THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT (KDHE) PHYSICAL ACTIVITY AND NUTRITION PROGRAM: FIELD EXPERIENCE REPORT

by

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A Field Experience Report

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Abstract

This report presents a detailed field experience undertaken for 240 hours with the Kansas State Department of Health and Environment (KDHE), Physical Activity and Nutrition (PAN) program. The mission of the Physical Activity and Nutrition program is to increase the number of Kansas residents who have the knowledge, motivation and opportunity to make lifestyle choices that promote healthy eating and increased physical activity through state level leadership and coordination that reaches into communities across the state.

Work on health policy development and implementation through strategies directed to prevent obesity and other chronic disease and promotion of healthy food choices will be discussed. Completed projects include the development of an issue paper, data management for the Senior Farmers Market Nutrition Program (SFMNP), a program designed to increase the consumption of fruit and vegetables for low-income older adult population; and the Rapid Market Assessment, an evaluation of the contribution of the Capitol Mid-Week Farmers Market designed to increase consumption of fruit and vegetable by downtown employees while contributing to the local economy.

The experience of being the Physical Activity and Nutrition intern at the Kansas State Department of Health and Environment deepened my understanding of policy development and implementation processes for the prevention of obesity and other chronic diseases through evidence based strategies, in collaboration with other government departments and private organizations.
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My Manhattan sisters, Jeanne, Jing, Junli, Manpreet and Vuyiswa, you have been such an inspiration and I am grateful for your love, prayers and motivation throughout the whole academic process.

Lastly, I would like to thank both my families, Ndlela’s and Sibiya’s for being so loving and encouraging, without all of your support, I would not have even pursued the Master’s degree. To VM Sibiya, I am grateful for believing in me and motivating me to work hard and be the best I can be, you have continuously been my pillar of strength throughout, Sotobe!
Chapter 1 - Introduction

Childhood and adult obesity is a growing health challenge for the United States. Childhood obesity has doubled and tripled over the past decades (CDC a, 2013)\(^1\). Nationally, the trends for adult obesity have been incremental over the past years, with obesity currently affecting about 35.7% of the U.S adult population, with notable imbalanced rates of obesity by ethnicity and socioeconomic status (CDC b, 2012)\(^2\). Obesity is a precursor of chronic disease including diabetes, stroke (ibid) and heart disease, the leading cause of death in the US in 2011 (CDC c, 2012)\(^3\).

The causes of obesity have been found to be multi-faceted, with interaction of diet and physical activity described by the World Health Organization (WHO, 2004)\(^4\) as a leading contributor to non-communicable diseases globally. A majority of nutrition interventions with regard to obesity have been directed at the individual level, with the intention to modify personal behavior, changes to food choices and physical activity. However, it has been well documented that obesogenic environments, defined by Swinburn & Egger\(^5\) as ‘the sum of influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals or populations,’ contribute the most to the onset of obesity thus proposing the targeting of environmental changes that will make ‘the healthy choices the easiest choices’ (ibid).

Recognizing the influence the broader environment has on obesity promotion, the Institute of Medicine (IOM)\(^6\) in a 2012 report commissioned by the Robert Wood Johnson Foundation, examined strategies intended to rapidly enhance the prevention of obesity. The IOM suggested key recommendations that could prove effective if leaders from key sectors that most impact obesity (school environments, food and beverage environments, health care and work
environments and physical activity environments) are fully engaged in implementing the following recommendations for a holistic approach to the obesity problem (ibid). The recommendations are to:

1. Make physical activity an integral and routine part of life
2. Create food and beverage environments that ensure that healthy food and beverages are the routine, easy choice
3. Transform messages about physical activity and nutrition
4. Expand the roles of health care providers, insurers and employers
5. Make schools a national focal point

Public Health

As defined by the WHO, public health is the ‘organized measures to prevent disease, promote health and prolong life among the population as a whole’ with the target as the entire population. The three functions of public health are (ibid):

1. Assessment and monitoring of the health communities and populations, with the aim to identify health needs, problems and priorities,
2. Formulation of public policies designed to solve identified local and national health problems and priorities, and
3. Assuring that all populations have access to appropriate and cost effective care, including health promotion and disease prevention services.

Public Health Policy

The greatest achievements in public health have been mainly due to the introduction of population-based interventions, which have resulted in declines in infectious disease, motor vehicle accidents, and workplace accidents, thus increasing the average life expectancy of U.S citizens in the 20th century by 30 years. The obesity situation needs intervention by governments through policies that will ‘address both the ‘energy in’ and ‘energy out’ components of weight maintenance’, as government policies cut across all the environments that
contribute to obesity, and therefore could be helpful in making systematic changes that will benefit a larger population.

It is widely documented that obesity affects different groups of the United States population differently, with the lower socio economic status more greatly affected. A study by Deboy & Lebrun found that health conditions and health behaviors were poor in low socio economic groups of different racial groups; however, within the same racial groups, great disparities existed as well. Mello et al. recognized that while the law can be used to create an enabling environment to make healthy food and lifestyle choices, laws aimed at preventing obesity are often seen as interfering with the rights of individuals.

Nevertheless, there are existing nutrition policies, such as those implemented by the Food and Nutrition Service in the regulation of standards for school lunch meals, the provision of targeted nutrients and addition of fresh fruit and vegetables in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) attempting to make the healthy choice, the easiest choice. Evaluations of the effects of the programs on the health status of targeted populations may elucidate how making systematic changes can bring about equal access to healthy food choices.
Chapter 2 - Field Experience

Rationale

The Master of Public Health at Kansas State University requires that the field experience, public health practice be undertaken by all MPH students at an external organization. The objectives of the field experience are to:

- Provide a bridge between professional academic preparation and public health practice
- Allow students to apply knowledge, attitudes and skills learned in the core public health courses and the area of emphasis in an organizational setting that provides mentoring and supervision by a public health practitioner.

