

# Master of Public Health Field Experience Report

## **COMMUNITY NEEDS ASSESSMENTS IN COLLABORATION WITH PUBLIC HEALTH**

by

**EMILY BONILLA**  
MPH Candidate

Submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

**Graduate Committee:**

Dr. Sandra Procter  
Dr. Richard Rosenkranz  
Dr. Paula Peters

**Field Experience Site:**

K-State Research and Extension – Riley County  
May 2015 – November 2016

**Field Experience Preceptor:**

Virginia Barnard, MPH

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2016

## **Summary**

This report will detail a field experience completed at the Riley County - K-State Research and Extension office under the supervision of Family and Consumer Sciences Agent Virginia Barnard, MPH. The scope of work includes time spent as the City of Manhattan Wellness Intern and as the Riley County K-State Research and Extension Nutrition Assistant. As a Wellness Intern, the focus was on worksite wellness, environment and policy, and access to healthy foods through vending. As a Nutrition Assistant, the focus was on community nutrition education targeting low socioeconomic status populations and under-served audiences.

**Subject Keywords:** Riley County Extension, City of Manhattan, Public Health Nutrition, EFNEP, Community Needs Assessment, Worksite Wellness

## Table of Contents

Chapter 1 - Field Experience Scope of Work	
Chapter 2 - Learning Objectives	
Activities Performed	
Chapter 3 - Culminating Experience	
Details of Culminating Experience	
Accountability for Core and Emphasis Area Competencies	
Appendix.....	16
Figure 1: City of Manhattan vending machine taste testing flyer.....	16
Figure 2: City of Manhattan vending machine taste testing survey.....	17
Figure 3: Vending Machine taste testing results chart.....	18
Figure 4: City of Manhattan Health/Wellness Survey Questions.....	20
Figure 5: Email sent to City of Manhattan employees summarizing the Health/Wellness Survey results and notifying them of future action plans.....	28
Figure 6: City of Manhattan Wellness Committee Presentation Outline.....	29
Figure 7: Flint Hills Food and Farm Council initial meeting flyer.....	32
Figure 8: Flint Hills Food and Farm Council meeting table tent.....	33
Figure 9: Social Security Seminar poster for City of Manhattan employees.....	34
Figure 10: City of Manhattan CoreSource Satisfaction Survey.....	35
Figure 11: Hydration flyer for Parks and Recreation summer camps.....	36
Figure 12: Fun Facts flyer for Parks and Recreation summer camps.....	37
Figure 13: July 2015 issue of the City of Manhattan <i>Live Well – Work Well</i> .....	38
Figure 14: August 2015 issue of the City of Manhattan <i>Live Well – Work Well</i> .....	40
Figure 15: September 2015 issue of the City of Manhattan <i>Live Well – Work Well</i> ..	42
Figure 16: November 2015 issue of the City of Manhattan <i>Live Well – Work Well</i> ..	44
Figure 17: Riley County Senior Services Center Yogurt and Kefir PowerPoint.....	46
Figure 18: Riley County Senior Services Center Apples and Squash PowerPoint...	48
Figure 19: Riley County Senior Services Center Health and Wellness PowerPoint..	51
Figure 20: Thrifty Chef Flyer.....	55

## Chapter 1 - Field Experience Scope of Work

My field experience was hosted by the Riley County office of K-State Research and Extension in Manhattan, Kansas from May of 2015 to November of 2016. K-State Research and Extension, short for Kansas State University Agricultural Experiment Station and Cooperative Extension Service, is made up of a statewide network of educators that share unbiased, research-based information and expertise on issues local to Kansas. For over a century, K-State Research and Extension employees have been improving the quality of life and standard of living for Kansans by connecting the university to every county in the state. This is done by spreading knowledge and providing experiences to those of all ages on the topics of agriculture, horticulture, community, family, food, health, and 4-H (K-State Research and Extension, 2016). Riley County Family and Consumer Sciences Agent Ginny Barnard was my mentor throughout my field experience. She received her Master of Public Health degree from K-State, and specializes in the areas of food and nutrition, food safety, health and safety, and indoor environments.

The scope of work for my field experience was based off of the community needs assessment done for Riley County in 2014. Riley County includes the cities of Manhattan, Ogden, Riley, Leonardville, and Randolph, which made up a total population of 75,394 people at the time the assessment was completed (Gregory et. al, 2015). A community needs assessment is done to better understand the needs of individuals, groups, and the community as a whole. The ultimate goal of a community needs assessment, as well as public health, is to improve the quality of life in a community. Each community is unique and an assessment helps to examine the current assets and shortcomings. It allows information to be collected directly from community members to distinguish what needs can take priority over others (Work Group for Community Health and Development, 2016). Listening to the needs of community members gives them a

voice and helps community leaders understand both large and small needs. This helps build community cohesiveness.

Eleven main areas of interest were covered in the Riley County needs assessment. These topics included quality of life, physical health, mental health, social issues, children and youth, education, aging, housing, transportation, infrastructure, and economics and personal finance. A total of 1,126 surveys were completed by Internet, mail, phone, and administration at public meetings (Gregory et. al, 2016).

After analyzing the results of the surveys, seven overarching themes were recognized. The first theme was “high quality of life”. People in Riley County believe that they have a high quality of life. The second theme was “lack of accessible and affordable child care”. Funding for childcare has decreased and 40% of those who completed the survey commented that they believe childcare is not affordable. The third theme was “invisible population with significant needs”. This invisible population is made up of non-English speaking individuals, those with a physical disability or mental illness, those with low incomes, or anyone else who has a sense of being forgotten or pushed aside. This population has significant issues with many of the 11 main topic areas that were in question. The fourth theme was “spirit on community and collaboration”. It was mentioned that the Riley County Council of Social Service Agencies, Kansas State University, and other organizations and businesses are trying to foster a sense of community and collaboration. The fifth theme was “growth”. Riley County is experiencing growth in the community due to K-State expanding and the National Bio and Agro-Defense Facility being built. With this increase in growth, people are worried about an increasing separation between those at the bottom and the top of the socioeconomic hierarchy. The sixth theme was “lack of affordable housing”. This is particularly an issue for students, those with low incomes, and some middle class. It can be an issue for people who rent and people who purchase a home. The seventh and final theme found from the Riley County community needs assessment was “lack of accessible and affordable mental health services”. This was the top concern related to mental health, and it was especially prevalent for the “invisible” population (Gregory et. al, 2016).

One of the most important things I learned from the MPH program, as well as my field experience, is that it is necessary to use a research-based curriculum while conducting public health work. This helps provide the most accurate and appropriate information to the target audience (Yarber et. al, 2015). It is also important to employ multiple approaches toward change because a multi-pronged intervention has been shown to be more effective than implementing any one approach (Amato et. al, 2016).

To improve the health of the public, we work towards systems changes. Systems changes include “efforts that strive to shift the underlying infrastructure within a community or targeted context to support a desired outcome, including shifting existing policies and practices, resource allocations, relational structures, community norms and values, and skills and attitudes” (Peirson et. al, 2011). Three of the most common models I applied during my field experience to promote systems change were the Community Change Model, Social Ecological Model, and the Policy, Systems, Environment (PSE) approach.

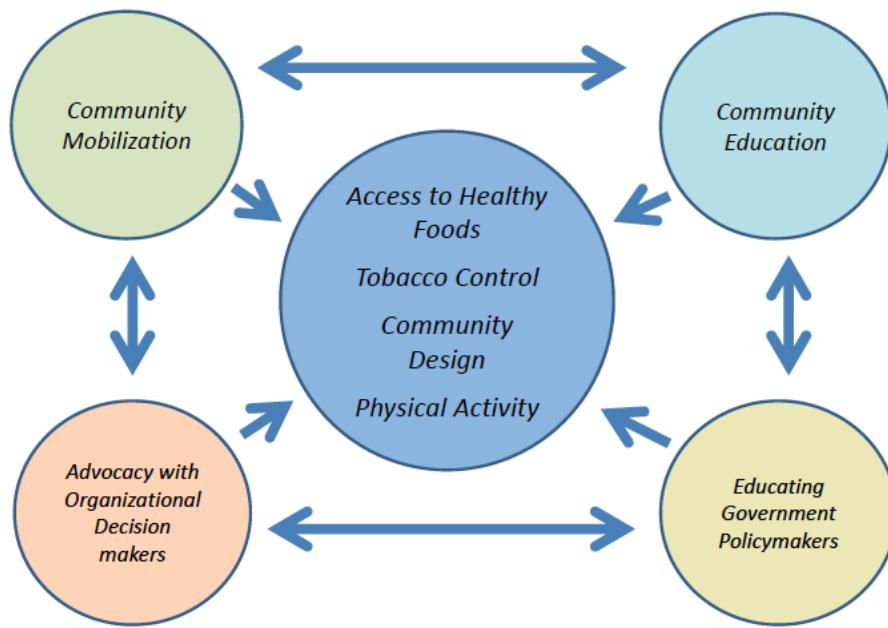
The community change framework is important when improving the necessary themes identified in the community needs assessment. As shown in Figure 1.1, this model involves community mobilization, community education, educating government policymakers, and advocacy with organizational decision makers (Kansas Health Foundation). The Social Ecological Model helps us understand the factors that influence the health and wellness of individuals, groups, and whole populations at varying levels. As shown in Figure 1.2, this model looks at the broadening layers of influence over behavior from the micro level (the individual) to the macro level (structures and systems) (CDC, 2013). The PSE approach looks into the systems that create the structures of the environment. An effective approach toward behavior change should reach the target population and uncover strategies for impact that are sustainable through policies (The Food Trust, 2012).

The first part of my field experience was completed as the Wellness Intern at the City of Manhattan. As a part of the Human Resources department I worked closely with Ginny Barnard and Cathy Harmes, Director of Human Resources, to improve worksite wellness for City of Manhattan employees. My scope of work in this position included

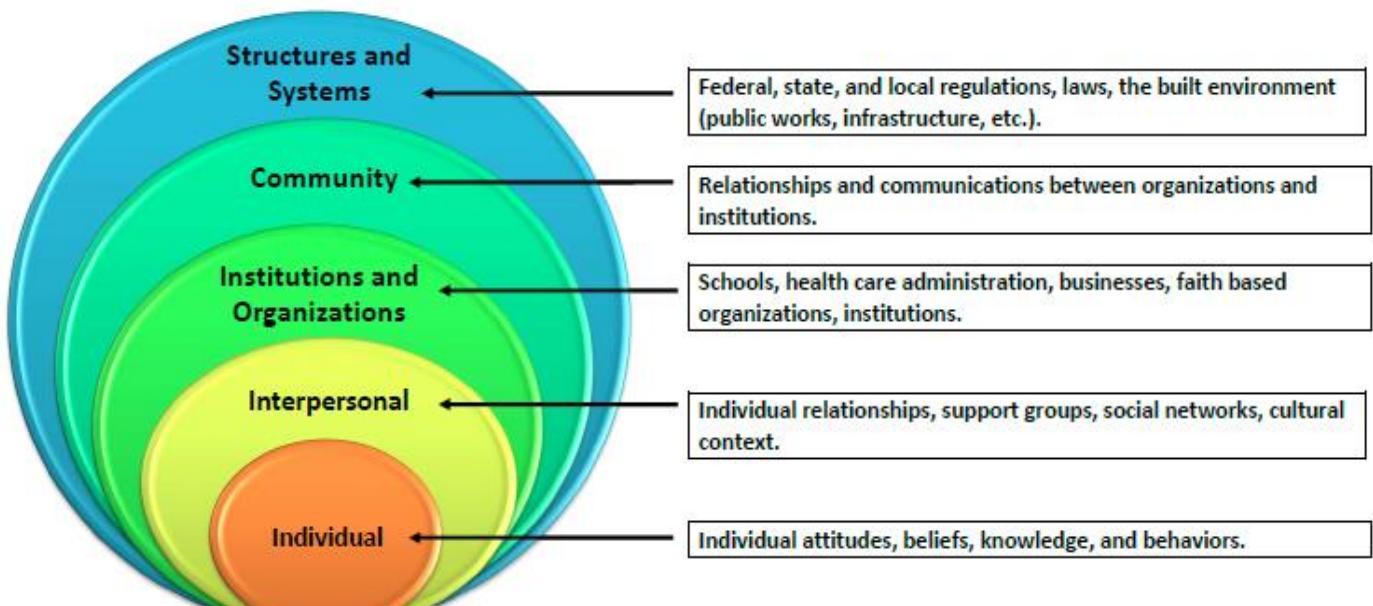
worksite wellness, environment and policy, and access to healthy foods through vending.

The second part of my field experience was completed as a Nutrition Assistant at the Riley County Research and Extension office. In this position I worked under the direction of Ginny Barnard to provide community nutrition education that targeted low socioeconomic status populations and under-served audiences.

## Community Change Model



**Figure 1.1 Community Change Model**



## Chapter 2 - Learning Objectives

As the Wellness Intern with the City of Manhattan, my learning objectives included working with organizational decision makers and building a common purpose of worksite wellness. As a Nutrition Assistant with the Riley County Extension office, my learning objectives included 1) understanding how to organize and implement nutrition programs to under-served audiences, 2) identifying recruitment methods and ways to reach target populations, 3) recognizing and implementing methods to keep participants motivated and engaged in programs, 4) evaluating program success and future implementation using pre- and post-assessments, and 5) gaining an understanding of community-based health programs.

