated or uncontrolled gestational diabetes can mean problems for your baby such as:

- Being born very large (macrosomia) or with extra fat; this can make delivery difficult and more dangerous.
- Low blood glucose right after birth.
- Breathing problems.
- Increased risk for type 2 diabetes.

Affects On Mom

Many women who have gestational diabetes have no symptoms— or if they do, they are very similar to those of pregnancy.
Some problems include:

- Increased risk of high blood pressure during pregnancy. This can lead complications during delivery.
- Increased risk of having a large baby and the need for a cesarean section at delivery.
- Increased risk for type 2 diabetes.

The good news is that your gestational diabetes will probably go away after your baby is born You may get gestational diabetes again with other pregnancies.

If you have gestational diabetes, your doctor will recommend extra tests to check on your baby such as extra ultrasounds, "kick counts" or "stress tests" to check the baby's activity level.
Remember to stay informed and work closely with your healthcare team. They will ensure a safe and healthy pregnancy.

" Women (who have had gestational diabetes) have a 25% -45% greater risk for recurrence of diabetes in the future "

Treatment Options?

Treating gestational diabetes means taking steps to keep your blood glucose levels in the "target range." Your doctor can provide more information about what is best for you. Here are some ways to control your blood glucose:

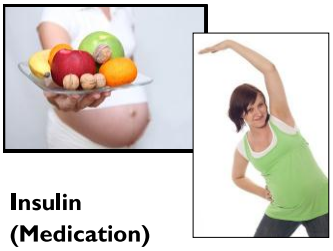
- Meal Plan
- Physical Activity
- Insulin (if needed)

Meal Plan

Talking to a dietitian who will design a special meal plan for you is the first step. Your plan will include guidelines on which foods to eat, how much to eat and when to eat. Choices, amounts, and timing are all important to keeping your blood glucose under control. During this time, you may be asked to change your normal eating habits.

Physical Activity

Activities such as walking and swimming can help you control blood glucose. Talk with your doctor about the type of activity that is best for you.



Insulin (Medication)

Some women will need insulin, in addition to a meal plan and physical activity changes. If necessary, your doctor will show you how to give yourself the insulin, how much to take, and any other directions.

* Insulin is not harmful to your baby.

Gestational Diabetes…
ARE YOU AT RISK?

http://www.babystepsfit.com

More Information?

Kansas State Research and Extension

Website: http://www.ksre.ksu.edu Phone: 785.537.6350

Local Physicians, Women's Clinics, or Hospitals

Diabetes Teachers:

Website: www.diabeteseducator.org Phone: 1.800.832.6874

Health Information

Website: www.nichd.nih.gov Phone: 1.800.370.2943

American Diabetes Association

Website: www.diabetes.org

K-STATE Kansas State University Research and Extension

K-State Research & Extension is committed to making its services, activities and programs accessible to all participants. If you have special requirements due to physical, vision, or hearing disability, or a dietary restriction please contact Ginny Barnard at 785-537-6350 or email: ginnyb@ksu.edu

Appendix B—Hypertension Informational Booklet

HIGH BLOOD PRESSURE: THE SILENT KILLER

A Guidebook for Prevention and Awareness

What is Blood Pressure?

Blood pressure is the force of blood against the walls of arteries. Your blood pressure is highest when your heart contracts and is pumping blood. This is systolic blood pressure. When your heart rests between beats, your blood pressure falls. This is called diastolic blood pressure. Blood pressure is always given as these two numbers. The numbers are usually written one above the other with systolic first.

Example: 120 systolic (sis-TOL-ik)
80 diastolic (di-a-STOL-ik)

Who is at Risk?

High blood pressure is very common in United States. If you can check one or more boxes, you might be at risk or have High Blood Pressure.

- ☐ African American
- ☐ Middle-aged or over 55 years
- ☐ Overweight/Obese
- ☐ Family History of HBP
- ☐ Tobacco Use (Smoking) or Excessive Alcohol Use

What Causes High Blood Pressure?

