

Master of Public Health
Integrative Learning Experience Report

***HEALTH COMMUNICATION FOR PHYSICAL ACTIVITY
PROMOTION TO ADDRESS OBESITY***

by

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submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

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Summary/Abstract

Abstract

Background: There is a high prevalence of obesity globally, nationally, and statewide in Kansas with positive trends indicating increasing levels of obesity and physical inactivity for the future. There is a direct, independent, positive correlation between sedentary behavior and obesity. Additionally, there is a separate negative correlation between physical activity (PA) levels and obesity prevalence. These factors working separately to increase the burden of physical inactivity and obesity indicates the need for more thorough intervention to prevent obesity and promote healthy behaviors such as physical activity, and it is imperative to increase reach and effectiveness of such promotion. The use of mass media for PA promotion is plausible for many reasons including cost-effectiveness and widespread reach. Theories such as the competency-opportunity-motivation (COM-B) model of behavior, behavior change wheel, and Theory of Planned Behavior are useful tools with which PA communication interventions can be shaped.

Methods: I completed a project with the Wichita Health and Wellness Coalition and K-State Research and Extension; for the purpose of this report, I will focus on my work with the Wichita Health and Wellness Coalition. This project focused on completing three products including social media PA promotion, newsletter content, and a summary of coalition strategies for strategic planning.

Results: At the end of this project the Facebook numbers were steadily increasing, and there was no updated number of views and clicks resulting from the newsletter. The summary of coalition strategies was almost fully completed with the exception of a few no-responses; it was turned over to the strategic planning committee for further development of a plan.

Discussion: This project was very informative to my professional skills and developed my practical application skills of competencies acquired through the MPH program. There were limitations including the length of the project in relation to the communication campaign portion. Another limitation was the lack of evaluation; there are many ways to evaluate the impact of the messages created if this project were repeated or for future projects, and this would also help to further develop the messages.

Subject Keywords: Physical Activity Promotion, Health Communication, COM-B Model, Behavior Change Wheel, Theory of Planned Behavior

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Chapter 1- Literature Review

Background

According to the World Health Organization (WHO), BMI between 25-30 is classified as overweight, and above 30 is classified as obese (2021). Worldwide, 1.9 billion people are classified as overweight or obese, and the majority of the world's population lives in a place where overweight can be attributed as the root cause of more deaths than underweight (WHO, 2021). Nearly three million people die each year as a result of being overweight or obese (WHO, 2021), and 1/3 of the global population who are over the age of 15 do not participate in sufficient amounts of PA (Park et al., 2020). In the United States, the rate of obesity continues to grow; rates have risen from 30.5% to 42.4% in under two decades (CDC, 2021). One reason for the rise in obesity is due to low levels of physical activity (PA). Twenty-three and a half percent of the population currently engage in no leisure time PA, and only 23% of adults meet the recommended amount of PA each week (CDC, 2020). Furthermore, a large proportion of adults are considered completely sedentary, meaning they spend excess amounts of time sitting or lying down, and do not participate in recommended amounts of PA. This independently increases risks for obesity and subsequent health risks (Hu et al., 2003). In Kansas specifically, as of 2020, 35.3% of individuals are obese and 34.5% are classified as overweight (CDC). Unsurprisingly, these numbers correspond with low PA levels including 22% of Kansans who engage in no leisure time PA, and less than 21% who complete recommended levels of PA (CDC, 2020).

Cost of Obesity

Obesity is associated with many comorbidities on top of direct mortality concerns. These morbidities include diabetes; general metabolic syndrome is associated with obesity with the most common and severe being type 2 diabetes (T2DM) (Abdelaal et al., 2017). Obese patients constitute 50% of the total number of diagnosed T2DM cases as the risk for developing T2DM increases 20% for each BMI point increase over 25 (Abdelaal et al., 2017). T2DM itself also poses health risks including cardiovascular disease (CVD), stroke, peripheral vascular disease (PVD), retinopathy, nephropathy, and neuropathy (Abdelaal et al., 2017). Obesity also has a direct effect on CVD which has a positive correlation with both T2DM and prolonged obesity; risk for hypertension increases 3.5 times in obese patients compared to their normal weight counterparts (Abdelaal et al., 2017). There are also burdens on the airways caused by obesity including impaired pulmonary function and asthma due to excess adipose tissue placing stress

on the chest cavity (Abdelaal et al., 2017). Additionally, obesity may cause negative effects on the kidneys and liver with increased BMI by 5 points being related to a 60% increased risk for kidney disease mortality; 91% of obese patients seeking bariatric surgery are also facing fatty liver disease (Abdelaal et al., 2017). Effects from obesity also impact the reproductive organs, GI tract, and possibly cancer (Abdelaal et al., 2017).

On top of physical comorbidities, effects of obesity include mental health burden. PA has been shown to have a negative correlation with burden from depression and anxiety disorders (Paluska et al., 2000). Due to the association between physical inactivity and obesity, it is likely that these populations may see increased burden of mental health issues (Paluska et al., 2000). The benefits of PA are manifold and stand as one of the many reasons the field of public health works to combat obesity.

The rising rates of obesity are attributable not only to lifestyle-related diseases and death, but also increased medical expenses. It has also been estimated that the total (direct and indirect) health care cost per person in the US attributable directly to obesity is between \$154.7 and \$418.9 (Kohl et al., 2012). Personal medical costs for obese individuals are 41.5% higher compared to normal weight individuals, and costs for Medicare, Medicaid, and private insurance increase 36%, 47%, and 58% respectively (Finkelstein et al., 2009). Knowing these costs and having them broken down helps to show the actual costs and direct effect for individuals, even those who do not identify with this issue specifically.

The Link Between Obesity and Physical Activity

PA and sedentary behavior are a major contributor to weight and the risks associated with overweight and obesity. There are also important differences between the positive effects of PA and the negative effects of sedentary behavior. An individual could be meeting requirements for PA as recommended by the CDC, and still be considered to live a sedentary lifestyle based on excessive time spent in sedentary activity. In the US, the average adult spends 7.7 hours participating in sedentary behavior- that's over 50% of average waking time for this population (Park et al., 2020). In one study done in 2003, using time spent watching TV as an indicator of sedentary time, it was seen that increased sedentary time is an important risk factor for obesity, while increasing levels of PA are positively associated with a decreased risk for obesity (Hu et al. year). Additionally, based on an analysis using the NHANES surveillance tool, Maher and colleagues (2013) found that moderate to vigorous physical activity (MVPA) was negatively associated with obesity, and total sedentary time had a strong positive association with obesity in adults. Overall, PA and sedentary behavior have a strong

relationship with obesity risk and weight status, indicating that these behaviors would be beneficial targets for health promotion material to reduce the burden of obesity.