### Activities Performed

With the City of Manhattan, my main activities comprised of conducting vending machine snack taste testings and attending wellness committee meetings. This work, as well as other work I did, required me to spend a majority of my time communicating with

organizational decision makers. These decision makers included the owner of Five Star Vending, the City of Manhattan Human Resources Director, the Deputy City Manager, the Assistant City Manager, the Manhattan City Mayor, and the President of Ridge Consulting Group who managed the City of Manhattan's employee health insurance. There were also some smaller tasks that I worked on during my time at the City of Manhattan. At the beginning of my internship I created and distributed a survey asking city employees about some different aspects of their health and their thoughts on wellness in order to get a feel for the population I was working with (Appendix Figure 4). I also wrote and distributed several monthly newsletters called "Live Well – Work Well" to all city employees (Appendix Figures 13 – 16). They included relevant health news affecting the city, any wellness activities going on in Manhattan and the surrounding area, and an informational piece about how to maintain good health, as well as one recipe and one physical activity-related workout in each newsletter.

In addition to these tasks, I assisted the Parks and Recreation Community Relations Director and two other interns with Park and Recreation Month activities in July of 2015, and I created flyers for their events (Appendix Figures 11 – 12). Additionally, I attended Flint Hills Wellness Coalition meetings led by the Riley County Health Department Community Outreach and Accreditation Coordinator and my field experience mentor Ginny Barnard. These meetings focused on the different aspects of the Riley County Community Needs Assessment done in 2014 and how to improve life for those living in the Flint Hills region. I attended these meetings as a representative from the City of Manhattan and as a facilitator for the Flint Hills area Food and Farm Council.

At the Riley County Extension office, all but one of my learning objectives matched up with my performed activities. I learned how to organize and implement nutrition programs to under-served audiences, identify recruitment methods and ways to reach target populations, recognize and implement methods to keep participants motivated and engaged in programs, and gain an understanding of community-based health programs. The only learning objective I did not get to experience was evaluating program success and future implementation using pre- and post-assessments.

During my time as a Nutrition Assistant I taught nutrition lessons to 4<sup>th</sup> graders at Lee Elementary School as a part of the Junior Master Gardner curriculum (K-State Research and Extension, 2015). I also taught pre-written Book-In-A-Bag lessons (Walsten & Procter, 2016) to Kindergarteners and 1<sup>st</sup> graders at three different elementary schools in Manhattan. Additionally, I led nutrition lesson series' for a 4<sup>th</sup> grade class and for the Riley County Senior Services Center, where I developed my own lesson outlines by finding resources to promote nutrition knowledge for these age groups. Another program I helped Ginny Barnard with was a new series called Dining With Diabetes (Price, Dias & Ames, 2016). I was also able to attend a variety of health and wellness conferences at different locations around the state.

One of my biggest projects during my time at the Riley County Extension office is something that I will not be there to see completed, but it promises to be a great program once it gets scheduled. I worked to promote "Thrifty Chef" parties among WIC clients that will use the updated "EFNEP Families Eat Smart, Move More" curriculum from North Carolina State University Extension (Eat Smart, Move More NC Leadership Team, 2016).

## **Chapter 3 - Culminating Experience**

During my field experience, I was able to incorporate many of the MPH and Public Health Nutrition competencies into my work. Each class throughout my course of study played a role in developing my public health and nutrition knowledge, and they allowed me to partake in many experiences during the two-year program. I am very confident in my ability to go out into the field of Public Health Nutrition and put my knowledge into practice. In this chapter I will discuss my field experience work in more detail and outline my accountability of the core and emphasis area competencies. For my culminating experience, I chose to do six credit hours of field experience work with a written report, oral presentation, and oral defense.

## **Details of Culminating Experience**

When I first started my internship at the City of Manhattan, there was a wellness committee made of up about 15 to 20 city employees, but they were not meeting on a regular basis. I devoted a lot of time to reading and learning about wellness committees, how to run wellness committees, and the positive impact wellness committees can have on a company. After convening for several meetings and emailing with different organizational leaders about the existing wellness committee and when it would be meeting again, a wellness meeting was finally held several months later. At this meeting, it was brought up that it would be beneficial to start holding monthly committee meetings in order to set goals and better help the employees with their health. After a couple of monthly meetings, the group decided that there should be a sub-committee made up of about five core people who would be the driving factor behind the larger committee. As my time at the City came to an end, the sub-committee had just formed and met for one meeting, so I am unsure what kind of goals they ended up working towards. However, I believe I made a difference in helping them shape their wellness committee by encouraging them to actually meet and form a strong sub-committee of those passionate about improving the health of the employees.

In order to conduct the taste testings with the City of Manhattan employees, I looked at files that were created by a previous Wellness Intern who conducted some initial taste testings a couple years prior. Through his work, he researched different healthy vending machine snacks and got the samples to do taste testings. He also created a survey for those completing the taste testings so it could be determined what healthy snacks would be most popular and most likely to be purchased before putting them into the vending machines. By the end of his internship, the City Hall building vending machines held a little over 50% healthier snacks and a little under 50% of the traditional vending food snacks, such as candy. The goal of my taste testings was to update the healthy snacks in the machine with some new, pre-approved foods, and get all of the City owned vending machines around town to be filled with at least 50% healthy snacks. In order to do this, I worked closely with Terry Francis, owner of Five Star Vending, who was contracted to fill the vending machines for the City of

Manhattan. He provided me with several different types of samples to use for the taste testings, and then they were narrowed down based on the results we found (Appendix Figure 3). I used the survey made by the previous intern (Appendix Figure 2) to determine what snacks would be most popular and profitable in the machines. Mr. Francis and Cathy Harmes, Human Resources Director for the City, were the ones to make the final call as to what would end up in the vending machines.

While taste testings and the Wellness Committee were my main focus, there were some additional tasks that I worked on during my time at the City of Manhattan. At the beginning of my internship I created and distributed a survey asking City employees about some different aspects of their health and their thoughts on wellness in order to get a feel for the population I was working with (Appendix Figure 4). With this information I was able to come up with a variety of activities to promote wellness within the organization, but due to some conflicting beliefs between organizational decision makers I was not permitted to follow through with the activities. Instead, I distributed several monthly newsletters called “Live Well – Work Well” to all City employees (Appendix Figures 13 - 16). They included relevant health news at the City, any wellness activities going on around Manhattan, and an informational piece about how to maintain good health, as well as one recipe and one physical activity workout in each newsletter. I also assisted the Parks and Recreation Community Relations Director and two other interns with Park and Recreation Month activities, and I created some flyers for their events (Appendix Figures 11 – 12). Additionally, I attended Flint Hills Wellness Coalition meetings led by the Riley County Health Department Community Outreach and Accreditation Coordinator and my field experience mentor Ginny Barnard. These meetings focused on the different aspects of the Riley County Community Needs Assessment done in 2014 and how to improve life for those living in the Flint Hills region. I attended these meetings as a representative from the City of Manhattan and as a facilitator for the Flint Hills area Food and Farm Council. The work done in these meetings, as well as the wide range of topics discussed, set the tone for me to understand what powerful impacts public health can have on a community.

During my time at the Extension office I taught nutrition lessons to 4<sup>th</sup> graders at Lee Elementary School as a part of the Junior Master Gardner curriculum (K-State Research and Extension, 2015). This required me to deliver a series of pre-written nutrition lessons and demonstrate a healthy snack recipe to the classes during several weeks of the program. Since Junior Master Gardner teaches about how to plant and care for a garden, as well as the importance of nutrition, I was able to learn a lot about community and personal gardens. This information is something I can use to enhance my career in the future since it is not something that was taught much about during my MPH classes. I also taught pre-written Book-In-A-Bag lessons (Walsten & Procter, 2016) to Kindergarteners and 1<sup>st</sup> graders at three different elementary schools in Manhattan. It was exciting to see these young children trying a new food or recipe for the first time and actually end up liking it when they were unsure of trying it at first. Additionally, I led a series of nutrition lessons for a 4<sup>th</sup> grade class where I developed my own lesson outlines by finding resources to promote nutrition knowledge for this age group. This series allowed me to try some new activities in order to test whether they are successful, whether they would be better for a different age group, or whether they did not work at all. Many of the activities I used were successful for this specific class. I incorporated group-work in order to accommodate with a talkative and rambunctious class.

Another program I helped with was Dining With Diabetes (Price, Dias & Ames, 2016). For this series of four classes, I helped my mentor Ginny Barnard prepare and cook a meal for the participants, as well as help lead the pre-written lessons. I also found additional handouts to give to class members to help reinforce the lesson or give them additional knowledge about the topic. It was interesting to learn about all of the different stages each class member was in when it came to addressing and handling their diabetes. It really brought to light the confusion that goes along with trying to plan healthy meals for yourself when you have to monitor your food intake so closely and how much of an impact diabetes can really have on a person's life.

Another series of nutrition classes I led were at the Riley County Senior Services Center. The series included three classes, one per month, which discussed the topics of

yogurt and kefir, apples and squash, herbs and spices, and general nutrition and physical activity information for seniors (Appendix Figures 17 – 19). This series was done independently, so I was responsible for coming up with my own topics, lessons, handouts, and recipes suitable for this population. I was able to evaluate how attendees responded at each lesson and work to improve things in the coming month. I really enjoyed getting to work with a different age of population at the Senior Center since I had not previously had the chance to interact with the older population from a nutrition perspective. Finally, my other activities with the Riley County Extension office involved going to a variety of health and wellness conferences around the state of Kansas. They were great learning experiences for me and I was fortunate to hear about a wide range of different topics at all of the conferences I attended. These conferences allowed me to do networking that I would not have been able to do otherwise, and I also enjoyed getting to know Ginny Barnard better while traveling to these conferences together.

One of my biggest projects during my time at the Riley County Extension office is something that I will not be there to see completed, but I anticipate that it will be a great program once it gets scheduled. My mentor, Ginny Barnard, informed me of a new program she had recently heard about called “Thrifty Chef”. Thrifty Chef is a novel delivery method for traditional EFNEP lessons that was created by Martha Murphy, EFNEP Agent, and developed with Kansas EFNEP. It involves getting a “hostess” to sign herself and three to five friends up for a series of free EFNEP lessons where they would be able to learn about family nutrition, help prepare and eat meals, and win fun cooking prizes. The goal is to do these lessons with Women, Infants, and Children (WIC) clients in the city of Ogden, Kansas. We would use the updated “Eat Smart, Move More” curriculum (Eat Smart, Move More NC Leadership Team, 2016) developed by food, nutrition, and physical activity faculty and practitioners involved with the Expanded Food and Nutrition Education Program (EFNEP), and we would do the standard EFNEP pre- and post-assessment of knowledge with the participants. I reached out to churches and WIC clients directly in Ogden by sending out a flyer in the mail telling them about the program (Appendix Figure 20). I also attended Ogfest, a street festival in Ogden, to hand out flyers. By the end of my field experience we were not able to get any groups to

sign up, but recruitment is something other Nutrition Assistants at the Extension office will continue to work on after I am gone.

## **Accountability for Core and Emphasis Area Competencies**

### Biostatistics:

I further developed my knowledge of statistics after taking Fundamental Methods of Biostatistics. During my time as an undergraduate student I took many math classes, including statistics, so I was previously familiar with many of the topics that were taught, but this class showed me how to apply statistics to the world of health and nutrition. I enrolled in this class during my first semester in the MPH program, and I am glad I took it then because I went on to use this knowledge in many of my other classes in the program. Biostatistics was particularly useful for other classes that involved epidemiology, such as Introduction to Epidemiology, Public Health Nutrition, and Nutritional Epidemiology. I used my knowledge of biostatistics to understand and analyze scientific health, nutrition, and physical activity journal articles and experiments, as well as to do my own calculations for class homework. During my field experience I used biostatistics to understand research-based educational material and decipher if it would work on the targeted population of my class. I will take this information into my future professions when analyzing public health data and implementing my own programs.

### Environmental Health Sciences:

As a person who is very passionate about preserving the environment and minimizing hazards to humans and animals, I enjoyed Environmental Health very much. The world we live in, especially the “Western” culture that we experience here in the United States, is one that is not sustainable over the long-term. Environmental exposures to contaminants can affect people of all ages through water, soil, air, food, animals, their jobs, and many other ways that we may not even realize yet. In Environmental Health each student gave a short presentation on an environmental health hazard and I found these presentations especially interesting and informational. They definitely reinforced how broad environmental health impacts can reach and I will use my acquired information in future jobs and in my personal life with my family. In my field experience, I used information about environmental health to inform people about how to grow gardens, the health of different types of foods, and how to make better dietary decisions based on the environment you are in.

### Epidemiology:

Although I learned how to differentiate different types of epidemiological studies from Human Nutrition class my first semester in the MPH program, I did not truly understand what the study of epidemiology was until taking Introduction to Epidemiology and Nutritional Epidemiology. These classes, along with Biostatistics, taught me how to examine, understand, and calculate measures of disease, injury, and death in human populations. I now have the understanding in regards to which types of studies produce stronger evidence than others. It also gave me the foundation to be able to draw appropriate inferences from studies examined in nearly every class I took during my MPH. It also brought to my attention how important it is to be honest when reporting data and that sometime data are not always correctly reported or interpreted. Epidemiology was also helpful to me during my field experience. At the City of Manhattan, I spent some time looking at the overall health statistics of employees to see what could be improved. At the Riley County Extension office I used epidemiology to examine the health of different populations in need to better understand the type of nutrition and wellness lessons to deliver.

### Health Services Administration:

The healthcare system is very complex and Administration of Health Care Organizations did a great job of looking at each of the different aspects and explaining them in detail. Health care accessibility impacts each of the various stakeholders in the healthcare system. When people don't have the resources to get the medical care they need, their quality of life dramatically suffers. This greatly impacts any future jobs I will have in the public health industry. Medicare, Medicaid, and the Affordable Care Act have done amazing things to get people the medical care they need, but there is still a lot to be done to improve the healthcare system. A great addition to this class was the guest speakers that talked with us about their specific jobs in the healthcare industry. Many people in the populations I worked with at the Riley County Extension office would fall into the category of being on Medicare, Medicaid, or a health insurance plan provided by the Affordable Care Act. This class taught me about some issues that they may be experiencing and how to help them improve their health without having to see a doctor. Being able to understand the basic trends of the healthcare system, as well as how different populations are impacted by health care access will be of great value to me in my future career of public health nutrition.

