

Worksite Wellness: Improving Physical Activity and Nutrition to Combat Obesity

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Overview

Part 1: Applied Practice Experience

Part 2: Background

Part 3: Project Descriptions

Part 4: Competences

Part 1: Applied Practice Experience



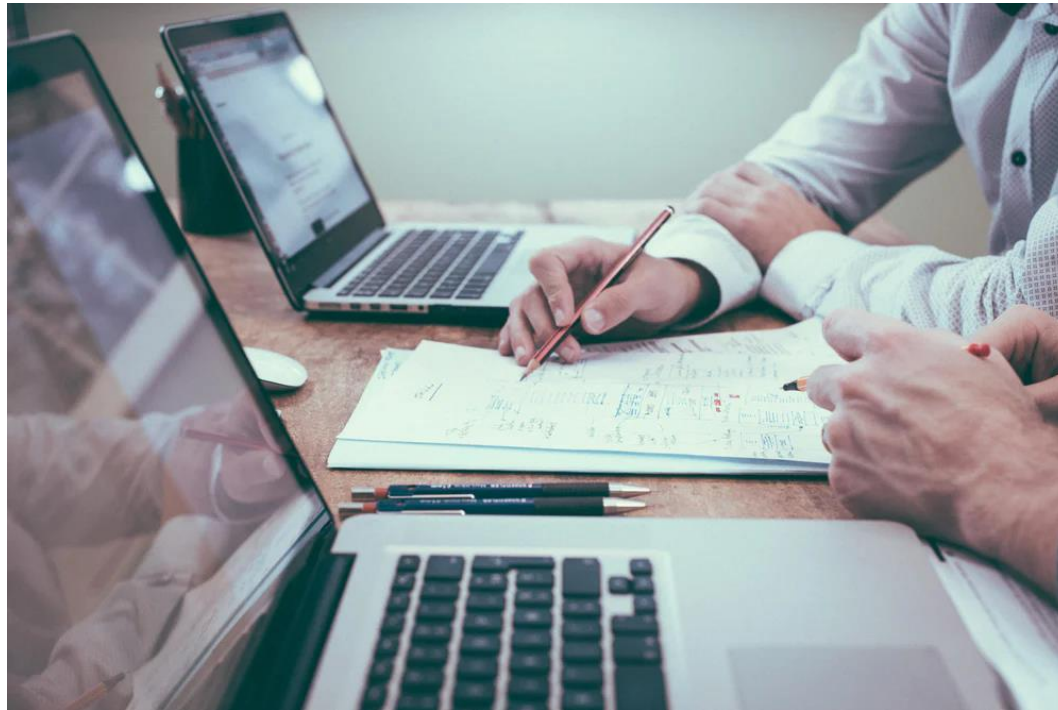
Kansas Department of Health and Environment (KDHE)

- Curtis State Office Building in Topeka, KS
- Environment
- Health Care Finance
- Public Health
 - Physical activity and nutrition (PAN)
- Anticipated project
 - Pedestrian and Bicycle Crash Analysis Tool
 - Implement action items in revised Kansas State Highway Safety Plan
 - Unable to start due to complications

Physical Activity and Nutrition Group

- Preceptors
 - Jordan Roberts
 - Warren Hays
 - Emily Carpenter
- New product developments – focus on reducing obesity
 - Worksite Wellness Policy
 - Well @ Work Stretching Videos
 - Well @ Work Nutrition Table Tents
 - Action Guide for Government Agencies on the Food and Nutrition Environment
 - Complete Streets Legislation

Part 2: Background



Obesity

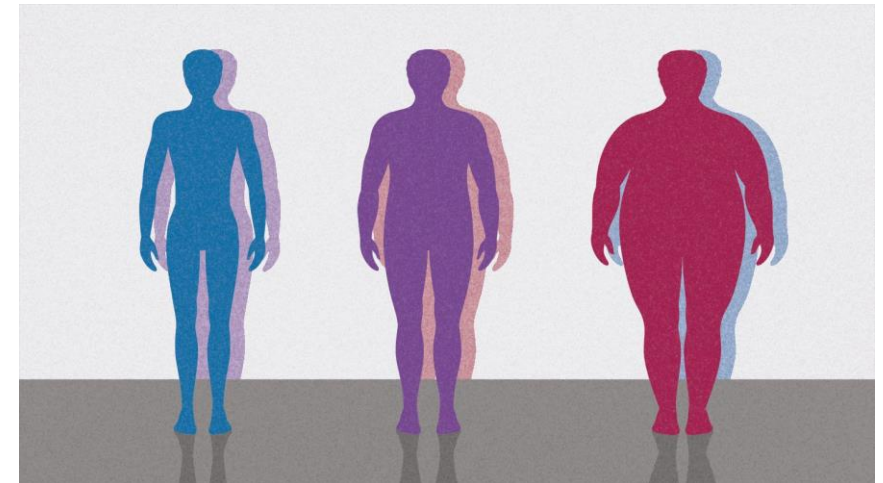
- 71.6% of the U.S. population is overweight or obese (NCHS, 2016; CDC, 2020)