COM-B Model

The competency-opportunity-motivation (COM-B) model of behavior is a model of behavior change that uses three core constructs to describe and predict an individual's behavior; these constructs are capability (C), opportunity (O), and motivation (M) (West & Michie, 2020). Capability refers to whether or not an individual possesses the ability to perform a certain behavior, opportunity refers to whether or not there are ample resources available and the degree to which they are presenting themselves to the individual, and motivation is whether or not an individual is motivated to perform a behavior more than any other behavior (West & Michie, 2020). As seen in figure 1.1, each of these constructs can be further broken down to better describe the type of capability, motivation, or opportunity being considered (West & Michie, 2020). Another thing to note in this model is the reciprocal influence of the core constructs. This should be considered as it is important to realize the effects that capability and opportunity have on motivation; specifically, it should be noted that more capability or opportunity has a positive effect on motivation (West & Michie, 2020). This model has many strengths including its consideration of interrelationships and reciprocal influences, simplicity, and inclusion of both external and internal factors associated with motivation and behavior. Knowing these strengths, this model has potential for communication campaigns because it addresses factors that can be influenced through information and education (Handley et al., 2015). This model has been shown to be effective for creating health messaging, in one study by Silva and colleagues it was used to create a health communication campaign for PA promotion which resulted in increases in each of these directly measured constructs and PA levels overall (2020). As seen in Appendix A part 2, example posts are given that target opportunity awareness and intrinsic motivation through modeling and education techniques. These posts target fostering intrinsic motivation by encouraging pure enjoyment of activity and being active for the sole purpose of being happy or enjoying yourself. Additionally, opportunity awareness is targeting directly by listing opportunities.

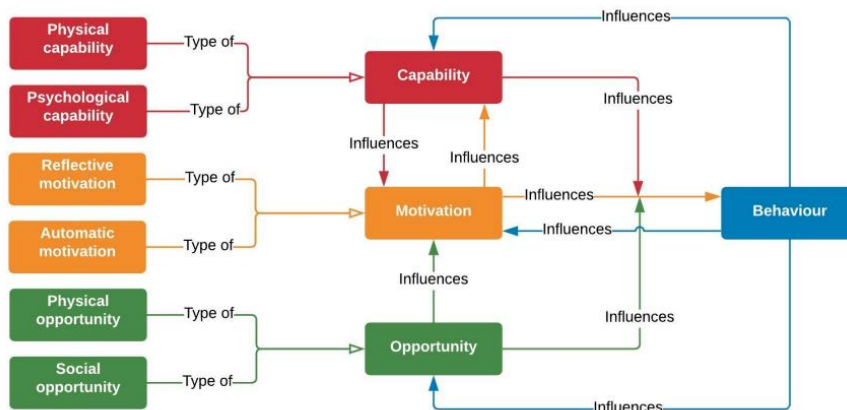


Figure 1.1: Com-B model diagram (Handley et al., 2015)

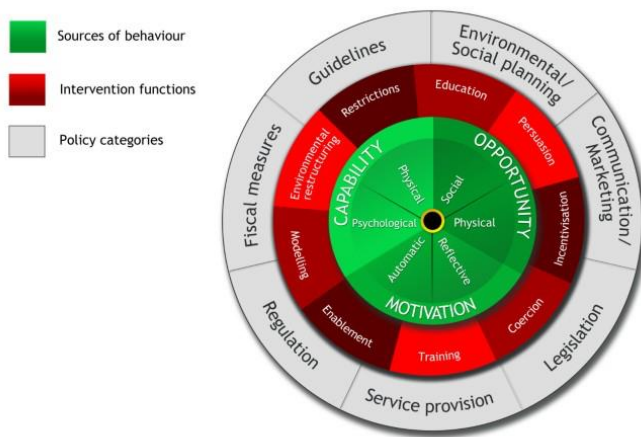


Figure 1.2: Behavior Change Wheel (Michie et al., 2014)

Behavior Change Wheel

The behavior change wheel (Figure 1.2) is a model of understanding behavior based on a review of 33 theories and 128 constructs; the center of this wheel is based on the COM-B constructs which are used to define the root cause of the issue and determine a focus for intervention (Michie et al., 2014). The next level of this wheel is the intervention functions, which

are 9 intervention functions that target the COM-B construct with which they overlap; notice that the intervention functions are not perfectly aligned, and some apply to two constructs (Michie et al., 2014). Finally, on the outermost portion of the wheel is the policy categories which can be used to support the intervention (Michie et al., 2014). This model is somewhat used in tandem with the COM-B model; however, it can also stand alone to inform interventions that target one of the core constructs (Michie et al., 2014). Often times it is used with the COM-B model to inform communication campaigns because the wheel can further classify what the messaging should target, and make the process more efficient (Michie et al., 2011). For the purpose of health communication, the first two levels of the wheel were most helpful.

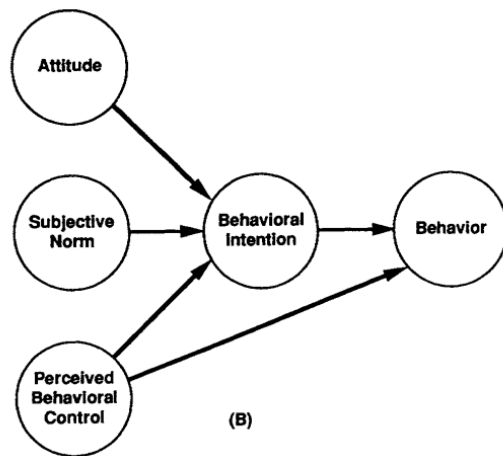


Figure 1.3: Theory of Planned Behavior Diagram (Madden et al., 1992).

