Master of Public Health Field Experience Report

EDUCATING RILEY COUNTY SENIORS IN BASIC NUTRITION

by

EMILY SPERRY
MPH Candidate

submitted in partial fulfillment of the requirements for the degree MASTER OF PUBLIC HEALTH

Graduate Committee:
Dr. Richard Rosenkranz
Dr. Mark Haub
Dr. Sara Rosenkranz
Dr. Linda Yarrow

Field Experience Site:
Riley County Extension Office
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Field Experience Preceptor:
Virginia Barnard, MPH, CBE

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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EMILY SPERRY

2017
Summary

The average age of the population of the United States continues to increase. Older adults are one group of people that are often missed when programs are developed for nutrition. Even though they largely consume food that younger and middle-aged adults do, there are specific things to keep in mind when choosing food for an older adult. There are certain nutrients that they need and others that may cause medical complications if they are consumed in large amounts. The purpose of this project was to develop and present a six-week course in basic nutrition to an older audience with the hopes of educating them on small changes they can make that can lead to a higher quality of life. A pre-assessment and a post-assessment were used to determine if the program had an impact on participants.

Subject Keywords: nutrition, older adults, food safety, shopping tips, proportions, labels
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Chapter 1 - Field Experience Scope of Work

My field experience was completed in conjunction with the Riley County Research and Extension Office in Manhattan, Kansas during the Spring of 2016. I completed a total of 180 contact hours.

The Riley County Research and Extension Office is part of a larger network of Extension Offices that spread throughout the state of Kansas. K-State Research and Extension serve all 105 counties in Kansas¹, and provide research on a variety of topics, including agriculture, horticulture, the 4-H program, community development, youth development, and Family and Consumer Sciences.²

In a broader sense, the Cooperative Extension was created in 1914 in order to provide information to rural and urban areas collected in research at land-grant universities. In the beginning, the Extension addressed rural and agricultural issues, as half of the American population lived in rural areas and a third were involved in farming.³ With the changing culture in the last century, the Extension also had to change. Now, only 17 percent of Americans live in rural areas with less than 2 percent of Americans farming. Because the majority of the population now lives in cities and suburbs, as well as working in industries other than farming, the Extension had to reevaluating the areas of research and information. Overall, the Cooperative Extension is focused on improving the lives of the greater population.

I completed my field experience under the guidance of Virginia (Ginny) Barnard. Ms. Barnard is the designated Family and Consumer Sciences Agent for the Riley County Research and Extension Office. She focuses on developing and implementing educational programs focused around food and nutrition, food safety, health and safety, and indoor environments. She also completed her Master’s in Public Health from Kansas State in 2006.

While working with Ms. Barnard, I was tasked with creating and delivering a 6-week nutrition program at the Riley County Seniors’ Service Center focused on basic nutrition for older adults. The Riley County Seniors’ Service Center provides programs for older adults on a variety of topics, including health and wellness, personal growth,
Proper Nutrition and Aging

Proper nutrition for older adults is a growing concern in the United States, which is driven by the overall aging of the population. Over the last 100 years, the proportion of adults 65 years old and older has gradually increased, reaching a high in the 2010 census. The rate of adults 65 years old and older also grew quicker than the overall population from 2000 to 2010. We are now in an environment where there are more adults 65 years old and older than in any time in history. This group of adults require different focuses in nutrition and wellness, which is the primary reason I wanted to work with them. Many times, nutrition education focuses on the general public or on specific groups, such as pregnant women, infants, and children. There are only a handful of basic nutrition programs focused on senior adults, which is why I wanted to try to better educate the seniors in Riley County.

As we age, our bodies may experience a change in makeup. This means that we may see a loss in muscle mass, increased frailty, and a decrease in metabolism. Even though less calories are necessary to prevent weight gain, the body still needs nutrients to perform properly. The best way to get nutrients is through food, therefore as we age, we need to focus on nutrient dense foods. One way to combat a decrease in metabolism is to use the “calories in, calories out” method. This basic method helps to maintain a proper weight.

We also know how important it is to be at a proper weight. It is extremely important for older adults to maintain a proper weight because many health issues may be avoided when one is at an ideal weight. Being overweight can lead to an increased risk of type 2 diabetes, heart disease, high blood pressure, and other ailments. Following a proper diet may help manage any chronic diseases that an older adult already has. It is important for older adults to continues physical activity, such as weight bearing exercises, as they are able. It is also important for older adults to not become underweight. There are many issues that may cause one to become underweight, such as not being as interested in eating, not having enough to eat, not
getting the proper nutrients, or having an illness that prevents hunger or proper nutrient absorption. It is important for older adults to avoid becoming too underweight, which could stress the body and organ systems more.\textsuperscript{6}

The average sodium intake in the United States is higher than recommended.\textsuperscript{8} Even though most foods have sodium naturally, most of the sodium consumed in the United States is from sodium added to foods. This added sodium can be added during processing or added after the food is cooked.\textsuperscript{9} High levels of sodium can be dangerous for everyone, but older adults may see worse consequences to high sodium intake due to a decrease in efficiency of organs. Older adults are more susceptible to high blood pressure compared to younger age groups because there is an increased risk of high blood pressure as we age.\textsuperscript{10} As of 2014, 10.8\% of adults age 20-44 had high blood pressure, 41.6\% of adults age 45-64 had high blood pressure, and 63.8\% of adults age 65 and older had high blood pressure. High blood pressure can lead to many issues, such as heart failure, aneurysms, kidney failure, vision problems or blindness, heart attacks, and strokes.\textsuperscript{10}

Many older adults are on a fixed income, and it is important to be able to afford the basics in life, such as food, water, warmth, shelter, safety, and security.\textsuperscript{11} Maslow’s Hierarchy of Needs lays out just how important being able to have the basics in life are to psychological health and well-being.\textsuperscript{11} The foundation of survival is having the most basic need met, and it is the primary reason for motivation in life. The basic needs, according to Maslow are split into two categories: physiological needs and safety needs. Physiological needs include food, water, warmth, and rest. Safety needs include security and safety of the body, home, and property.
As the figure shows, food is a basic need for everybody. When one is on a fixed income, it may be difficult to get the basics such as food and shelter. It is important for older adults to be able to know what resources are available in order to obtain the proper amounts of food that they need. There are many resources that are underutilized at both a national and local level.

As mentioned above, safety is also a very important basic need. Foods may taste different due to changes in senses (taste and smell), which may lead to decrease desire for foods once considered favorites. Having a good sense of smell can also keep us safe. Most of the deaths due to foodborne illnesses in the United States are children or older adults due to compromised immune systems. There are many reasons that older adults are more susceptible to falling ill to foodborne illnesses. First, as the body ages, organs may not be efficient as they once were. The body may take longer to rid the body of waste, or the digestive system may hold onto foods for a longer period of time. Second, older adults are also more likely to be diagnosed with a chronic condition, which may weaken their immune system. Third, with a decreased sense of smell and taste, it may be more difficult to identify food which has gone bad.
Chapter 2 - Learning Objectives

There were many learning objectives that I created with Ms. Barnard’s help. First, I wanted to understand how to organize and implement a nutrition program to an underserved audience. As previously stated, older adults experience many life changes and are often overlooked as a population who needs help adjusting. There are not many programs that are specific for older adults to help them better understand basic nutrition.