### Social and Behavioral Sciences:

Social and Behavioral Bases of Public Health is the class most relevant to my field experience work and future public health nutrition career goals. This class taught me about theories, concepts, and models of different social and behavioral disciplines that are integral to public health nutrition work. It also helped me be able to identify the social and behavioral factors that affect the health of individuals and under-served populations, such as children, women with young children, and senior citizens. I used the training from this class to conduct public health lessons and promote certain policies at the City of Manhattan and the Riley County Extension office. Social and Behavioral Bases of Public Health was also a great prerequisite to have before taking Physical Activity and Human Behavior. These classes look at many similar issues that are addressed in the field of public health and look at how to overcome them through interventions and policies.

### Public Health Nutrition Emphasis:

The required and elective courses I completed during my time in the MPH program helped me to become competent in each of the public health nutrition areas of emphasis. After getting my undergraduate degree in Chemistry and starting the MPH program with very minimal knowledge of public health or nutrition, I can say that I successfully learned a great deal of information about these two topics during the past two years.

There were many ways in which I was able to learn how to communicate more effectively. Giving class presentations and participating in group discussion in Environmental Health, Social and Behavioral Bases of Public Health, Public Health Nutrition, Nutritional Epidemiology, Human Nutrition Graduate Seminar, Advanced Energy Balance, Physical Activity and Human Behavior, and during my field experience at the City of Manhattan and Riley County Extension helped me to become much more confident in my public speaking skills. In many of my other classes I became a stronger writer by learning how to convey my message more directly in my reports. Mastery of information literacy and population-based health administration of public health nutrition was essential for me to have in order to give presentations, formulate literature reviews and reports, and participate in discussions. Being literate in public health nutrition helped me to translate research into practice for class projects and my field experience. Because of this knowledge and my ability to integrate human nutrition principles, I was able to participate in nutrition surveillance, program planning and evaluation, and information dissemination during my field experience. Interpreting epidemiological

studies enabled me to provide research-based curriculums to improve community health and target under-served populations.

.....

## Healthy Vending Snack Sampling



Come taste test new healthy vending machine snack options! Now is your chance to try them out and rate each snack. Your opinions will help determine what new options to put in the vending machines around Manhattan.

Date: October ?  
Time: 12:00-1:00pm  
  
The taste testing will be held in the — Room at City Hall.  
1101 Poyntz Ave.  
Manhattan, KS 66502

.....

Contact Emily Kinder Bonilla with questions: 587-2445  
[kinder@cityofmhk.com](mailto:kinder@cityofmhk.com)



App  
endi  
x

Appendix Figure 1: City of Manhattan vending machine taste testing flyer

## Taste Testing Food Ranking

Healthier Vending Machine Options	Awful and Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion
Cinnamon Toast Crunch Cereal Bar	1	2	3	4	5	N/A
Cocoa Puffs Cereal Bar	1	2	3	4	5	N/A
Nature Valley Protein Bar	1	2	3	4	5	N/A

Belvita Banana Bread Soft Bake	1	2	3	4	5	N/A
Blueberry Fig Bar	1	2	3	4	5	N/A
Veggie Crisp Ranch Chip	1	2	3	4	5	N/A
Cool Ranch Doritos – Reduced Fat	1	2	3	4	5	N/A
Spicy Sweet Chili Doritos - Reduced Fat	1	2	3	4	5	N/A
Special K Cracker Chips – Honey BBQ	1	2	3	4	5	N/A
Special K Cracker Chips – Sour Crème and Onion	1	2	3	4	5	N/A
Rice Krispies Treat – Whole Grain	1	2	3	4	5	N/A

Appendix Figure 2: City of Manhattan Vending Machine Taste Testing Survey

### Taste Testing Food Ranking - K-State

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	TOTAL
* Cinnamon Toast Crunch Cereal Bar	1	3	11	13	0	7	35
Cocoa Puffs Cereal Bar	1	2	13	8	3	8	35
* Nature Valley Protein Bar	0	1	7	15	7	5	35
* Belvita Banana Bread Soft Bake	0	5	7	9	8	6	35
* Blueberry Fig Bar	3	0	6	11	8	7	35
* Veggie Crisp Ranch Chip	1	1	8	16	3	6	35
Cool Ranch Doritos - Reduced Fat	0	2	3	10	2	18	35
* Spicy Sweet Chili Doritos - Reduced Fat	0	3	5	12	7	8	35
Special K Cracker Chips - Honey BBQ	0	0	2	2	0	31	35
* Special K Cracker Chips - Sour Crème & Onion	0	3	7	13	6	6	35
* Rice Krispies Treat - Whole Grain	0	3	4	18	6	4	35
<b>TOTAL</b>	6	23	73	127	50	106	

### Taste Testing Food Ranking - City Employees - Parks & Rec

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	Total	Amazing + Tasty
* Cinnamon Toast Crunch Cereal Bar	0	1	2	5	1	4	13	6
Cocoa Puffs Cereal Bar	1	1	3	3	0	5	13	3
* Nature Valley Protein Bar	0	0	1	9	0	3	13	9
Belvita Banana Bread Soft Bake	0	2	3	2	0	6	13	2
* Blueberry Fig Bar	0	1	1	4	2	5	13	6
* Veggie Crisp Ranch Chip	0	2	3	3	3	2	13	6
Cool Ranch Doritos - Reduced Fat	0	1	3	2	3	4	13	5
* Spicy Sweet Chili Doritos - Reduced Fat	0	0	3	4	2	4	13	6
Special K Cracker Chips - Honey BBQ	0	1	1	6	2	3	13	8
* Special K Cracker Chips - Sour Crème & Onion	0	0	1	7	2	3	13	9
* Rice Krispies Treat - Whole Grain	0	0	4	3	2	4	13	5
<b>TOTAL</b>		1	9	25	48	17	43	

Held November 10th  
Red=fewest number of Amazing + Tasty

### Taste Testing Food Ranking - City Employees - Street Dept.

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	Total	Amazing + Tasty
* Cinnamon Toast Crunch Cereal Bar	1	0	6	7	1	1	16	8
Cocoa Puffs Cereal Bar	1	2	5	7	0	1	16	7
* Nature Valley Protein Bar	1	0	6	6	2	1	16	8
* Belvita Banana Bread Soft Bake	1	2	2	8	1	2	16	9
* Blueberry Fig Bar	0	1	5	6	2	2	16	8
Veggie Crisp Ranch Chip	0	3	5	5	2	1	16	7
Cool Ranch Doritos - Reduced Fat	0	1	7	6	1	1	16	7
* Spicy Sweet Chili Doritos - Reduced Fat	0	2	4	9	0	1	16	9
Special K Cracker Chips - Honey BBQ	0	0	8	6	2	0	16	8
* Special K Cracker Chips - Sour Crème & Onion	0	1	5	8	2	0	16	10
* Rice Krispies Treat - Whole Grain	0	2	5	5	3	1	16	8
<b>TOTAL</b>		4	14	58	73	16	11	

Held November 20th

Red=fewest number of Amazing + Tasty

Currently they only have pop in the drink vending machine and they said they would also like water, juice, and V8 like we have at City Hall.  
They are excited about different/healthier options because during the winter months they have to work overnight and need good snacks/drinks.

### Taste Testing Food Ranking - City Employees - Utility Maintenance

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	Total	Amazing + Tasty
Cinnamon Toast Crunch Cereal Bar	0	1	5	6	0	2	14	6
* Cocoa Puffs Cereal Bar	0	1	4	7	0	2	14	7
* Nature Valley Protein Bar	0	1	4	4	3	2	14	7
* Belvita Banana Bread Soft Bake	0	0	5	4	3	2	14	7
* Blueberry Fig Bar	0	0	2	4	6	2	14	10
Veggie Crisp Ranch Chip	2	1	6	0	3	2	14	3
Cool Ranch Doritos - Reduced Fat	0	1	5	5	1	2	14	6
* Spicy Sweet Chili Doritos - Reduced Fat	0	1	3	8	1	1	14	9
Special K Cracker Chips - Honey BBQ	1	4	2	4	1	2	14	5
* Special K Cracker Chips - Sour Crème & Onion	1	1	4	3	3	2	14	6
* Rice Krispies Treat - Whole Grain	0	2	2	6	2	2	14	8
<b>TOTAL</b>	4	13	42	51	23	21		

Held December 9th

Red=fewest number of Amazing + Tasty

### Taste Testing Food Ranking - City Employees - City Hall

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	Total	Amazing + Tasty
* Cinnamon Toast Crunch Cereal Bar	1	2	11	10	3	3	30	13
Cocoa Puffs Cereal Bar	0	4	12	10	0	4	30	10
* Nature Valley Protein Bar	0	2	5	14	6	3	30	20
Belvita Banana Bread Soft Bake	2	10	7	8	1	2	30	9
* Blueberry Fig Bar	0	1	4	15	8	2	30	23
Veggie Crisp Ranch Chip	0	1	9	15	5	0	30	20
* Cool Ranch Doritos - Reduced Fat	0	2	15	9	3	1	30	12
Spicy Sweet Chili Doritos - Reduced Fat	1	5	10	8	4	2	30	12
* Special K Cracker Chips - Honey BBQ	3	3	10	10	3	1	30	13
* Special K Cracker Chips - Sour Crème & Onion	1	8	7	8	5	1	30	13
* Rice Krispies Treat - Whole Grain	0	2	11	10	4	3	30	14
<b>TOTAL</b>	8	40	101	117	42	22		

Held November 13th

Red=fewest number of Amazing + Tasty

### Taste Testing Food Ranking - All City Employees

Snack Option	Awful & Disgusting	Not Good	Okay	Tasty	Amazing	No Opinion	Total	Amazing + Tasty
* Cinnamon Toast Crunch Cereal Bar	2	4	24	28	5	10	73	33
Cocoa Puffs Cereal Bar	2	8	24	27	0	12	73	27
* Nature Valley Protein Bar	1	3	16	33	11	9	73	44
Belvita Banana Bread Soft Bake	3	14	17	22	5	12	73	27
* Blueberry Fig Bar	0	3	12	29	18	11	73	47
Veggie Crisp Ranch Chip	2	7	23	23	13	5	73	36
Cool Ranch Doritos - Reduced Fat	0	5	30	22	8	8	73	30
* Spicy Sweet Chili Doritos - Reduced Fat	1	8	20	29	7	8	73	36
* Special K Cracker Chips - Honey BBQ	4	8	21	26	8	6	73	34
* Special K Cracker Chips - Sour Crème & Onion	2	10	17	26	12	6	73	38
* Rice Krispies Treat - Whole Grain	0	6	22	24	11	10	73	35
<b>TOTAL</b>	17	76	226	289	98	97		

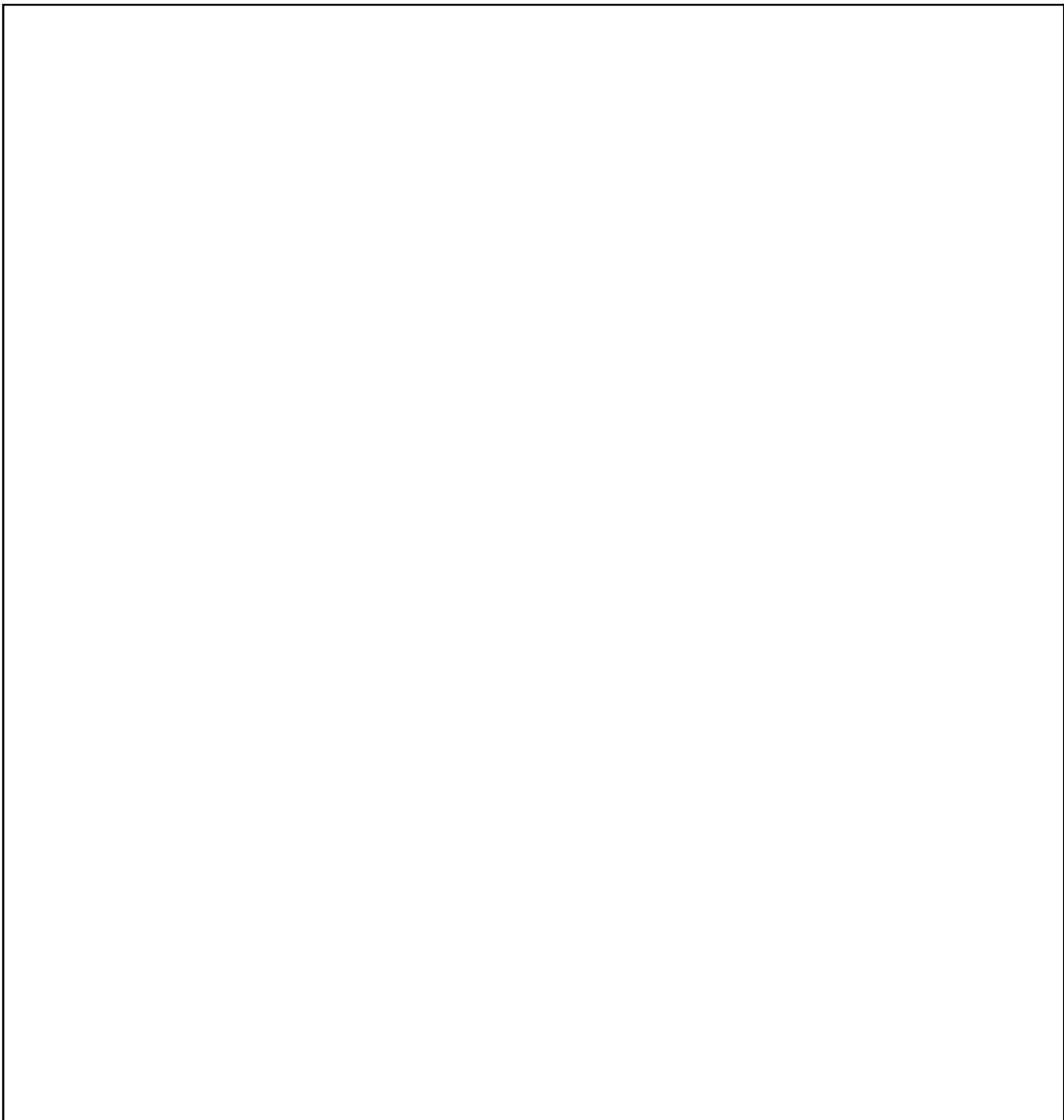
Red=fewest number of Amazing + Tasty

Appendix Figure 4: City of Manhattan Health/Wellness Survey Questions



Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions

Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions



Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions

Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions

Appendix Figure 4 continued: City of Manhattan Health\Wellness Survey Questions

Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions

Appendix Figure 4 continued: City of Manhattan Health/Wellness Survey Questions

Appendix Figure 5: Email sent to City of Manhattan employees summarizing the Health/Wellness Survey results and notifying them of future action plans.