Theory of Planned Behavior

The theory of planned behavior (TPB) developed from a more simplistic earlier model called the theory of reasoned action, which also included core constructs attitude and subjective norm leading to behavioral intention and then behavior but left out the perceived behavioral control construct seen in the latest TPB model (Madden et al., 1992). This model as seen in Figure 1.3 has three core constructs including attitude, subjective norm, and perceived behavioral control which led directly into intention and then to behavior (Madden et al., 1992). Attitude refers to one's feelings toward a behavior that can determine one's adherence to that behavior, subjective norms are the perceived social pressure to perform or not perform a

behavior, and finally perceived behavioral control is whether an individual perceives they possess the resources necessary to perform a behavior (Shemanski & Cerel, 2009). Notably, perceived behavioral control influences both intention and behavior itself, which is one upside to using this theory for communication campaigns, because it does not only influence intention (Madden et al., 1992). One main reason this theory is suitable for health messaging is because it addresses psychosocial factors that are already being used when individuals interact with media (Shemanski & Cerel, 2009). Additionally, it has been pointed out that this model can be used in communication campaigns to influence population-wide attitudes and norms which help negate the limitations no targeted messaging often faced in mass media campaigns (Shemanski & Cerel, 2009). As seen in Appendix A part 1, example posts are given that target perceived behavioral control and attitudes towards activity behavior through modeling and education techniques. These posts target increasing perceived behavioral control by educating on the benefits as well as giving a way to be active with no equipment or planning, just going out and walking around. Additionally, attitudes are targeted by modeling active behavior as being enjoyable and seeing that people who are active have fun.

Mass Media as a Solution

There are many reasons one may find themselves being excessively sedentary or physically inactive. Some of these include lack of resources or facilities to be physically active, occupational sedentary time and decreased opportunities for activity at work, and increased interest in sedentary behaviors such as TV, video games, and streaming services (Park et al., 2020). These are some of the many targets of PA promotional messaging and information that can be spread in order to increase all categories of PA. Mass media campaigns are a good option for health promotion for many reasons including cost-effectiveness and widespread reach (Peterson et al., 2008 & Quattrin et al., 2015). There is much evidence for the effectiveness of mass media campaigns in PA/health promotion.

One campaign in Portugal used several methods of dissemination including online and printed media, radio and TV/movie ads, flyers and posters posted around high traffic areas (Silva et al., 2020). This campaign was based on behavioral constructs from the COM-B model: capability, opportunity, and motivation, and other behavioral constructs such as self-efficacy, perceived opportunities, and intrinsic motivation to predict behavior (Silva et al., 2020). Authors of this study, Silva and colleagues (2020) found that the measures that impacted PA awareness and intention were those associated with the specified theoretical constructs. Basing campaign messaging on proximal factors such as awareness of opportunities, coping strategies, social

support, and immediate gratification benefits can help with campaign uptake and over all PA levels (Silva et al., 2020). This study also highlighted the need for specific targeted messages and long-term consistency to increase campaign awareness and PA levels (Silva et al., 2020).

In a review from 2000 the importance of adapting with innovative technologies and newer trends was highlighted, specifically citing the growing use of social media as a communication platform for all types of interactions (Marcus et al., 2000). The percentage of people with personal devices has dramatically increased from the time of this review- even past home computers to phones, tablets, and laptops that are always with individuals and can access the internet anywhere. People are constantly engaging in some way with information, peers, or other entertainment- an attention span-shrinking phenomenon Dr. Subramanian calls 'mobile culture' (Subramanian, 2018). It is easy to see how some may think this a negative effect of increased accessibility to communication and information, but it is also an opportunity that should be explored and utilized for the benefit of public health agendas (Marcus et al., 2000).

With the undertaking of social media/mass media campaigns for public health issue awareness and intervention, it is important to understand its limitations and important considerations. Marcus and colleagues (2000) write extensively about the importance of targeted and tailored messaging/interventions for best results. Although it may seem difficult or tedious to go through and create separate messaging for individuals within a community, it is important to include media that appeals to all groups however they may be divided- for example age groups. Another consideration is the need for built environment considerations and knowing the area you are targeting in order to promote opportunities or safety concerns. Communicating existing PA opportunities may be a very effective method for PA promotion, it was seen in a Portuguese campaign to be one of the largest effect sizes after the campaign ended that people were more aware of the opportunities in their area (Silva et al., 2020). Finally, as specifically noted by Silva and colleagues, media campaigns should be long term to enhance campaign awareness and uptake of messages (2020). This is an important consideration, and possible limitation for short-term projects, but creating a set of messages for reuse could help with continuation of PA promotional messaging after a project is over.

As detailed above, mass media health communication can be used effectively to address PA levels and sedentary behavior. For these reasons and using these considerations health communication can and should be used to increase PA levels and decrease sedentary behavior and can be used through this to decrease the burden of obesity.

Chapter 2- Learning Objectives and Project Description

Purpose

The purpose of my project was to assist the Wichita Health and Wellness Coalition with physical activity promotion through mass media communication messaging to both increase PA and reduce sedentary behavior.

Learning Objectives Overview

1. Create public health messaging for PA promotion aimed at various populations and use it in mass media campaigns.
2. Gain an understanding of strategic planning and be able to identify key characteristics of a successful public health organization and apply them to other settings.
3. Experience the planning process of a major public health PA promotion event (bike-walk Wichita)

Wichita Health and Wellness Coalition

This project was completed at the Wichita Health and Wellness Coalition (WHWC). This coalition serves the greater Wichita area including the cities of Wichita, Andover, Goddard, and Maise, and spanning over 5 counties including Sedgwick, Butler, Harvey, Kingman, and Sumner. Their mission is to promote PA and good nutrition for every generation living in the greater Wichita area through people, programs, and policies. The WHWC has been focusing on building a healthier community through fostering healthy lifestyles and encouraging PA and healthy eating since 2011 (WHWC, n.d.). The coalition operates through 5 key strategies:

- Create an accessible environment
- Establish appropriate measures
- Develop effective marketing strategies
- Define programs
- Sustain efforts to support healthy lifestyles

As well as serving the residents of the greater Wichita area, the WHWC currently serves and collaborates with 340 technical members, 17 members on the advisory council, and 8,700 newsletter recipients. These members both support the coalition and benefit from its efforts and events including the annual working well conference, bike-walk Wichita collaboration, and independent communication including a monthly newsletter and social media pages (WHWC, n.d.).

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My site preceptor was Shelley Rich who is the facilitator and currently the only paid staff member of the WHWC. Shelley and I got in contact in December 2021 and had several meetings prior to the start of the project to determine what I could do for the coalition in order to be the most beneficial and gain the most from the experience. From these meetings, Shelley made it clear that health communication was one of the main methods of health promotion that the coalition was able to sustain throughout the year, so one of my tasks was to create and post content for Facebook and the monthly newsletter. Additionally, our preliminary meetings resulted in my involvement with the WHWC's strategic planning, which was just beginning at the time I started, so I was able to perform an summary of coalition strategies to help build a foundation around which to form the strategic plan.