Overweight: BMI is 25.0-29.9 kg/m²

- 30.9% are obese
- Obese: BMI is greater or equal to 30.0 kg/m²

- Kansas is 12th highest obese state (CDC, 2020)

- 34.4% adults obese
- Obesity increased over 15% in 19 years



Cost of Obesity in the Workplace

- ~ 53% American workers are overweight or obese (Hertz & McDonald, 2004)
- Obesity can: (Goettler, et.al; Kudel, et.al; Gu, et.al, 2016)
 - Lower productivity
 - Increase absenteeism
 - Increase presenteeism
 - Increase impairment
 - Increase limitations
 - Increased injury
- Cost \$73 billion nationally (Finkelstein, et. Al, 2010)



Physical Activity in the Workplace

- 8.5-hour workdays (U.S. Bureau of Labor Statistics, 2018)
- 71% of work hours sedentary (Laskowski, 2018)
- In Kansas 59% of worksites offered no: (Ablah, et. Al, 2018)
 - Information
 - Program
 - Policy
 - Environmental change
- Extended sitting increase risk of:
 - Heart disease
 - Stroke
 - Cardiovascular diseases



Nutrition in the Workplace

- ~ 80% of Americans don't meet the vegetables and fruit recommended amounts (CDC, 2015)
- Average diet exceeds recommended amount of: (U.S. DHHS, 2015)
 - Sugar
 - Refined grains
 - Sodium
 - Saturated fats
- Highest food intake among workers: (Onufrak, et. al, 2019)
 - Solid fat
 - Added sugars
 - Sodium

Nutrition in the Workplace

- Sources of work lunch: (Blanch, et.al, 2009)
 - Fast-food restaurants (43.4%)
 - On-site cafeterias (25.3%)
- Workplace food choices based on: (Blanck, et. Al, 2009)
 - Convenience (34.4%)
 - Taste (27.8%)
 - Cost (20.8%)
 - Health (17.1%)



WORKPLACE HEALTH MODEL

1 ASSESSMENT

INDIVIDUAL

(e.g. demographics, health risks, use of services)

ORGANIZATIONAL

(e.g. current practices, work environment, infrastructure)

COMMUNITY

(e.g. transportation, food and retail, parks and recreation)

4 EVALUATION

WORKER PRODUCTIVITY

(e.g. absenteeism, presenteeism)

HEALTHCARE COSTS

(e.g. quality of care, performance standards)

IMPROVED HEALTH OUTCOMES

(e.g. reduced disease and disability)

ORGANIZATIONAL CHANGE, "CULTURE OF HEALTH"

(e.g. morale, recruitment/retention, alignment of health and business objectives)



2 PLANNING & MANAGEMENT

LEADERSHIP SUPPORT

(e.g. role models and champions)

MANAGEMENT

(e.g. workplace health coordinator, committee)

WORKPLACE HEALTH IMPROVEMENT PLAN

(e.g. goals and strategies)

DEDICATED RESOURCES

(e.g. costs, partners/vendors, staffing)

COMMUNICATIONS

(e.g. marketing, messages, systems)

3 IMPLEMENTATION

PROGRAMS

(e.g. education and counseling)

POLICIES

(e.g. organizational rules)

BENEFITS

(e.g. insurance, incentives)

ENVIRONMENTAL SUPPORT

(e.g. access points, opportunities, physical/social)



CS264229-A

CDC's Workplace Health Model

- “Coordinated approach to workplace health promotion which results in a planned, organized, and comprehensive set of programs, policies, benefits, and environmental supports designed to meet the health and safety needs of all employees” (CDC, 2015)
- Components
 - Assessment
 - Planning and management
 - Implementation
 - Evaluation

Assessment

- Individual
- Organizational
- Community
- Examples:
 - Creating a committee
 - Conversations
 - Surveys
 - Audit



Planning and Management

- Leadership support
 - Management
 - Workplace health improvement plan
 - Dedicated resources
 - Communications
-
- Examples:
 - Plan the program
 - Establish committee roles