- Certain medical problems, such as chronic kidney disease, thyroid disease and sleep apnea, may cause blood pressure to rise.

- Sometimes certain medicines can raise blood pressure. (asthma medicines, corticosteroids, cold-relief products)

- In some women, blood pressure can go up if they use birth control pills, become pregnant, or take hormone replacement therapy

1

High Blood Pressure can develop in anyone, no matter age, race, or gender. The medical term for this is hypertension. This guidebook provides useful information to help prevent or control high blood pressure.

“ A serious illness that affects nearly 65 million adults in the United States.”

- Food and Drug Administration

Locations for Self Readings:

Walgreens
Walmart
Target
Free Clinics

The Number Game: What's Yours?

Category	Systolic (mm/Hg)		Diastolic (mm/Hg)
Normal	120 or less	&	80 or less
Pre-hypertension	120-139	or	80-89
HBP- Stage 1	140-159	or	90-99
HBP- Stage 2	160 or higher	or	100 or higher

Understanding Your Number:

- Strive for 120/80 mmHg
- "Prehypertension" means you are likely to end up with High Blood Pressure, UNLESS you take steps to prevent it.
- If blood pressure numbers are in different categories- consider yourself in the most severe one. For example if!
  - your reading is 160/80 mmHg, you have Stage 2 HBP.
- If diabetic, 130/80 mmHg is considered HBP

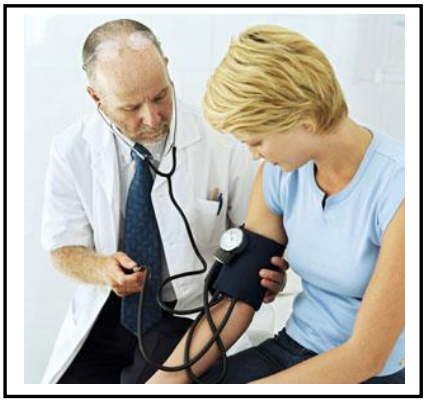
Tips for Having Your Blood Pressure Taken:

1. Do not drink coffee or smoke cigarettes 30 minutes before measurement.
2. Wear short sleeve shirts, so arm is exposed.
3. Go to the bathroom prior to reading. A full bladder can change your blood pressure reading.
4. Get two readings, taken at least 2 minutes apart.
5. Ask the doctor or nurse to tell you the blood pressure reading and write it down.

High blood pressure is dangerous because it overworks the heart and hardens the arterial walls (blood vessels that carry blood away from the heart). It is important to check your blood pressure at least once a year, because in most cases there are no symptoms until it is too late.

High Blood Pressure can cause:

- The heart to get larger or weaker, which may lead to heart failure. Heart failure is a condition in which the heart cannot pump enough blood throughout the body.
- Aneurysms (AN-u-risms) to form in blood vessels. An aneurysm is an abnormal bulge or "ballooning" in the wall of an artery. Common spots for aneurysms are the main artery that carries blood from the heart to the body; the arteries in the brain, legs, and intestines; and the artery leading to the spleen.
- Blood vessels in the kidney to narrow. This may cause kidney failure.
- Arteries throughout the body to narrow in some places, which limits blood flow (especially to the heart, brain, kidneys, and legs). This can cause a heart attack, stroke, kidney failure, or amputation of part of the leg.
- Blood vessels in the eyes to burst or bleed. This may lead to vision changes or blindness.



http://media.onsugar.com/files/ons1/192/1922729/41_2009/467aab012b2bd99c_blood-pressure.jpg

Lower Your Risk:

You can take steps to prevent high blood pressure by adopting a healthy lifestyle. These steps include:

1. Maintaining a healthy weight
2. Being physically active
3. If you drink alcoholic beverages, drink in moderation
4. Quit smoking
5. Take medications your doctor gives you
6. Follow a healthy eating plan that emphasizes fruits, vegetables, and low fat dairy foods, foods low in saturated fat, total fat, and cholesterol

In this section you will learn more about healthy lifestyle habits for preventing and controlling high blood pressure.