Meetings

In addition to my preliminary planning meetings with Shelley Rich, I was able to participate and experience meetings of all sizes and for many different purposes. I sat in on coalition meetings which happen monthly; at these meetings the board members and key stakeholders discuss current and future projects, immediate action steps, and goal progress. I was able to listen in on these proceedings and provide some input for ideas and development of programs, and initiatives. One of the major undertakings of WHWC is participation with bike-walk Wichita in May's bike month. This is a month where several programs are administered in an effort to increase PA in the greater Wichita area and encourage active transport and leisure-time bike use. In my participation in these meetings, I was able to experience the planning of several new programs and the revision of several old ones. It was a round table of ideas and feedback and development of an idea to a feasible program that could be implemented during bike month. At these meetings members of bike-walk Wichita, coalition committee members, and volunteers discussed the planning of the main events, the plausibility of adding more events, and the process mapping for the planning and execution steps involved. I enjoyed getting to sit in and listen to how this committee collaborated to come up with a final product which was an active transportation campaign that used mild competition to encourage the use of bike share programs and safe routes provided by Bike-Walk Wichita. I was also able to use this experience to integrate my coursework and see it in action in creating a successful event. These meetings were a good experience for my own professional development and the development of my practical use of the MPH program curriculum. I also had weekly meetings with Shelley throughout the course of the internship in which we collaborated on new projects and worked through obstacles I faced when working on the project. In these meetings Shelley

would come with feedback and criticisms from her meetings with the coalition board, I voiced opinions and ideas and collaborated with Shelley to agree on a solution to move forward with the project.

Products

PA Promotion Products

To develop effective PA promotion, I selected and applied the models and theories discussed in chapter one; these models were useful for me to develop messages targeting a specific construct such as attitudes, modeling, capability, or opportunity.

Facebook content

It has been shown that social media can be an effective tool for health education and promotion; utilizing effective health messaging can increase conversations about health behaviors and organized activities for PA (Schein, 2011). Social media is also an effective tool for advertisement of organized activities and can be helpful to increase community participation in these activities (Schein, 2011). I was responsible for the WHWC to produce content and schedule posts on Facebook. I created and posted about 3 posts per week on Facebook that promote healthy behavior in line with the coalition's mission. I researched and created these posts using the free resource Canva, and principles I learned in Kin 655 "Individual Physical Activity Promotion" and Kin 616 "Obesity and Physical Activity" which teach the importance of creating physical activity promotion that is not too wordy or data-heavy, but instead using aesthetic visuals that inspire positive attitudes toward the behavior.

The messages were also informed using a combination of the principles from the theories mentioned in chapter one. From the COM_B model and the behavior change wheel, I created content which was aimed at increasing capability and awareness of opportunities through the use of modeling and education techniques (see Appendix A). I also used modeling to foster positive attitudes and present PA as a social norm according to the TPB; these posts also used language that created a positive connotation about participating in PA in an attempt to both model healthy behavior and raise positive attitudes. Using education techniques- while still careful to keep it short and visually engaging per Kin 655 and Kin 616 principles, I was able to provide information to foster capability, opportunity, and perceived behavioral control.

I also took into consideration the importance of consistency of messaging as discussed in chapter one. I spent time at the beginning of each week to plan at least 3-5

posts and what they would communicate. This way, the followers would likely see at least 2 of the messages and hopefully have increased retention and understanding of the information because they were exposed so consistently.

WHWC monthly newsletter

The WHWC produces and distributes a monthly virtual newsletter sent via email to a list of over 8,000 people both stakeholders and members of the Wichita community. The newsletter currently has a 17.5% open rate and a 14% click rate of links provided within the newsletter. Newsletters and digital written media in general have been shown to be an effective mode of health communication with the main advantages being larger reach and better accessibility (Michael, 1998). I was responsible for researching and writing content for the nutrition/PA segment of this newsletter in February, March, and April issues. Creating this content helped me to gain experience in creating PA promotion for a population that was already interested and invested in wellness and health promotion.

Summary of coalition strategies

It was the belief of key coalition members that assessment of other successful coalitions in an effort to emulate their strategies would help to further the WHWC current efforts. I worked with Shelley Rich and strategic planning expert Sonja Armbruster to conduct a summary of coalition strategies in order to inform this strategic plan. I devised a list of coalitions across the nation that share key similarities with WHWC such as target population size, mission statement, key focus being PA and nutrition, and other characteristics such as history of success, high community participation, good organization recognition, or good community health outcomes. I then created a list of questions to assess the key characteristics that the WHWC was looking into changing to enhance success of its efforts. These characteristics included mission, 501C3 configuration, management/housing of the coalition if it is not stand-alone, staffing structure, funding configuration and scheduling, primary purpose, typical programs/interventions, community needs assessment plan, and other coalitions in the area with whom they collaborate. I used concepts and experience gained in Kin 805 "Physical Activity and Human Behavior" to inform the development of this survey in order to gain information that would be useful based on the end goal. I then conducted this short questionnaire via email to each coalition selected in the initial search. This is all in order to advise the WHWC for a more optimal reach and impact and to serve as a foundation for the strategic planning.

Chapter 3- Results

The products resulting from this project were not evaluated in any official capacity. Instead, I looked at distribution numbers and interaction. Additionally, the summary of coalition strategies that I completed was not evaluated because the strategic planning was still in progress. The social media content, newsletter sections, and summary of coalition strategies were shared with my preceptor and redrafted several times before final submission for posting or dissemination.

Social media content (Facebook)

I was made an administrator on the coalition's Facebook account and was responsible for posting regular PA promotional content. This entailed researching, creating, and posting PA/nutrition related content for all age groups with the goal of increasing engagement and interaction with each post. I created both original content and linked external resources for viewers to explore on their own for more information. The content included workouts, health information, opportunities in the Wichita area, ideas for activity, and encouragement for activity aimed at increasing motivation, feelings of capability, awareness of opportunity, attitudes, norms, and perceived behavioral control, according to the COM-B model, behavior change wheel, and TPB. Over the course of my contributions to the Facebook account and posting consistently 3-5 times a week on top of the normal coalition content posted by my preceptor, I saw an increase in overall page reach, post views, and post interactions; table 3.1 summarizes the reach and engagement for both the page and posts by week. Increased consistency was seen to improve reach numbers compared to 2021 and over the course of this semester as I have worked on it; table 3.2 summarizes the reach and engagement for the year 2021. See Appendix A for sample Facebook content.