Secondly, I wanted to identify recruitment methods or ways to reach a target population. Ms. Barnard was a big help to finding the best location to deliver the program. She works with many different organizations in Riley County, and she knew just the place for me to contact. I was aware of the Riley County Seniors’ Service Center prior to presenting my program there, but I was unaware of the totality of what they provided for the community. Following my contact with the head of the Riley County Seniors’ Service Center, I created a flyer that helped to recruit a group of older adults each week.

Third, I wanted to recognize and implement methods to keep participants motivated and engaged. I know we all learn in different manners (visual, audio, hands-on, etc.), and from years of lecture attendance, I know that it is difficult to stay engaged during a long lecture. During my weekly presentations, I made sure to stop after a couple of slides to ask questions, such as current behaviors around the topic for that week, which helped to keep the groups focused on the overall message. Throughout the six weeks, I maintained an average of 12 participants. I was not confident that I would have people return the second week, but the only absences from week to week were from illnesses or prior engagements.

Fourth, I wanted to evaluate program success and future implementation using pre- and post-assessments created based on material presented during the duration of the program from program participants and center partners. As mentioned above, attendance was fairly consistent from week-to-week, and participants were excited to learn what we would be covering that week. The assessment I created helped participants to preview what would be covered over the six weeks. Also, the results from
the pre-assessment were able to be compared to the post-assessment to see if the material was retained. I created all of the questions by taking the lessons and finding the main messages that I wanted participants to take away.

Last, I wanted to gain a better overall understanding of community-based public health programs. Before this program, I knew there were national community-based programs, but I did not know how successful they would be in a smaller setting. I was also unaware of the scope of what the extension office did locally to help educate the population of Riley County. For a trained nutritionist, some of what I presented seemed like common sense, and some of the participants shared that they thought it was common sense, but others were happy to learn new things about nutrition. It was also a good way to help dispel some myths behind information that participants may have thought were correct. There are a lot of "common knowledge" facts that are not entirely correct, and public health programs are just one of many ways in which information can be corrected. Ms. Barnard also advised me to have a "share table" at each session that participants could bring information in that they wanted to share with others. Ms. Barnard advised me from the beginning that I may have quite a few questions that we could not answer due to them being medically specific.

**Activities Performed**

The first activity that was performed for my project was to create a flyer for recruitment with help translating material into Spanish based on the target population. With any program, participation is key, and one of the best ways to spread the word about an event is through flyers. Ms. Barnard helped me to get the flyer completed and distributed. I did not translate the flyer into Spanish because the target population for the program did change from the Flint Hills Community Clinic to the Riley County Seniors' Service Center. The population at the Seniors' Service Center primarily speaks English, so there was no need for the translation anymore.

The second activity was to get feedback from the target population to determine what kind of information they would find the most helpful. Again, with the target population change, this activity was not necessary. I did work with Ms. Barnard to determine a good outline for the program, and I worked with the program director of the
Seniors’ Service Center to confirm that the program materials would be beneficial for the clients.

Third, I had to prepare, organize, and conduct a minimum of six nutrition education lessons. I created six lessons that covered nutrition basics, an in-depth look at nutrition labels, an in-depth look at nutrients (such as Vitamin D, Vitamin B₆, Vitamin B₁₂, Folate, Calcium), healthy living, shopping tips, and food safety. Each lesson had a PowerPoint presentation and an interactive piece. Each session lasted at least an hour, depending on the amount of dialogue the lesson stimulated. At the end of each session, participants were given a handout that covered information from the week’s session material. The handouts are included in the Appendix.

Finally, I wanted to evaluate and assess the program design and implementation. This was done by using pre- and post-evaluations, as well as feedback from Ms. Barnard and program directors at the Seniors’ Service Center. A copy of the pre- and post-evaluation form is included in the Appendix. Participants that completed the pre- and post-evaluations were all attendees of the Center, but no other demographic information was collected.

I completed a paired t-test statistical analysis using Excel on pre-assessment average and the post-assessment average for each question. Based on the pre-assessment mean of 3.6, participants had a neutral feeling about the behaviors they were questioned about. They were not overly confident or actively performing the behaviors the lessons were to cover. The post-assessment mean was 4.2 which aligns with a feeling of agreement on the behaviors. There was an overall increase of 0.6 in the mean from the pre-assessment to the post-assessment. Below is a table summarizing the numbers used to run the analysis.

<table>
<thead>
<tr>
<th>Table 2.1 Paired T-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td>Pre</td>
</tr>
<tr>
<td>Post</td>
</tr>
</tbody>
</table>

Based on the results of the t-test (p<0.001), the results are significant. There was a significant change in behaviors of participants before and after the program.
intervention. This shows that participants thought that they were more consistently doing healthy behaviors at the end of the six-week program.

![Comparison of Pre- and Post-Assessment Averages](image)

**Figure 2.1 Graph Comparing Pre-Assessment and Post-Assessment Averages for Each Question**

**Products Developed**

I developed a marketing flyer, pre- and post-evaluations, weekly handouts, and PowerPoint presentations for the program. During the planning process, I thought that phone calls or text reminders for sessions would be helpful to participants. I decided against using reminders because the number of participants remained consistent from week to week. I think that the reminders would have been helpful if there would have been a large drop in attendance from the first week to the second week. Also, the weeks that certain participants could not attend for whatever reason, someone else in the group would grab a handout for them. I would also encourage a question and answer session on the previous week’s material at the beginning of the next session. This gave anyone who missed the previous week the chance to clarify any of the information. The following pages include the PowerPoint slides used throughout the six-week program.
Lesson 1: Nutrition Basics

— Emily Sperry
Kansas State University

About Me
- Received Bachelor's degree in Public Health Nutrition, Spring 2013
- Finishing Master's degree in Public Health
- Love helping people to feel better and to live the best life possible
- Born and raised in Kansas

What I hope you gain from this course:
- Better understanding of overall nutrition
- How to use food labels to make good choices
- Serving sizes vs. portions
- Daily recommendations for nutrients and how they can be useful

What I hope you gain from this course: (continued)
- Vitamins and minerals to focus on
- How to live a healthy lifestyle
- Shopping tips
- Food safety

Pre-evaluation
- Short questionnaire based on current behaviors
- No right or wrong answers

What is a calorie?
- The way to measure the energy that a food item contains
- Daily calorie needs are based on a variety of things
  - Age
  - Gender
  - Physical Activity
### Daily Calorie Needs

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Physically</td>
<td>Moderately Active</td>
</tr>
<tr>
<td>Active</td>
<td>Active</td>
</tr>
<tr>
<td>2,000-2,200</td>
<td>2,200-2,400</td>
</tr>
<tr>
<td>calories</td>
<td>calories</td>
</tr>
<tr>
<td>Not Physically</td>
<td>Moderately Active</td>
</tr>
<tr>
<td>Active</td>
<td>Active</td>
</tr>
<tr>
<td>1,600</td>
<td>1,800</td>
</tr>
<tr>
<td>calories</td>
<td>calories</td>
</tr>
</tbody>
</table>

### Activity Levels: voluntary movements done to burn calories
- Not Active
  - No extra day-to-day activity outside of normal movement
- Moderately Active
  - Walking, dancing, water aerobics
- Active
  - Jogging, singles tennis, swimming laps

### Food Groups
- Grains
- Vegetables
- Fruits
- Protein Foods
- Dairy Products
- Oils
- Solid Fats and Added Sugars

### Grains
- At least half of calories should be whole grains
  - Slice of bread
  - Cup of pasta
  - 3/4 cup cooked rice, pasta, or cereal

### Vegetables
- Try to eat a variety of colors to get all of the different nutrients
  - Large ear of corn
  - 1/2 cup cooked green beans
  - 1/2 cup cooked broccoli

### Fruits
- Apples and pears can provide extra fiber in the skins
  - Ripe strawberry
  - Whole orange
  - 1/2 cup diced fruit
  - Half an orange
  - Half a banana
  - 1/2 cup sliced grapes
Protein Foods
- Try to eat seafood at least twice a week

Dairy Products
- Try to pick low-fat or fat-free choices

Oils
- Use oils instead of solid fats when cooking.