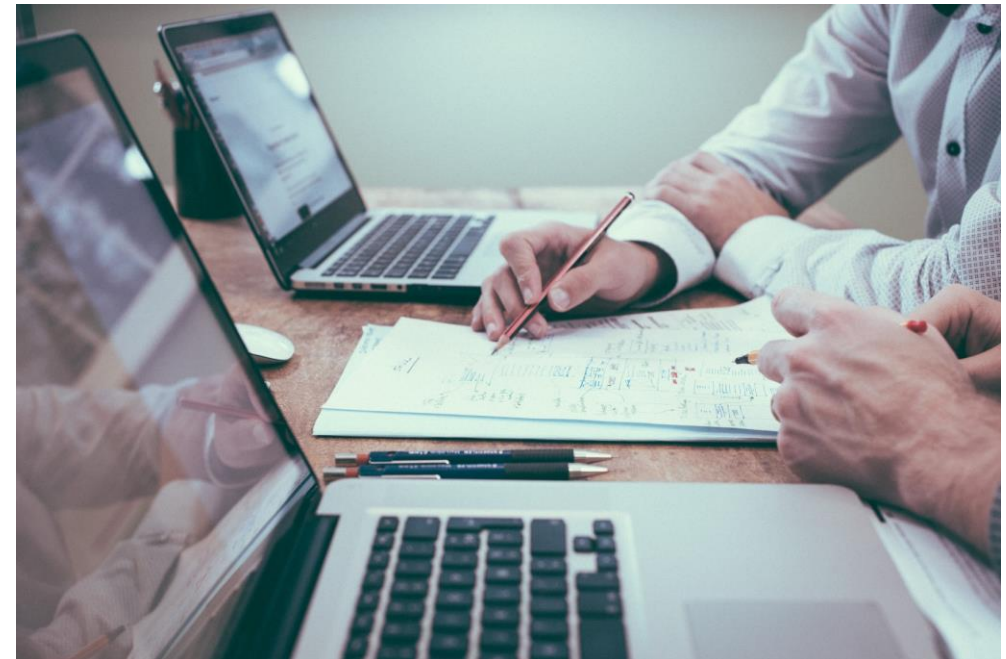
Implementation

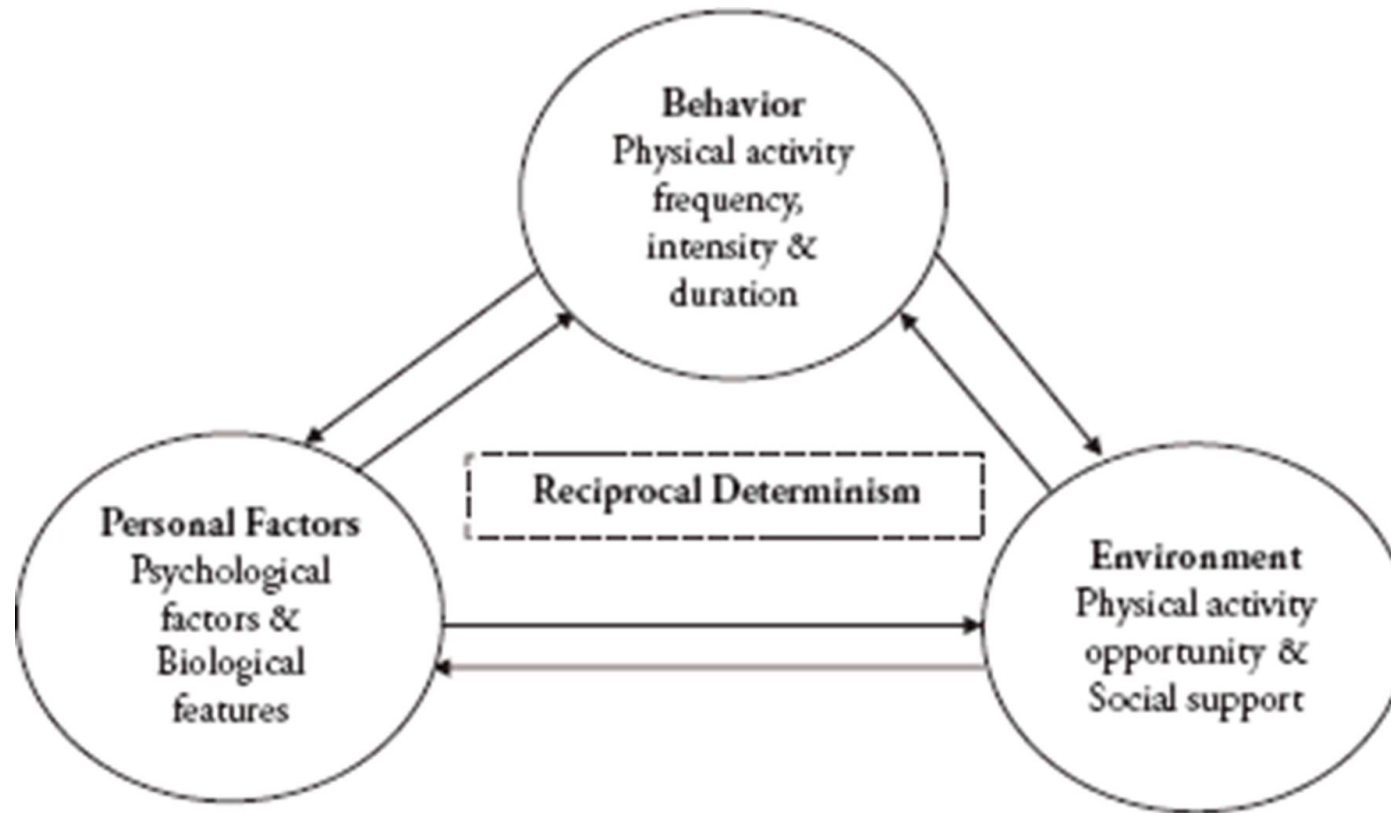
- Programs
 - Policies
 - Benefits
 - Environmental support
-
- Examples:
 - Implement programs into the workplace



Evaluation

- Worker productivity
- Healthcare costs
- Improved health outcomes
- Organizational change
- Examples:
 - Effective overtime
 - Received by employees
 - Return on investment