Appendix Figure 6: City of Manhattan Wellness Committee Presentation Outline

I prepared this outline and created a PowerPoint to present it, but due to the nature of the Wellness Committee and organization leadership, I did not get the chance to present it.

Appendix Figure 6 continued: City of Manhattan Wellness Committee Presentation  
Outline



Appendix Figure 6 continued: City of Manhattan Wellness Committee Presentation  
Outline

# Regional Food and Farm Council Meeting

March 8, 2016  
11:30am-1:00pm  
Pottorf Hall in CiCo Park  
1710 Avery Ave.  
Manhattan, KS 66503

Cost: FREE  
Lunch will be provided.

To register, call the Riley County Extension Office at 785-537-6350 or go to [www.riley.ksu.edu](http://www.riley.ksu.edu)



- The purpose of this meeting is to explore the idea of forming a regional Food and Farm Council.
- A Food and Farm Council assesses the local food system, and finds resources and solutions to improve the system. This assessment includes everything from planting and harvesting to getting food on the table.



Source: Douglas County Food Policy Council

- Support of local food infrastructure will promote wellness, equity, distribution, the economy, and the environment in the community.

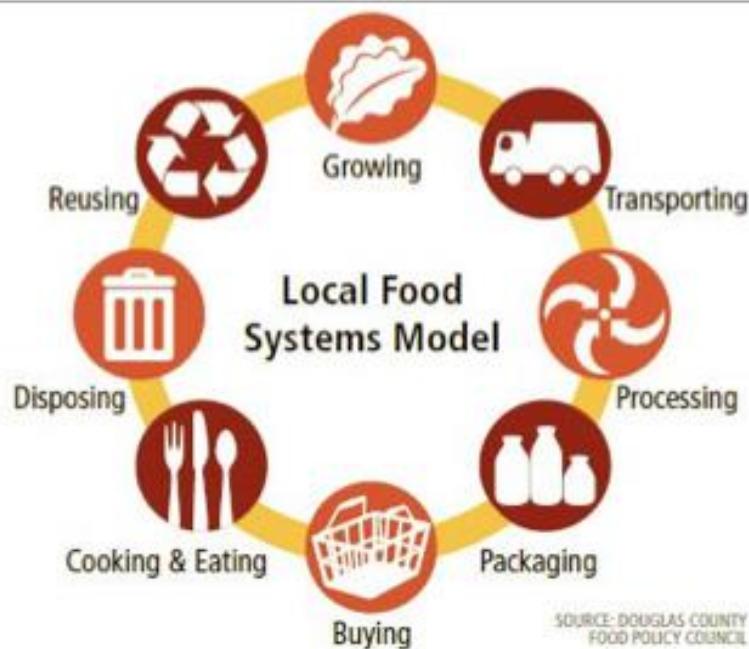
K-State Research & Extension is an equal opportunity provider and employer.

Appendix Figure 7: Flint Hills Food and Farm Council initial meeting flyer I made.

<https://www.planning.org/nationalcenters/health/foodprinciples.htm>  
These principles have been developed and endorsed by the Academy of Nutrition and Dietetics, American Nurses Association, American Planning Association, and American Public Health Association in order to make visible the interdependent and inseparable relationships between individual sectors and characteristics of the food system.

- ▷ Transparency
- ▷ Economically balanced
- ▷ Fair
- ▷ Diverse in size, scale, geography, culture, and choice
- ▷ Resilient
- ▷ Sustainable
- ▷ Health-Promoting

## PRINCIPLES OF A HEALTHY, SUSTAINABLE FOOD SYSTEM



Appendix Figure 8: Flint Hills Food and Farm Council meeting table tent. We used this to promote discussion among people at each table. We also used this to discover what type of population we had at the meeting and to see if we were missing any people from a part of the food system.



## Social Security Seminar

When and how you claim Social Security retirement benefits can make a huge difference in how much you and your spouse receive. Meanwhile, some public sector workers may face a reduction in benefits. Michael Brandedberry, CFP, from ICMA-RC will be here to review key steps to help you plan ahead and make smart decisions about building financial security for retirement.

**Tuesday, October 20th  
1:30-2:00pm  
City Commission Room  
at City Hall  
1101 Poyntz Ave.  
Manhattan, KS 66502**

Appendix Figure 9: Social Security Seminar poster for City of Manhattan employees

Appendix Figure 10: City of Manhattan CoreSource Satisfaction Survey. CoreSource is the City's third party administrator that handles their group health insurance plan.



# July is PARK and RECREATION Month

[mhkprd.com](http://mhkprd.com)  
[#powerofparks](#)

## 10 Must-Know Tips for Staying Hydrated During Your Workout

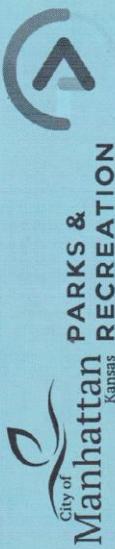
by Nicole McDermott

posted on [www.wellnesstoday.com/fitness](http://www.wellnesstoday.com/fitness)

1. Drink! Good old H2O is critical for rehydrating when the body experiences fluid loss, such as when we sweat. Shoot to sip seven to 10 ounces of fluid every 10 to 20 minutes during exercise to stay properly hydrated.
2. Sip on sports drinks. When we sweat, we lose electrolytes, which are minerals found in the blood that help regulate the amount of water in the body. Sports drinks, such as Powerade and Gatorade, can help prolong exercise and rehydrate our bodies because they contain electrolytes, which plain old water does not. While an ordinary workout may not require electrolyte-replenishing, those participating in longer and more intense periods of exertion will benefit from a good dose of electrolytes mid-workout.
3. Turn to fruit. Many fruits are a great source of both electrolytes and fluids. To stay hydrated while keeping up electrolytes, it's important to drink water while munching on fruit.
4. Weigh yourself. Hop on the scale before and after exercise. For each pound lost during activity, drink an additional 16 ounces of fluid. If your body weight change is three percent or more, you may be experiencing significant to serious dehydration.
5. Check the toilet. Check on the color of your urine to make sure you're staying hydrated by watching the urine stream, since the color of urine will dilute when it hits the toilet water. When properly hydrated, urine should be pale yellow in color. Dark yellow urine may indicate dehydration.
6. Pay attention to your muscles. Lean muscle contains more than 75 percent water, so when the body is short on H2O, muscles are more easily fatigued. When your muscles feel too tired to finish a workout, try drinking some water and resting a bit before getting back at it.
7. Tame thirst. Whatever you're drinking, be it water, juice, or sports drinks, make sure to take a sip or two whenever you feel thirsty. Even if you're not feeling totally parched, mild thirst is still a sign of impending dehydration.
8. Pinch yourself. Skin turgor, which is the skin's elasticity, is an easy way to check your hydration. Using your pointer finger and thumb, simply pinch the skin on the back of your hand and hold for a few seconds. When you let go, if the skin takes a while to return to its normal position, you may be dehydrated.
9. Keep dry mouth at bay. One of the first signs of dehydration is dry mouth. If your mouth starts feeling like the Sahara, head to the water fountain (or take a sip from your reusable water bottle). A short water break mid-workout can help stave off exercise-induced dehydration.
10. Stop if you get dizzy. Feeling lightheaded during a workout is a sign of dehydration and a signal to tone it down a notch. Though willpower sometimes makes us want to push ourselves through a few more reps or another mile, feeling dizzy is an indicator that it's time to hydrate.

Prepared by:

Kaylee Smith & Emily Kinder



PARKS &  
RECREATION  
Kansas

City of  
**Manhattan**  
Kansas  
Parks and Recreation  
[mhkprd.com/events](http://mhkprd.com/events)

Appendix Figure 11: Hydration flyer distributed to kids enrolled in the City of Manhattan Parks and Recreation summer camps.



**July is  
PARK and  
RECREATION Month**

[mhkprd.com](http://mhkprd.com)  
**#powerofparks**

### Healthy Fun Facts: Did You Know?

- Kids need 60 minutes of moderate to vigorous active play every day. It may sound like a lot, but it doesn't all need to happen at one time. Physical activity throughout the day all adds up. When you get moving, you are more likely to feel less stressed, feel better about yourself, feel more ready to learn in school, keep a healthy weight, build and keep healthy bones, muscles, and joints, and sleep better at night.
- Water makes up 67% of the human body. It is the largest part of all living materials. Water is needed for the breakdown and movement of food in the whole organism and in each tiny cell. It's Important to drink between 5-10 glasses of water a day, depending on your age.
- Teeth are alive. Even though the outside of your teeth seems very hard, it can be attacked by bacteria that cause decay. The slime you feel on your teeth in the morning is made mostly of bacteria. Use a brush with soft bristles to brush your teeth gently after meals, and don't forget to floss!
- The heart is the strongest muscle in the body. It pumps about 36,000 gallons of blood a day. Stay heart healthy by eating berries, oatmeal and even dark chocolate!
- The air released from a sneeze can exceed 100 mph - be sure to cover your mouth/nose when sneezing and coughing!
- Like a fingerprint, every person has a unique tongue print.
- Skim or nonfat milk has the same nutritional value as whole milk — with no fat. The National Dairy Council recommends 3 servings of dairy each day, so drink up!
- In general, people who eat breakfast have more energy, do better in school, and eat healthier throughout the day. Without breakfast, people can get irritable, restless and tired. So make time for breakfast!

Prepared by:  
Kaylee Smith & Emily Kinder



**City of  
Manhattan**  
Kansas  
Parks and Recreation  
[mhkprd.com/events](http://mhkprd.com/events)

Appendix Figure 12: Fun Facts flyer distributed to kids enrolled in the City of Manhattan

Parks and Recreation summer camps.

Volume 1, Issue 1

July 15, 2015



# Live Well—Work Well

Health & Wellness Newsletter

## WorkWell KS Kansas State of Wellness Symposium

WorkWell KS is a state-wide initiative, funded by the Kansas Health Foundation and coordinated by the Wichita Business Coalition on Health Care, that provides leadership and resources for businesses and organizations to support worksite health. This initiative is an opportunity to engage and connect businesses, leaders, and organizations throughout Kansas around worksite wellness. WorkWell KS launched in 2011, and the City of Manhattan joined as a participant during the second year. On June 30, 2015 the first annual State of Wellness Symposium was held in Newton, KS, and the City of Manhattan was awarded as Worksite Health Champion! Attendees from the City were Kiel Mangus and Emily Kinder. During the day they learned about the Blue Zones Project, as well as Topeka's new bicycling

programs. Breakout sessions during the afternoon included topics about building capacity for food councils, breaking barriers to improve worksite wellness, and how to lead by example to impact food and beverage policy and environment.



Kiel Mangus and Ginny Barnard (Family and Consumer Sciences Agent for Riley County) accepting the Worksite Health Champion award for the City of Manhattan.



## July is Park & Recreation Month!

July is national Park & Recreation Month, and the City of Manhattan's Parks & Recreation department is celebrating in a big way! There are events scheduled for almost every day this month to promote the appreciation of nature,

exercise, socialization, and having fun! There are activities for the whole family to enjoy. To learn more about the Power of Parks and the benefits of having parks in the community, watch the short video at [www.nmpa.org/july-power-of-parks/](http://www.nmpa.org/july-power-of-parks/).

For a list of activities going on in Manhattan this month, visit [www.cityofmhk.com/DocumentCenter/View/33217](http://www.cityofmhk.com/DocumentCenter/View/33217)

Appendix Figure 13: July 2015 issue of the City of Manhattan *Live Well – Work Well* health and wellness newsletter that was sent out to all employees.

### **Garlic Brown Sugar Chicken**

**Ingredients:**

4 tsp brown sugar	Minutes to Prepare: 5
12-16 ounces boneless, skinless chicken breasts	Minutes to cook : 15-20
1 clove diced garlic	
2 Tbsp. butter	Number of Servings: 4
Dash black pepper	

**Directions:**

1. Melt the butter in a large pan on the stove.
2. Brown the garlic in the butter.
3. Add chicken breasts to garlic and butter, and cook thoroughly (15-20 minutes) or until no longer pink in the middle, adding pepper as you like it.
4. When chicken is fully cooked, add brown sugar on top of each breast.
5. Allow the brown sugar to melt into the chicken (about 5 minutes).