Week	Page Reach	Actual Page Engagement	Avg. Post Reach	Avg. Post Engagement
Jan. 31	475	17	132	4.5
Feb. 7	346	13	111	3.25
Feb. 14	222	14	107	8
Feb. 21	400	42	137	6
February	915	86	122	5.5
Feb. 28	631	16	165	4
Mar. 6	316	11	107	3
Mar. 13	268	7	107	2
Mar. 20	348	15	67	6
Mar. 27	381	5	123	3.5
March	1,103	58	117.4	6
Apr. 3	333	12	105	2.4
Apr. 10	236	11	85	2
Apr. 17	754	14	141	2
Apr. 24				
April	1323	37	110.3333333	2.133333333

Table 3.1: Engagement and reach by week in 2022

Month	Page Reach	Actual Page Engagement	Avg. Post Reach	Avg. Post Engagement
January	392	71	100	1.7
February	559	92	102	2.3
March	634	93	80	1.2
April	540	94	89	1
May	636	62	87	1.8
June	323	41	56	0.6
July	2,258	90	287 (151)	3.3 (2.4)
August	3,269	65	196 (136)	4.3 (3.5)
September	466	36	83	0.7
October	797	38	131	4.8
November	548	26	114	1.4
December	185	14	63	0.25
	883.9166667	60.16666667	90.5	1.575
2021	883.92	60.17	90.5	1.58

Table 3.2: Engagement and reach by month in 2021

Monthly newsletter

The coalition newsletter goes out via email to a list of over 8,000 people both stakeholders and members of the Wichita community. The newsletter currently has a 20% open rate and a 14% click rate of links provided within the newsletter. Newsletters and digital written

media in general have been shown to be an effective mode of health communication with the main advantages being larger reach and better accessibility (Michael, 1998). I was in charge of researching and writing content for the nutrition/PA segment of this newsletter in February, March, April, and May issues. The numbers of reach and open rate have not yet been updated since the beginning of this project, so there is no data on whether these messages I created had an effect on the newsletter stats. However, the experience gained of integrating my coursework by creating a PA promotional message for a population that was already interested and aware of health values and opportunities was valuable because the other experiences were targeted at a population that would be considered unmotivated or precontemplation stage of the transtheoretical model. See Appendix B for sample newsletter content.

Summary of coalition strategies

I completed the survey questions (see Appendix D) through working backwards from the end goal information to the questions that would be necessary to gain that information. I sent a draft to my preceptor and the strategic planning expert for revisions and then finalized the draft the second time. After completing this survey, I collected the responses in a table made to organize the data in a helpful way; a sample of this table is included in Appendix C. There were three coalitions that never responded, two that responded but never filled out the questionnaire, and one that had since been ended due to funding issues. With the no responses, I gathered the information via their website and other contacts such as the local health department. Each coalition I followed up with weekly or more. In the end, there were eight coalitions included in the summary of coalition strategies. I created a Google sheets document (see Appendix C) to present the summary of this information to my preceptor and the strategic planning expert who then passed it along to the board and strategic planning committee. This project of strategic planning is ongoing, so there are no data or results to report.

Chapter 4- Discussion

Lessons Learned

The WHWC experience was important because it integrated my coursework and knowledge of health communication to the application of community health promotion. I found that consistency is key with health communication strategies, which is in line with the current body of literature. Success may be observed in health communication campaigns for many different reasons. One of them is consistency; it has been found that consistency is one of the key elements necessary to increase awareness and impact of health communication campaigns (Silva et. al., 2020). I experienced that being consistent with the frequency of posting to the Facebook page at least 3 times a week attracted more people, and increased reach and post interactions. I also learned that targeting communication to certain populations could help to increase engagement and interest in a post, this will also be discussed in the limitations section. Throughout this project I have also learned about the daily proceedings of public health professionals and the whole field. Public health is a very interdisciplinary field with the work being so heavily reliant on systems thinking. I have seen this is both beneficial and complicating because the interconnectedness of the different organizations and levels throughout the social ecological model can provide better outcomes, collaborations, and reach. On the other hand, I have seen how this method of working can end up stalling a project because you might end up waiting days for approval or even a response from another organization who is busy with their own projects. This cycle of delay in correspondence can present a major barrier in public health work and outcomes.

Limitations

There were many obstacles I experienced and can identify from this project. For one, there was a lack of targeting in the PA promotional material. Both the Facebook and the newsletter lacked a specific audience, which is good that it is broad and getting a large reach, however it presented a slight issue in creating the material for dissemination. As discussed in chapter one, targeting is one main strategy to increase awareness and understanding of a health campaign (Marcus et al., 2000). The lack thereof definitely served as a limitation in interest, relation, and interaction with the content because I was creating content for very broad groups. I think there was additional limitations in regard to the newsletter audience because it was ill-defined in the beginning. There certainly are characteristics you could assume all coalition members share, such as a base interest in health and wellness, some knowledge of

the recommendations for PA and nutrition, and at least some motivation for being healthy and taking care of your body through PA and nutrition. However, there is no demographic information, so it was difficult to assign a grouping variable with which to target that whole population. Further issues with the newsletter included a lack of an outcome goal; because there was no definitive behavior or process goal such as increasing clicks, the direction for the messages became lost at times. I also think in general the newsletter is very long, so evaluating interactions or opens data for the newsletter would have little correlation with the PA/nutrition sections specifically and would say more about the title or other featured articles.

Secondly, as was also discussed in chapter one, long-term consistency of messaging helps to establish awareness and retention of health messages as well as increases understanding the more an individual sees the message (Silva et al., 2020). Because this internship was only over one semester, and would inevitably come to an end anyway, I think the lack of potential for long-term consistency of these messages was always going to be a limitation. There are steps that could be taken to try to increase the volume of messaging after this internship ends, such as creating a content bank of sorts to keep messages for later use and reuse. However with only one staff member who dedicates less than full time to this coalition that is not very plausible. I did send some of the content I created to my preceptor so that she could repost them occasionally, but this does not really constitute a full effort continuation of the consistent health messaging that would be helpful to create real change.

Briefly I would like to address the lack of paid promotion on social media platforms. Obviously, this is not a requirement for successful social media communication campaign, however it was seen in July 2021 that a post which included paid promotion led to reach and engagement numbers in the multiple thousands (see figure 4.1). You can also see in the figure that the “results” which are the amount of link clicks were very high as well. This could help with the awareness and understanding of the messages. Paid promotion of posts could also increase reach of the Facebook page as a whole because it reaches more interested parties who would give the page a follow and interact with the posts more- even those that are not promoted.