Interactive session
- We are going to guess which of these common household items represent serving sizes.
  - Golf Ball
  - Baseball
  - Deck of cards
  - Half of
  - Four dice
  - Checkbook
  - Large Egg
  - Bicycle Deck of Cards

Two tablespoons?
A Golf Ball!

Three ounces of meat?
A Deck of Cards!
Three ounces of meat?
Palm of Hand!

1-1 ½ ounces of cheese?
First Finger! 4 Dice!

One teaspoon margarine or oil?
Tip of First Finger!

3 ounces of baked or grilled fish?
A Checkbook!

One cup cooked vegetables, salad, or baked potato?
A Baseball!

Half cup fruit, beans, rice, noodles, or ice cream?
Half of a Baseball!
One pancake or tortilla? A CD or DVD!

Quarter cup of raisins? An Egg!

Next Week: Reading Food Labels & How to Make The Most of Them

Thank you for coming! See you next week!
Lesson 2: Nutrition Labels

Emily Sperry
Kansas State University

Nutrition Facts Label

- Contains information about food, such as fat, sodium, fiber, and more
- Makes it easier to compare foods to choose the healthier option
- Food labels can be used as another tool to plan a healthy, balanced diet

Breaking Down the Nutrition Label

Label Basics
- Serving size
- Servings per container
- Calories per serving
- Calories from Fat
- Total Fat
- Saturated Fat
- Trans Fat
- Cholesterol
- Sodium
- Potassium
- Total Carbohydrate
- Dietary Fiber
- Sugars
- Proteins
- Vitamins & Minerals
- Vitamin A
- Vitamin C
- Calcium
- Iron

Serving Size
- The Nutrition Facts label includes information based on ONE serving, but many packages include more than one serving
- The top of the label includes the serving size and the number of servings per container
- When comparing products, make sure the serving sizes are the same

Figure 2.8-2.12 Lesson 2 PowerPoint Slides
**Calories**

- Again, the calories represented on the label include the number of calories in one serving.
- If more than one serving is eaten, the calories must be adjusted.
- Fat-free = calorie-free
- Lower fat items may contain the same amount of calories as full-fat versions.

**General Guide to Calories**

- Low
  - 40 calories or less per serving
- Moderate
  - 100 calories per serving
- High
  - 400 calories per serving

**Fat**

- As part of a balanced diet, saturated fat, trans fat, cholesterol, and sodium should be limited.
- The American Heart Association recommends limiting saturated fat to 11 grams/day, sodium to 1500 mg, and a little trans fat as possible.
- Certain chronic diseases are tied to consuming too much of the above nutrients.

**Unsaturated Fats**

- Even though it is not required by the FDA, some food labels include unsaturated fats.
- This includes polyunsaturated and mono-unsaturated fats.
- Consuming unsaturated fats instead of saturated or trans fats may help lower blood cholesterol.
- Sources of unsaturated fats include fish, nuts, avocado, and liquid vegetable oils.

**Carbohydrates**

- The carbohydrate section of the label includes two subsections, dietary fiber and sugars.
- It is important to get the recommended amount of fiber daily.
- Limit added sugars (sucrose, glucose, fructose, corn or maple syrup) which add calories but not other vitamins and minerals.
- These can be found on the ingredients list.
- Wholesome carbohydrates:
  - Look for whole wheat, brown rice, or whole oats first on the list.

**Protein**

- In the American diet, protein is usually plentiful.
- Protein does not always come from the healthiest sources.
- Make protein choices that are lean, low-fat, or fat-free.
Vitamins & Minerals

- Most Americans also do not get the recommended amounts of vitamins and minerals on a daily basis through diet alone.
- The vitamins and minerals required to be on the label can help decrease certain ailments.
- Calcium helps to reduce the risk of osteoporosis.
- Iron & vitamin C.

Percent Daily Value (%DV)

- The %DV is based on a 2,000 calorie diet.
- If you consume less than 2,000 calories per day, your %DV will be higher than the one listed.
- If you consume more than 2,000 calories per day, your %DV will be lower than the one listed.
- Even if the %DV is not the exact amount for you, it is a good estimate to gauge where you are throughout the day.

Quick Guide:
- <5% or less = LOW in that nutrient.
- 20% or more = HIGH in that nutrient.

Ingredients List

- The ingredients in a food are required to be listed largest to smallest, based on the amounts by weight.
- The list must include all ingredients, additives, spices, flavors, preservatives, and coloring agents.

Interactive Session

- We are going to guess which of these statements matches the labels on the sheets.

Very high source of cholesterol but a low source of sodium?

Large Egg!

High source of dietary fiber?

Apple!
The fat in one serving makes up 25% of your Daily Value?

Peanut Butter!

This food label includes the optional amounts of unsaturated fats!

Tuna!

A one ounce serving contains 110 calories?

Pretzels!

One serving includes nearly 10% of the Daily Value for carbohydrates?

English Muffin!

This is a good source of calcium?

String Cheese!

A serving of 5 spears provides nearly 10% of the Daily Value of fiber?

Asparagus!
Lesson 3: A Focus on Nutrients

Emily Sperry
Kansas State University

Nutrients

Five (or 6) main categories:
1. Proteins
2. Carbohydrates
3. Fats
4. Vitamins & Minerals
5. Water

Proteins

- "Body's building blocks"
- Build and repair tissue
- Help fight infection
- Used for extra energy
- Good sources:
  - Seafood
  - Lean meat
  - Poultry
  - Eggs
  - Beans and peas
  - Soy products
  - Unsalted nuts and seeds

Carbohydrates

- Main source of energy for the body
- Two types
  - Simple: fruits, vegetables, milk products, sugar, honey, syrup, and sugar used in candy and soda
  - Complex: breads, cereals, pasta, rice, beans and peas, and starchy vegetables (potatoes, green peas, and corn)
  - Fiber (complex carbohydrate)
- In foods that come from plants: fruits, vegetables, nuts, seeds, beans and whole grains

Fats

- Give you energy
- Help to promote feeling full
- Categories of fats:
  - Monounsaturated
  - Polyunsaturated
  - Saturated
  - Trans fats (trans fatty acids)

Unsaturated Fats

- Monounsaturated:
  - Canola oil, olive oil, peanut oil, safflower oil
  - Avocados, peanut butter, some nuts and seed
- Polyunsaturated:
  - Corn oil, soybean oil, flaxseed oil, sunflower oil
  - Fatty fish, walnuts, some seeds (sunflower seeds)
  - Liquid at room temperature
Saturated Fats
- Saturated:
  - Palm oil, coconut oil
  - Red meat, milk, butter, regular cheeses, pizza,
    grain-based and dairy desserts
- Trans Fats (trans fatty acids)
  - Biggest sources are store-bought baked goods and
    fast food
  - Stick margarine, vegetable shortening
  - Solid at room temperature