Serve with your favorite grain and veggies or salad.

Recipe from Spark Recipes  
<http://recipes.sparkpeople.com/recipe-detail.asp?recipe=376900>

#### **Nutritional Info**

Servings Per Recipe: 4
Amount Per Serving
Calories: 186.4
Total Fat: 8.0 g
Cholesterol: 68.2 mg
Sodium: 17.7 mg
Total Carbs: 4.3 g
Dietary Fiber: 0.0 g
Protein: 19.4 g

### **Stay Cool in the Pool with these Workouts**

Cool off while you workout, but skip the crawl and backstroke. You can burn a bunch of calories in the pool — no swimming required. Here are two pool workouts that will get your heart rate up and work your whole body while keeping you refreshed. Watch these videos to learn the moves, then dive right into the workout!

Warning: Do water aerobics with at least one other person in case you get into difficulty in the pool.

<http://www.sparkpeople.com/fitness/Pool-Exercises-Burn-Calories-31074990>

Sprint in place – do for 30 seconds  
Pushups on the wall – do 10-15 reps  
Jump with knee tuck – do 15-20 reps  
Hurdle jump – do 15-20 reps  
Water treader – do for 30 seconds

<http://www.sparkpeople.com/fitness/Pool-Workout-Abs-Core-31029282>

Core rotation – do 10-15 reps  
Sit up on wall – do 10-15 reps  
Superman kick – do for 30 seconds  
Straight leg raise – do 10-15 reps  
Knee tuck with twist – do 10-15 reps on each side

## **Keeping your Brain and Body Active at Work**

According to the 2014 Bureau of Labor Statistics American Time Use Survey, the average employed American spends 8.1 hours at work each day, Monday through Friday. For some employees, this can mean long days stuck sitting at a desk with little movement, or it can mean a day full of physical labor doing strenuous repetitive movement. Whichever situation you are in, there is stress put on your mind and body from doing the same thing all day. In a New York Times article by Phyllis Korkki, she reports that there is increasing evidence showing that taking regular breaks can improve productivity and creativity, while skipping breaks can lead to stress and exhaustion. John P. Trougakos, who is an assistant management professor at the University of Toronto Scarborough and the Rotman School of Management relates the brain to other muscles in the body. Between sets of physical activity, we have to take a break to let the body recover before continuing with the workout. Your brain, eyes, and body should get a rest from constantly staring at a computer or repeating the same movement for hours. Trougakos also says to take a break before reaching the bottom of your mental barrel so that you can recharge faster and

get back to work, but don't overdo it and let it turn into procrastination. During your 15 minute break, take a walk around the block or office, make a to-do list for after work, or eat a healthy snack to help you get through the rest of the day.

**References:**

1. <http://www.bls.gov/news.release/atus.nr0.htm>
2. [http://www.nytimes.com/2012/06/17/jobs/take-breaks-regularly-to-stay-on-schedule-workstation.html?\\_r=0](http://www.nytimes.com/2012/06/17/jobs/take-breaks-regularly-to-stay-on-schedule-workstation.html?_r=0)



Go for a walk during break time with your co-workers!

*Work Well* health and wellness newsletter that was sent out to all employees.



# Live Well—Work Well

Health & Wellness Newsletter

## EMPAC—Employee Assistance Consultants



EMPAC is an employee assistance program (EAP) used by the City of Manhattan that is dedicated to providing excellent services to employees and the members of their households, as well as the companies served. Their employer-sponsored services are designed for personal or family issues, including mental health, substance abuse, marital problems, parenting challenges, emotional issues as well as financial and legal concerns. They are here to help equip and empower you to work through and overcome challenges that may affect your wellness, happiness and productivity, enhancing your life both in and out of the workplace. They provide numerous benefits and services for you to take advantage of, including one-on-one counseling, practical, meaningful group training sessions; and a wide network of partners they can connect you to depending on your needs or struggles. The guiding values of EMPAC are partnerships, quality, service, innovation, value and accessibility.

Employees of the City, as well as their immediate household members, are eligible to use EMPAC's services up to 6 times per year, per person, for no charge. The City of Manhattan provides this service to support the health and well-being of its employees and their

families. Everyone is encouraged to use this service whether they are experiencing any difficult issues in their life, or if they just need someone to talk to. With prior approval, it is even possible to meet with a counselor during work hours.

EMPAC's Work/Life Services website also offers a plethora of information on mental health, relationships, finances, health, legal issues, and personal growth. It is easy to navigate and includes articles, tips, and short surveys that evaluate different areas of your life. It is a great tool to use when you may not feel ready to talk with a counselor, if you want to prepare before talking with a counselor, or if you just want to learn how to make life a little easier.

To view the EMPAC website visit [empac-eap.com](http://empac-eap.com) and select MEMBER LOGIN. From that page, you can register if you are a first time user or log in if you are a returning user. If you are registering for the first time, it will ask for our Company Code, which is EMPAC-MHKS.

To schedule an appointment to meet or talk with a counselor call 316-265-9922 or 1-800-234-0630.

## Healthy Foods Summit



On August 4th, Live Well Saline County hosted the Healthy Foods Summit at the Salina Bicentennial Center. The Summit included information about bringing an economic development approach to local and regional foods, food advisory boards,

farmer's markets, food system assessments, and food hubs. Attendees from the Flint Hills Wellness Coalition (FHWCo) included Emily Kinder, Ginny Bamard (Family and Consumer Sciences Agent for Riley County), and Jessica Fiscus (Riley

County Health Department Community Health Educator). The FHWCo goal is to address nutrition related issues in the Flint Hills and promote healthier communities.

Appendix Figure 14: August 2015 issue of the City of Manhattan *Live Well – Work Well* health and wellness newsletter that was sent out to all employees.

## Lemon Garlic Tilapia

**Ingredients:**

4 tilapia fillets  
1 Tbsp. olive oil  
1 Tbsp. butter  
Juice of 1 lemon  
1 tsp. garlic salt  
1 tsp. dried parsley flakes  
Dash of salt  
Cayenne pepper to taste

Minutes to Prepare: 5  
Minutes to cook : 15-16  
Number of Servings: 4

**Directions:**

1. Preheat oven to 400 degrees F.
2. Spray a baking dish with non-stick cooking spray.
3. Melt butter in microwave.
4. Mix butter, olive oil, lemon juice, garlic powder, salt and parsley in a small bowl.
5. Pour mixture over tilapia fillets in baking pan.
6. Sprinkle some cayenne pepper on top of fish.
7. Bake in preheated oven for about 13 minutes, and broil for an additional 2-3 minutes.

Serve with your favorite whole grain and veggies or salad.

**Recipe from Spark Recipes**

<http://recipes.sparkpeople.com/recipe-detail.asp?recipe=106570>

**Nutritional Info**

Servings Per Recipe:	4
Amount Per Serving:	
Calories:	175.2
Total Fat:	7.3 g
Cholesterol:	37.0 mg
Sodium:	116.7 mg
Total Carbs:	1.8 g
Dietary Fiber:	0.3 g
Protein:	26.1 g

## 6 Workouts that Help You Burn

### 100 Calories in Just 10 Minutes

By Paige Washner—Exercise Expert

<http://exercise.about.com/od/intervaltrainingworkouts/tp/6-Workouts-that-Help-You-Burn-100-Calories-in-Just-10-Minutes.htm>

To get the most out of 10 minute workouts, you'll need to work harder. Make sure you're warmed up before high impact exercise and do each exercise as hard and fast as you can, keeping good form. Try these exercises for a 10 minute cardio blast.

**Precautions**

Get a doctor's clearance if you have any injuries or illnesses. Substitute high impact exercises with lower-impact moves such as walking or stepping side-to-side as needed.

1 minute - Brisk walk or march in place

1 minute - Light jog in place or outside, moving the arms up and down

1 minute - Jumping jacks

30 seconds - Long jumps - jump forward, landing with both feet, turn around and jump back

30 seconds - Jog in place

30 seconds - Long jumps

30 seconds - March in place

30 seconds - Burpees

30 seconds - Mountain climbers

30 seconds - March in place

30 seconds - Burpees

30 seconds - March in place

30 seconds - Jog in place

1 minute burn: Squat jumps

1 minute - Slow march in place to cool down

## Put Your Family on a Tech Diet This Year

Provided by Rebecca M. Gruber at PopSugar

<http://www.popsugar.com/moms/How-Reduce-Kids-Tech-Use-16275343#photo-16275343>

**Make Dinnertime a Device-Free Zone**

Whether you're eating dinner at home or in a restaurant, make everyone leave their phones in a different room during mealtimes. Not only is it rude to have your device at the table, but it's too tempting to check it when it is lying on the table. Use the time to talk about your days, learn what's going on, and just connect. The messages will be there when the meal is over. Like all good diets, you don't have to go cold turkey, but gradually make some changes to how and when you use your iPad and Smartphone. Not only will it help your eyes, but it will bring the family closer together.

**Turn Off Push Notifications and Sounds**

If your phone isn't constantly buzzing, you won't be as inclined to pick it up. Turn off all push notifications, silence your ringer for everything except phone calls, and watch your tendency to pick it up quickly decline.

**Don't Google It - Look It Up!**

Remember that thing called a dictionary or, better yet, an encyclopedia? If you have a physical one in your home, turn to it instead of your phone, tablet, or computer to find the answer. Because once you're on your device, you and your kids are more likely to start checking email, social media accounts, or even the score of the big game.

**Make Bedtime a Device-Free Zone**

Don't even bring your device into your kids' rooms at bedtime, and

you won't feel the urge to check it. Bedtime should be a sacred time where you read a goodnight story and help your little one to bed. Bedtime is the time kids tend to open up about their days - and you really don't want to miss that!

**Switch Your Phone to Airplane Mode When You're at Your Kids' Events**

I'm not saying that the school play is boring or that your child's baseball game isn't captivating, but even if your Smartphone is in your hand to photograph the event, there's a good chance you might sneak a peek or two at your email or that incoming text message. While you don't think your kids will notice, they likely do. By switching the device to Airplane Mode, you can still record the event for posterity without the temptation to check anything else.

**Ban Handheld Devices in the Bedroom**

This one applies to parents and kids. You don't need to be checking your email or social media accounts before you get out of bed every morning, and you don't need to check them right before closing your eyes for the night. Plus, if the same rules apply to everyone, you can keep better tabs on what your kids are doing online.

**Create a Central Charging Space**

With all the family's phones and tablets in one space, parents can keep a better eye on them - and ensure that the kids aren't on them when they're supposed to be doing homework or falling asleep. It also makes everyone aware when one of the devices is "missing."

Appendix Figure 14 continued: August 2015 issue of the City of Manhattan *Live Well – Work Well* health and wellness newsletter that was sent out to all employees.



# Live Well—Work Well

## Health & Wellness Newsletter

### Manhattan's New Bike Share Program

Bike sharing programs are becoming popular all over the country. Here in Manhattan, Green Apple Bikes is establishing a program of our own. One that is healthy and safe, environmentally friendly, accessible for all users (it's free!), and financially sustainable to operate.

Bike share is an important part of Manhattan's integrated public transportation network, connecting businesses and people to more destinations across the city. Bike sharing is ideal for short distances, allowing users the ability to pick up a bicycle at any "self-serve" station and return at their convenience. Bicycle maintenance is provided by volunteers.

The bicycles available for public use are 1-speed beach cruisers, complete with front brakes, unisex form and a basket for carrying personal items. The bike racks are painted bright lime green and the bikes are painted white with the Green Apple Bikes label. Linda Mays, project director, says the program is great for students in Manhattan,

especially for the nearly 350 international students that come each semester who may not have transportation.

This bike sharing program isn't just for those who want to see the town or just for students, it's also for those in the community who need any means of transportation. The Manhattan Emergency Shelter is just down the street from one of the bike racks and shelter officials say this program is a great way for their clients to overcome their transportation barriers.

The 30 bikes currently in use can be found on 4th street by Civic Plus and at the McCullough Development building. Officials are also working to get bikes located in City Park and at Kansas State University.

Sources:

1. <http://downtownmanhattanks.com/activities/green-apple-bikes/>
2. <http://ksnt.com/2015/08/28/manhattan-bike-share-program-different-from-the-rest/>

### Fun Facts about Fruits



Everyone knows that fruits are a healthy choice to include in the diet every day, but what you may not know is exactly what benefits these fruits provide our bodies. Here are some interesting facts about fruits that show they can be delicious and nutritious.

Apples:

- 100 g of fresh apple provides just 50 calories. They contain no saturated fats or cholesterol.
- Apples are rich in dietary fiber, which helps prevent absorption of bad cholesterol in the gut. The fiber also saves the colon mucous membrane from exposure to toxic substances by binding to cancer-causing chemicals inside the colon.

Bananas:

- 1 medium banana contains 400 mg potassium.
- Potassium ensures proper nerve signals and heart beats, contributes to proper muscle contraction, helps protect against high blood pressure, and reduces stroke risk.

Cherries:

- Contain anti-inflammatory properties that are effective in reducing heart disease risk factors through their scavenging action against free radicals.

Grapes:

- They are rich in polyphenolic phytochemical compound resveratrol. Resveratrol is one of the powerful antioxidants which has been found to play a protective role against cancers

of colon and prostate, coronary heart disease (CHD), degenerative nerve disease, Alzheimer's disease and viral/fungal infections.

Oranges:

- Oranges, like other citrus fruits, are an excellent source of vitamin C (provides 53.2 mg per 100 g, about 90% of DRI).
- Vitamin C is a powerful natural antioxidant. Consumption of foods rich in vitamin C helps the body develop resistance against infectious agents and scavenge harmful, pro-inflammatory free radicals from the blood.