Before applying for the internship, I had already completed the following core public health courses and also a required course for the nutrition area of emphasis.

- Biostatistics (STAT 701)
- Epidemiology (DMP 754)
- Environmental Health Sciences (DMP 806)
- Health Services Administration (HMD 720)
- Social and Behavioral Sciences (KIN 818)
- Nutritional Epidemiology (HN 844)
- Colloq. Mass Communication: Risk Communication (MC 720)

The core coursework formed an academic foundation that helped me understand the public health care setting in the United States and provided skills essential for undertaking the field experience assignments.

Scope of work

My main mission for the field experience was to seek a position where I would apply the theoretical knowledge gained from the above coursework in a nutrition policy development environment. My aim was to be engaged with the various levels of policy development beginning with identifying policy problems, through conducting research that will inform policy development. Observing the administration of government health departments and their collaboration with other public and private stakeholders were also areas of my interest, as public
health nutrition requires the engagement of broader sectors for efficient programs and interventions.

**Kansas Department of Health and Environment (KDHE)**

The Kansas State Department of Health and Environment, Bureau of Health Promotion is strategically positioned within the state Division of Public Health, along with other programs such as: Disease Control and Prevention, Health Promotion, Epidemiology and Public Health Informatics, Family Health, and Community Health Systems, Environmental Health, Oral Health, Centers for Health Equity and the Center for Performance Management.

The mission of the Bureau of Health Promotion is, through partnerships with the people of Kansas, to promote healthy behaviors, policies and environmental changes that improve the quality of life and prevent chronic diseases, injury and premature death. To achieve this mission, the bureau coordinates programs addressing arthritis, cancer, diabetes, heart disease and stroke, health risk studies, injury prevention and disability programs, physical activity and nutrition, Safe Kids Kansas and tobacco use prevention.

I was awarded an intern position to complete 240 hours public health practice at the Kansas Department of Health and Environment, Physical Activity and Nutrition (PAN) Program, under the direction of Dr. Anthony Randles MPH, PhD. The mission of the PAN program is to increase the number of Kansas residents who have the knowledge, motivation, and opportunity to make lifestyle choices that promote healthy eating and increased physical activity through state level leadership and coordination that reaches into communities across the state.

The desire to complete an internship with KDHE was based on my personal and academic interests outlining the following learning objectives:

- To learn the processes of identifying key issues and engaging appropriate stakeholders in the development of nutrition policy
- Gain experience in leading nutrition discussions that will engage stakeholders, including politicians and draw them toward commitment to support legislature addressing nutrition interventions
- Learn to conduct research that guides and informs policy development
- Experience the actual environment of government procedures in the US government.
Upon being interviewed by the Director of the Bureau of Health Promotion, the tasks to be performed and anticipated products were mutually agreed on and an agreement form was signed and submitted to the MPH program office.

**Activities to be performed:**

- Work on the Healthy Kansas program to update the Healthy People objectives for 2020, whereby datasets will be reviewed and fact sheets on nutrition and physical activity will be developed
- Develop issue papers to help come up with recommendations for the prevention of obesity
- Manage data for the Senior Farmers Market Nutrition Program (SFMNP)
- Conduct an evaluation study of the SFMNP
- Implement state nutrition programs and gain overall experience of working on other projects within the state health department

**Anticipated products were:**

- Issue papers on obesity
- Fact sheets on physical activity and nutrition
- Data management skills
- Evaluation report of fruit and vegetable consumption program for seniors
- Governance of health and nutrition programs linking to policy
- Increased professionalism
Chapter 3 - Discussion of Activities and Projects

As stated, the mission of the Physical Activity Nutrition (PAN) program is to increase the number of Kansas residents who have the knowledge, motivation, and opportunity to make lifestyle choices that promote healthy eating and increased physical activity through state level leadership and coordination that reaches into communities across the state.

The PAN program serves as an implementer of federal and state nutrition and physical activity programs and coordinator of nutrition and physical activities from all communities in all counties of Kansas. The PAN is responsible for making policy decisions, in collaboration with stakeholders to achieve healthy eating and increased physical activity in the state of Kansas. It is also responsible for mobilizing resources for the different policy actions that need to be implemented.

Policy initiatives

For the duration of the internship, my task was to engage in policy discussions with different stakeholders for the state department and make contributions on nutrition technical issues. The PAN program works in collaboration with other programs within the Kansas Department of Health and Environment (KDHE), other government departments and private partners who have key roles in creating healthy environments for the Kansas population. Programs I worked with included the following initiatives:

1. The Healthy Kansas School was in the process of implementing school physical activity programs through the training of school teachers to become certified instructors of physical activity. The aim of this project is to provide quality physical education in schools as a means to instill lifelong behavior change for physical activity. I attended one of the discussions to learn about the multidimensional activities that the PAN program integrates the preventions of obesity into school programs.

2. The Sodium Reduction in Communities’ Project is targeting reduced sodium intake through a various number of strategies including procurement policies and environmental support systems for making low sodium choices the easiest choices. One meeting was attended where the leadership team discussed the action plan for the project. One strategy on the action plan included the involvement of policy making decision makers for government departments.
and municipalities’ procurement personnel that would be educated on how sodium intake contributed to chronic disease.