Social Cognitive Theory



Social Ecological Model

Part 3: Project Descriptions

- Worksite Wellness Policy
- Well @ Work Stretching Videos
- Well @ Work Nutrition Table Tents
- Action Guide for Government Agencies on the Food and Nutrition Environment
- Complete Streets Legislation

Worksite Wellness Policy

- Summary of the methods
 - Evidence based practice
 - Literature Review
 - Reviews (Hipp, et. al, 2017; Bailey, et. al, 2018)
 - Case studies (United Way of Pierce County, 2015; Wilson, 2019)
- Other worksite wellness polices
 - Worksite Wellness Policy Ideas and Resources: Utah (2013)
 - NIH Workplace Wellness Policy (2017)
 - Resource Kit to Prevent Obesity and Related Chronic Diseases: Wisconsin (2018)
- KDHE policies



Worksite Wellness Policy

- Physical activity
 - Individual, behavioral, environmental changes
 - Breaks during meetings
 - Flexible work schedule to accommodate physical activity
 - Exercise facility
 - Bike racks and safe walking routes
- Nutrition
 - Individual, behavioral, environmental changes
 - Abide by Nutrition Standards and Guidelines
 - Appliances in each break room
 - Nutrition labels on vending machine and cafeteria beverages and food

Worksite Wellness Policy Results

- Draft completed
- Submitted for approval
- Building capacity
 - Education
 - Environment
- Future implementation and evaluation plan



KDHE I.D. XX

KDHE INTERNAL DIRECTIVE XX

Subject: Kansas Department of Health and Environment (KDHE) Worksite Wellness Policy.

- 1) **PURPOSE.** The purpose of this policy is to promote and establish knowledge and participation in physical activity and healthy eating throughout the worksite. KDHE is committed to providing employees with a safe, healthy and supportive environment that recognizes the importance of the physical and mental wellbeing of our employees and their families. KDHE is an organization promoting health throughout the state and it is important that we serve as a model for other agencies and businesses in our communities. This policy will help further the mission of KDHE.
- 2) **DIRECTIVE AFFECTED.** This is a new directive.
- 3) **APPLICABILITY.** This policy is applicable to all employees and management within KDHE.
- 4) **DEFINITIONS.**
Break Room – A room in a public building or worksite set aside for coffee breaks, lunch breaks, snacking etc.

Healthy Behaviors – Promoting and maintaining a healthy lifestyle.
- 5) **DISCUSSION.** This policy was created to decrease sedentary behavior and poor eating habits among KDHE employees and to increase their knowledge and participation in physical activity and healthy eating while at work. This policy should improve employee health, increase bodily movement, increase workforce productivity, reduce absenteeism, and improve financial outcomes for each employee and for KDHE. To sustain an effective worksite wellness program, it is essential to increase awareness and implement these practices into the worksite. An active and effective worksite wellness committee is the first step to achieve these goals. The committee should be composed of employees working collaboratively to achieve the best outcomes.
- 6) **ORGANIZATION.** The Worksite Wellness Committee shall consist of at least the following components:
 - a. Worksite Wellness Committee Members.
 - i. The Worksite Wellness Committee will have at minimum four members to provide an abundance of knowledge, support, and diversity. It is recommended to have at least one representative from each division and bureau within KDHE. Committee members representing the various divisions, bureaus, and sections within KDHE will improve ideas and innovations, and provide democratic and representative oversight and decision-making.
 - b. Duties.
 - i. Committee members shall develop, implement, promote, execute, and participate in worksite wellness recommendations for physical activity and healthy eating. Committee members will review and evaluate this policy annually. Committee members have the option to conduct an objective long-term study on this policy to evaluate interventions. A president, secretary, and treasurer should be established to provide organization and ease. This committee should adapt and establish worksite guidelines for emotional and mental health wellness, tobacco prevention and cessation, and stress management.

1.2: Break Rooms and Commons

Clean unflavored and unsweetened drinking water shall be made freely available to employees in breakrooms and common areas where employees or guests gather to eat or drink. Provide table tents on healthy food guidelines and practices listed in break rooms. KDHE is required to provide use of, at no cost and to employees, a sink, a refrigerator, a freezer, and a microwave oven in each break room.

1.3: On-site and Off-site Meetings, Events and Activities

When selecting and purchasing food and beverages for KDHE at on-site and off-site meetings, events and activities (including potlucks), staff must abide by the Nutrition Standards and Guidelines provided in this policy. Every reasonable effort will be made by KDHE/ Wellness Committee to ensure that at least 50% of the food and beverage options offered to employees and guests meet the Nutrition Standards and Guidelines.

1.4: State Operated Vending, Cafeteria and Snack Bars

KDHE and the Wellness Committee will coordinate with the Business Enterprise Program in the Department for Children and Families to ensure that at least 50% of the food and beverage options offered to employees and guests in state operated vending machines, cafeterias and snack bars located in the Curtis State Office Building meet the Nutrition Standards and Guidelines included in this policy. Nutrition labels are required on vending machines, cafeterias, and snack bars located in the Curtis State Office Building.