Maintain a Healthy Weight

Being overweight increases your risk of developing high blood pressure. In fact, blood pressure rises as body weight increases. Losing even 10 pounds can lower blood pressure and it has the greatest effect for those who are overweight and already have hypertension. Being overweight or obese are also risk factors for heart disease. They increase your chance for developing high blood cholesterol and diabetes CC two more major risk factors for heart disease.

Eat smaller portions

Choose foods lower in fat and calories

Lose weight if you are overweight. To keep weight off, lose about 2 to 1 pound a week until you reach a healthy weight.

Be Physically Active

Being physically active is one of the most important steps you can take to prevent or control high blood pressure. It also helps reduce your risk of heart disease. It doesn't take a lot of effort to become physically active.

Find an activity you like doing, such as walking, riding a bike, swimming, dancing, or yoga.

Start with just 5 minutes and work toward a goal of 20 to 30 minutes each day.

Practice breathing while you exercise. Holding your breath can raise blood pressure and cause muscle cramping.

Physical activity is safe for almost everyone, but check with your doctor before beginning a new activity.

If You Drink Alcoholic Beverages, Drink in Moderation.

Drinking too much alcohol can raise blood pressure. It also can harm the liver, brain, and heart. Alcoholic drinks also contain calories, which matter if you are trying to lose weight. If you drink alcoholic beverages, have only a moderate amount C one drink a day for women: two drinks a day for men.

What counts as a drink?

- 12 ounces of beer (regular or light, 150 calories)
- 5 ounces of wine (100 calories)
- 1 2 ounces of 80-proof whiskey (100 calories)

Quitting Smoking

Smoking injures blood vessel walls and speeds up the process of hardening of the arteries. This applies even to filtered cigarettes. Each cigarette you smoke temporarily increases your blood pressure for many minutes after you finish. If you smoke, try to quit. If you don't smoke, don't start. Once you quit, your risk of having a heart attack is reduced after the first year. You have a lot to gain by quitting.

Medication

High blood pressure (HBP) is treated with lifestyle changes and medicines. Most people who have HBP will need lifelong treatment. Sticking to your treatment plan is important. It can prevent or delay the problems linked to High Blood Pressure and help you live and stay active longer.

Tips to Help You Remember to Take Your Blood Pressure Drugs

Take the medicine the way your doctor tells you

Take your drugs at the same time every day

Make sure you do not miss any days

Refill your prescription before you use it up

Tell the doctor right away if the medicine makes you feel strange or sick; the doctor may change the type of medicine

Have your blood pressure checked often to be sure your medicine is working the way the doctor planned

Do not stop taking your medicine even if your blood pressure is normal

Appendix C—Healthily Ever After Program Cookbook Handout

Healthily Ever After Cookbook

K-STATE RESEARCH & EXTENSION
FAMILY NUTRITION PROGRAM

Kids a Cookin'

Spicy Macaroni Meal

Kids will love cooking AND eating this easy dish!

Level: Medium — Serves 6

Kids' Tool Kit
- Skillet
- Strainer
- Measuring spoons
- Measuring cups
- Wooden spoon
- Covered skillet
- Knife
- Cutting board

Chef's Choice
- Spicy Macaroni Meal
- Applesauce
- Peas
- Milk

Ingredients:
- 1 pound ground beef or turkey
- ½ cup onion, chopped
- ½ cup chopped green pepper
- 2 teaspoons ground cumin
- 2 teaspoons chili powder
- ½ teaspoon garlic powder
- ½ teaspoon pepper
- 2 cups tomato juice
- 2 cups water
- 1½ cups uncooked elbow macaroni

Directions:
Remember to wash your hands!

1. Brown meat, onion, and green pepper in a large skillet. Drain fat.
2. Stir in remaining ingredients.
3. Heat to boiling, stirring occasionally. Reduce heat; cover and simmer about 15 minutes, stirring occasionally.