For more information on fruits, visit <http://www.nutrition-and-you.com/fruit-nutrition.html>

Appendix Figure 15: September 2015 issue of the City of Manhattan *Live Well – Work*

*We*ll health and wellness newsletter that was sent out to all employees.

## Turkey Meatloaf

**Ingredients:**

2 lbs. lean Ground Turkey  
1 package Stuffing Mix  
1 Large Egg  
1/2 cup water  
1/4 cup ketchup

Minutes to Prepare: 10  
Minutes to cook : 45  
Number of Servings: 8

**Directions:**

1. Preheat oven to 350 degrees F.
2. Mix all the ingredients, but omit 1/8 cup ketchup.
3. Form into a loaf and place in a glass baking dish (make sure there is enough room around the edges).
4. Glaze top with remaining 1/8 cup ketchup.
5. Bake 350 degrees for 45-55 minutes. Inside should be 165+ degrees before serving.

**Nutritional Info**

Servings Per Recipe: 8
Amount Per Serving:
Calories: 220.8
Total Fat: 2.7 g
Cholesterol: 72.1 mg
Sodium: 445.2 mg
Total Carbs: 13.3 g
Dietary Fiber: 0.4 g
Protein: 18.5 g

Recipe from Spark Recipes

<http://recipes.sparkpeople.com/recipe-detail.asp?recipe=772722>

## 9 Quick Exercises You Can Do During Commercials

By Shannon Bauer at Fitness Magazine

<http://www.fitnessmagazine.com/workout/express/quick-exercises-commercial-break/?page=1>

After an exhausting day of meetings, errands, and a to-do list that just won't quit, it feels like the closest you're getting to the gym is changing into sweat pants. The solution: Make the most of your commercial breaks. The average one-hour show has about five of them, at about three minutes each—the length of every quick exercise listed here. Mix and match your favorite five to turn TV time into calorie-torching time.

1. Walk Out
2. Balancing Curl to Press
3. Plank Tuck
4. Elevated Split Lunge
5. Leg Curl
6. Low Row
7. Sliding Side Lunge
8. Triceps Push-Up
9. Two-Way Plank Pose

Go to the link above to visit Fitness Magazine's website where they give a detailed explanation of how to do each exercise, as well as a video to follow along with.

## Do These 4 Things Before Bed Tonight to Lose Weight Tomorrow—By Jenny-Sugar at PopSugar

<http://www.msn.com/en-us/health/weightloss/do-these-4-things-before-bed-tonight-to-lose-weight-tomorrow/s-BBjBeAX?cid=HPCDHP#image4>

**1. Brown Bag It**

Not planning ahead is one mistake nutritionists agree causes weight gain. You can avoid the temptation of eating countless calories at the local cafe by packing a lunch from home. Prepare a salad in a mason jar, or make extra for dinner and bring along leftovers. Whatever you choose, it's much easier to add up the calories on lunches you pack from home. And when it's made the night before, there's no morning stress or forgoing it altogether because you don't have time. Go the distance and pack snacks, too, and put everything in the actual lunch bag, so when it's time to head out for the day, you can just throw in an ice bag, grab it, and go.

**2. Morning Time-Saver**

After lunch is in the bag (literally), take a little time to prepare tomorrow's breakfast. Eating breakfast is one way to jumpstart your metabolism, and if it's full of fiber and protein, you'll feel satisfied all morning long. Instead of grabbing a quick bowl of cereal, a sugar-laden scone at the local coffee shop, or skipping out on breakfast altogether, making breakfast at night will save time and calories. If smoothies are your thing, premake these freezer packs, so you can throw them in the blender and be eating your first meal at the kitchen table or on the go. Once breakfast is made, you're also more likely to wake up energetic and excited.

**3. Hit the Hamper**

Skip the fitness gear morning roundup by getting everything you need for your workout ready the night before. Grab your shirt, shorts, socks, sneakers, sunglasses, water bottle, iPod armband, earbuds - everything you need - and lay it out or throw it in your gym bag. Calorie-burning workouts are much more likely to happen if you deliberately take the time to prep for them. And if you make this a habit every night before a workout, you're more likely to get in the rhythm of a regular exercise routine.

**4. Get Cutting**

You don't want to undo all the good you did for the day by coming home tomorrow night starving and throwing together a quick and probably not-the-healthiest meal. So now that tomorrow's lunch, breakfast, and workout gear are all set, take a little time to prep for tomorrow night's dinner. Cut up some peppers, zucchini, and sweet potatoes to roast or grill later. Or make an enormous salad and cook up some whole grains like millet or barley.

Appendix Figure 15 continued: September 2015 issue of the City of Manhattan *Live Well – Work Well* health and wellness newsletter that was sent out to all employees.



# Live Well—Work Well

## Health & Wellness Newsletter

### K-State expert shares food safety tips for Thanksgiving cooking

The Manhattan Mercury—November 13, 2015—Page A2

This Thanksgiving many Americans may find one uninvited guest at their meal: food poisoning.

A Kansas State University food safety expert shares some food preparation tips for home cooks that will ensure guests pile their plates with safe food dishes and forgo a side of food poisoning.

#### Seasoning is in, stuffing is out

Turkey, duck, quail and other game birds are simple to prepare. Those familiar images of a golden brown turkey filled with stuffing, though, are a recipe for disaster, Sevens said.



'For a great tasting bird, rub the inside of the cavity with a seasoning/spice blend made from some salt and pepper and maybe a diced onion or fruit,' Sevens said. 'Meanwhile, stuffing and dressing should be cooked separately to ensure the bird cooks all the way to 165 degrees Fahrenheit and that your dressing isn't based in raw turkey juices.' Also, Sevens says never wash turkey or other raw poultry in the sink to prep it for cooking. There is no safety benefit to rinsing poultry. Instead, washing raw poultry greatly increases the chances of food poisoning as water with the raw juice is likely to splash the cook and the cooking area.

#### Your goose is cooked — to safe levels

Juices, joints and timers cannot tell when turkey and other game birds are fully cooked. A calibrated meat thermometer can, Sevens says. Use the thermometer to take temperatures in the thickest areas of the bird, such as the breast, thigh and leg. The bird is safe to serve once it reaches 165 degrees Fahrenheit.

Sevens also suggests the following to keep holiday cooking efficient and food safe.

- Raw turkey juice as salad dressing? No way, Sevens said. Never use the same cutting board for poultry, raw meats, eggs and vegetables without cleaning and sanitizing between projects.
- Plan your preparation by grouping similar items together to improve efficiency and food safety.  
'If you're doing the bird first, clear the counters and sink areas,' Sevens said. 'Set up your sudsy sink and a sanitation sink with bleach solution. Do all the raw bird prep and then clean and sanitize thoroughly, especially knives and cutting boards. Then move on to the veggies.'

### 20 Healthy Habits That Lead to Big Results

[http://www.popular.com/fitness/How-Healthier-385505003#.kroam\\_view=1#opening-slide](http://www.popular.com/fitness/How-Healthier-385505003#.kroam_view=1#opening-slide)

You don't have to exercise every morning before dawn or stick to nothing but salads - these simple tips will ensure you'll be your healthiest, happiest, and most energetic yet. Being consistent with these small habit changes can lead to big results.

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Move for 30 minutes a day.</li><li>• Make sleep a priority.</li><li>• Drink more water.</li><li>• Eat mindfully.</li><li>• Track your steps.</li><li>• Add greens to (almost) anything.</li><li>• Think positive.</li><li>• Learn to plank. The plank exercise requires no equipment, can be done almost anywhere, and works your entire body</li><li>• Stretch.</li><li>• Snack on nuts.</li></ul> | <ul style="list-style-type: none"><li>• Grab weights to add to your workout.</li><li>• Go intense (for just a few seconds!)</li><li>• Stand more.</li><li>• Clear out junk food.</li><li>• Ditch soda.</li><li>• Relax.</li><li>• Prep produce.</li><li>• Try the 80/20 rule. Eat healthy 80% of the day, and then indulge for the rest of the day if you feel the urge.</li><li>• Cook a meal (or two) at home.</li><li>• Dine smart.</li></ul> |
|---|--|

Appendix Figure 16: November 2015 issue of the City of Manhattan *Live Well – Work Well* health and wellness newsletter that was sent out to all employees.

### Diet Cola Sloppy Joes

#### Ingredients:

16 oz. ground beef

1 cup diet Coke

2/3 cup ketchup

1 Tbsp. Worcestershire sauce

2 Tbsp. white vinegar

2 tsp. dry mustard

2 tsp. garlic powder

Minutes to cook : 45  
Number of Servings: 4



#### Directions:

1. Brown ground beef in skillet. Drain grease.
2. Add remaining ingredients and stir well.
3. Cook on low, uncovered, for at least 30 minutes, or until sauce has thickened.

Recipe from Spark Recipes

<http://recipes.sparkpeople.com/recipe-detail.asp?recipe=1303171>

### 15 Workouts You Can Easily Do At Home

<http://www.buzzfeed.com/ailbhemaalone/workouts-that-you-can-easily-do-at-home#.irpREqEQo>

Google search any of these or simply visit the link above to find a variety of great at-home exercises to get you moving!

1. Blogilates
2. Lauren Hefez
3. Elkhart Yoga
4. XHIT Daily
5. The Lean Machines
6. Bexlife
7. Jillian Michaels 30-Day Shred
8. Popsugar Fitness
9. Fitness Blender
10. Tone It Up
11. Frugal Fitness
12. Tiffany Rothe
13. Do You Yoga
14. K's Perfect Fitness
15. DaveyWavey Fitness

## 22 Ways to Survive Cold and Flu Season — from Health.com

<http://www.msn.com/en-us/health/wellness/22-ways-to-survive-cold-and-flu-season/ss-AAeVxss?cid=HPCDHP#image=1>

Each year, the typical adult can expect to contract two or three colds, so arm yourself with these tips from the experts, and make this cold and flu season your healthiest yet. To see the rest of the article, including the other 10 tips for surviving cold and flu season, visit the link above.

#### 1. Eat yogurt for breakfast

The same live cultures that help ease digestive distress can help stave off a cold. A 2011 study backs this up: Scientists found that people who consumed probiotics via supplements or fermented foods (yogurt) had 12 percent fewer upper respiratory infections.

#### 2. Crack open a window

Spending the day in a stuffy room with anyone who's under the weather raises your risk of catching a bug. Letting a little fresh air circulate keeps airborne viral particles on the move, making them harder to pick up.

#### 3. Have some mushrooms

New research published in the Journal of the American College of Nutrition offered evidence of their immune-boosting powers. People who ate a cooked shiitake mushroom daily for a month showed higher numbers of T cells and less inflammation.

#### 4. Turn away from sneezers

Sure, you hate to be rude, but moving out of firing range is crucial. Germs carried in sneeze particles can travel 20 feet! If a stranger next to you begins sneezing or coughing, excuse yourself and scoot to another seat. All you need to say: "I'm sorry—I always catch colds really easily."

#### 5. Tap your chest

There's an acupressure point in the middle of your breastbone, at the level of your third rib. A series of gentle taps there, for about a minute every couple of hours, will prompt the thymus gland to produce more T cells to attack pathogens.

#### 6. Think it's the flu? Get an Rx, stat

If taken within the first 48 hours of symptoms, the prescription medication Tamiflu stops the virus from replicating and could reduce the length of time you're stuck in bed by a whole day.

#### 7. Load up on liquids

Fluids help thin out the mucus that your body makes when you're sick. When that germ-filled mucus is thinner, it's easier to clear out of your system. Try to drink at least 2 liters of water or other fluids a day.

#### 8. Try elderberry extract

A syrup made from these little black berries has long been used as a folk remedy for viral infections. In concentrated form, the berries' nutrients seem to offer some relief from congestion, aches and pains.

#### 9. Keep getting those probiotics

Research conducted in 2012 compared two groups of college students suffering from colds: The group that took a probiotic supplement with Lactobacillus rhamnosus recovered two days earlier and had symptoms that were 34 percent less severe.

#### 10. Switch on a humidifier

Dry indoor air makes a sore throat and wicked cough even worse. A humidifier helps these symptoms become more bearable by filling the air you breathe with moisture.

#### 11. Order green curry

It's true—chilies and other fiery spices can help clear your sinuses. They make your nose run and your eyes water, and that may provide some temporary relief from congestion. A 2011 study found that a nasal spray made with a chemical called capsaicin, which is derived from hot peppers, rapidly improved congestion.

#### 12. Inhale essential oils

Several times a day, add a few drops of thyme or eucalyptus oil to boiling water, then breathe in the aromatic steam. The menthol-like smell should make your airways feel as if they're opening up.

Appendix Figure 16 continued: November 2015 issue of the City of Manhattan *Live Well*

– *Work Well* health and wellness newsletter that was sent out to all employees.

# YOGURT & KEFIR

EMILY BONILLA  
K-STATE MASTER'S OF PUBLIC HEALTH STUDENT  
RILEY COUNTY RESEARCH & EXTENSION - NUTRITION ASSISTANT

## HISTORY OF YOGURT

- The word "yogurt" is believed to have come from a Turkish word that means to thicken, coagulate, or curdle.
- It is believed that milk products were incorporated into the human diet around 10,000–5,000 BC, with the domestication of milk-producing animals.