Vitamins & Minerals
- There are multiple vitamins that the body needs to
do many tasks:
- Help body to resist infection
- Keep nerves healthy
- Help blood to clot properly
- Helps the body pull enough energy from food
- Following the Dietary Guidelines will ensure that
  you are able to get the majority of vitamin needs
  from food

Vitamins
- Important vitamins:
  - Vitamin A
  - Vitamin D
  - Vitamin E
  - Vitamin K
  - Vitamin C

- B Vitamins
  - Thiamine
  - Riboflavin
  - Niacin
  - Pantothenic acid
  - Biotin
  - Folate
  - B12
  - B6

Minerals
- Important Minerals:
  - Iodine
  - Fluoride
  - Calcium
  - Magnesium
  - Potassium
  - Needed in smaller amounts

Important Vitamins & Minerals

<table>
<thead>
<tr>
<th>Vitamin D</th>
<th>Folate</th>
<th>Calcium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty fish, fish liver oils, fortiﬁed milk, fortiﬁed cereals</td>
<td>Dark-green leafy vegetables (spinach, beet and peas), oranges and orange juice, fortiﬁed flour and cereals</td>
<td>Milk and milk products, some tofu, dark-green leafy vegetables, soybeans, fortiﬁed foods</td>
</tr>
</tbody>
</table>

Vitamin B1
Fortiﬁed cereals, whole grains, liver, fortiﬁed soy-based meat substitutes

Vitamin B12
Meat, ﬁsh, poultry, railk, fortiﬁed cereals

Important Vitamins & Minerals: Daily Values

<table>
<thead>
<tr>
<th>Age</th>
<th>Men</th>
<th>Vitamin B12</th>
<th>Vitamin B12</th>
<th>Folate</th>
<th>Calcium*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>600-8,000 IU</td>
<td>1.7 mg</td>
<td>2.4 mg</td>
<td>400 mcg</td>
<td>1,000 mg</td>
</tr>
<tr>
<td>Age 71+</td>
<td>800-1,000 IU</td>
<td>1.7 mg</td>
<td>2.4 mg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
</tbody>
</table>

Women

<table>
<thead>
<tr>
<th>Age</th>
<th>Men</th>
<th>Vitamin B12</th>
<th>Vitamin B12</th>
<th>Folate</th>
<th>Calcium*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 50-70</td>
<td>600-8,000 IU</td>
<td>1.5 mg</td>
<td>2.4 mg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
<tr>
<td>Age 71+</td>
<td>600-8,000 IU</td>
<td>1.5 mg</td>
<td>2.4 mg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
</tbody>
</table>
Water
- Consuming enough water provides many benefits:
  - Proper food digestion
  - Absorbing nutrients from food
  - Helps to get rid of waste
  - Try to drink water throughout the day
  - Rough estimate for intake needs:
  - Take body weight and divide in half
  - The number is the amount of water you need in ounces.

Interactive Session
We are going to take a short quiz over today's content!

True or False?
You want to eat the recommended amounts of vitamins and minerals daily. True!

What does the body use as its main source of energy?
- a. Fats
- b. Carbohydrates
- c. Proteins
  - b. Carbohydrates

True or False?
You want to eat the recommended amounts of vitamins and minerals daily. True!

Next Week: A Healthy Lifestyle
Lesson 4: Healthy Living

Metabolism
- How your body gets energy from food
- This slows with age
- Because metabolism slows, your body uses less energy
- You need less food to make the energy the body needs

“Calories In, Calories Out”
- The more calories you eat, the more active you need to be
- What happens if you eat more than what your body needs?
- What happens if you eat less than what your body needs?
- What should you do if you need the same amount of nutrients, but you also need less calories because your body needs less food?

Nutrient-Dense vs. Calorie Dense
- Nutrient dense: foods that give you tons of nutrients without a lot of calories
- Calorie dense: foods that are high in calories for the amount of food
- They may or may not have helpful nutrients
- “Empty calories”: high calorie foods with little nutritional value

This or That?
- 4 oz. hamburger patty, extra lean ground beef
  - 167 calories
- 4 oz. hamburger patty, regular ground beef
  - 235 calories

This or That?
- Large apple, 8 oz.
  - 110 calories
- Slice of apple pie, 1/8th of 9” pie
  - 356 calories

Figure 2.16-2.18 Lesson 4 PowerPoint Slides
SuperTracker

**Tracking**
- Writing down what you eat is a great way to track.
- There are many different ways to track what you eat:
  - Notebook or food journal
  - Phone application (MyFitnessPal)
  - Websites (supertracker.usda.gov)
  - Printable forms
- If you eat the same things consistently, you may track in the beginning to get a "feel" for what you eat.

**BMI (Body Mass Index)**
- Number based on height and weight that can be compared to a chart.
- BMI chart has four categories:
  - Underweight
  - Normal or healthy weight
  - Overweight
  - Obese
  - Morbidly obese

**Balancing Calories**
- It is important to balance calories from eating and drinking with physical activity.
- Track to know!

**Being Active**
- Any amount of activity is good.
- Goal is at least 150 minutes of activity a week.
- Check with your doctor if you want to start an exercise program or have concerns while being active.
- You can be active in a variety of ways: walking, gardening, housecleaning, swimming, and dancing.
- Find what you like to do!
- www.nia.nih.gov/Go4Life

**Water**
- Consuming enough water provides many benefits:
  - Proper food digestion
  - Absorbing nutrients from food
  - Helps to get rid of waste
  - Try to drink water throughout the day
  - Rough estimate for intake needs:
    - Take body weight and divide in half
    - The number is the amount of water you need in ounces.
Figure 2.19-2.20 Lesson 5 PowerPoint Slides
Online Resources
- Iowa State Extension and Outreach
- Plan, Shop, Eat, Recipes
- USDA- Choose MyPlate
- SNAP-Ed Meal Planning
- Academy of Nutrition and Dietetics-EatRight.org

Local Resources
- HyVee
- Home delivery or store pickup
- Prices vary
- Bountiful Baskets Food Co-Op
- Manhattan Friendship Meals
- Downtown Farmer’s Market
- Flint Hills Breadbasket

Next Week: Food Safety and Wrap-Up

Thank you for coming! See you next week!
Why?
- Food related illnesses can be life-threatening
- As you age, it is more difficult to fight off infection
- Health problems can also make it harder to fight infection, like diabetes and kidney disease
- This makes it easier to get sick from eating unsafe foods

Foods to Avoid (From the USDA)
- Raw or undercooked fish, shellfish, meat and poultry
- Refrigerated smoked fish (lox)
- Hot dogs, deli meat, and luncheon meats
- Raw or unpasteurized milk and milk products

Foods to Avoid (From the USDA)
- Soft cheeses made from unpasteurized milk
- Raw or undercooked eggs or egg products
- Raw sprouts
- Unwashed fresh vegetables, including lettuce
- Unpasteurized juices

Taste and Smell
- Senses of taste and smell may change
- Medications can also change those senses
- Need to be extra careful about handling food
- If something does not look, smell, or taste right, throw it out!

