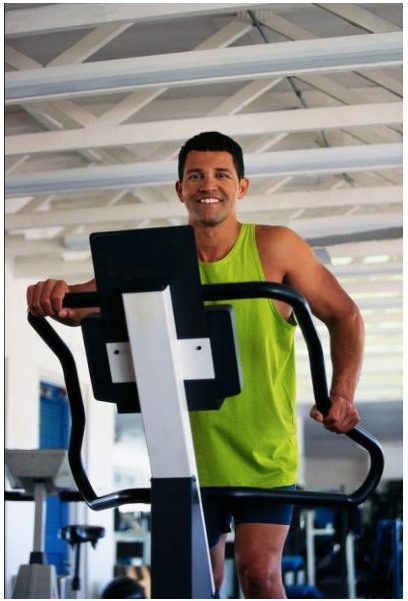
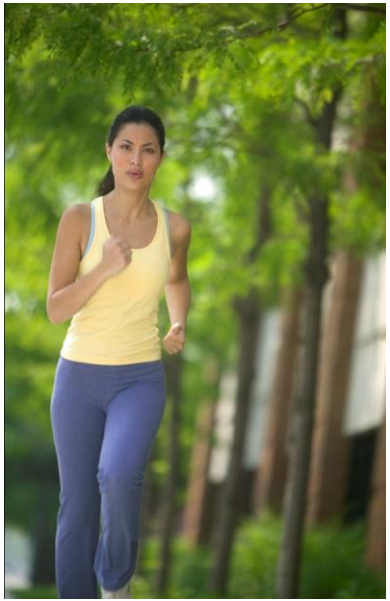
Excess Weight and Cancer: What's the Connection?

Goals for Today

- Understand definitions of overweight and obesity
- Learn data regarding obesity rates among different population groups and states
- Identify connection between excess weight and cancer incidence and mortality
- Identify evidenced-base strategies designed to help reduce barriers to healthy eating and active living

120,304,767





CDC, US Census

95,752,773

CDC, US Census

56,469,584

CDC, US Census

125,043,394

91,868,615

WHO Definitions of Overweight and Obesity

- Overweight
  - BMI of 25.0 to 29.9 kg/m2
- Obesity
  - BMI of 30 kg/m2 or greater
  - Class 1 (30.0 to 34.9 kg/m2), class 2 (BMI, 35.0 to 39.9 kg/m2), and class 3 (BMI, ≥40.0 kg/m2)

Obesity Prevelance Among Adults

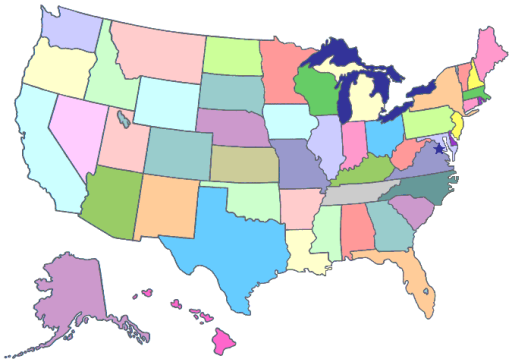
- In 2015-2016, nearly 40% of American adults were obese
  - higher prevalence among women (41.1%) than men (37.9%)
  - The prevalence of obesity varies considerably among racial/ethnic groups
    - Non-Hispanic Asian adults (12.7%)
    - Non-Hispanic white (37.9%)
    - Hispanic (46.8%)
    - Non-Hispanic black (47.0%) adults
    - Moreover, in 2015-2016, 20.6% of adolescents aged 12-19 years, 18.4% of children aged 6-11 years, and 13.9% of children aged 2-5 years of age were obese.23