1

2

## TYPES OF YOGURT & STORAGE

- 4 common types:
  - Greek
  - Regular
  - Low-fat
  - Nonfat
- Storage:
  - 7-14 days in fridge and 1-2 months in freezer (unopened)



3

## NUTRIENTS IN YOGURT

- Calcium
- Lactoferrin
- Protein
- Vitamin B2 (riboflavin)
- Vitamin B12
- Potassium
- Zinc
- Iodine
- Magnesium
- Live active cultures – prebiotics & probiotics

4

## HEALTH BENEFITS OF YOGURT

- Contains bone building nutrients – prevents osteoporosis
- Contains live active cultures – probiotics and prebiotics
- Anticancer properties
- Lowers cholesterol
- Inhibits unfriendly bacteria
- Strengthens the immune system
- Reduces arthritis symptoms
- Protects mouth and teeth



3

## HISTORY OF KEFIR

- A fermented milk beverage believed to have originated many centuries ago in the Northern Caucasus Mountains.
- Kefir is created through the symbiotic fermentation of milk by lactic acid bacteria and yeasts contained within the kefir grain. This gives it a tart and acidic flavor.



Appendix Figure 17: Yogurt and Kefir PowerPoint presented at the Riley County Senior Services Center in September 2016.

## KEFIR

- Two types:
  - sugary, a fermented sweetened water
  - milky, a fermented milk beverage
- Properly fermented kefir inhibits many pathogens.
- How to make kefir at home
  - <https://www.youtube.com/watch?v=aHjpj23iaSc>



## HEALTH BENEFITS OF KEFIR

- Similar to that of yogurt
  - Cholesterol metabolism
  - Antimicrobial activity
  - Tumor suppression
  - Increased speed of wound healing
  - Boosts immune system
  - Alleviated asthma and allergy symptoms
  - Benefits gut microbiota – contributes to health and long life
  - Live active cultures – probiotics

7

## LIVE ACTIVE CULTURES

- Probiotics
  - Live microorganisms that when taken in adequate amounts can be of benefit to our health.
  - Yogurt is the most commonly eaten probiotic.
  - Helps relieve symptoms of
    - Diarrhea
    - Irritable bowel syndrome
    - Inflammatory bowel disease
    - Ulcerative colitis
  - For most populations, probiotic consumption is considered safe and complications rare

## LIVE ACTIVE CULTURES

- Prebiotics
  - Dietary substances that nurture specific changes in the composition and/or activity of the gastrointestinal microbiota (favoring beneficial bacteria), thus conferring benefit(s) upon host health
  - Serve as food for good bacteria
  - Stimulates growth of beneficial bacteria in the colon
  - Found in legumes, vegetables (onions), cereals (oatmeal, flax, barley) and yogurt
  - Fructooligosaccharides - inhibit potentially pathogenic organisms as well as increase the absorption of minerals such as calcium, magnesium, iron and zinc.

9

8

## SAMPLES & RECIPE BOOKS



Appendix Figure 17 continued: Yogurt and Kefir PowerPoint presented at the Riley County Senior Services Center in September 2016.

10

# Apples & Squash

Emily Bonilla

K-State Master's of Public Health Student

Riley County Research & Extension – Nutrition Assistant

## APPLES

### Apples



- Archeologists have found evidence that humans have been enjoying apples since at least 6500 B.C.
- The apple tree originated in an area between the Caspian and the Black Sea.
- Apples were the favorite fruit of ancient Greeks and Romans.
- Apples are a member of the rose family.
- 2,500 varieties of apples are grown in the United States.
- 7,500 varieties of apples are grown throughout the world.
- Apples are grown in all 50 states.

1

### A Few Types of Apples

Golden Delicious	Fuji	Gala
A yellow-green apple with a smooth skin texture.	A red apple with a distinct white center.	A red apple with a prominent white star-shaped core.
Braeburn	Granny Smith	Jonagold
A red apple with a yellow base and a unique pointed shape.	A bright green apple with a slightly textured skin.	A red apple with a yellow base and a distinct yellow core.
Winesap	Arkansas Black	Rome
A dark red apple with a shiny, waxy surface.	A dark purple/black apple with a smooth skin.	A red apple with a yellow base and a distinct yellow core.

2

### Apple Nutrition

- Apples contain 80% to 85% water.
- The sugar content of a fresh apple varies from 6% to 10%, according to the variety.
- In spite of the large proportion of water, a fresh apple is rich in vitamins.
- Apples are a source of both soluble and insoluble fiber.
  - Soluble fiber such as pectin actually helps to prevent cholesterol buildup in the lining of blood vessel walls, thus reducing the incident of atherosclerosis and heart disease.
  - The insoluble fiber in apples provides bulk in the intestinal tract, holding water to cleanse and move food quickly through the digestive system.
- It is a good idea to eat apples with their skin. Almost half of the vitamin C content is just underneath the skin. Eating the skin also increases insoluble fiber content.

3

### Health Benefits of Apples



- The acids of an apple not only make the fruit itself digestible, but even make it helpful in digesting other foods.
- The sugar of a sweet apple, like most fruit sugars, is practically a predigested food, and is soon ready to pass into the blood to provide energy and warmth for the body.
- A ripe raw apple is one of the easiest vegetable substances for the stomach to deal with. The whole process of its digestion being completed in eighty-five minutes.
- Ripe, juicy apples eaten at bedtime every night will cure some of the worst forms of constipation.

4

Appendix Figure 18: Apples and Squash PowerPoint presented at the Riley County Senior Services Center in October 2016.

## Health Benefits of Apples



- Heart disease**  
Consuming low doses of the flavonoid quercetin in the diet lower the risk of heart disease. Consuming quercetin-rich foods, including apple peels, may help prevent chronic inflammation that could lead to cardiovascular disease.
- Lungs**  
Studies have found that eating five or more apples a week can be linked to better lung function, but the number of apples consumed may simply reflect a healthier lifestyle.  
Quercetin can protect the lungs from atmospheric pollutants such as cigarette smoke by reducing the number of harmful free radicals found in such chemicals that can damage the exposed inside tissue.
- Researchers in Australia also showed apple consumption may have a role in lowering the risk of asthma in young adults (28-42 years of age).**
- Memory**  
Mice fed concentrated apple juice (equivalent of 2-3 cups of apple juice per day) performed better when placed in a maze and their brains had less oxidative damage. In humans, higher intake of vegetables and fruit, such as apples, has been shown to reduce the risk of degenerative conditions such as Alzheimer's.

7

## Fun Facts about Apples



- Apple trees take four to five years to produce their first fruit.
- Some apple trees will grow over 40 feet high and live over 100 years.
- World's top apple producers are China, United States, Turkey, Poland and Italy.
- The top apple producing states are Washington, New York, Michigan, Pennsylvania, California and Virginia.
- Apples ripen six to ten times faster at room temperature than if they were refrigerated.
- Apples harvested from an average tree can fill 20 boxes that weigh 42 pounds each. (Total of 840lbs)
- It takes about 36 apples to create one gallon of apple cider.

8

## SQUASH

### Winter Squash

- It is harvested and eaten in the mature fruit stage, when the seeds within have matured fully and the skin has hardened into a tough rind
- When ripened to this stage, fruits of most varieties can be stored for use throughout the winter
- Have a higher nutritional value

### Both

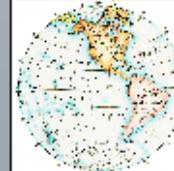
- A warm-season vegetable
- Can be grown throughout the U.S. anytime during the warm, frost-free season
- Has an edible gourd

### Summer Squash

- Selected to be harvested before the rind hardens and the fruit matures – during the immature stage
- It grows on bush-type plants that do not spread like the plants of fall and winter squash and pumpkin.
- They should be harvested when small and tender for best quality.
- Most elongated varieties are picked when they are 2 inches or less in diameter and 6 to 8 inches long.
- Usually ready to pick within 4 to 8 days after flowering
- Have a lower nutritional value

9

## History of Squash



- Summer and winter squash, as well as pumpkins, are native to the Western Hemisphere.
- Unlike maize and tomatoes, this summer squash had not been carried into Central or North America or even northern South America at the time of discovery of the New World. It was unknown to the Old World until the 16th century, and the oldest known definite record of it is dated 1591.
- Since summer squash requires a fair amount of hot weather for best growth, it has never become very well known in northern Europe, the British Isles, or in similar areas with short or cool summers.
- Winter squash is a long-vining plant native to Mexico and Central America.
- It was an important food plants of the natives, ranking next to maize and beans. The flowers and the mature seeds, as well as the flesh of the fruit, are eaten in some areas.

10

## Winter Squash

Acorn	Butternut	Calabaza	Delicata
Hubbard	Kabocha	Pumpkin	Spaghetti

Appendix Figure 18 continued: Apples and Squash PowerPoint presented at the Riley County Senior Services Center in October 2016.

## Summer Squash



13

## Nutritional Value of Summer Squash

Nutrition Facts (per 1 cup, raw, sliced)	
Calories: 30.22	Fat: 0.17 g
Protein: 1.73 g	Carbohydrate: 7.34 g
Dietary Fiber: 1.14 g	Lipid: 0.27 g
Total Sugars: 2.24	Cholesterol: 0.00 mg
Beta-Carotene: 24	Iron: 0.73 mg
Saponins: 0.0111	Thiamin: 0.189 mg
Flavonoids: 24.12 mg	Pantothenic Acid: 0.274 mg
Phenols: 0.726 mg	Vitamin A: 7.296 %*

- Because summer squash is immature, they are considerably lower in nutritional value than their winter counterparts.
- Generally, there is little variation in nutritional value between summer squash varieties. The peel is where many of the nutrients hide, so never peel summer squash.

15

## SAMPLES & RECIPE BOOK!



## Nutritional Value of Winter Squash

Nutrition Facts (per 1 cup, raw, sliced)	
Calories: 50.22	Fat: 0.17 g
Protein: 1.73 g	Carbohydrate: 12.34 g
Dietary Fiber: 1.27 g	Lipid: 0.27 g
Total Sugars: 2.24	Cholesterol: 0.00 mg
Beta-Carotene: 24	Iron: 0.73 mg
Saponins: 0.0111	Thiamin: 0.189 mg
Flavonoids: 24.12 mg	Pantothenic Acid: 0.274 mg
Phenols: 0.726 mg	Vitamin A: 7.296 %*

• Winter squash is a tasty source of complex carbohydrate (natural sugar and starch) and fiber. Fiber absorbs water and becomes bulky in the stomach. It works throughout the intestinal track, cleaning and moving waste quickly out of the body. Research suggests that this soluble fiber plays an important role in reducing the incidence of colon cancer.

• Winter squash is also a source of potassium, niacin, iron and beta carotene. Beta carotene is converted to Vitamin A in the body. Vitamin A being essential for healthy skin, vision, bone development and maintenance as well as many other functions.

• The nutrient content of winter squash varies, depending on the variety.

14

## Health Benefits of Squash

- Immune system health
- Managing diabetes
- Anti-inflammatory capacity
- Antiseptic, antimicrobial, antifungal activity
- Lung health
- Prevent neural tube defects
- Cardiovascular health
- Aids in improving bone and eye health
- Helps reduce blood pressure

16

Appendix Figure 18 continued: Apples and Squash PowerPoint presented at the Riley County Senior Services Center in October 2016.

# HEALTH & WELLNESS FOR SENIORS

Emily Bonilla  
Kansas State University  
Master's of Public Health Student  
Riley County Research & Extension –  
Nutrition Assistant  
November 16, 2016

1

## CHOOSING HEALTHY FOODS IS A SMART THING TO DO—NO MATTER HOW OLD YOU ARE!

Here are some tips to get you started:

- Eat many different colors and types of vegetables and fruits.
- Make sure at least half of your grains are whole grains.
- Eat only small amounts of solid fats and foods with added sugars. Limit saturated fat (found mostly in foods that come from animals) and trans fats (found in foods like store-bought baked goods and some margarines).
- Eat “good” (poly- and monounsaturated) fats, like those found in seeds, nuts, avocados, and fatty fish like salmon. Any fats added in cooking should come from olive, canola, corn, or vegetable oil.
- Eat seafood twice a week. Small fish, like sardines or trout, or farm-raised fish (check the label) contain less mercury than large fish, like tuna. Mercury can be harmful.

2

### EAT A WELL BALANCED DIET

	Amount per Day	Examples
Fruits	1 ½ – 2 ½ cups	½ cup cut-up fruit = 1 fresh 2 inch peach or 16 grapes
Vegetables	2 – 3 ½ cups	1 cup cut-up vegetables = 2 cups uncooked leafy vegetables
Grains	5 – 10 ounces	1 ounce = 1 small bagel, 1 slice of whole grain bread, 1 cup baked ready-to-eat cereal, ½ cup cooked rice or pasta
Protein	5 – 7 ounces	1 ounce meat = 1 egg, ½ cup cooked beans, ½ ounce nuts or seeds 1 Tbsp. peanut butter
Dairy	2 cups	1 cup milk, 1 cup plain yogurt, 1 ½ – 2 ounces cheese

3

### FIBER



♦ Fiber is found in foods from plants—fruits, vegetables, beans, nuts, seeds, and whole grains. Eating more fiber might prevent stomach or intestine problems, like constipation. It might also help lower cholesterol, as well as blood sugar.

♦ It is better to get fiber from food than dietary supplements. Start adding fiber slowly. That will help avoid gas. Here are some tips for adding fiber:

- Eat cooked dry beans, peas, and lentils often.
- Leave skins on your fruit and vegetables if possible, but wash them first.
- Choose whole fruit over fruit juice.
- Eat whole grain breads and cereals.
- Drink plenty of liquids to help fiber move through your intestines.

3

### HOW MANY CALORIES DO PEOPLE OVER AGE 50 NEED EACH DAY?



Adults:

- Who is not physically active needs about 1,600 calories
- Who is somewhat active needs about 1,800 calories
- Who has an active lifestyle needs about 2,000-2,200 calories

Men:

- Who is not physically active needs about 2,000 calories
- Who is somewhat active needs about 2,200-2,400 calories
- Who has an active lifestyle needs about 2,400-2,800 calories

Remember: Aim for at least 150 minutes (2½ hours) of physical activity each week. Ten-minute sessions several times a day on most days are fine.