Storage
- Make sure to follow the label on any products
- Keep any canned or packaged items in cool, dry locations
- Make sure to check the dates on food before using them
- Use refrigerated leftovers within 3 to 4 days

Figure 2.21-2.23 Lesson 6 PowerPoint Slides
Safety When Cooking

- Clean
- Separate
- Cook
- Chill

Clean

- Wash hands and counter with hot, soapy water before preparing food
- Clean the lids of cans before opening
- Rinse fruits and vegetables under water, but without soap
- Do not rinse raw meat and poultry before cooking
- Keep the refrigerator clean
- Use hot, soapy water to clean bins if there is a spill

Separate

- Keep raw meat, poultry, seafood, and eggs away from foods that won’t be cooked
- This begins in the grocery cart
  - Put raw produce in one part of the cart and the raw meat in another part
  - Use plastic bags the stores provide for raw meats
  - At the checkout, make sure they are not mixed in bags
  - Keep raw meat and produce separate in the refrigerator
  - Keep raw meats lower in the fridge to reduce the chance of the juices dripping onto other foods

Cook

- Use a food thermometer
- Let meats rest to a boil when heating
- Make sure sauces, marinades, soups, and gravy come to a boil when heating

USDA-Recommended Safe Minimum Internal Temperatures

<table>
<thead>
<tr>
<th>All Meats and Seafood</th>
<th>All Ground Meats</th>
<th>Egg Dishes</th>
<th>All Poultry</th>
<th>Hot Dogs and Lunch Meats</th>
</tr>
</thead>
<tbody>
<tr>
<td>145°F (with 3-min rest)</td>
<td>160°F</td>
<td>160°F</td>
<td>165°F</td>
<td>165°F</td>
</tr>
</tbody>
</table>

Chill

- Set your refrigerator to be at 40°F or below
- The freezer should be set at 0°F or below
- Make sure groceries get put away within two hours of purchase or cooking
- In the summer (outside temp of 90°F) refrigerate within one hour
- Leftovers should be placed in covered shallow dishes
- Use within 3 to 4 days
Eating Out

- Do you think about food safety when you eat out?
- Make sure the place is clean
- Don’t be afraid to ask the waiter or waitress how menu items are prepared
- Consider avoiding buffets, especially during slow times of the day
- If you take leftovers home, make sure they get into the refrigerator within 2 hours

Post-Evaluation

- Short questionnaire based on current behaviors
- No right or wrong answers

Thank you for coming!

___
Chapter 3 - Conclusion

Overall, I feel like completing the field experience opened my eyes to another side of public health. It is one thing to complete course work and to learn from textbooks, but being able to do something, such as creating and presenting a program to an underserved population takes it to another level. I do feel that this program was a success.

By using statistical analysis on the answers from the pre- and post-assessments, I feel that this group of participants gained fundamental knowledge they can implement in everyday life. There was a statistical difference in the pre-assessment averages and the post-assessment averages, indicating a larger amount of agreement among participants to the tracked behaviors. Each question’s average agreement to the behavior increased, telling me that more people were familiar with the ideas presented in the program.

The program has a great base, but I feel that improvements could be made to it. The next time I present this, I would include more information on how to implement changes. This would not only lay out how to make changes, but it could also give participants greater amounts of self-efficacy that can make changes and continue healthy behaviors. The assessment did not directly say if the participants were actively making changes, which is something that I would change for next time. If possible, I would change the scale on the pre- and post-assessment to rate where they are in the stages of change. This would clearly determine where participants are in the beginning of the program compared to where they end up at the end of the program.

Even though six weeks is not a long time, I was able to build relationships with the participants of the program. I was excited to see them each week. There were a couple of weeks that we had to wait to get into the room that was set up to present in, and I was able to have meaningful conversations with the group that was focused more on their lives.

I really like to help people and get to know them on a personal level. I am happy that in a career using my Master’s in Public Health to better the lives of others, and this experience taught me that I can still make a differences in an impactful way on a smaller level. I also hope that this program can be used in many other settings to help others.

I have used other programs in the past for research, but I did not know how much work went into them until I went through this process. From start to finish, there are many steps and many people involved just to get a program in front of people. If it were not for Ms. Barnard helping me with ideas and who to get ahold of to make plans to
present, I am not sure if it would have gotten finished. I have a lot of gratitude for public health professional now because of the numerous steps it takes to get information out to the public.

For future presentation of this program, I would like to to a number of things. First, I would like to research what the best colors for older adults are. The handouts provided used quite a few colors, and there are some colors that are easier to read than others. Secondly, I would like to review the literacy levels of the handouts to make them as easy to read to be able to reach and appeal to a larger audience. I would also like to collect demographic data for the group. This would allow me to understand if the program works for all groups (age, socioeconomic status, mental status) or if the presentation would need to be adjusted based on the composition of the group.

Going through this process also allowed me to apply what I had learned in the coursework to real-life situations. From analyzing what to include in my program, learning what the proper amount of information to present in each session, and using theories, to help promote change, to present the information, I would not have been able to do this without the good foundation from the core competency courses.

I am very thankful that I have had the help and support of everyone over the past three year. I would like to thank those in the Department of Food, Nutrition, Dietetics, and Health and the Master of Public Health office, my major professor, Dr. Ric Rosenkranz, my preceptor/mentor, Virginia (Ginny) Barnard, the participants in my program, and anyone that has helped me get to this point. I feel that I am completing this program with the knowledge and experience to find myself in a great place in whatever position I find myself.
References


12. Center for Food Safety and Applied Nutrition. People at Risk of Foodborne Illness - Food Safety for Older Adults. People at Risk of Foodborne Illness. https://www.fda.gov/Food/FoodborneIllnessContaminants/PeopleAtRisk/ucm312705.htm
Appendix

The appendix includes all of the handouts that were used before and during the program. The first page is the marketing flyer that was used to advertise my program. They were distributed at the Riley County Seniors’ Service Center and the Riley County Extension Office. The next handouts are copies of what was given to program participants at the end of each session. They summarize what was covered during that week. I tried to make them a quick, go-to paper for information for serving sizes, common nutrient claims on packaging, vitamin and mineral needs, overall healthy living, shopping tips and resources, and food safety tips (proper cooking temperatures and storage). Finally, I have attached a copy of the pre- and post-evaluation form.
Do you have questions about nutrition and how it affects you?

What’s on My Plate?