3. The Governor’s Council on Fitness is an initiative led by the KDHE Bureau of Health Promotion through the coordination of its activities. The purpose of the council is to advise the Governor and other stakeholders on enhancing the health of all Kansans through promotion of physical activity, good dietary choices and prevention of tobacco use. The Council encourages exchange of information about physical activity; healthy diets; and tobacco use, prevention and cessation. It creates private and public sector support for physical activity, good nutrition and tobacco use prevention, implemented a statewide awards program to recognize communities and organizations demonstrating significant support for physical activity, good nutrition and tobacco use prevention. I attended a planning meeting for the Governors Council Summit on Obesity Prevention which was to be held in September 2012, where the objective was to bring together decision makers to identify, deliberate on and commit to best practices for the prevention of obesity in their communities and for the betterment of the Kansas population. The target audience was a cross-section of persons within Government, business personnel and community leaders. Upon review of the caliber of registrants for the meeting, I recommended that the summit be structured as a working meeting so that apart from the stakeholders simply receiving information, they might also provide suggestions on what solutions their institutions could offer in focusing on the obesity prevention strategy to be developed.

4. The Chronic Disease Risk Reduction (CDRR) community grant program provides technical guidance and funding to local grantees from communities, consortiums and partner organizations through local health departments as leaders or coordinators of the interventions involved in programs for the prevention of chronic diseases through implementing community health assessments and proven strategies that impact tobacco use, physical activity and nutrition. Within the same grant, tobacco prevention programs funding is based on the Kansas legislature while funding of the physical activity and nutrition interventions, is based on federal funds availability. For this program, I was responsible for creating a catalog of evidence-based community strategies for the prevention of obesity that would be compiled together with the already existing tobacco prevention strategies as a resource allowing the grantees to choose community projects proven effective in obesity prevention and promotion of healthy nutrition.
behaviors. I searched databases for evidence-based community interventions and provided summaries of the methodology for the interventions and links to research articles, which were handed over to the officer within the CDRR program.

5. Kansas Health Matters\textsuperscript{13} is a community health tool, supported by the Kansas Health Institute that offers data on health, environment and socio-economic indicators for the state of Kansas, displayed in a graphic manner designed to be an informative easy to use tool. The objective for the tool is to inform hospitals, health departments, policy makers, community planners and members of the communities to learn about issues, identify improvements and collaborate for positive change (ibid). The information on the website needed to be updated for accurate information and grading of the progress in indicators; therefore, I was tasked to review the physical activity and nutrition indicators based on the Kansas Behavior Risk Factor Surveillance System (BRFSS) and other indicators that may be more informative while maintaining the user-friendliness of the tool. Child physical activity and nutrition indicators were missing in the tool and were suggested to be incorporated, especially in those interventions directed at childhood obesity.

6. Capitol City Wellness is a workplace wellness coalition that involves stakeholders from government departments and business community in downtown Topeka. Its objective is to increase daily physical activity among employees in downtown Topeka and to promote the Capitol Midweek Farmer’s Market as a walking destination and a resource for increasing access to fresh, local produce\textsuperscript{14}. The PAN program is a member of this coalition and is involved in the planning of physical activity programs and other events that will enhance the engagement of downtown employees at worksites and further participate in activities to make downtown a healthy community. In the meeting, members updated on the progress of community events including, organized walks, runs, cycling, vegetable cooking demos and the PAN program reported on the progress of the Capitol Farmers Market.

7. In-service training on Health Impact Assessments (HIA) from the CDC Centers for Disease Prevention and Promotion was offered for personnel of the different programs within the Bureau of Health Promotion involved with chronic disease prevention. HIA is defined as the structured process that uses scientific data, professional expertise, and stakeholder input to
identify and evaluate public health consequences of proposals and suggests actions that could be taken to minimize adverse health impacts and optimize beneficial ones\textsuperscript{15} as cited in training notes by Candice Rutt, PhD, a behavioral scientist within the Physical Activity and Health Branch of CDC. The goal of the training was to enhance the understanding of policy makers and program implementers on the benefits and value of conducting an HIA when making decisions, policies, plans and programs. I found the value of HIA important as it was essential that during the policy making process, the unintended health effects of the policies targeted at reducing chronic disease are studied before they affect negatively the population they are supposed to assist.

The role of food and nutrition policy is outlined by Spark\textsuperscript{16} as that of advocating for policies, regulations and programs designed to protect nutrition and health for the broader community and also at risk populations was assumed during the whole field experience period. The policy making process involves the following activities (ibid):

- Documenting needs assessment through surveillance, monitoring and literature review
- Developing a preliminary statement that refers to past and existing policies
- Seeking support from stakeholders, legislators and policymakers
- Mobilizing public interest support and advocacy
- Securing public and professional comments and input
- Implementing the policy
- Monitoring the policy
- Evaluating the policy.

Some parts of the policy-making process were conducted in the form of literature review and analysis of past and present policies. All steps were important in strengthening my understanding of the different roles PAN personnel at state level need to work on in order to impact the health of individuals.

**Project 1: Development of issue paper on obesity prevention**

The Kansas Department of Health and Environment is engaged in a plan to reverse and prevent the onset of obesity, following the Federal government’s agenda as outlined through Healthy People 2020. The Governor called upon the Governor’s Council on Fitness to create and facilitate a statewide obesity prevention plan. Resource allocation was essential for the initiative
to be implemented; therefore, the essence of the issue paper was to find other working solutions that have been conducted at the State level for the prevention of obesity, in order to make an evidence-based case to the legislatures. A literature review was conducted on state level strategies that are applicable for obesity prevention, and an annotated bibliography was compiled as the process of developing the paper was ongoing with other projects. Nutrition indicators specific to Kansas were requested from the Kansas Behavioral Risk Factor Surveillance System (BRFSS) in order to provide a clear context of the obesity problem in Kansas. The submitted issue paper is in Appendix A.