4

### SALT



♦ The usual way people get sodium is by eating salts. The body needs sodium, but too much can make blood pressure go up in some people. Many fresh foods contain some sodium, especially those high in protein. However, most unprocessed fruits and vegetables do not have much sodium. Salt is added to many canned and prepared foods.

♦ People tend to eat more salt than they need. If you are 51 or older, about two thirds of a teaspoon of table salt—1,500 milligrams (mg) sodium—is all you need each day. That includes all the sodium in your food and drink, not just the salt you add.

♦ Try to avoid adding salt during cooking or at the table. Talk to your doctor before using salt substitutes. Some contain sodium. And most have potassium, which some people also need to limit. Eat fewer salty snacks and processed foods, such as lunch meats.

♦ Look for the word sodium, not salt, on the Nutrition Facts panel. Choose foods labeled “low sodium.” The amount of sodium in the same kind of food can vary greatly among brands, so check the label.

Here's a tip: Spices, herbs, and lemon juice add flavor to your food, so you won't miss the salt.

**Appendix Figure 19:** Health and Wellness PowerPoint presented at the Riley County Senior Services Center in November 2016.

## FATS



Fat in your diet comes from two places—the fat already in food and the fat added when you cook. Fat gives you energy and helps your body use certain vitamins, but it is high in calories. To lower the fat in your diet:

- Choose cuts of meat, fish, or poultry (with the skin removed) with less fat.
- Trim off any extra fat before cooking.
- Use low-fat dairy products and salad dressings.
- Use nonstick pots and pans, and cook without added fat.
- Choose an unsaturated, monounsaturated, or polyunsaturated vegetable oil (such as olive, canola, or vegetable oil) for cooking—check the label.
- Don't fry foods. Instead, broil, roast, bake, stir-fry, steam, microwave, or boil them.

7

## COMPARISONS

3 ounces of meat or poultry	Half cup of fruit, rice, or pasta	1 cup of salad greens	1½ ounces of cheese	1 teaspoon of butter or margarine	2 tablespoons of peanut butter	1 cup of flavored cereal or a baked potato
1 deck of cards	Half baseball	1 baseball	4 dice	Tip of your first finger	1 ping-pong ball	1 fist

8

## HOW TO READ NUTRITION FACTS LABELS

9

## CALORIES

Nutrition Facts	
Serving Size 14.0 oz (393g)	Servings Per Container 4
Amount of One Serving	
Calories 235	Calories from Fat 20
Total Fat 2g	% Daily Value
Sat. and Trans Fat 1.2g	2%
Cholesterol 30mg	1%
Carbohydrates 10.4g	3%
Sugars 4.0g	1%
Total Carbohydrate 4g	1%
Dietary Fiber 0g	0%
Sugars 4g	1%
Protein 13g	
Chole. 0% DV	0% DV
Sugars 6% DV	6% DV
Protein 26% DV	26% DV

- The calories listed are for one serving of the food.
- "Calories from fat" shows how many fat calories there are in one serving.
- Remember -- a product that's fat-free isn't necessarily calorie-free. Read the label!

## SERVING SIZE

1		
2		
3		
4		
5		

- This section shows how many servings are in the package, and how big the serving is.
- Serving sizes are given in familiar measurements, such as "cups" or "pieces."
- Remember: All of the nutrition information on the label is based upon one serving of the food.
- A package of food often contains more than one serving!

10

## PERCENT DAILY VALUE

1		
2		
3		
4		
5		

- This section tells you how the nutrients in one serving of the food contribute to your total daily diet.
- Use it to choose foods that are high in the nutrients you should get more of, and low in the nutrients you should get less of.
- Daily Values are based on a 2,000-calorie diet. However, your nutritional needs will likely depend on how physically active you are.
- Talk to your healthcare provider to see what calorie level is right for you.

Appendix Figure 19 continued: Health and Wellness PowerPoint presented at the Riley County Senior Services Center in November 2016.

### LIMIT THESE NUTRIENTS

**Nutrition Facts**

1. Total Fat 2g  
2. Saturated Fat 1g  
3. Cholesterol 10mg  
4. Sodium 100mg  
5. Sugars 10g

- Eating too much total fat (especially saturated fat and trans fat), cholesterol, or sodium may increase your risk of certain chronic diseases, such as heart disease, some cancers, or high blood pressure.
- Try to keep these nutrients as low as possible each day.

13

### GET ENOUGH OF THESE NUTRIENTS

**Nutrition Facts**

1. Dietary Fiber 1g  
2. Vitamin C 100mg  
3. Calcium 100mg  
4. Potassium 100mg  
5. Magnesium 100mg

- Americans often don't get enough dietary fiber, vitamin A, vitamin C, calcium, and potassium in their diets.
- These nutrients are essential for keeping you feeling strong and healthy.
- Eating enough of these nutrients may improve your health and help reduce the risk of some diseases.

14

**PHYSICAL ACTIVITY IS GREAT FOR ALL AGES!**

15

### PHYSICAL ACTIVITY

- Physical activity is good for your health at every age. If you have never been active, starting regular physical activity now may improve your endurance, strength, balance, and flexibility. Being active may help you live on your own for a longer time and keep you healthy.
- For any new physical activity, if you have not been active, start slowly and work up to your goal. To track your progress and stay motivated, keep a daily diary of what you do and how long you do it.
- Many activities give you more than just one benefit! Water aerobics with weights gives you strengthening and aerobic benefits. Yoga combines balance, flexibility, and strengthening. Choose what you like to do—some physical activity is better than none.

16

### PHYSICAL ACTIVITY

	What is it?	What are the benefits?	What can I do?	How often?
Aerobic Activity	<ul style="list-style-type: none"> <li>Aerobic (or endurance) exercise strengthens large muscle groups (chest, legs, and back) to increase your heart rate and breathing.</li> <li>You can speak several words in a row but not have a long drag while exercising.</li> </ul>	<ul style="list-style-type: none"> <li>Stay active as you age.</li> </ul>	<ul style="list-style-type: none"> <li>Go for a brisk walk.</li> <li>Do heavy housework or gardening.</li> <li>Look into a water aerobics or tennis class for seniors. You may find free or discounted classes at a local community or senior center.</li> </ul>	<ul style="list-style-type: none"> <li>Aim to spread at least 150 minutes of moderately intense activity throughout the week.</li> <li>Reach your 150-minute goal by exercising or least 10 minutes at a time.</li> </ul>

15

### PHYSICAL ACTIVITY

	What is it?	What are the benefits?	What can I do?	How often?
Activity to Strengthen Muscles		<ul style="list-style-type: none"> <li>This activity strengthens your muscles by making you push or pull against something, such as gravity, hand-held weights, exercise bands, or even soap cans.</li> <li>Increase your strength and independence.</li> <li>Reduce your need for a cane.</li> <li>Improve your balance over time.</li> </ul>	<ul style="list-style-type: none"> <li>Raise and lower arms and legs for a number of counts. You can even do this while seated.</li> <li>Climb stairs in your house or at a mall if you can do so safely. Use your cane if needed.</li> <li>Dig in the garden, rake, and push a lawn mower.</li> </ul>	<ul style="list-style-type: none"> <li>Aim for at least 2 days a week.</li> </ul>

Appendix Figure 19 continued: Health and Wellness PowerPoint presented at the Riley County Senior Services Center in November 2016.

## PHYSICAL ACTIVITY

	What is it?	What are the benefits?	What can I do?	How often?
Activity to improve balance	<ul style="list-style-type: none"> <li>Balance activity requires you to keep control of your body as you move.</li> <li>It may help strengthen muscles in your abdomen (stomach area), lower back, hips, and legs.</li> </ul>	<ul style="list-style-type: none"> <li>Stay steady on your feet.</li> <li>Reduce the risk of a fall or injury.</li> <li>Improve your strength at the same time.</li> </ul>	<ul style="list-style-type: none"> <li>Try walking heel to toe in a straight line.</li> <li>Practice standing on one foot.</li> <li>Stand up from a chair and sit down again without using your hands.</li> </ul>	Aim for 2 or more days a week.

19

## PHYSICAL ACTIVITY

	What is it?	What are the benefits?	What can I do?	How often?
Activity to increase flexibility	<ul style="list-style-type: none"> <li>Flexibility activity improves your range of motion.</li> </ul>	<ul style="list-style-type: none"> <li>Keep the full range of motion of your muscles and joints.</li> <li>Reduce stiffness in your eyes.</li> <li>Lower your stress.</li> </ul>	<ul style="list-style-type: none"> <li>Stretch all muscle groups.</li> <li>Take a yoga class or practice yoga with a video.</li> </ul>	Aim for 2 or more days a week.

20

## WEBSITES WITH MORE INFORMATION

- <http://www.nutrition.gov/life-stages/seniors>
- <http://www.fda.gov/Food/ResourcesForYou/Consumers/wcm267499.htm>
- [https://www.ncbi.nlm.nih.gov/health-information/health-topics/weight-control/young-heart-tips-Older-adults/Pages/young-heart-tips-older-adults.aspx#physical\\_activity](https://www.ncbi.nlm.nih.gov/health-information/health-topics/weight-control/young-heart-tips-Older-adults/Pages/young-heart-tips-older-adults.aspx#physical_activity)
- <http://www.cdc.gov/aging/index.html>
- <http://cosfact.okstate.edu/documents/dsweb/Get/Document-4989/T-2237web.pdf>
- <http://www.k-state.edu/humannutrition/nutrition-topics/women/women-documents/women-over-50.pdf>
- <http://www.k-state.edu/humannutrition/nutrition-topics/adults/men/men-documents/men-over-50.pdf>

21



22

Appendix Figure 19 continued: Health and Wellness PowerPoint presented at the Riley County Senior Services Center in November 2016.





# Let's Party!

Host a series of  
**Thrifty Chef Parties**  
that include:

- nutrition lessons
- hands-on cooking
- door prizes

## EARN HOSTESS REWARDS

Host 5 consecutive parties and if...

3 friends attend  
all 5 parties



4 friends attend  
all 5 parties



5 or more friends  
attend all 5 parties



## Contact us to host a party today!

**K-STATE**  
Research and Extension



EFNEP helps young families and youth with limited resources learn practical lessons in basic nutrition, food preparation, food budget management and food safety; and connect with local support agencies.

No federal, state or local EFNEP or extension funds are used to purchase hostess gifts for the Thrifty Chef program. Door prizes are program reinforcement items that are allowable purchases within EFNEP.

This material is based upon the Expanded Food and Nutrition Education Program (EFNEP), supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

**Emily Bonilla**  
**Riley County Nutrition Assistant**  
110 Courthouse Plaza, Manhattan, KS 66502  
785-537-6350  
785-537-6352 fax  
[tennisbb@k-state.edu](mailto:tennisbb@k-state.edu)

Appendix Figure 20: Thrifty Chef Flyer developed by Judy Speer, Graphic Design Specialist in the Department of Human Ecology at K-State, which was sent out to recruit party participants and hostesses.

## References

- Amato, K., Park, E., & Nigg, C. R. (2016). Prioritizing multiple health behavior change research topics: Expert opinions in behavior change science. *Translational Behavioral Medicine*, 6(2), 220-227.
- Centers for Disease Control and Prevention. (2013). *Social ecological model*. Retrieved November 16, 2016, from <http://www.cdc.gov/nccdphp/dnpao/state-local-programs/health-equity/framing-the-issue.html>
- Eat Smart, Move More NC Leadership Team. (2016). *EFNEP's families eat smart and moving more*. Retrieved November 22, 2016, from <http://www.eatsmartmovemorenc.com/EFNEPFamilies/EFNEPFamilies.html>
- Gregory, T., Coleman, C., & Jolley, S. (2015). *Community needs assessment for riley county* (Community Needs Assessment. Manhattan, KS: Riley County Seniors' Service Center.
- Kansas Health Foundation. *Community change model*. Retrieved November 16, 2016, from <https://www.myctb.org/wst/hci/GrantRequirements/March%202016%20Convening/Handouts/Community%20Change%20Model%20With%20Descriptions.pdf>
- K-State Research and Extension. (2015). *Riley county extension youth enrichment 2015-2016*. Retrieved November 22, 2016, from <http://www.riley.k-state.edu/4-h/afterschool/2015-16%20Youth%20Enrichment%20Brochure.pdf>

K-State Research and Extension. (2016). *K-state reserach and extension*. Retrieved

November 16, 2016, from <http://www.ksre.k-state.edu/>

Peirson, L. J., Boydell, K. M., Ferguson, H. B., & Ferris, L. E. (2011). An ecological

process model of systems change. *American Journal of Community Psychology*, 47(3-4), 307-321.

Price, G., Dias, D. & Ames, B. (2016). *Dining with diabetes*. Retrieved November 22,

2016, from <http://www.k-state.edu/diningwithdiabetes/>

The Food Trust. (2012). *What is policy, systems, and environmental (PSE)*

*change?Health Trust.*

Walsten, K., & Procter, S. (2016). *Book in a bag*. Retrieved November 22, 2016,

from <http://www.he.k-state.edu/fnp/educators/bib/>

Work Group for Community Health and Development. (2016). Developing a plan for

assessing local needs and resources. *Community Tool Box, Chapter 3*(Section 1),

9-19-16.

Yarber, L., Brownson, C. A., Jacob, R. R., Baker, E. A., Jones, E., Baumann, C., et al.

(2015). Evaluating a train-the-trainer approach for improving capacity for

evidence-based decision making in public health. *BMC Health Services*

*Research*, 15, 547.