What: a 6-week course about nutrition
Where: Riley County Seniors’ Services Center
When: Tuesdays at 9:30am starting April 5

Provided by Riley County K-State Research & Extension
110 Courthouse Plaza, Rm B220
Manhattan, KS 66502
785-537-6350

K-State Research & Extension is an equal opportunity provider and employer.
## Lesson 1: Nutrition Basics

### Daily Calorie Needs

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Physically Active</td>
<td>2,000-2,200 calories</td>
<td>1,600 calories</td>
</tr>
<tr>
<td>Moderately Active</td>
<td>2,200-2,400 calories</td>
<td>1,800 calories</td>
</tr>
<tr>
<td>Active</td>
<td>2,400-2,800 calories</td>
<td>2,000 calories</td>
</tr>
</tbody>
</table>

### What is a calorie?
- the way to measure the energy that a food item contains
- daily calorie needs are based on a variety of things
  - Age
  - Gender
  - Physical Activity

### What are the different activity levels?
- **Not Active:** no extra day-to-day activities outside of normal movement
- **Moderately Active:** walking, dancing, water aerobics
- **Active:** jogging, singles tennis, swimming laps

### Daily Calorie Count Examples for the Daily Calorie Needs

<table>
<thead>
<tr>
<th></th>
<th>1,600 Calories</th>
<th>2,000 Calories</th>
<th>2,600 Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains</td>
<td>5 ounces</td>
<td>6 ounces</td>
<td>9 ounces</td>
</tr>
<tr>
<td>Vegetables</td>
<td>2 cups</td>
<td>2 1/2 cups</td>
<td>3 1/2 cups</td>
</tr>
<tr>
<td>Fruits</td>
<td>1 1/2 cups</td>
<td>2 cups</td>
<td>2 cups</td>
</tr>
<tr>
<td>Protein Foods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood</td>
<td>5 ounces</td>
<td>5 1/2 ounces</td>
<td>6 1/2 ounces</td>
</tr>
<tr>
<td>Meat, Poultry, Eggs</td>
<td>8 ounces/week</td>
<td>8 ounces/week</td>
<td>10 ounces/week</td>
</tr>
<tr>
<td>Nuts, Seeds, Soy</td>
<td>24 ounces/week</td>
<td>26 ounces/week</td>
<td>31 ounces/week</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>4 ounces/week</td>
<td>4 ounces/week</td>
<td>5 ounces/week</td>
</tr>
<tr>
<td>Oils</td>
<td>3 cups</td>
<td>3 cups</td>
<td>3 cups</td>
</tr>
<tr>
<td>Solids Fats &amp; Added Sugars</td>
<td>22 grams</td>
<td>27 grams</td>
<td>34 grams</td>
</tr>
</tbody>
</table>
**Grains:** (one ounce equivalent)
- Slice of bread
- Cup flaked cereal
- 1/2 cup cooked rice, pasta, or cereal
- 6” corn or flour tortilla
- Small (2 1/2”) muffin
- Half an English muffin
  - Remember to get half of calories from **whole** grains!

**Vegetables:** (half cup equivalent)
- Large stalk of celery
- Six baby carrots
- Five broccoli florets
- Small (6”) ear of corn
- 1/2 cup cooked green beans
- Half of a red pepper
  - Try to eat a variety of colors to get all of the different nutrients!

**Fruits:** (half cup equivalent)
- Four strawberries
- Four ounces of 100% fruit juice
- 1/4 cup dried fruit
- Half an 8” banana
- Half of a medium grapefruit
- Sixteen grapes
  - Apples and pears can provide extra fiber in the skins (so make sure to eat them!)

**Protein Foods:** (one ounce equivalent)
- 12 almonds
- One large egg
- 1/4 cup cooked beans
- Tablespoon peanut butter
- 1/4 cup tofu
- 2 tablespoons hummus
  - Try to eat seafood at least twice a week!

**Dairy Products:** (equivalent cup of milk)
- 1 1/2 ounces hard cheese
- 1/3 cup shredded cheese
- 1 cup soy beverage
- 8 ounces yogurt
- 2 cups cottage cheese
- 1 cup pudding made with milk
  - Try to pick low-fat or fat-free choices!

**Oils:**
- 1/2 medium avocado=15 grams oil
- 4 large olives=2.5 grams oil
- 1 tablespoon peanut butter=10 grams oil
- 1 ounce dry nuts=15 grams oil
- 1 ounce sunflower seeds=15 grams oil
- 1 tablespoon mayo=12 grams oil
  - Use oils instead of solid fats (lard or butter) when cooking!

### Measurements Using Common Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two Tablespoons</td>
<td>A Golf Ball</td>
</tr>
<tr>
<td>Three Ounces of Meat</td>
<td>A Deck of Cards or Palm of Hand</td>
</tr>
<tr>
<td>1-1 1/2 Ounces of Cheese</td>
<td>4 Dice or Length of First Finger</td>
</tr>
<tr>
<td>One Teaspoon</td>
<td>Tip of First Finger</td>
</tr>
<tr>
<td>3 Ounces of Baked/Grilled Fish</td>
<td>A Checkbook</td>
</tr>
<tr>
<td>Cup of Veggies, Salad, or Starch</td>
<td>A Baseball</td>
</tr>
<tr>
<td>Half Cup of Fruit, Veggies, or Starch</td>
<td>Half a Baseball</td>
</tr>
<tr>
<td>One Pancake or Tortilla</td>
<td>A CD or DVD</td>
</tr>
<tr>
<td>Quarter Cup of Dried Fruit</td>
<td>A Large Egg</td>
</tr>
</tbody>
</table>
Lesson 2: Nutrition Labels

Food nutrition labels provide a lot of important information in a quick-to-read format.

Nutrition labels include the following information:

- Serving size
- Servings per container
- Calories per serving
- Calories from Fat
- Total Fat
- Saturated Fat
- Trans Fat
- Cholesterol
- Sodium
- Potassium
- Total Carbohydrate
- Dietary Fiber
- Sugars
- Proteins
- Various Vitamins

The first thing to look at is the serving size of the food item, as well as how many servings are in each package.

Second, the label lists the calories per serving and calories from fat.

★ Remember, if you consume the entire package and it has multiple servings, you have to multiply the rest of the label by the number of servings you consume.

These nutrients should be limited, especially saturated fat, trans fat, cholesterol, and sodium.

Get enough of these nutrients, vitamins, and minerals.

Limit added sugar in foods and drinks.

The % Daily Value is based on a 2,000 calorie diet. If the recommended calories for you are lower than 2,000, these values will be larger. If the recommended calorie intake for you is higher than 2,000 calories, these values will be smaller.
<table>
<thead>
<tr>
<th>Common Nutrient Claims and Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calorie-free</strong></td>
</tr>
<tr>
<td><strong>Cholesterol-free</strong></td>
</tr>
<tr>
<td><strong>Enriched or fortified</strong></td>
</tr>
<tr>
<td><strong>Extra lean</strong></td>
</tr>
<tr>
<td><strong>Fat free</strong></td>
</tr>
<tr>
<td><strong>Free</strong></td>
</tr>
<tr>
<td><strong>Good source</strong></td>
</tr>
<tr>
<td><strong>High</strong></td>
</tr>
<tr>
<td><strong>High fiber</strong></td>
</tr>
<tr>
<td><strong>Lean</strong></td>
</tr>
<tr>
<td><strong>Light</strong></td>
</tr>
<tr>
<td><strong>Low</strong></td>
</tr>
<tr>
<td><strong>Low calorie</strong></td>
</tr>
<tr>
<td><strong>Low cholesterol</strong></td>
</tr>
<tr>
<td><strong>Low fat</strong></td>
</tr>
<tr>
<td><strong>Low sodium</strong></td>
</tr>
<tr>
<td><strong>&quot;Percent&quot; fat free</strong></td>
</tr>
<tr>
<td><strong>Reduced</strong></td>
</tr>
<tr>
<td><strong>Salt or sodium free</strong></td>
</tr>
<tr>
<td><strong>Sugar free</strong></td>
</tr>
<tr>
<td><strong>Very low sodium</strong></td>
</tr>
</tbody>
</table>
## Lesson 3: A Focus on Nutrients

### Protein
- “Body’s building blocks”
- Build and repair tissue
- Help fight infection
- Used for extra energy
- **Meatless Mondays**