**Project 2: Senior Farmers Market Nutrition Program**

The Senior Farmers Market Nutrition Program is a federally funded, state run program that provides low income seniors with coupons that can be exchanged for eligible foods (fruit, vegetables, honey, and fresh–cut herbs) at farmers markets, roadside stands and community supported agriculture programs while at the same time, increasing the domestic consumption of agricultural commodities by aiding or expanding the work of domestic farmers.

**Kansas Senior Farmers Market Nutrition Program**

In Kansas, the SFMNP is in most counties. A tool for finding a farmers market based on zip code is also available on the KDHE website. Eligible seniors are 60 years and above, with an income below $1722/month before taxes. They receive checks at check distribution sites in or near their home counties. The checks can be redeemed at any certified farmer or vendor that sells the eligible items for the SFMNP. Vendors are trained online, through the Health Department and provided with rules and regulations for their role and conduct in the SFMNP.

**Data management of Kansas SFMNP**

Throughout the duration of my internship, I was responsible for program data management, including receipt, entry and filing of data received from vendors. Upon processing, I consolidated with Solutran, a data management tool that is utilized by the Kansas State Department of Health, PAN program.

When seniors use their checks at the Farmers Markets, the vendors document the check numbers utilized on a reporting sheet listing the checks distributed. On a monthly basis, the vendors provide a report to KDHE of the checks that have been redeemed to PAN program.
At the PAN program, I was responsible for updating the Excel database with the Data (redeemed checks) brought by vendors and the check numbers on their reporting sheet then file the entered data in another file. For every month end, through the Solutran electronic payment management system for the SFMNP\textsuperscript{17}, I would retrieve the checks that had been redeemed at the bank and update the Excel dataset, the date of redemption, and the vendor site number which it was redeemed at. The detailed protocol for using Solutran is in Appendix B.

The SFMNP data are largely paper based and due to the limitations in human resource, the data are normally received, filed but not immediately entered in the data base. Upon entering the data, I realized that some seniors take a very long time, even months to go to a senior farmers market to redeem their checks. No study has been conducted yet to determine the reasons for seniors not redeeming their checks and longer duration for redeeming checks. However; the sparse distribution of vendors may be contributing to the limited accessibility of Farmers markets.

**Project 3: The Capitol Mid-Week Farmers Market**

![Figure 3-1: Capitol Mid-Week Farmers Market Sign](image)

The Capitol Mid-Week Farmers market is a work wellness program established for the state department employees. A farmers market is open for employees from 7:30 am-12 Noon every Wednesday of May to October of the year. Certified vendors, come to sell fresh fruit and
vegetable, honey and fresh cut herbs. Also, in this market in downtown Topeka, seniors can utilize their checks for the purchase of fruit and vegetables.

The mission of the midweek farmers market is to promote increased consumption of fresh fruit and vegetables, promote active living among adults in the workplace by providing walkable access to fresh produce and promote direct marketing of Kansas foods. On Wednesdays, as the farmers set up their stalls, the PAN program sets up a stall for the dissemination of pamphlets that have a description of different kinds of vegetables sold by the farmers, food safety procedures and preparation techniques. People who come to the market can access as many as they wish with every week having a variety to choose from.

Another way of promoting increased fruit and vegetable consumption is to encourage the diversity of fresh produce consumed. People are hesitant to purchase unfamiliar produce, therefore a display of fresh fruit and vegetable like kohlrabi, raw beets, and lettuce wraps in a dipping sauce was prepared by one of the farmers using fresh herbs to increase familiarity and acceptability.

![Kohlrabi](image-url)
To evaluate the effect of the Capitol midweek market on the local economy as well as its mission to promote increased consumption of fruit and vegetable, a rapid market analysis was conducted by PAN program manager Dr Anthony Randles, cancer program intern Lucas Bider and myself as PAN intern.

**Rapid Market Assessment of the Capitol Mid-week Farmers Market (11July, 2012)**

A Rapid Market Assessment (RMA) is a tool with three low-cost components designed to gather information that is essential for making effective changes to improve farmers markets. The methodology is a resource guide by the Oregon State University Extension service and suggests the use of two quantitative methods; attendance counts and dot surveys as well as a qualitative measure, constructive comments and observations (CCO).

The PAN program decided to use the attendance counts, which affords the opportunity to estimate the sales of the market day and the role the market has as a social center, also estimating how it contributes to increasing sales in neighboring businesses. The dot survey is a data collection method used to obtain information from market participants through their responding to structured short questions by sticking colorful stick labels on flip chart.

**Preparation**

A review of the Tools for Rapid Market Assessments report was conducted. A set of questions and possible answers that were to be delivered through the dot survey were developed to determine the impact of the Farmers Market on the local economy. The questions were:

1. How much did you spend in the market today?
   - $0-5/$5-10/$10-15/$15-20/$20+
2. Are you making your purchase independently or splitting the cost with others?
   - Independent/Splitting between: 2, 3, 4, 5+
3. Does the farmers market encourage you to increase your fruit and vegetable consumption?
   - Yes/No
4. Has shopping at the farmers market caused you to shop in other local businesses?
   - Yes/No
5. How often do you shop at the farmers market?
   • Weekly/Biweekly/Monthly/Once