Section 2: Physical Activity Provisions

2.1: Conference and Meetings

All conference room are required to have physical activity posters and table tents. Meetings lasting longer than 30 minutes will allow for staff to have two-minute stretching breaks every 30 minutes. Employees should be promoted to replace traditional sit-down meetings with walking meetings whenever possible.

2.2: Building Requirements

The Curtis State Office Building will provide an on-site exercise facility, showers, and changing rooms, at no cost for all employees. The Curtis State Office Building will have bicycle racks placed in (a) safe, easy, and convenient location(s). Safe and convenient walking routes will be posted near exits in the Curtis State Office Building. Motivational signs will be placed near stairwells and elevators encouraging employees and visitors to use the stairs when possible. The Worksite Wellness Committee will promote a healthy lifestyle through posters, signs, emails, and newsletters throughout the Curtis State Office Building.

2.3: Workspace

KDHE will encourage employee to bring and use, in their offices during breaks, small exercise equipment like putty, stretch bands, and yoga mats. KDHE employees will be given the opportunity to use flex-time hours to encourage them to engage in physical activity during the typical 8 am – 5 pm workday.

Section 3: Incentive Provisions

3.1: Discounts

Employees who bike to work will receive a monthly cycle mileage reimbursement to encourage active transportation. KDHE will offer sponsored programs available to employees, like gyms, races, and nutrition classes. Healthy behaviors, will receive a discount on insurance premiums.

3.2 Assessments

KDHE will provide ergonomic assessments for employees by request, and offer opportunities to obtain standing desks and ergonomic chairs. KDHE will offer free annual health screenings. Worksite Wellness Committee will offer monthly health challenges to complete.



Physical Activity Worksite Wellness Product

Physical Activity: Well @ Work Stretching Videos

- Goals:
 - Educational and instructional
 - Create videos through evidence-based practice
 - Friday Flash weekly employee newsletter, social media
 - Works well within Worksite Wellness Policy
- Results:
 - Videos were completed and edited
 - Total of 9 videos
 - Future implementation



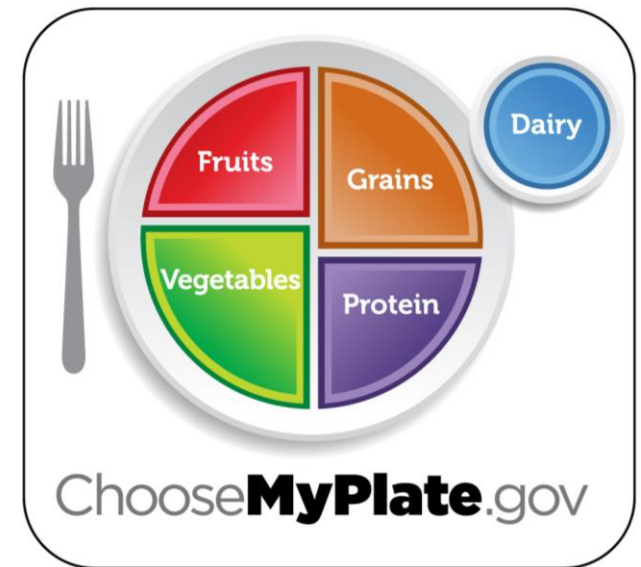




Nutrition Worksite Wellness Products

Well @ Work Nutrition Table Tents

- Goals:
 - Based on MyFood Plate sourced from CDC and USDA nutrition guidelines.
 - Work with an epidemiologist
 - Implement on all five stories of the Curtis State Office Building
 - Works well within Worksite Wellness Policy
- Results:
 - Created and in the last step of reviewing
 - Total of 7 table tents
 - Future implementation





- One cup of fruit is about the size of a fist or a baseball.
- An average serving of fruit is about 2 cups a day.



ChooseMyPlate. All About the Fruit Group. 2015.
Klemm, S. Serving Size vs Portion Size-Is there a Difference? Academy of Nutrition and Dietetics. 2018.
U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015-2020 Dietary Guidelines for Americans. 8th Edition. December 2015.

- Table Tents:
 - Fruits
 - Vegetables
 - Protein x 2
 - Grains
 - Dairy
 - Nutrition facts

One cup of fruit is the size of a small fist.



Fruits are sources of many essential nutrients that are usually under-consumed, like potassium, dietary fiber, vitamin C, and folate.

Fruits provide nutrients vital for the health and maintenance of your body. Most fruits are naturally low in fat, sodium, and calories, and all fruits are cholesterol-free!