Helpful Hints: Adding dry macaroni to this mixture makes it very easy and prevents using extra pans. This recipe also works well in an electric skillet, if you choose. Just be sure to stir the mixture occasionally, so the macaroni doesn't have a chance to stick while absorbing the liquid.

Safety Tip: When removing a lid from a hot pan, open lid AWAY from you. The steam will escape out the back and will be less likely to burn.

Nutrition Facts
Serving Size (211g)
Servings Per Container 6

Amount Per Serving	
Calories 280	Calories from Fat 70
	% Daily Value*
Total Fat 8g	12%
Saturated Fat 3g	14%
Cholesterol 80mg	8%
Sodium 360mg	15%
Total Carbohydrate 26g	9%
Dietary Fiber 2g	8%
Sugars 4g	
Protein 20g	
Vitamin A 15% •	Vitamin C 35%
Calcium 2% •	Iron 20%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

For more information about this and other fun recipes: contact your county extension office or visit the Web site at *www.kidsacookin.ksu.edu*, or e-mail *kidsacookin@ksu.edu*.

This institution is an equal opportunity employer. This material was funded by USDA's Food Stamp Program through a contract awarded by the Kansas Department of Social and Rehabilitation Services. The Food Stamp Program provides nutrition assistance to people with low income. To find out more, contact your local SRS office or call 1-800-221-5689.

Humpty Dumpty's No "Fall" Snack

2 C. mini pretzels
2 C. chocolate graham cracker cookies
1 C. mini marshmallows
1 C. peanut butter chips
1 C. mini chocolate chips

Mix together and store in a gallon sized plastic bag or in a sealed container.

Miss Muffet's Merry Mix

2 C. Apple Cinnamon O's cereal
1 C. assorted dried fruit mix
1 C. yogurt covered raisins
1 C. granola pieces

Mix well. Store in well sealed container

Appendix D—Sample of EFNEP Lesson Handouts

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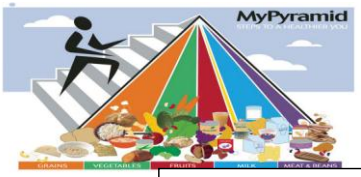
REMEMBER: READ YOUR NUTRITION LABELS!



[redacted]

MY WEEKLY SHOPPING LIST:

BUDGET:_$_____

FRUITS/VEGETABLES:	HOW MUCH OF IT?	COUPON?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

GRAINS:	HOW MUCH OF IT?	COUPON?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

MEAT & BEANS:	HOW MUCH OF IT?	COUPON?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

MILK/CHEESE/DAIRY:	HOW MUCH OF IT?	COUPON?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Appendix E—EFNEP Promotion Postcard and Sample Lesson

JOIN US!

EFNEP

EFNEP: **E**xpanded **F**ood and **N**utrition **E**ducation **P**rogram

EFNEP is a family based education program that provides tips for value shopping, food safety, mealtime, and other valuable information! By completing the **FREE** lessons, participants will earn a completion certificate, cookbook, and better family nutrition. COME CHECK IT OUT!

Limited Space!

Sample Lessons:
Portion Distortion
Shop 4 LESS
Fix it SAFE
Meal Time Mania
Being Active with KIDS
Eating Out: HEALTHY
Choose, Plan, DO!

NEXT CLASS:
· Beginning early June through beginning of August ·
· Evening Times · Child Care Provided ·

FREE · EDUCATIONAL COOKING DEMOS· FAMILY TIME TIPS

For more information:
Melissa Taylor
785-537-6350 or
mntaylor@ksu.edu

Sample Lesson

- Introduction Game
- Review From Previous Week
- Lesson Topic
  - Movement Activity
  - Handouts
- Recipe/Group Cooking
- Discussion/Review of Material

Appendix F—EFNEP Behavioral Checklist

Expanded Food and Nutrition Education Program

EFNEP Eating Right Checklist

PA's Name: _____ PA's ID # _____ Date: _____

Home Maker's Name: _____ ☐ Entry ☐ Exit Client's ID #: _____

☐ Check if Interview

This is a survey about ways you plan and fix foods for your family. As you read questions, think about the recent past. This is not a test. There are no wrong answers. If you do not have children, just answer the questions for yourself.