6. Why do you purchase at the farmers market?
   • Fresh produce, price, convenience, support local business

**Materials**

**Table 3-1: Materials used for RMA**

<table>
<thead>
<tr>
<th>Materials</th>
<th>6 large flip-charts</th>
<th>Watches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Markers</td>
<td>Rubber Bands</td>
</tr>
<tr>
<td>Tent</td>
<td>Counter and attendance sheets</td>
<td>Box</td>
</tr>
<tr>
<td>Clipboards</td>
<td>Dot stickers</td>
<td>Camera</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Table</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 Easels and clips</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Print out of market map</td>
</tr>
</tbody>
</table>

**Methodology**

A day before the survey, the 6 questions for the dot survey were written on 6 separate flip-charts. These questions had the answer suggestions underneath them; participants were expected to mark their answers in the appropriate column using dot stickers. To eliminate bias various answers were marked before setting up the survey station so participants did not favor one answer. These “seed” answers were marked and removed after the survey is completed. Researchers invited shoppers to complete the survey in the tent and taste vegetables and also assisted participants in correctly taking the survey. As flip-chart pages were filled, they were switched for fresh sheets and stored.

On market day, a tent was set up in a central location 20 minutes before the market opened. In the tent were 6 easels holding the flip-charts for the dot survey. As an incentive a table was set up for vegetable tasting.

A map of the farmers market was printed off to allow researchers to be strategically positioned at the entrances to count people who entered the market. Counting commenced 25 minutes after the market opened and was performed for ten minutes every hour.
Results

Customer counts

Researchers were stationed at three points along the market (Figure 3- 4) and counted the number of adults entering the market for ten minutes of each hour. The total number of adults customers counted during each of the market’s four hours of operation was multiplied by six. Table 3-2 displays the estimated total market attendance. The day’s temperature was also recorded for each of the different times.

Table 3-2: Customer counts and Estimated count Totals

<table>
<thead>
<tr>
<th>Hour</th>
<th>Count</th>
<th>Estimate</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Hour, 8:25-8:35 am</td>
<td>41</td>
<td>246</td>
<td>72</td>
</tr>
<tr>
<td>2nd Hour, 9:25-9:35 am</td>
<td>115</td>
<td>690</td>
<td>80</td>
</tr>
<tr>
<td>3rd Hour, 10:25-10:35 am</td>
<td>127</td>
<td>762</td>
<td>82</td>
</tr>
<tr>
<td>4th Hour, 11:25-11:35 am</td>
<td>75</td>
<td>450</td>
<td>88</td>
</tr>
<tr>
<td>Total</td>
<td>358</td>
<td>2148</td>
<td>80.5</td>
</tr>
</tbody>
</table>

Notes: Only adults entering into the market were counted

It is notable that there was a gradual increase in the market participation beginning 9:25am with 10:25 am being the highest. The high peak could be attributed the mid-morning break that downtown office workers receive and the unusually cool weather that was present that morning (average temperature of 80.50 Fahrenheit). The temperature was recorded five minutes before every count.

The estimated attendance of over 2,000 shoppers is a robust figure for any market of this size particularly in the morning, on a weekday market. The density of local and state employees within a few blocks of the market makes this a potentially excellent outlet for the sale of locally produced agricultural products.

Shoppers entered the market from either the Jackson street entrance, Harrison street entrance and/or the north central entrance on the memorial sidewalk. The south central entrance located in the middle of the market leading to the memorial sidewalk from 10th street was
sectioned off due to construction on the sidewalk across 10th street next to the state judicial building.

Even though on-street parking is available on the judicial side of 10th street and along Jackson and Harrison streets, it was noted that most shoppers arrived at the market on foot, most likely from near-by office buildings. The main goals of the market are to increase access of fresh, locally grown, high-quality produce to the 35,000 employees that work in downtown Topeka and to increase physical activity by providing a walking destination. The market appears to be effective in drawing in shoppers from these nearby buildings.

![Figure 3-3: Picture of the market day](image)

**Table 3-3: Attendance Count: By Market Entrance**

<table>
<thead>
<tr>
<th>Hour</th>
<th>Jackson Street Entrance</th>
<th>Harrison Street Entrance</th>
<th>Memorial Sidewalk Entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hourly Count</td>
<td>Hourly Percentage</td>
<td>Hourly Count</td>
</tr>
<tr>
<td>1st Hour, 8:25-8:35 am</td>
<td>7</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>2nd Hour, 9:25-9:35 am</td>
<td>55</td>
<td>48</td>
<td>20</td>
</tr>
<tr>
<td>3rd Hour, 10:25-10:35 am</td>
<td>71</td>
<td>56</td>
<td>23</td>
</tr>
<tr>
<td>Totals</td>
<td>188</td>
<td>53</td>
<td>83</td>
</tr>
</tbody>
</table>
Figure 3-4: Map of the Capitol Mid-week Farmers Market
**Dot survey**

The dot surveys are a simple and effective way to collect data from consumers, compared to face to face interviews and written questionnaires which in most instances have low accuracy and response rates. Dot surveys increase the number of consumers surveyed and percentage who agree to participate, thereby providing more accurate assessments of consumer’s preferences and behavior. Indicating responses using the colorful stickers is mostly enjoyed by consumers, which creates a good market atmosphere.

![Figure 3-5: Picture of participants participating in dot survey](image)

Consumers walked into the tent, were given stickers and instructed to place each sticker as their perceived best choice for a response to the close ended questions for the 6 structured questions.

The information collected from the dot survey is a single-day snapshot of the market. It would not be accurate to assume that the data from a single day represents what takes place over
an entire market season. Counts are sensitive to influences such as weather, other events occurring at the same time in the neighborhood and crop seasonality.