### Carbohydrates
- Main source of energy for the body
- **Simple**: body can break it down for energy easy (glucose, fructose, sucrose)
- **Complex**: takes the body more work to break down, if it can at all (fiber)

### Fats
- Gives you energy
- Help to promote feeling full
- **Monounsaturated**
- **Polyunsaturated**
- **Saturated**
- **Trans fatty acids**

### Vitamins & Minerals
- Help body to resist infection
- Keep nerves healthy
- Help blood to clot properly
- Helps the body to pull enough energy from food

### Protein Sources
- Seafood
- Lean Meat
- Poultry
- Eggs
- Soy Products
- Beans & Peas
- Unsalted Nuts & Seeds

### Carbohydrates Sources
- **Simple**: fruits, vegetables, milk products, sugar, honey, syrup
- **Complex**: breads, cereals, pasta, rice, beans & peas, starchy vegetables

### Fat Types
- **Monounsaturated Fats**
  - Oils: Canola, olive, peanut, safflower
  - Foods: Avocados, peanut butter, some nuts and seeds

- **Polyunsaturated Fats**
  - Oils: Corn, soybean, flaxseed, sunflower
  - Foods: Fatty fish, walnuts, some seeds (sunflower seeds)

- **Saturated Fats**
  - Oils: Palm, coconut
  - Foods: Red meats, milk, butter, regular cheeses, pizza, grain-based and dairy desserts

- **Trans Fats (trans fatty acids)**
  - Biggest sources are store-bought baked goods and fast food
  - Foods: Stick margarine, vegetable shortening
  - **LIMIT AS MUCH AS POSSIBLE**
**Vitamins & Minerals**
Following the Dietary Guidelines will ensure that you are able to get the majority of vitamin needs from food

<table>
<thead>
<tr>
<th>Vitamin D</th>
<th>Vitamin B₆</th>
<th>Vitamin B₁₂</th>
<th>Folate</th>
<th>Calcium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty fish</td>
<td>Fortified cereals</td>
<td>Meat</td>
<td>Dark-green leafy veggies</td>
<td>Milk &amp; milk products</td>
</tr>
<tr>
<td>Fish liver oils</td>
<td>Whole grains</td>
<td>Fish</td>
<td>Oranges &amp; orange juice</td>
<td>Tofu</td>
</tr>
<tr>
<td>Fortified milk</td>
<td>Liver</td>
<td>Poultry</td>
<td>Fortified flour &amp; cereals</td>
<td>Dark-green leafy veggies</td>
</tr>
<tr>
<td>Fortified cereals</td>
<td>Fortified soy-based meat substitute</td>
<td>Milk</td>
<td>Soybeans</td>
<td></td>
</tr>
</tbody>
</table>

**Daily Vitamin & Mineral Needs**

<table>
<thead>
<tr>
<th></th>
<th>Vitamin D</th>
<th>Vitamin B₆</th>
<th>Vitamin B₁₂</th>
<th>Folate</th>
<th>Calcium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 50-70</td>
<td>600-4,000 IU</td>
<td>1.7 mg</td>
<td>2.4 mcg</td>
<td>400 mcg</td>
<td>1,000 mg</td>
</tr>
<tr>
<td>Age 71+</td>
<td>800-4,000 IU</td>
<td>1.7 mg</td>
<td>2.4 mcg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 50-70</td>
<td>600-4,000 IU</td>
<td>1.5 mg</td>
<td>2.4 mcg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
<tr>
<td>Age 71+</td>
<td>800-4,000 IU</td>
<td>1.5 mg</td>
<td>2.4 mcg</td>
<td>400 mcg</td>
<td>1,200 mg</td>
</tr>
</tbody>
</table>

**Water**

Benefits of water:
- Proper food digestion
- Absorbing nutrients from food
- Helps to get rid of waste

Rough estimate for intake needs:
- Take body weight and divide in half
- The number that you get is the amount to drink each day in ounces
Lesson 4: Healthy Living

**Metabolism**
- How your body gets energy from food
- This slows with age
- You need less food to get the energy your body needs

**“Calories In, Calories Out”**
- The more calories you eat, the more active you need to be
- If you eat more than your body needs, you gain weight.
- If you eat less than what your body needs, you loose weight.
- If you need nutrients, but you also need less calories, you need to eat more nutrient dense foods.

**Nutrient Dense**
Foods that give you tons of nutrients without a lot of calories

Examples: high-quality proteins (chicken, turkey, fish), tomatoes, cabbage, low-fat or fat-free dairy, dark green leafy vegetables, berries & stone fruit

**Calorie Dense**
Foods that high in calories for the amount of food

***These may or may not have helpful nutrients***

Examples: regular dairy products, non-lean meats, vegetable-based oils

**Empty Calories**
High calorie foods with little nutritional value

Examples: potato chips, sugar-sweetened drinks, candy, baked goods, and alcohol

**Water**
Benefits of water:
- Proper food digestion
- Absorbing nutrients from food
- Helps to get rid of waste

Rough estimate for intake needs:
- Take body weight and divide in half
- The number that you get is the amount to drink each day in ounces
Tracking

- Writing down what you eat is a great way to track
- There are many different ways to track what you eat
  - Notebook or food journal
  - Websites (supertracker.usda.gov)
  - Phone application (MyFitnessPal)
  - Printable forms

Balancing Calories

- It is important to balance calories from eating and drinking with physical activity.
- Track to know!
  - One way to know that you are active enough is to track food intake for a few days and see how much you eat and drink

[Diagram showing energy balance between energy in and energy out with states of gain, lose, and maintain]

Remember to visit the Go4Life website to see great resources for physical activity and tracking tools! (www.nia.nih.gov/Go4Life)
Lesson 5: Shopping Tips

1. Plan
- Plan meals and snacks for the week.
- Include meals that will “stretch”
- Make a grocery list.
- Check for sales and coupons in the local paper or online.
- Ask about a loyalty card at your grocery store.

2. Purchase
- Buy groceries when you are not hungry & when you are not too rushed.
- Stick to the grocery list.
- Buy store brands (if cheaper).
- Find and compare unit prices listed on shelves to get the best price.
- Bulk or family packs are often cheaper per unit and can be broken up and frozen to use later
- Buy canned or frozen fruits & vegetables (with no added salt) to get longer shelf lives without losing nutritional value
- Pre-cut fruits and vegetables and individual serving sizes can be convenient, but often cost more

3. Prepare
- Some meal items can be prepared in advance.
- Meal prepping can be useful to plan menu for the week and helps to know if any groceries are needed throughout the week. This allows for quick meals when you may not feel like preparing something & can cut down on fast food meals.
- Double or triple up on recipes
- Freeze meal-sized containers of soups and casseroles or divide into individual portions.
- Try a few meatless meals or no-cook meals, like salads.
- Meatless Mondays
- Incorporate leftovers into a subsequent meal.