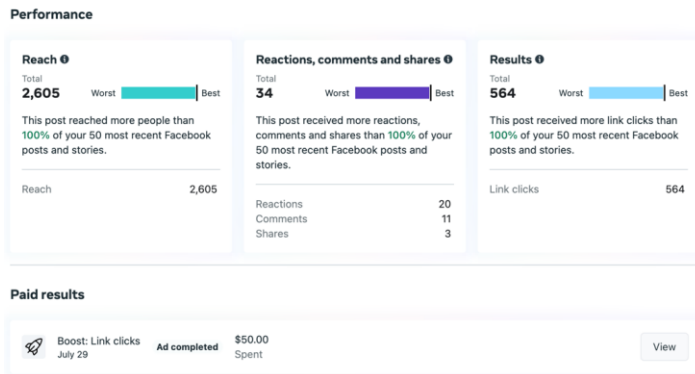


Figure 4.1 Results of a \$50.00 paid promotion of a post in July 2021

Finally, I will discuss the lack of evaluation as a major limitation to this project. Without a method of evaluation there is no way to ensure that these messages were in fact generating awareness of opportunities, feelings of competence, or changing attitudes surrounding PA. Additionally, there is no way to know how behavior in the community was affected, whether or not PA actually increased, if sedentary time was affected, usage of PA resources was increased, etc. Although there were some insights for the Facebook account on the reach and interactions for each post, this didn't give much insight into the direct effects of the messaging on behavior, attitudes, or awareness/knowledge. The lack of evaluation was an overall hinderance to the project as a whole as well; the newsletter lacked evaluation. As discussed previously in this chapter, even if there were more insights into the viewership, interactions, and interests of the audience, it would then be difficult to accredit those numbers to the sections for which I was responsible. Furthermore, the summary of coalition strategies that I completed may have evaluation eventually, however that is a very long-term prospect because it will take a while to develop the plan and then implement it; evaluation will come much further down the road after we can see the effects of the strategic plan.

Next Steps

In order to better the results of this kind of project (or if I were to do this one again), I would address a few factors. First of all, I would choose a timeline that was longer, or have a long-term implementation plan in place so that the messages could be continuously outputted even after my internship ended. To do this I would create a content bank of sorts to hold a set number of messages that I created for different targets. After I created this bank, it could then be used and repeated longer term because I could either schedule it before I left or someone

else in the coalition would have access and post those ready-to-go messages. It has been seen that consistency is a major contributor to recognition and retention of health messaging (Silva et al., 2020). It was seen in a 2012 study on condom usage that Facebook messaging promoting usage was effective in increasing usage, but after termination usage began to decline again (Bull et al., 2012). This further stresses the importance of repetition and long-term consistency of messaging.

Another approach that could increase the reach and uptake of these messaging campaigns would be to collaborate with other organizations to gain engagement from their followers and vice versa. This is a free option that would be mutually beneficial to both organization's reach. To take this a step further, you could collaborate with a brand or influencer to increase reach and interest in posts; this is similar to paying to promote a post to a social media platform and would require some funds but could overall be beneficial. It has been seen that messaging and communication campaigns, especially those aimed at increasing PA are positively affected when they are endorsed by an athlete (Hays et al., 2022). I believe that these effects could be replicated on a smaller scale using "hometown heroes" such as WSU players/coaches or other prominent, recognizable community members.

Another factor to consider from the literature is targeting for health messaging. Although some studies suggest an individualistic tailored approach, it has been found that targeting in general can be effective to increase awareness and effect size (Marcus et. al., 2020). I think that it would be plausible to further develop subgroups based on demographics and then develop tailored messages that could be posted in rotation in order to reach each subgroup. A formative survey could be distributed to assess the demographics of the target community, or you could base it completely on the information collected by Facebook itself.

Finally, I would implement an evaluation plan using an initial impact evaluation to help determine the level to which the audience was internalizing the messages and PA level changes could be assumed based on those measures. Additionally, using a pre-test, post-test design would allow for assessment of the impact of the messages on the secondary outcome measures- these measures being the theoretical constructs. Surveys could be administered at random to individuals who received the messages, or the whole followers list in which case a component to determine which messages they saw would be necessary. It would also be beneficial to have mid-point assessment to incorporate a process evaluation to assess the progress of the outcome goals, how the messages are being taken up or understood, whether each group is internalizing the message, and to check which groups may be relating less to the messages sent to them. It has been seen that social media intervention usage decline overtime

(Williams et al., 2014) therefore, it is also recommended that there be ample amount of time allowed between the measures as to account for the initial spike in interest and the possible decline after a certain point (Hays et al., 2022). Another consideration for further research into this topic is the inclusion of a control group, and how exactly you might go about ensuring that messaging not go out to some people; this is especially hard when considering a social media campaign. One way to incorporate a comparison group would be to take measurements in a different area that was not receiving these types of messages and compare those measures to the Wichita population.

Chapter 5- Competencies

Table 5.1 Summary of MPH Foundational Competencies

Competency	Description
6	Discuss how structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels.
8	Apply awareness of cultural values and practices to the design or implementation of public health policies or programs
13	Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
18	Select communication strategies for different audiences and sectors
21	Perform effectively on interprofessional teams

Competency 6

Competency 6 is a part of the public health and healthcare systems section of the competencies. This focuses on the effects of structural bias, inequities, and even racism on achieving health equity at the upper levels of the social ecological model (SEM). In MPH 818 "Social and Behavioral Bases of Public Health" these upper levels of the SEM were focused on, examining the effects of the physical and social environment as well as policy in healthcare and the effects those factors can have on health and health equity. I also felt that MPH 720 "Administration of Health Care Organizations" helped to clarify this competency because it focused on the healthcare industry and how it can create opportunities or barriers for better health and furthermore create a spiral towards that initial direction and can continue to affect generations. I saw this in action when interacting with the bike-walk Wichita planning committee. This event is targeted at all of Wichita, an area which includes a range of individuals with all different backgrounds highly suburbanized areas to very urban areas, and all the socioeconomic statuses in between. This was a great opportunity to see in action the importance of planning a program for all people and considering their possible disadvantages.

Competency 8

Competency 8 is categorized as planning and management to promote health, and it focuses on the application of cultural values in the design or implementation of public health policy or programs. In MPH 818 "Social and Behavioral Bases of Public Health" I discussed and

examined the role of behavioral, social, psychological, economic, environmental, and social structural factors that affect health problems within different populations and the development of these health problems. It is important to understand how these factors may affect a certain group differently based on their cultural values or practices. This was important to consider when creating social media posts for the health promotional Facebook material; I strived to create content that was sensitive and relating to different cultures, not just my own.

Competency 13

Competency 13 is to propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes. In both MPH 720 and MPH 818 both helped to inform how to do this as well as the importance of doing so. Working with my preceptor and a strategic planning expert I was tasked with building a list of coalitions to use in an summary of coalition strategies. This helped the WHWC reach other successful organizations and foster a relationship with them to help each other and further the goals of the coalition through collaboration or cooperation in the coalition's strategic planning efforts.