**Estimated Market Day Sales**

The results from customer counts and the answers to the question in tables below allow us to make a conservative estimate of market sales on July 11th, 2012. This estimate was determined by dividing the estimated total number of adult customers (2148) by the mean number of adults per shopping party (1.378) and multiplying by the mean customer expenditure ($8.21). This method very conservatively estimates total market sales for the market on Wednesday, July 11 at $12,946.34.

**Table 3-4: Market Sales Estimates--Question: How much did you spend in the market today? n=127**

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-5</td>
<td>32</td>
<td>25</td>
</tr>
<tr>
<td>$5-10</td>
<td>63</td>
<td>50</td>
</tr>
<tr>
<td>$10-15</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>$15-20</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>$20+</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 3-5: Size of Shopping Party—Question: Are you making your purchase independently or splitting the cost with others? $n=127$

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90</td>
<td>71</td>
</tr>
<tr>
<td>2</td>
<td>26</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>100</td>
</tr>
</tbody>
</table>

**Motivation for Purchasing at the Market**

The table below represents the responses to the question regarding motivation to buy at the market. More than half of respondents indicated that their primary reason for attending the market was to purchase fresh produce (53%).

Table 3-6: Motivation to Buy at the Market—Question: Why do you purchase at the Market? $n=164$

<table>
<thead>
<tr>
<th>Responses</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Produce</td>
<td>88</td>
<td>53</td>
</tr>
<tr>
<td>Price</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Convenience</td>
<td>23</td>
<td>15</td>
</tr>
<tr>
<td>Support local business</td>
<td>41</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td>100</td>
</tr>
</tbody>
</table>
‘To support local business’ was the second most common response; however, this is only a representation of the vendors at the market and not the surrounding business as seen in Figure 3-6

Has Shopping at the Farmers’ Market Caused you to Shop in other Local Downtown Business?

Figure 3-6: Percentage that shop at other local downtown businesses due to the market

The market is achieving its mission to increase access to healthful fresh fruit and vegetables. With 25 vendors, 22 which are fruit and vegetable sellers, the market provides the best opportunity during the week for downtown employees to purchase the fresh local produce they demand. Almost nine out of every ten survey respondents (89%) stated that the presence of the market encouraged them to increase their consumption of fresh fruit and vegetables.
Encourages Consumption of more Fruit and Vegetables (N=124)

![Pie chart showing responses on whether market encourages fruit and vegetable consumption]

11%

Yes

89%

No

Figure 3-7: Responses on whether market encourages fruit and vegetable consumption

Conclusion

![Images of shoppers purchasing from vendors]

Figure 3-8: Pictures of shoppers purchasing from Vendors

Based on the RMA, the Capitol Mid-Week Farmers’ Market was found to be staying true to its mission to increase access of fresh local produce to the 35,000 downtown employees in Topeka. However, it is unclear if the market is supportive of the local business vicinity and if it is improving physical activity behaviors. Further investigation is warranted to understand these questions.
Chapter 4 - Experiences and academic application

The activities and projects performed under the guidance of Dr Anthony Randles were invaluable for both the coursework I enrolled in after summer, and my future as a public health nutritionist. Seeking to understand the US health care system was the basis for attempting to understand the scope of the physical activity and nutrition situation in Kansas. The course on Health Services Administration was illuminating, as it not only discussed the structure of the health care system but provided a link to the values of system users. Learning that the US health care system is not centralized and involves many public, private, volunteer and enterprise stakeholders allowed me the opportunity to learn how different players can shape health programs.

Participating in the Kansas State health department policy development and implementation forums like the Governor’s Council on Fitness, Sodium Reduction Committee and Capital City Wellness program provided me an opportunity to engage with different stakeholders that were identified as key in driving the healthy behaviors agenda. The importance of political will was observed to be very instrumental in the rolling out of programs as in the Governors council support in launching a state wide obesity prevention dialogue.

The Bureau of Health Promotion is the lead player in coordinating different stakeholders and I learned the importance of communication back and forth with stakeholders so that more goals can be achieved. The Capital City Wellness coalition is another activity that contributes to the success of the Capitol midweek farmers market by educating individuals at their different workplaces on healthful food choices and the promotion of physical activity, an activity that the department of health cannot do, due to personnel constraints. In addition, coordination with other government programs, e.g. built environment, is very essential in implementing physical activity enabling environments.

In developing the issue paper for obesity prevention, the catalog for the chronic disease risk reduction and conducting the Rapid Market Assessments, I found my coursework from Epidemiology, Nutrition Epidemiology and statistics classes to be invaluable as all activities demanded the use of evidence-based strategies, which required searching for relevant literature, assessing the strength of evidence and providing recommendations and references for the methodologies that communities can use in implementing obesity prevention programs.
Evidence-based research is critical for policy makers as many decisions made within the PAN program are directed toward changing health behaviors and creating environments conducive to people making healthy food choices and providing infrastructure supportive of physical activity. Therefore, it is important to have working strategies in place. In addition to implementation strategies, the department is responsible for the mobilization of resources, which needs to be backed up by evidence for political actors to be convinced that releasing state or federal resources is a wise use of funds.