Worksite Wellness Floor Observation

	A	B	C	D	E	F	G
1		Candy Jars	Conference Rooms	Kitchens/breakroom	Gathering Spots	Water stations	Notes
2	Basement						People walk the hallway. The hallway is plain white walls - spruce it up? Maybe with some hallway workout ideas?
3	Workout room						1 One men and One women locker room (changing room, one shower, lockers)
4	IT	?	2	?	?	?	
5	1st Floor						
6	Communal			1 (4 table tents) 1 per section		1 in common area	lots of vending machines; soda, food, snacks
7	2nd Floor						
8	Communal			1 (1 table tent)			1 2 soda vending machines
9	BHP side	1	3	2			
10	BFH side	1	4	2	2	1	
11	3rd Floor						
12	Communal Break Room			1 (1 table tent)			1 1 soda vending machine
13	Whole floor	1	5	4	1	1	
14	4th Floor						
15	Communal			1		1	
16	Whole floor	1	6	4		1	
17							

- Observational audit to determine where to place table tents

Action Guide for Government Agencies on the Food and Nutrition Environment

- Goals:
 - Update information and statistics
 - Connect with Business Enterprise Program and KDHE Bureau of Waste Management
- Results:
 - Updated a 22-page book
 - Waiting on collaborator feedback
 - Future implementation





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Complete Streets Legislation

- Goals:
 - Review literature for influence on
 - Increases physical activity
 - Improves safety
 - Infrastructure recommendation
 - Economy
 - Incorporate evidence-based practice
 - Governor's Council on Fitness
- Results:
 - Draft document
 - Submitted for future implementation



By [MONTH, DATE, YEAR], and continuously thereafter, not less than one percent of the total amount of any such funds received in any fiscal year shall be so expended for construction or improvement of non-motorized transportation services and facilities.

Outcomes:

As with all grant funds, it is important to tie funding back to achievable outcomes. The grants allocated under the aid to local funding will address short-term and long-term indicators. While community improvement is expected, realistic expectations must be set if the grant initiative is to be successful. A growing body of evidence, related to community-based initiatives, provides specific evidence that suggests Kansas communities could expect positive results in four areas: 1) physical activity; 2) safety; 3) infrastructure; and 4) the economy.

Physical Activity

Increasing physical activity among all populations is one of the 10 leading health indicators that Healthy People 2020 is aiming to improve.^{17,18} Only 19% of Kansans meet both the aerobic and strengthening exercise recommendations.^{3,6,19} Research has shown that investments in infrastructure and community planning are effective in positively impacting this health indicator. For example, a city in Utah that invested in Complete Streets saw a 50% increase of walking trips made in leisure time.⁸ Increasing physical activity is a primary strategy promoted by CDC to improve the health of individuals.²⁰

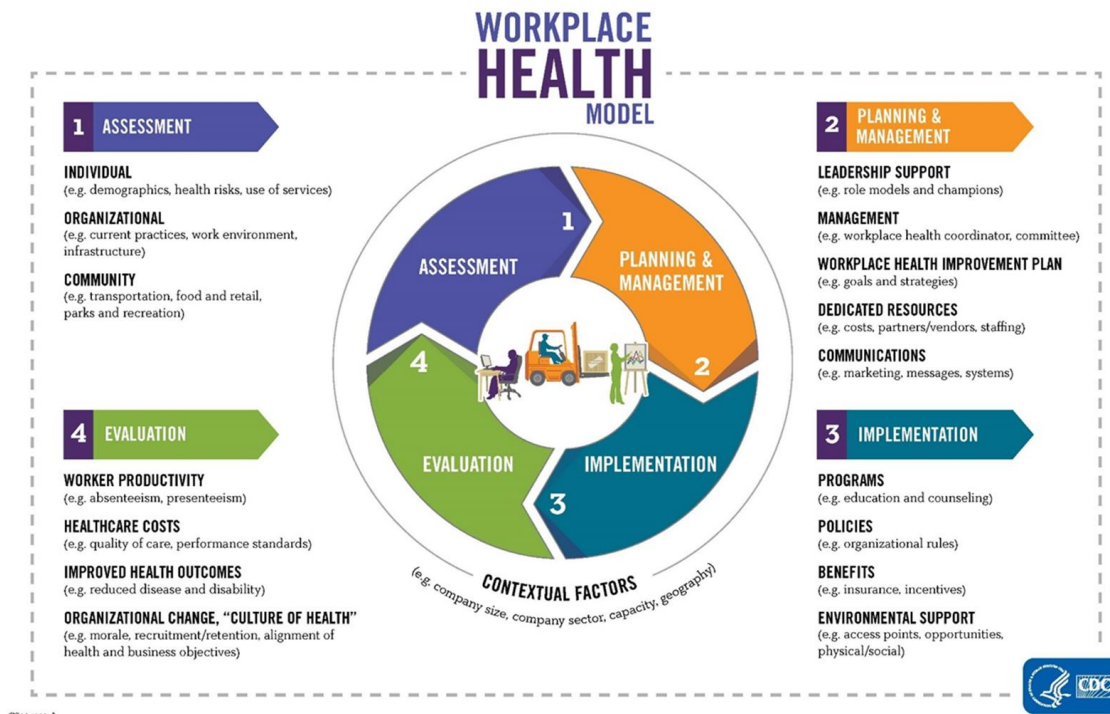
Safety

In 2017, 6,760 people in the United States were killed as the result of pedestrian or bicycle crash in traffic.²¹ Pedestrian and bicycle deaths account for 8% of fatal motor vehicle crashes in Kansas.²² A study has found that the United States has a two to six times higher chance of pedestrian and bicyclist death rate per kilometers traveled when comparing with Germany and the Netherlands, places where Complete Streets policies are the norm.¹⁴ A national Complete Streets policy study found that commuting on bicycles increased while the fatalities of bicycle collisions with motor vehicles declined in counties that have a Complete Streets Policy.²³ In New York (2013), a Safe Routes to School program saw a 44% decrease in school-aged pedestrian injury during school-travel hours.⁷ Smart Growth America has shown that incomplete streets have higher risks of fatality or injury.^{14,24} Complete Streets policies effectively decrease pedestrian and bicyclist deaths by providing safer routes for these users.