Obesity Prevelance Among Youth

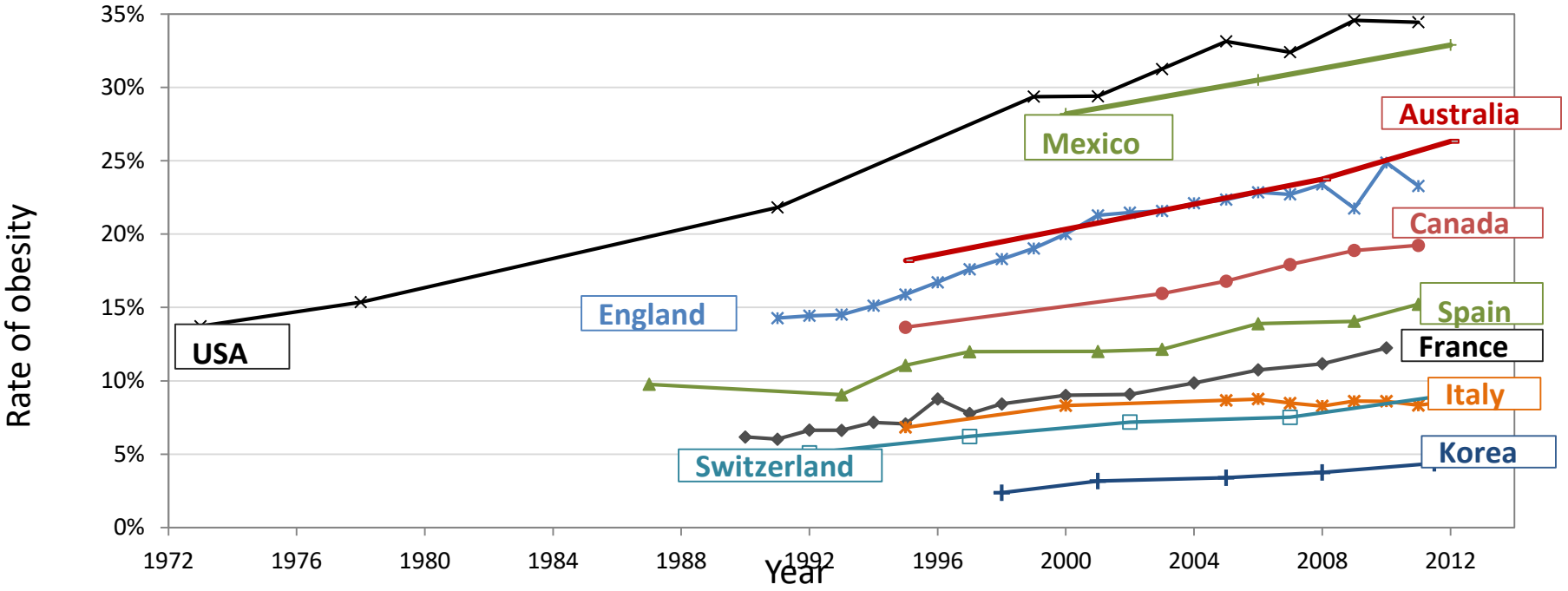
- In 2015-2016
  - 20.6% of adolescents aged 12-19 years
  - 18.4% of children aged 6-11 years
  - 13.9% of children aged 2-5 years of age were obese