Overall, the experience as a Physical Activity and Nutrition Intern at the Kansas State Department of Health and Environment provided enrichment to my understanding of the processes of policy development, advocacy for a cause and working as a team towards making structural environmental changes that will support the prevention and reduction of obesity in the state of Kansas. My experience concluded with meeting the personnel of the Kansas Special Supplemental Nutrition Program for Women, Infants and Child (WIC) whereby I was presented with an opportunity to conduct research for the Kansas State WIC program.
Appendix A - Issue Paper

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
ISSUE PAPER
SFY2014

by
Division of Health
Bureau of Health Promotion

State Leadership to Reverse the Obesity Epidemic

LEGISLATIVE INITIATIVE_____ BUDGET INITIATIVE___ X___ POLICY INITIATIVE ____

I. Nature of Initiative
Kansas has yet to fully employ the complex thinking and planning that is required to adequately address the obesity epidemic on a population level. In spite of broad agreement by both private and government partners that obesity and its underlying risk factors, physical inactivity and poor nutrition is responsible for the deaths of over 3,000 Kansans and medical expenditures of $1.4 billion annually. This proposal requests funding for the Kansas Department of Health and Environment (KDHE) to support the Governor’s Council on Fitness in convening state and local content experts, philanthropies, policy makers, transportation, housing, insurance providers, business and community leaders, school personnel, clinicians and academicians to review data, current initiatives and evidence-based strategies to facilitate the development of a state obesity plan.

II. Background
The United States is in the midst of an obesity epidemic of almost three decades duration. The distribution and causes of the epidemic are well documented.20 The prevalence of obesity in the U.S. more than doubled (from 15% to 34%) among adults and more than tripled (from 5% to 17%) among children and adolescents from 1980 to 2008. Two-thirds of adults and nearly one in three children are now overweight or obese.

In Kansas, 30% of the adult population is obese and an additional 34% is overweight. One in ten Kansas adolescents is obese. While genetic factors play a role, the overwhelming drivers of the epidemic are related to environmental, cultural and socioeconomic factors that promote and sustain consumption of more calories than are expended. Over the last twenty years, advances in technology have propelled society forward in areas of communication, business and science. These advances produced unintended consequences in the areas of health, contributing to the escalating prevalence of risk factors for chronic disease. As lifestyles changed and the daily demands on families increased, cheaper and quicker meal options took hold. Over the years these high density foods, abundant in fat, sodium and sugar have maintained their price or become progressively cheaper per calorie and easier to access while low density foods, such as fruits and vegetables, comprised primarily of water and fiber, have experienced price increases. Today, impoverished segments of the population are less likely to have access to retail outlets selling fresh produce and are more
likely to report price and storage as barriers to good nutrition. Low socioeconomic groups, consequently, bear a proportionately larger burden of obesity and overweight.

Similarly, the built environment has evolved to favor motorized transportation, schools have moved outside residential neighborhoods in pursuit of cheaper building costs, urban sprawl and zoning laws have shifted to more segregated use of land, and other systemic changes to how land use and infrastructure is designed have contributed to significant reductions in non-motorized modes of physical activity. In Kansas, less than half of adults (49%) meet the recommended levels of physical activity. This pattern begins early in life, with 49% of Kansas high school students failing to achieve the daily recommendations for physical activity while 28% of Kansas high school youth report watching television more than 3 hours each day.

Agreement is now widespread that priority should be given to population-oriented preventive approaches that can curb the development or exacerbation of excess weight gain and obesity. While clinical aspects of obesity prevention will continue to play a vital role in addressing this growing epidemic through efforts to improve the quality and coordination of care, a more comprehensive approach to prevention is required. These population level approaches must incentivize adolescents to adopt and maintain lifelong healthy habits and help mend the lifestyles of adults who already bear the greatest burdens of obesity.

The Governor has charged the Governor’s Council on Fitness, under the Direction of the KDHE Secretary, with leading a response to the Obesity epidemic. KDHE’s Bureau of Health Promotion staff has extensive experience in facilitating state partnerships, often involving members with competing interests, and producing state plans through consensus building processes. Staff is well equipped to assist leaders of the Governor’s Council on Fitness in convening a state obesity planning process having provided guidance for large initiatives such as the Healthy Kansans 2010 process and development of the state Cancer, Cardiovascular, Arthritis, Disability, Injury and Diabetes plans. The Governor’s Council on Fitness, originally established in 1979 and reinstated in 2006, has compiled an impressive track record of partner engagement focused on enhancing the health of Kansans through promotion of physical activity and good dietary choices.

III. Recommendation
KDHE in conjunction with the Governor’s Council on Fitness should engage an invited group of stakeholders to initiate development of a state obesity plan. Plan development will be completed within 12 months with a budget of $75,000 projected.

IV. Summary of the Proposed Initiative
The proposed initiative is to fund development of a state obesity plan facilitated by the Governor’s Council on Fitness with facilitation provided by KDHE’s Bureau of Health Promotion.

a. Relevance to mission of KDHE, Division, bureau or program and the Governor’s Roadmap
Obesity prevention aligns with the mission of the Bureau of Health Promotion in its work to address chronic disease and its modifiable risk factors. Obesity is a direct
link to KDHE’s mission of protecting and improving the health of all Kansans as obesity is a primary driver for the development of numerous chronic diseases, accounting for seven of the ten leading cause of death in Kansas and costing the state nearly $20 billion annually.

Obesity prevention aligns with all of the Governor’s Roadmap priorities; (1) increase in net personal income; (2) increase in private sector employment; (3) increase in the percentage of 4th graders reading at grade level; and (4) increase in the percentage of high school graduates who are college or career ready. Data routinely indicates individuals with lower income, less education, and no insurance are more likely to be obese.

b. Impact of Initiative on the Environment and Public Health
The impact of obesity on the future health of Kansans is second only to tobacco use prevention. A similar state leadership effort, led by the Tobacco Free Kansas Coalition has halted the escalating increase in tobacco use observed during the 1960-1990’s. Convening the appropriate stakeholders to develop a broadly supported Obesity Prevention Planning Process and Action Plan will pay huge dividends to Kansans’ health and prosperity in the foreseeable future.