Infrastructure

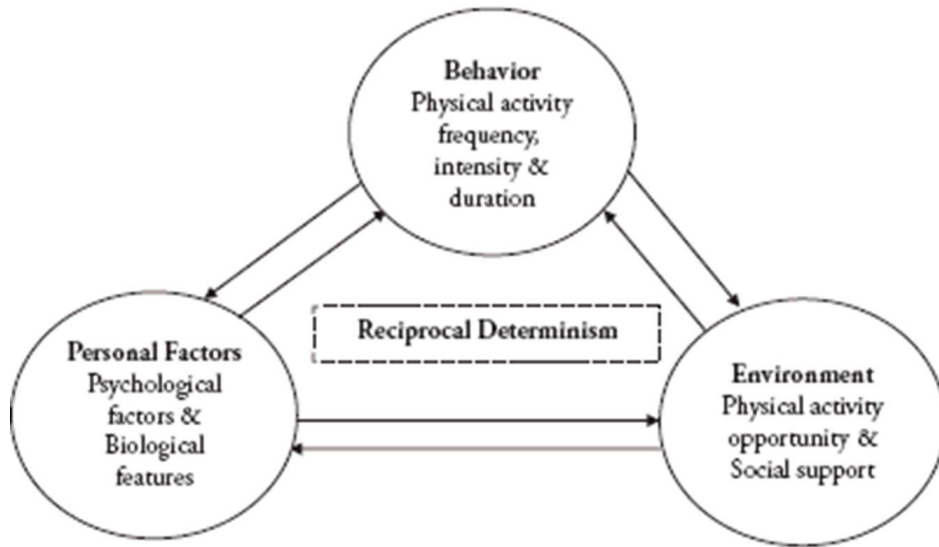
Multiple studies have shown that improvements to create accessible and safe active transportation infrastructures will increase/encourage physical activity in the community. From 2013-2017 only 2.4% of Kansans walked to work.²⁵ Improving the infrastructure so it encourages active transportation, will increase the amount of Kansans walking to destinations. Studies show that by changing the infrastructure, transportation-related walking increased by a median of 8.8 minutes per week and recreation-related walking increased 9.4 minutes per week.²⁶ Improving infrastructure to become activity-friendly, will increase physical activity.²⁶ Based on an example from Seattle, WA, Nickerson Street was rechanneled from a multiple lane street into one lane each direction, added two new marked crosswalks and a bike lane. After one year, there was a reduction in vehicle speeds by 2/3 of the drivers and a 23% reduction in collisions, all while traffic volume roughly stayed the same.²⁷

Model Steps Accomplished



- Assessment
 - Created Worksite Wellness Committee "Well @ Work"
 - Literature review
- Planning and Management
 - Established roles
 - Created plans, goals, products, future products
- Implementation
 - Products/policies/programs were created, have not been implemented
- Evaluation
 - Not yet implemented

Theory Application



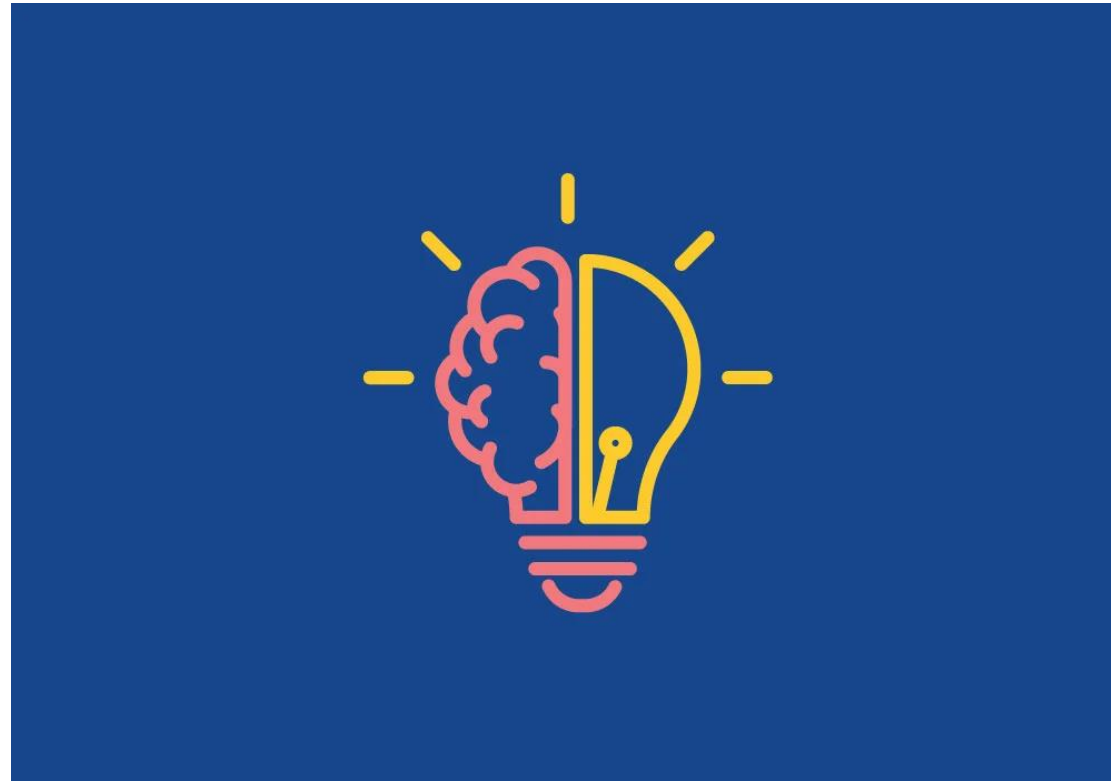
- Personal
 - Well @ Work Stretching Videos
 - Well @ Work Nutrition Table Tents
- Behavior
 - Worksite Wellness Policy
- Environment
 - Well @ Work Stretching Videos
 - Well @ Work Nutrition Table Tents
 - Action Guide for Government Agencies on the Food and Nutrition Environment
 - Complete Streets Legislation