State by State - 2017

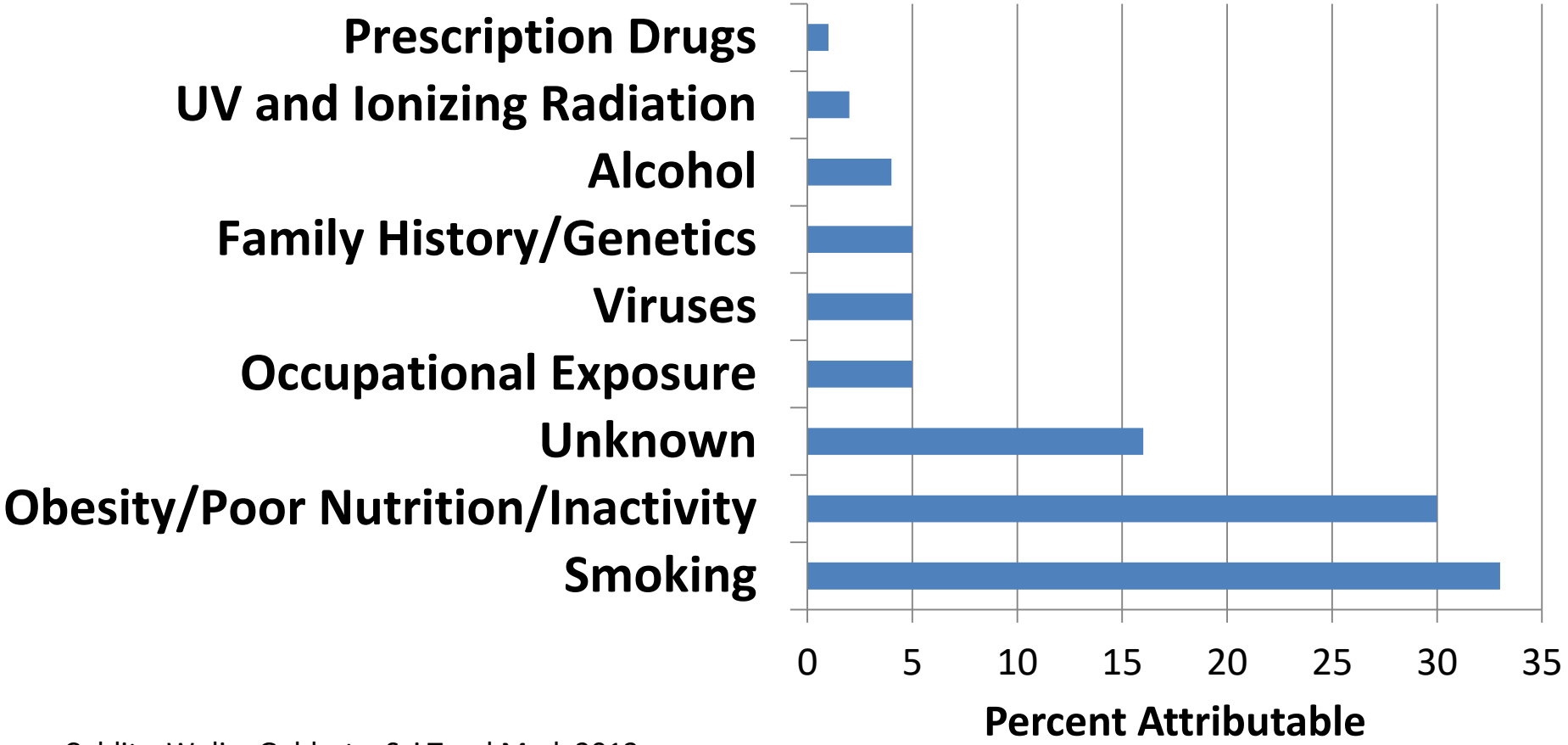
- All states had more than 20% of adults with obesity.
- 20%-25% of adults had obesity in 2 states (Colorado and Hawaii) and the District of Columbia.
- 25%-30% of adults had obesity in 19 states.
- 30% -35% of adults had obesity in 22 states, Guam, and Puerto Rico.
- 35% or more adults had obesity in 7 states (Alabama, Arkansas, Iowa, Louisiana, Mississippi, Oklahoma, and West Virginia).
- The South (32.4%) and the Midwest (32.3%) had the highest prevalence of obesity, followed by the Northeast (27.7%), and the West (26.1%).



Obesity Rates



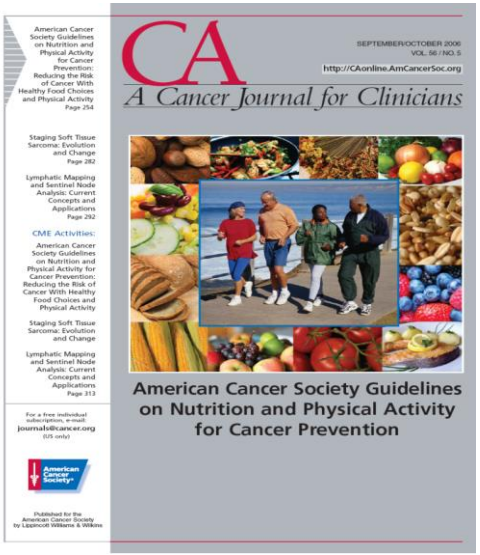
Risk Factors/ Causes of Cancer in U.S.