Competency 18

Competency 18 is a part of the communication section, focusing on selecting strategies for different audiences. In Kin 610 "Program Planning and Evaluation" selecting the target audience was one of the first steps described in planning a program, preceding selecting appropriate strategies for that particular population. This ties in with my attainment of competency 13; as I created messages for the Facebook page, I tried to account for different subgroups and relate the messages to each one separately and in a way that would best grab their attention and be of interest to that subgroup. One way to accomplish this in such a large population as the WHWC Facebook page followers is to simply create messaging for all groups and then disseminate them regularly. This correlates with competency 19 which is in the same section but focuses more on the application of the selected strategy; the competency 19 is "communicate audience-appropriate public health content both in writing and through oral presentation." I also attained competency 19 along with 18 with the same courses and MC 750 "Strategic Health Communication" which helped me gain a better understanding of the principles of communication, as I had not yet had formal training in communication practices until that class.

Competency 21

Competency 21 is in a category on its own called interprofessional practice, and the competency itself is simply to perform effectively on interprofessional teams. I think this is a very important competency, as it pertains to professional development and the adaptation of working in an academic setting to a professional setting. As discussed in chapter 4, the interdisciplinarity of public health is quite prominent as it involves many sectors and levels of the SEM. I also think that there are often bottlenecks or setbacks when it comes to this aspect of public health, therefore it was an important competency for me to attain in order to work effectively and efficiently with other public health professionals and professionals in other fields. In AAI 801 "Interdisciplinary Process" these principles were highlighted and the importance of making the extra effort, no matter how inconvenient, was stressed. I got to see this particular competency in action through various meetings I was a part of as well as working directly with Shelley and Sonja for the summary of coalition strategies.

Student Attainment of MPH Emphasis Area Competencies

Table 5.2 Summary of MPH Emphasis Area Competencies

MPH Emphasis Area: Physical Activity		
Number and Competency		Description
1	Population Health	Investigate the impact of PA on population health and disease outcomes.
2	Social, behavioral, and environmental influences	Investigate social, behavioral, and environmental factors that contribute to participation in PA
3	Theory application	Examine and select social and behavioral theories and frameworks for PA programs in community settings
4	Developing and evaluating PA interventions	Develop and evaluate PA interventions in a diverse community setting
5	Support evidence-based practice	Create evidence-based strategies to promote PA and communicate them to community stakeholder

Competency 1

Population health is the basis for all the projects I have done and will most likely be the basis for all the projects and programs I will be doing in the future. In Kin 610 “program planning and evaluation” I conducted a needs assessment as a part of the planning and justification process to create an intervention for a specific population. In Kin 805 “physical activity and human behavior” a needs assessment was also completed with a survey component included which allowed me to understand that each population is different, and even location presents differences between similar groups. Kin 805 also stressed the importance of having an evidenced-based justification that the population was in fact suffering disproportionately from a certain health issue.

Competency 2

MPH 818 “social/behavioral bases public health” and Kin 616 “obesity and activity” these principles of the social, behavioral, and environmental factors were stressed all together. In Kin 616 it was specifically in relation to people who were overweight or obese, which is a common health problem and one I looked at in my project. Additionally, in MPH 802 “environmental health” the effects of the environment were examined, although it was not only in relation to PA, the environment has many effects on health in general. In my work for the WHWC, I was able to see the social influences through my work on their Facebook account. It is very important for some to see others doing a behavior before they may feel comfortable doing it themselves, or

they may not want to be doing something completely alone. Additionally emphasizing the opportunities available in their own environment could help to change their perception of the environment; because it is hard to actually change an environment to make it more conducive to PA, it is more plausible to approach it in this way.

Competency 3

Theory application has been heavily addressed in my coursework specifically my kinesiology courses. Specifically, Kin 805 “physical activity and human behavior” and Kin 655 “individual physical activity promotion” used theory as the basis for creating a health promotion campaign. Each one of these focused on using a theoretical framework to build an intervention so that it was able to address PA and the underlying constructs that go together in a logical and evidence-based way. I also used theory to base my project on, specifically for the health communication strategies for the WHWC Facebook account. Without these theoretical considerations, these would just have been posts, posted for no specific reason or strategy for creating a real change.

Competency 4

Developing and evaluating public health programs can be a complicated experience to gain in the classroom setting, however Kin 610 did a good job of simulating the experience. In this class I completed a program plan along with a needs assessment and a rationale for the population and health issue. Evaluation was also stressed in this class, creating/planning methods for process, impact, and outcome evaluation for the proposed program. This came into play with my work for WHWC and their social media management. I applied the principles I knew and was taught through the MPH program about health communication and effective targeting and applied it to the health messages and PA promotion that went out on Facebook. After posting this promotional material, I was able to track the engagement and interactions with each post and the weekly/monthly numbers and compare them to last year, as well as track the progress over the time I have been working on it.

Competency 5

Using evidence to base an intervention on is a very important practice that has been stressed since my undergraduate degree. Specifically in my graduate coursework I remember this being stressed in Kin 610 “program planning and evaluation” and 612 “policy/built environment/physical activity”. It was stressed as I built a program plan that I needed to be

basing everything from the target population justification to the health issue to the methods on evidence-based literature and make sure it had a basis or justification for why I did it that way. I can see how this is important as it ensures that nothing is random which might lead to it being harder to explain based on the success/failure of the outcome. With WHWC I used evidence to base my approach to the Facebook posts, the posts themselves, the newsletter material, and the summary of coalition strategies justification is based on evidence that strategic planning will help the coalition to gain success and impact.

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Appendices

Appendix A- Sample Facebook Content

Part 1: Theory of Planned Behavior



Educational post to target perceived behavioral control



Post to influence attitudes using modeling

Part 2: COM-B model



Post targeting attitudes and social norms to foster intrinsic motivation

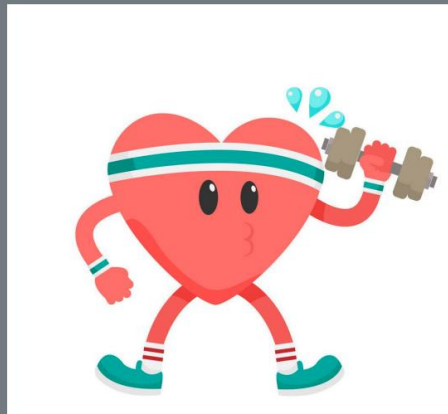


Post to increase awareness of opportunities



Don't Leave Your Health Up to Luck

Don't spin the wheel when it comes to your health. Leave luck for your lottery ticket and take control of your health by staying physically active and keeping your body in good condition! Making sure you meet your 30 minutes a day of activity is easier than it sounds, and [here](#) are several simple steps to get started!