For these questions, think about how you usually do things. Please put a check in the box that best answers each question.	(1) Never	(2) Seldom (Almost Never)	(3) Some-times	(4) Most of the time	(5) Almost Always
(1) How often do you plan meals ahead of time?	☐	☐	☐	☐	☐
(2) How often do you compare prices before you buy food?	☐	☐	☐	☐	☐
(3) How often do you run out of food before the end of the month?	☐	☐	☐	☐	☐
(4) How often do you shop with a grocery list?	☐	☐	☐	☐	☐
(5) This question is about meat and dairy foods. How often do you let these foods sit out for more than two hours?	☐	☐	☐	☐	☐
(6) How often do you thaw foods at room temperature?	☐	☐	☐	☐	☐
(7) When deciding what to feed your family, how often do you think about healthy food choices	☐	☐	☐	☐	☐
(8) How often do you eat or prepare foods without adding salt?	☐	☐	☐	☐	☐
(9) How often do you use the "Nutrition Facts" on the food label to make food choices?	☐	☐	☐	☐	☐
(10) How often do your children eat something in the morning within two hours of waking up?	☐	☐	☐	☐	☐
(11) How often do you eat meals or snacks with one or more family members?	☐	☐	☐	☐	☐

Appendix G—EFNEP 24-Hour Recall Form

Expanded Food and Nutrition Education Program

Name: _____

Date Taken: _____

Check which food record:

Pregnant: ☐ Yes ☐ No

Nursing: ☐ Yes ☐ No

☐ Entry

☐ Exit

Taking Nutritional Supplements: ☐ Yes ☐ No

If yes, list type: _____

Activity Level: ☐ Less than 30 min. ☐ 30-60 minutes. ☐ More than 60 min.

Amount spent on food last month: _____

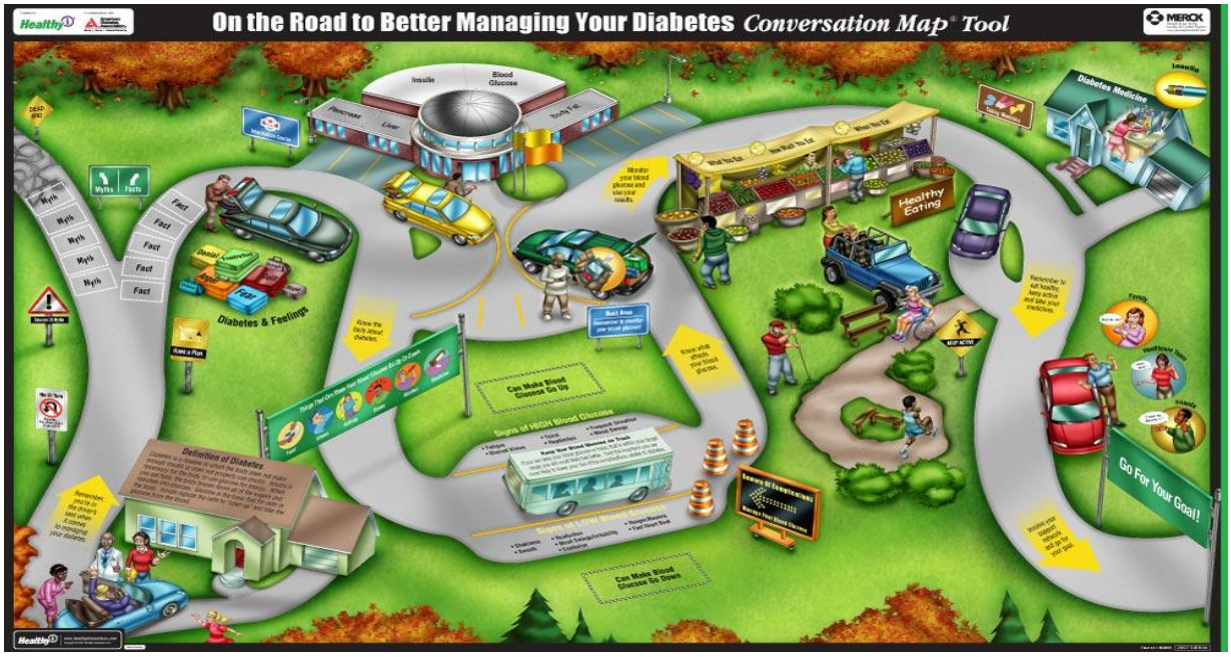
Meal type:
1 = Morning
2 = Mid-Morning
3 = Noon
4 = Afternoon
5 = Evening
6 = Late Evening