Colditz, Wolin, Gehlert,. Sci Tranl Med, 2012

2012 Recommendations

- Individuals:
  1. Maintain a healthy weight throughout life.
  2. Adopt a physically active lifestyle.
  3. Consume a healthy diet, with an emphasis on plant sources.
  4. If you drink alcoholic beverages, limit consumption.
- Communities:
  - Work together to make it easier for people to eat better and be more active.



Obesity and Cancer Risk

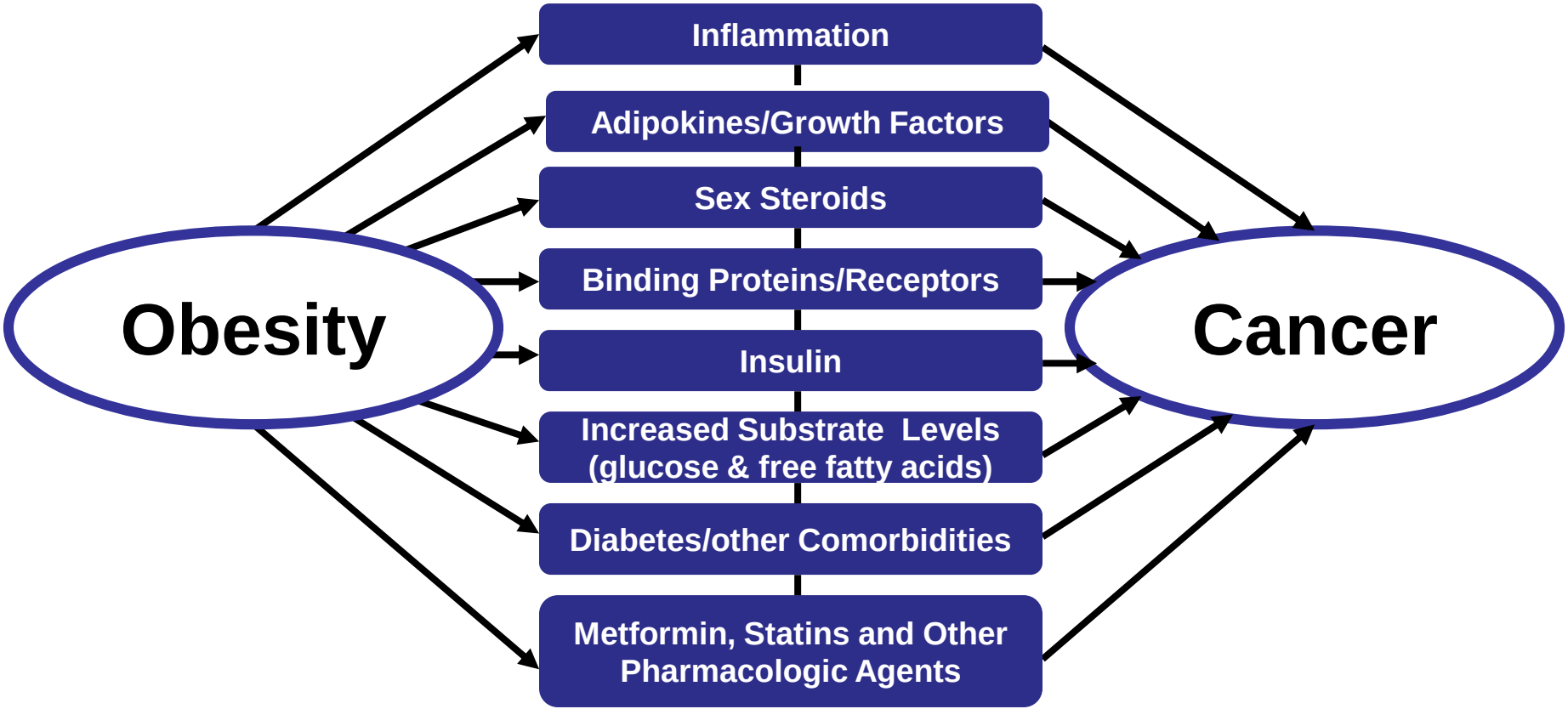
Society Recommendations for Individual Choices