Show your Valentine some love by getting out and getting active!

Staying active can improve your heart's health and decrease your chances of disease. There's no time like the present. High blood pressure is not age restricted- nearly 1 in 4 adults aged 20-44 experience high blood pressure.

Every little bit helps- Set aside some time in your day to take a walk with a pet or family member, choose the stairs at work, or even park farther away than usual!

Click [HERE](#) for 5 Heart Healthy Activities!

Appendix C- Summary of coalition strategies Table

Commented [MW3]: I tried to change this, but let me know if I should try again, I could do a new table for this but it wouldn't be representative of the product I sent to Shelley/the advisory board.

	What is the mission of the coalition?	501C 3 Statu s	Where is the coalition housed/ who manages it?	What is the structure of the staff?	How is the coalition funded?	What is the primary purpose of the coalition?	What kind of programs/initiatives does it plan/implement	What other coalitions are there that meet other community needs?	CHIP
Wichita Health and wellness coalition	Promote good nutrition and physical activity for all generations in Wichita	No	The coalition is facilitated by staff paid through the Chronic Disease Risk Reduction grant. Grant funds are held at the	Facilitator has approx. 10 hours per week to focus on Coalition per grant guidance. Volunteers serve on committees.	Routine expenses (website hosting, Constant Contact) are paid from revenue from annual Working Well Conference. Currently no other funding via grants.	PA/Nutrition promotion	Working Well Conference, Bike Month, Walktober, Food Council policy advocacy	Health Alliance meets to support the CHA/CHIP, Bike Walk Wichita promotes biking and walking, Aging Network, Youth Advocacy Council, Mental Health and Substance Abuse Coalition, LGBT Health Coalition, Safe Streets Drug Prevention, Tobacco Free Wichita www.hwcwichita.org/community-partners/	Yes
KC Healthy Kids	Composed of over 30 local food, farm and policy councils, the Kansas Food Action Network (KFAN) is a statewide advocacy network focused on building resilient local and state food systems in Kansas. The Network provides technical assistance, coaching, peer-to-peer learning and network opportunities to support growth and development of food system leadership in Kansas.	Yes	Stand alone organization	Director- Miranda, 1 FT staff and 2 part time consultants	2 grants one from KHF, and the other from the National Association of Chronic Disease Directors.	Strengthen local and state food systems through policy, systems, and environmental change	We convene the food councils across the state and support their work as they implement programs that lead to PSE change	There are approximately 30 local food policy councils in Kansas. We provide training, technical assistance, and networking opportunities for said councils	Yes
Activate Omaha	To Create awareness, advocacy and excitement about activity and the importance of designing our community for active lifestyles	No	Robert Wood Johnson Foundation	Coalition ended	5 year grant from the Robert Wood Johnson Foundation for Active Living by Design	Promoting active living through the built environment	Walking Works, Citizen's Handbook (neighborhood groups to identify barriers/walking environment), Club Possible (afterschool programs), Keystone Gateway to Active Living (childrens biking initiative), Safe Routes to School	Metro Omaha Tobacco Action Coalition, Nebraska Coalition for Lifesaving Cures, Green Omaha Coalition (environmental health), Coalition RX (substance abuse), NeMHAC (mental health and aging), strong nebraska (womens advocacy/health), Project Extra Mile (alcohol awareness)	No
Wellness Now Coalition- OKC	To advocate for best practices in policies that support the objectives of workgroups and partnerships toward achieving optimal and equitable PH outcomes	No				Promote health equity and wellness for all	Community health workers, Equity, Faith-based, Health at Work, Mental Health, Nutrition and PA, Tobacco prevention	OK Womens Coalition, Metro Literacy Coalition, OK Action (healthcare through nursing), Keep Moving OKC (wellness initiative)	
Flint Hills Wellness Coalition (Riley County)	To create a healthy, equitable community for residents through policy, system, environmental, and personal change	Yes	registered with the Kansas Secretary of State's Office but a stand alone nonprofit organization	9 Directors, 3 full time the rest volunteer. Paid through the Pathways grant	Pathways to a Healthy Kansas grant from Blue Cross Blue Shield (50,000 per year for 4 years) after which they will be eligible to apply for a larger grant	Work cooperatively with citizens throughout Manhattan to develop community norms that support healthy behaviors and environments	Pathways to Healthy KS, Food & Farm, Active Transportation, Mental Health, Health Equity, Access of Services, Community Needs Assessment	Kansas Equality Coalition, MARPC (risk prevention- drug/alcohol use) Coalition for Equal Justice, Flint Hills Veterans, KS Breastfeeding,	Yes
Healthy King County- Seattle	Eliminate health inequities that cause disparities	No		9 members on the governance team, 1 full time the rest volunteer	Several grants, currently a partnership to improve community health grant with 2 other organizations and a communities of opportunity grant from the Seattle Foundation	Develops leaders and provides resources that build capacity for achieving health equity through policy, systems, and environmental change	Healthy Eating, Built Environment, Drugs (including tobacco), Equity Committee	There are tons of coalitions in the Seattle/King County area that cover many issues including education, environment, health- mental health, nutrition/hunger, cancer and other illnesses, disabilities, physical activity, health equity, access to healthcare- homelessness, civil rights, and policy	Yes
Cleveland Food Policy Coalition	Promote a just, equitable, healthy and sustainable food system in the City of Cleveland	No	Cleveland Dept. of Public Health	Voluntary. 2 Co-Chairs and a steering committee	Several grants	Food policy advocacy for better food environment	Affordable food access, reducing wasted food	Coalition for Homeless, Green Ribbon (environmental), Mental Health and Addiction, Re-Entry Coalition, School Reform, Neighborhood progress	Yes

Appendix D- Summary of coalition strategies questions

Coalition name:

Primary contact name:

Primary contact email:

1. What is the mission of the coalition?
2. Is there a specific focus? If so, what is it?
3. If you have a primary focus, are there other coalitions in the area that cover other issues?
What are they?
4. Where is the coalition housed/who manages it?
5. What is your staffing structure? Paid/unpaid staff, number of staff, outsourcing, etc.?
6. Is the primary purpose of your coalition to convene and share ideas, or do you focus more on planning/implementing programs?
7. Which programs/initiatives are you proudest of?
8. Do you have a community health improvement plan, if so, what is the structure/use of that look like?