Staples
- It is important to have staples and foods that you eat on a regular basis on hand.
- If you are unable to get to the store for whatever reason, you can make meals from the food you have on hand.
- Cereal
- Flour
- Sugar
- Cans of low-sodium soup, fruit, and tuna
- Frozen fruits and vegetables
- 100% fruit juice
- Pasta
- Low-sodium pasta sauce
Online Resources
• Iowa State Extension and Outreach- Spend Smart, Eat Smart
  • Plan, Shop, Eat, Recipes
    ※ http://www.extension.iastate.edu/foodsavings/
• USDA- Choose MyPlate
    ※ http://www.choosemyplate.gov/budget
• SNAP-Ed Meal Planning
    meal-planning-shopping-and-budgeting
• Academy of Nutrition and Dietetics- EatRight.org
    ※ http://www.eatright.org/resources/food/planning-and-prep/eat-right-on-
    a-budget

Local Resources
• HyVee Aisles Online
  • Home delivery—$4.95 for home delivery or free with orders over $100
  • Store pickup—$2.95
    ※ https://www.hy-vee.com/grocery/
• Bountiful Baskets Food Co-Op
    ※ http://www.bountifulbaskets.org/
• Manhattan Friendship Meals
  • Senior Service Center
    ※ 785-587-2462
• Downtown Farmer’s Market
  • Held on three different days and in different locations
  • Accepts EBT cards and provides “Market Match” where community
    members can get $50 worth of tokens for only $25 EBT.
    • Monday: 4 pm-7 pm
      ※ Held in the gated area south of HyVee
    • Wednesday: 4 pm-7 pm
      ※ Held in Cico Park in the gravel lot south of Kimball by ball fields
    • Saturday: 8 am-1 pm
      ※ Held in the parking lot west of Dillards at 3rd and Leavenworth
        ※ http://www.manhattanfarmersmarket.org/home.html
• Flint Hills Breadbasket
  ※ 785-537-0730
  ※ http://breadbasket.manhattanks.org/
# Lesson 6: Food Safety

## Why is it important?
- Food related illnesses can be life-threatening
- As you age, it is more difficult to fight off infection
- This makes it easier to get sick from eating unsafe foods

## Storage
- Make sure to follow the label on any products
- Keep any canned or packaged items in cool, dry locations
- Make sure to check the dates on food before using them
- Use refrigerated leftovers in 3-4 days

## Foods to Avoid:
- Raw or undercooked fish, shellfish, meat and poultry
- Refrigerated smoked fish (lox)
- Hot dogs, deli meat, and luncheon meats
- Raw or unpasteurized milk and milk products
- Soft cheeses made from unpasteurized milk
- Raw or undercooked eggs or egg products
- Raw sprouts
- Unwashed fresh vegetables, including lettuce
- Unpasteurized juices

## 1. Clean
- Wash hands and counter with hot, soapy water before preparing food
- Clean the lids of cans before opening
- Rinse fruits and vegetables under water, but without soap
- Do not rinse raw meat and poultry before cooking
- Keep the refrigerator clean
  - Use hot, soapy water to clean bins

## 2. Separate
- Keep raw meat, poultry, seafood, and eggs away from foods that won't be cooked
  - Put raw produce in one part of the cart and the raw meat in another part
  - Use the plastic bags the stores provide for raw meats
  - At the checkout, make sure they are not mixed in bags
  - Keep raw meat and produce separate in the refrigerator
  - Keep raw meats lower in the fridge to reduce the chance of the juices dripping onto other foods
  - When cooking, keep foods that are ready-to-eat away from foods that are to be cooked
  - Use a different knife and cutting board for produce and raw meats
    - You can also cut up all the produce before the raw meats
  - After you are done with food prep, wash the knife and cutting board in hot, soapy water

## 3. Cook
- Use a food thermometer
  - Insert in the thickest part of the food you are cooking
- Make sure sauces, marinades, soups, and gravy come to a boil when heating

## 4. Chill
- Set your refrigerator to be at 40°F or below
- The freezer should be set at 0°F or below
- Make sure groceries get put away within two hours of purchase or cooking
- Leftovers should be placed in covered shallow dishes
### USDA-Recommended Safe Minimum Internal Temperatures

<table>
<thead>
<tr>
<th>All Meats and Seafood</th>
<th>All Ground Meats</th>
<th>Egg Dishes</th>
<th>All Poultry</th>
<th>Hot Dogs and Lunch Meats</th>
</tr>
</thead>
<tbody>
<tr>
<td>145° F (with 3-min rest)</td>
<td>160° F</td>
<td>160° F</td>
<td>165° F</td>
<td>165° F</td>
</tr>
</tbody>
</table>

### Storing Cold Food

<table>
<thead>
<tr>
<th>Product</th>
<th>Refrigerator</th>
<th>Freezer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eggs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw eggs in shell</td>
<td>3 to 5 weeks</td>
<td>Do not freeze</td>
</tr>
<tr>
<td>Hard-cooked eggs</td>
<td>1 week</td>
<td>Do not freeze</td>
</tr>
<tr>
<td><strong>Salads</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egg, chicken, ham, tuna &amp; macaroni</td>
<td>3 to 5 days</td>
<td>Does not freeze well</td>
</tr>
<tr>
<td><strong>Hot Dogs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opened package</td>
<td>1 week</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td>Unopened package</td>
<td>2 weeks</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td><strong>Luncheon Meats</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opened package or deli sliced</td>
<td>3 to 5 days</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td>Unopened package</td>
<td>2 weeks</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td><strong>Bacon &amp; Sausage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacon</td>
<td>7 days</td>
<td>1 month</td>
</tr>
<tr>
<td>Sausage, raw</td>
<td>1 to 2 days</td>
<td>1 to 2 months</td>
</tr>
<tr>
<td><strong>Hamburger</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2 days</td>
<td>3 to 4 months</td>
<td></td>
</tr>
<tr>
<td><strong>Fresh Beef, Veal, &amp; Pork</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steaks</td>
<td>3 to 5 days</td>
<td>6 to 12 months</td>
</tr>
<tr>
<td>Roasts</td>
<td>3 to 5 days</td>
<td>4 to 12 months</td>
</tr>
<tr>
<td><strong>Fresh Chicken or Turkey</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 2 days</td>
<td>9 months to 1 year</td>
<td></td>
</tr>
<tr>
<td><strong>Soups &amp; Stews</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 to 4 days</td>
<td>2 to 3 months</td>
<td></td>
</tr>
</tbody>
</table>
Pre/Post Evaluation
Date: ______________________
Initials: ____________________

Please choose the best answer to the following questions based on your current behaviors. Use the following scale: 5=Agree Completely, 4=Agree, 3=Neutral, 2=Disagree, 1=Disagree Completely.

1. I am confident that I am eating the correct amount of calories daily. 5 4 3 2 1
2. I know what kinds of food I need to eat on a daily or weekly basis to get the nutrients that I need. 5 4 3 2 1
3. I am familiar with common serving sizes. 5 4 3 2 1
4. Food labels are easy to read, and I know what nutrients are important on the labels. 5 4 3 2 1
5. I use nutritional labels on foods to make decisions on what to eat or what not to eat. 5 4 3 2 1
6. I know what foods are important for healthy fats, protein, and carbohydrates. 5 4 3 2 1
7. I know what vitamins and minerals I need to consume. 5 4 3 2 1
8. I prepare meals without adding salt, fats, or sugars. 5 4 3 2 1
9. I understand the difference between nutrient-dense and calorie-dense. 5 4 3 2 1
10. I know how to lose weight, maintain weight, or gain weight. 5 4 3 2 1
11. I am active on 3 or more days in a week. 5 4 3 2 1
12. I am confident in my ability to obtain and prepare food. 5 4 3 2 1
13. I compare prices (unit price and total price) before making purchases. 5 4 3 2 1
14. I know the correct temperatures that food needs to reach in order to be safe. 5 4 3 2 1