- Maintain a healthy weight throughout life.
  - Be as lean as possible throughout life without being underweight.
  - Avoid excess weight gain at all ages. If currently overweight or obese, losing even a small amount of weight has health benefits and is a good place to start.
  - Engage in regular physical activity and limit high calorie foods and beverages as key strategies for maintaining a healthy weight.

Excess Weight is Associated With Increased Risk of These Cancers … and Probably Others

- Esophageal
- Pancreatic
- Colorectal
- Post-Menopausal Breast
- Endometrial
- Kidney
- Liver
- Ovarian
- Stomach
- Thyroid
- Gallbladder
- Multiple myeloma
- Meningioma

Potential Mechanisms

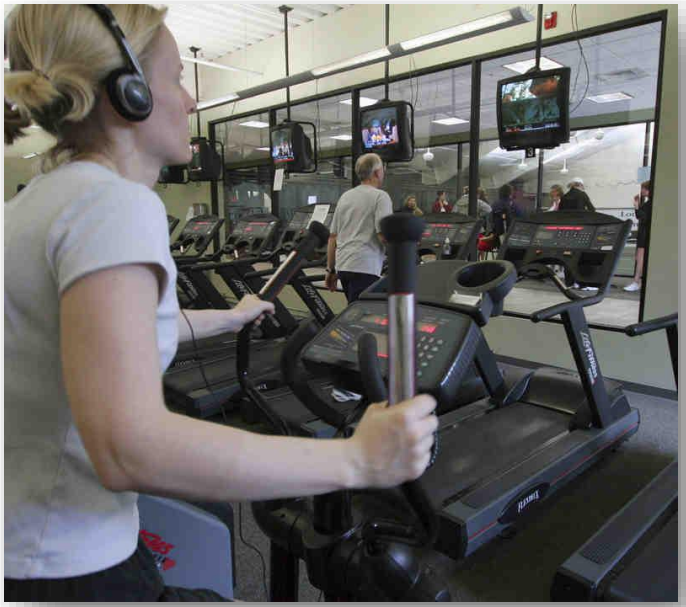


Adapted from Irwin et al.

Does Weight Loss Impact Cancer Risk?

Physical Activity and Cancer

Adopt a Physically Active Lifestyle



- Adults: Engage in at least 150 minutes of moderate intensity activity or 75 minutes of vigorous intensity activity each week – or combination - preferably spread throughout the week.

Adopt a Physically Active Lifestyle

- Children and adolescents: Engage in at least 1 hour of moderate- or vigorous-intensity activity each day, with vigorous-intensity activity at least three days each week.

Adopt a Physically Active Lifestyle

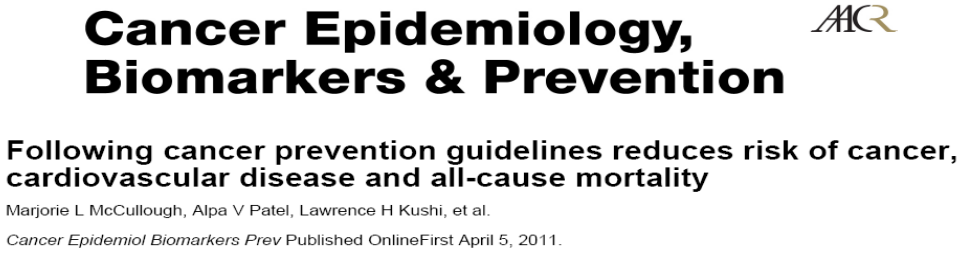
- Limit sedentary behaviors such as sitting, laying down, and watching television and other forms of screen-based entertainment.