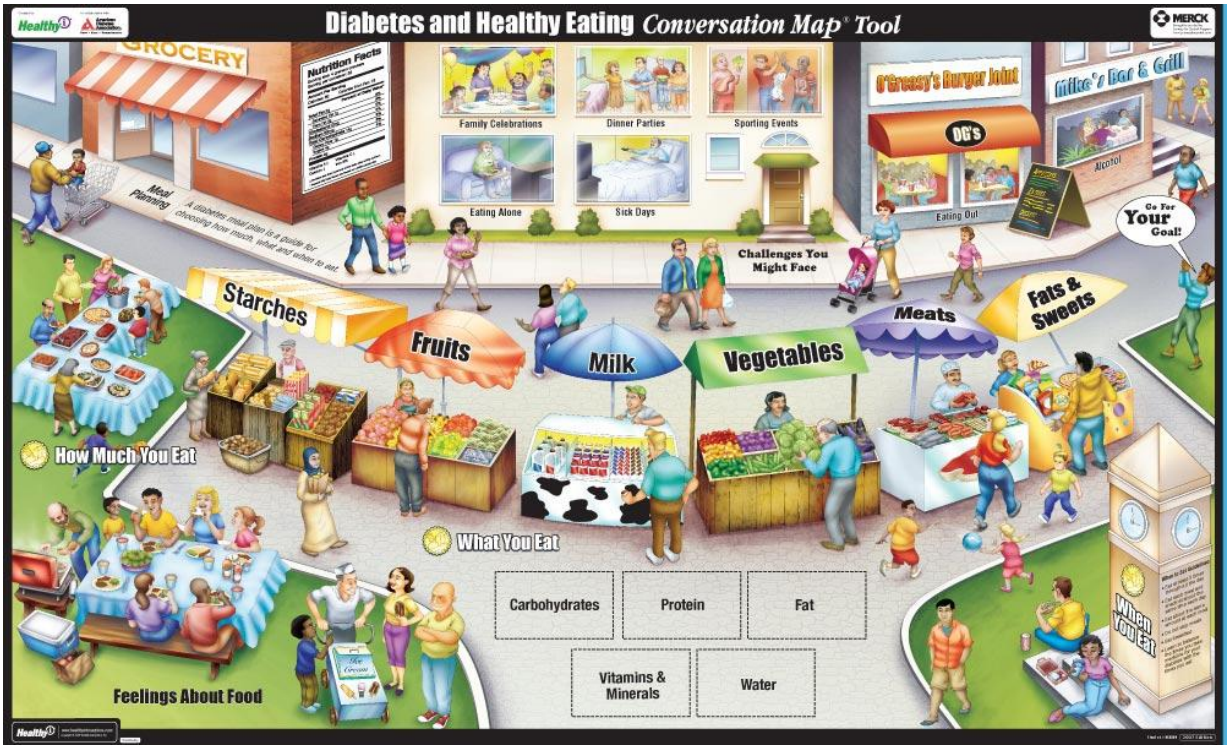
Serving Abbreviations:
Tablespoon = TBSP
Cup = c
Teaspoon = tsp
Pound = lb
Ounce = oz
Slice = sl