V. Legislative Implications/History
This proposal will require a $75,000 budget allocation.

VI. Feasibility of the Initiative

a. Fiscal Impact  (Estimates- Fiscal Analyst needs to refer and confirm #’s)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Benefits</td>
<td>$0</td>
</tr>
<tr>
<td>Travel</td>
<td>$5,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>$0</td>
</tr>
<tr>
<td>Supplies</td>
<td>$15,000</td>
</tr>
<tr>
<td>Contractual</td>
<td>$55,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$75,000</strong></td>
</tr>
</tbody>
</table>

b. Strengths and weaknesses of the initiative

**Weaknesses**
The process requires funding and a time commitment from many key stakeholders. There remains competing interests among philanthropies and academic institutions in the area of obesity. A plan is of no use if it is not implemented.

**Strengths**
Kansas cannot afford to wait. The prevalence of obesity among Kansas adults has risen from 13% of the population in 1992 to 30% in 2010. The state incurs close to $1,4 billion in medical cost annually as a result of obesity, 30% of which is absorbed by taxpayers. Obesity is a complex health and social issue which requires a multi-pronged attack. Kansas has spent too long piece milling its approach to obesity prevention. As
efforts to refresh the Medicaid program are underway, efforts to address obesity will only strengthen this work.

c. Stakeholder impact
Impact on stakeholders will be positive. Obesity is a costly disease and a driver for a host of chronic conditions. Stakeholders will need to be open to new ideas and new ways of addressing this complicated issue. Schools, communities, providers, insurers will all have areas of ‘give and take’ in regards to potential changes.

VII. Potential Issues & Strategies
The competing interests of philanthropies and academic institutions may be the greatest complication to a smooth start. While we are fortunate to have 4 health foundations (KHF, SF, United Methodist Health Ministries, and KC REACH) in the state who have expressed high interest in obesity prevention and are currently funding various projects related to physical activity promotion, nutrition, built environment, they may be hesitant to engage in true collaboration, requiring carefully planned preparation on the part of the facilitators. Additionally, while academic partners in Kansas have a strong track record of collaborating with public health, research agendas and funding streams do not always align with state priorities.

VIII. External references / resources
3. 2010 Kansas Behavior Risk Factor and Surveillance System
Appendix B - Kansas Senior Farmers’ Market Nutrition
Program Voucher tracking and Program Evaluation

Data Entry Protocol

Program evaluation:

**Database fields:**
- Distribution Partner
- Check number
- Issue date
- Posted/cleared date
- Vendor #

**Data analysis**
- Participants who used all checks
- Participants who used some checks
- Participants who used no checks
- Redemption rate per partner organization (also done by Solutran)
- Top 10% vendor number
  - (what FM they are with, total number of checks per community, what practices they use that might lead to high # of checks)
- Bottom 10% of vendor number
  - (what FM they are with, total number of checks per community, what might lead to low # of checks) *(do we also want to look at how many vendors get 0 checks, so someone can follow-up???)*
- Issue dates (by month) compared to redemption rates

Solutran Data Retrieval:

Web: www.solutran.com
Login: ARandles
Password:
Who is Solutran?

Solutran is a leading provider of customized payment solutions to organizations that process high-volume transactions. Our solutions include WIC EBT, a secure and efficient solution for government agencies; SPIN, a comprehensive platform for BOC; and Client List, a powerful tool for managing customer information. Solutran’s solutions are designed to help organizations improve their bottom line while providing excellent customer service.

Solutions

- WIC EBT
- SPIN
- Client List

Industries

- Consumer Products
- Direct Marketing/Publishing
- Fulfillment/Innovations
- Grocery/Pharmacy
- Not-for-Profit
- Retail
- WIC (Women, Infants, & Children)

Client List

- View list of current clients
- Learn more

Solutions by Industry

- Consumer Products
- Direct Marketing/Publishing
- Fulfillment/Innovations
- Grocery/Pharmacy
- Not-for-Profit
- Retail
- WIC (Women, Infants, & Children)

Solutran's SPIN™ Product Dominates with 50% Market Share

MINNEAPOLIS (March 27, 2012) — In just five years after introducing its innovative solution for black office conversions (BOC), Solutran’s SPIN™ product has taken a dominant share of the industry market, capturing over 50% market share by the end of 2011.

Learn more.
Selecting Account:
Account: 802636-H KS
Selecting Function:
Select Check Query

1. Choose one of the following Functions you wish to apply.
3. Functions

Report Running:
Select appropriate dates—You will need to run a daily report to view the previous days checks.
Once the report has been run, you will need to click on download. This will put the data into an excel file making it easier to verify (see example on next page).

Vendor ID # will need to be verified for all checks. Click on the Check # and a copy of the voucher will appear. On the excel sheet type in the vendor number if missing, then print off the report once all missing vendor ID # have been entered.
Click next to view next check.

Distribution site monthly check logs data entry:

Each month 32 check distribution partners will faxed or mail in check issuance log forms (see example on next page) which will be kept in the main SFMNP program book in Dr. Randles office. From these log you will need to enter the check number series and issue date in the check redemption excel sheet located on the h:drive.

\Hewfs\health\Health Promotion\PAN\SFMNP\SFMNP 2012\Evaluation\Check Redemption

Each distribution partner has its own worksheet in the excel file, pay close attention to enter the correct data on the correct page.

From the Solutran reports you will enter the following data in the excel file for each check:

- Posted/clear dates
- Vendor #
From the check issuance log form you will enter

**Partner**
**Organization**
**Check Numbers**
**Check issue date**
References


12. Kansas Governor’s council on fitness. Available at: [http://www.kansasfitness.org/general_info.htm](http://www.kansasfitness.org/general_info.htm).