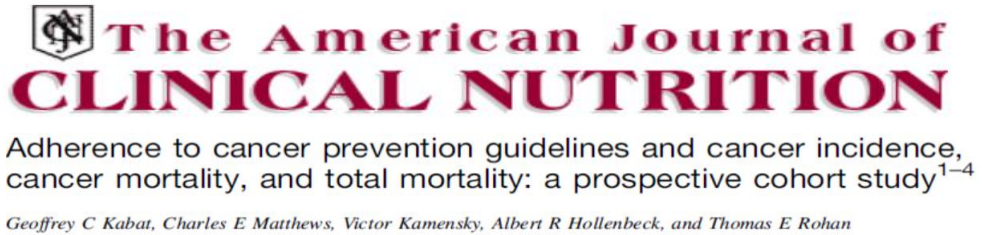
Diet and Cancer

Consume a Healthy Diet With an Emphasis on Plant Sources

- Choose foods and beverages in amounts that help maintain a healthy weight.
- Limit consumption of processed meat and red meat.
- Eat at least 2.5 cups of vegetables and fruits each day.
- Choose whole grains in preference to refined grain products.

Conclusion:
Adherence to cancer prevention guidelines for obesity, diet, physical activity and alcohol consumption is associated with a lower risk of death from cancer, CVD, and all causes in non-smokers.



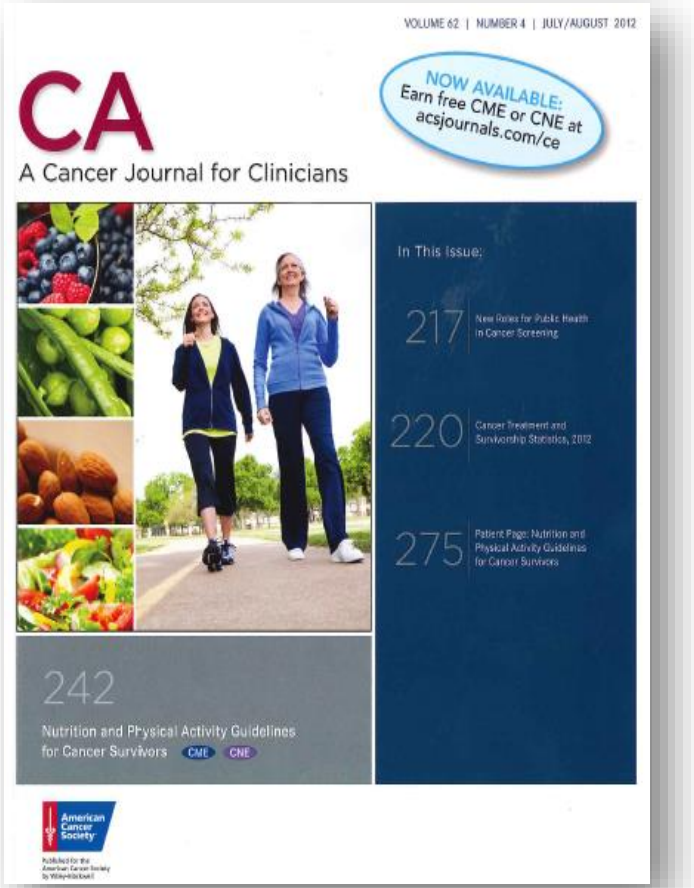


2015 American Institute for Cancer Research Cancer Risk Awareness Survey

- Reported the following percentages of Americans who answered ‘yes’ when asked if each of the following factors has a significant effect on whether or not the average person develops cancer.