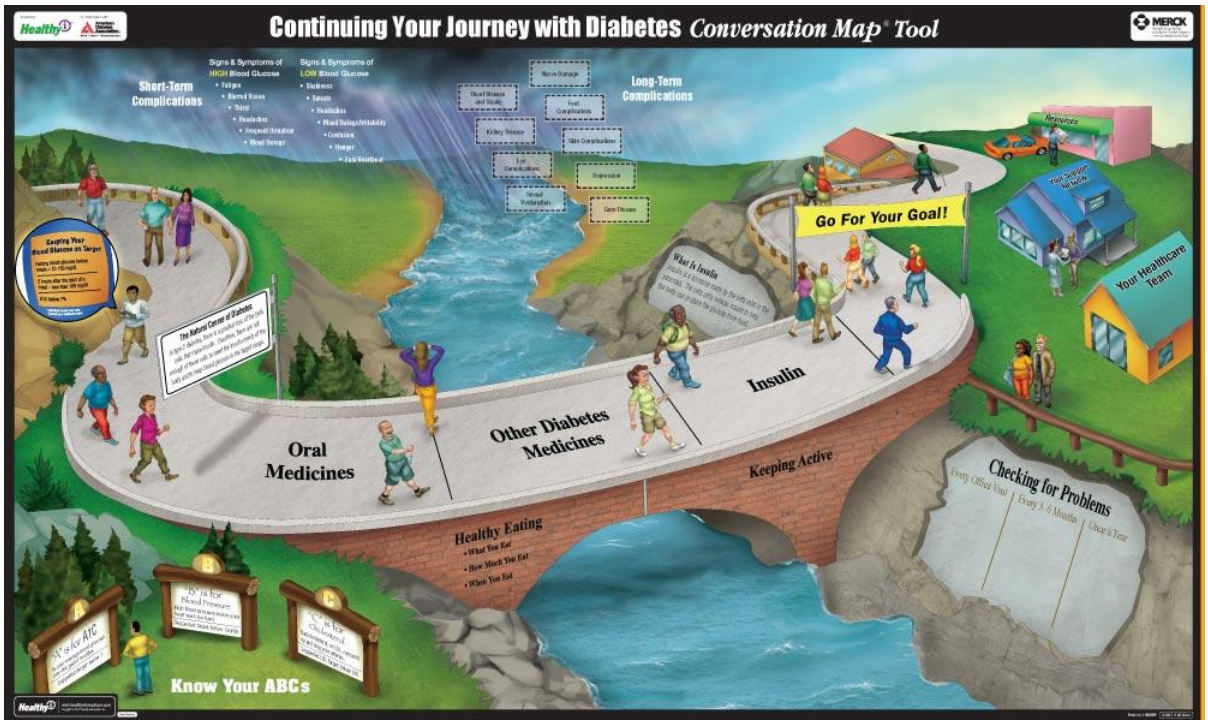
What did the client eat and drink in the last 24 hours? (be thorough)