Model Application



- Multi-level approaches
- Individual
 - Well @ Work Stretching Videos
 - Well @ Work Nutrition Table Tents
- Organizational
 - Well @ Work Stretching Videos
 - Well @ Work Nutrition Table Tents
 - Action Guide for Government Agencies on the Food and Nutrition Environment
- Public Policy
 - Worksite Wellness Policy
 - Complete Streets Legislation

Part 4: Competencies



MPH Foundational Competencies

9. Planning and Management to Promote Health

12. Policy in Public Health

14. Policy in Public Health

19. Communication

21. Interprofessional Practice

	MPH Foundational Competencies		
#	Competency	KDHE Product	Class
9	Planning and Management to Promote Health - Design a population-based policy, program, project, or intervention.	Worksite Wellness Policy Well @ Work Stretching Videos Well @ Work Nutrition Table Tents Action Guide for Government Agencies on the Food and Nutrition Environment Complete Streets	KIN 610 KIN 612 MPH 754
12	Policy in Public Health - Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence.	Worksite Wellness Policy Action Guide for Government Agencies on the Food and Nutrition Environment Complete Streets	MPH 720 MPH 754 MPH 802
14	Policy in Public Health - Advocate for political, social, or economic policies and programs that will improve health in diverse populations.	Complete Streets	MPH 720 MPH 818
19	Communication - Communicate audience-appropriate public health content, both in writing and through oral presentation.	Worksite Wellness Policy Well @ Work Stretching Videos Well @ Work Nutrition Table Tents Action Guide for Government Agencies on the Food and Nutrition Environment Complete Streets Meetings	KIN 610 KIN 612 FNDH 880 MC 750
21	Interprofessional Practice - Perform effectively on interprofessional teams.	Epidemiologist Video tech employee Business Enterprise Program KDHE Bureau of Waste Management Tobacco Prevention Capitol Midweek Farmer's Markets	KIN 612 MPH 710 MPH 818

MPH Physical Activity Competencies

1. Population Health
2. Social, Behavioral, and Environmental Influences
3. Theory Application
4. Developing and Evaluating Physical Activity
5. Support Evidence-Based Practice

MPH Physical Activity Competencies

#	Competency	KDHE Product	Class
1	Population Health - Investigate the impact of physical activity on population health and disease.	Worksite Wellness Policy Complete Streets	KIN 612 KIN 805 KIN 896 FNDH 880
2	Social, Behavioral, and Environmental Influences - Investigate the social, behavioral and environmental factors that contribute to participation in physical activity.	Worksite Wellness Policy Complete Streets	KIN 610 KIN 805 KIN 896 FNDH 880 MC 750 MPH 818
3	Theory Application - Examine and select social and behavioral theories and frameworks for physical activity programs in community settings.	Well @ Work Stretching Videos	KIN 610 KIN 805 KIN 896 MC 750 MPH 818
4	Developing and Evaluating Physical Activity - Develop and evaluate physical activity interventions in diverse community settings.	Worksite Wellness Policy Well @ Work Stretching Videos	KIN 610 KIN 612 KIN 625 KIN 805 KIN 896
5	Support Evidence-Based Practice - Create evidence-based strategies to promote physical activity and communicate them to community stakeholders.	Worksite Wellness Policy Well @ Work Stretching Videos Complete Streets	KIN 625 KIN 805 KIN 896 FNDH 880

Summary

- Lessons learned
 - Developed 4 products, updated 1 product
 - Lengthy process to implement products successfully
 - Budgeting is a major portion
 - Public health consists with politics
 - Challenging to convince a population to change

Thank you

- Graduate Committee
 - Dr. Gina Besenyi
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 - Dr. Emily Mailey
- KDHE Staff
 - Jordan Roberts
 - Warren Hays
 - Emily Carpenter
- MPH Program
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Questions?