Overweight/obesity	52%
Alcohol	43%
Insufficient physical activity	42%
Diets low in fruits and vegetables	42%
Processed meats	38%
Diets high in red meats	35%

CA A Journal for Clinicians



Why Healthy Eating and Active Living are Critical for Survivors

- Cancer survivors are at greater risk for recurrence and for developing secondary cancers due to:
  - The effects of treatment
  - Unhealthy lifestyle behaviors
  - Underlying genetics
  - Risk factors that contributed to the first cancer

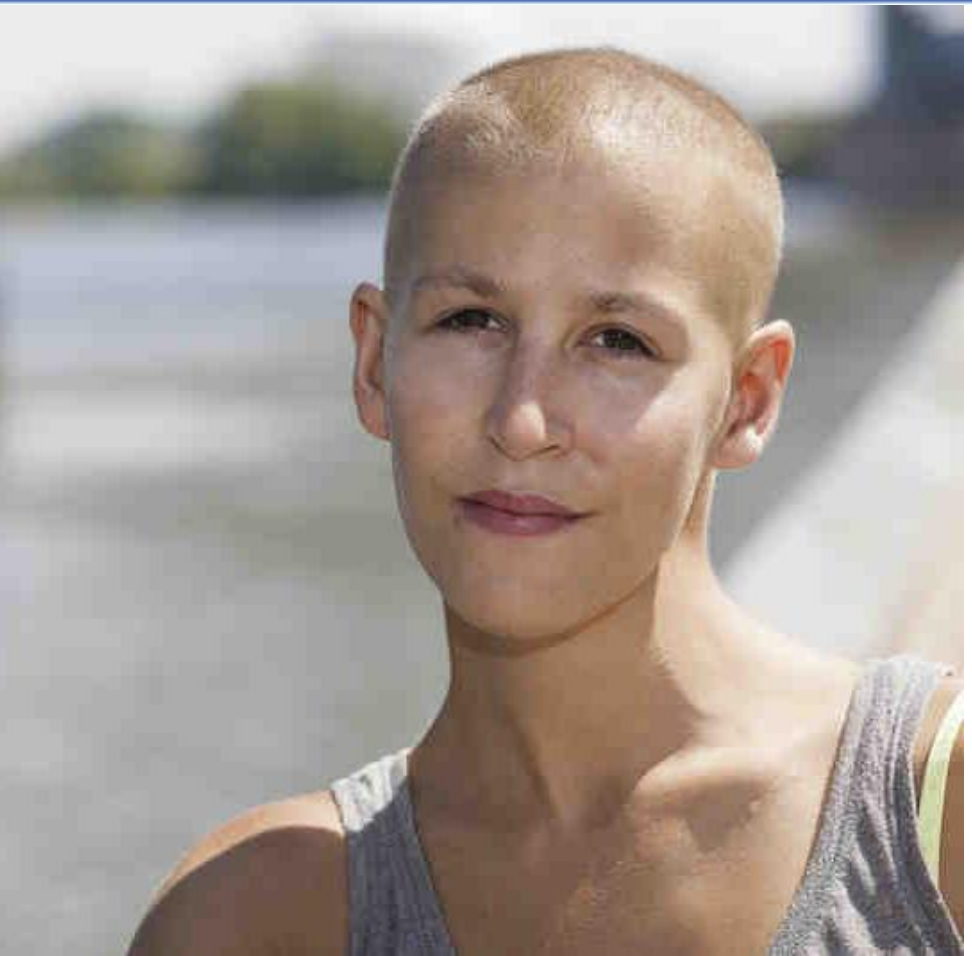
Rock, et al. CA Cancer J Clin, 2012

ACS Nutrition & Physical Activity Guidelines for Cancer Survivors

- Achieve and maintain a healthy weight.
- Engage in regular physical activity.
- Achieve a dietary pattern that emphasizes plant foods, including vegetables, fruit and whole grains.