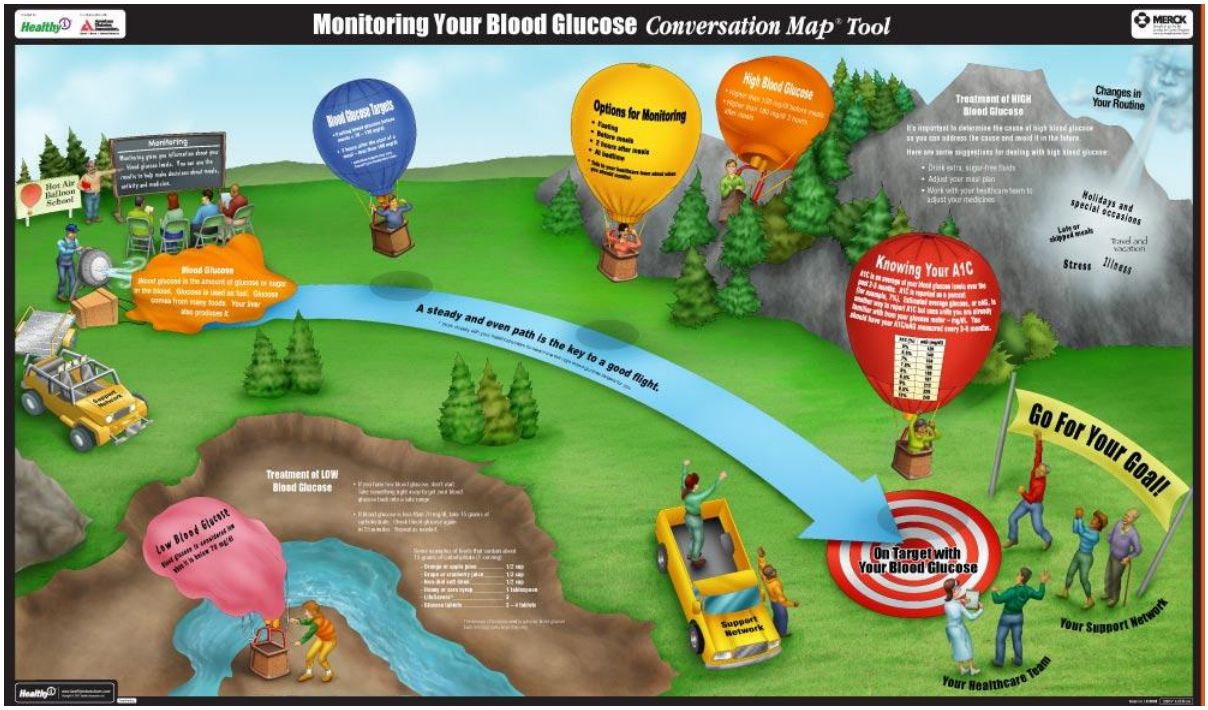
Foods and Beverages consumed. Described in detail. List on food per line.	Amount Eaten	Meal Type

Appendix H—U.S. Diabetes Conversation Maps Program Materials






Continuing Your Journey with Diabetes Conversation Map® Tool
Short-Term Complications
Signs & Symptoms of HIGH Blood Glucose
Signs & Symptoms of LOW Blood Glucose
Long-Term Complications
Go For Your Goal!
Your Healthcare Team
Insulin
Other Diabetes Medicines
Oral Medicines
Keeping Active
Healthy Eating
Checking for Problems
Know Your ABCs


Monitoring Your Blood Glucose Conversation Map® Tool
Blood Glucose Targets
Options for Monitoring
High Blood Glucose
Treatment of HIGH Blood Glucose
Changes in Your Routine
Knowing Your A1C
A steady and even path is the key to a good flight.
Go For Your Goal!
On Target with Your Blood Glucose
Treatment of LOW Blood Glucose
Low Blood Glucose
Your Support Network
Your Healthcare Team


Caring for Gestational Diabetes Conversation Map® Tool
Concerned
Excited
Denial
Happy
Angry
Finding Out You Are Pregnant
Finding Out You Have Gestational Diabetes
Feelings
Risks of Gestational Diabetes
Risk to the mother:
Risk to the baby:
Risks to both the mother and the baby:
Gestational Diabetes
You are not alone. When women are pregnant, the placenta produces hormones that work against insulin. With gestational diabetes, your pancreas, which produces insulin, can't meet the demand.
Blood Glucose Targets
Exercise
Monitoring
Meal Plan
Medicines
Visit Your Obstetrician
Caring for Gestational Diabetes
Your Healthcare Team
Your Support Network
Planting the SEEDS for the health of you and your family.
Checking for Diabetes
Becoming Pregnant Again
Eat Well and Exercise Regularly
Risk of Type 2 Diabetes
Symptoms of Diabetes
What to Expect After Pregnancy