CDC Surveillance of Health Behaviors Among Survivors

- 28% are obese
- 32% report no leisure time activity
- 15% smoke

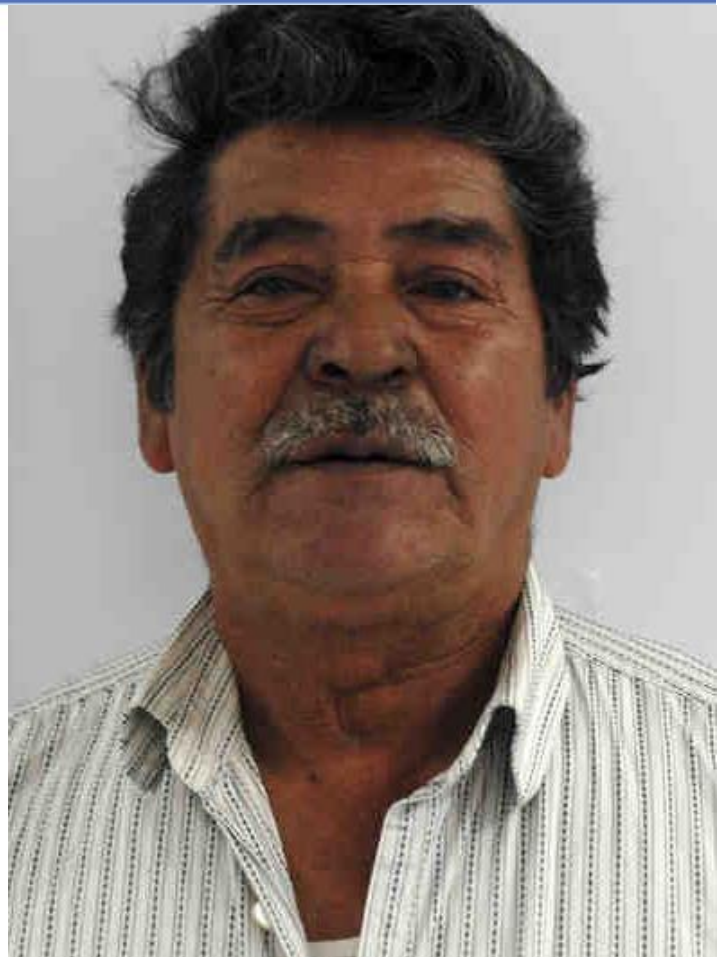


Compared to others of the same race and age, cancer survivors may have a …

- Higher incidence of depression.
- Higher incidence of fatigue.

Compared to others of the same race and age, cancer survivors are at increased risk for …

- Functional decline.
- Adverse body composition changes.
- Osteoporosis, diabetes, cardiovascular disease and second cancers.
- Death from other causes.



14,000,000+

“It is unreasonable to expect that people will change their behavior easily when so many forces in the social, cultural, and physical environment conspire against such change.”

Institute of Medicine, 2003

2012 Recommendations

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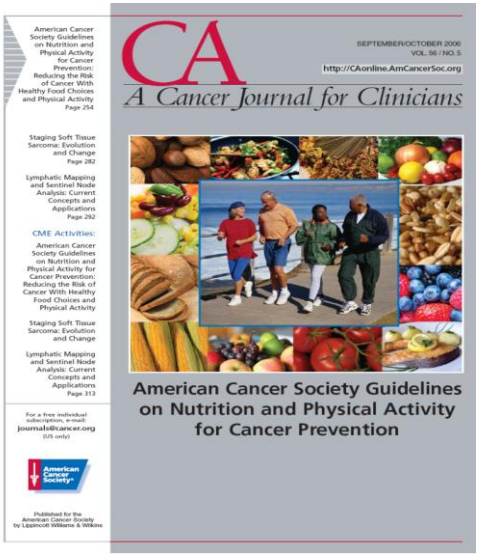

Champions
innovation
schools
industry
physical activity
all sectors
sidewalks
fruits
disparities
grocery stores
systems change
political will
marketing
partners
comprehensive
communication
healthy choices
stores
state
parks neighborhoods
support
policy change
vegetables
local
healthy eating
healthy communities
education
access
churches
bikelanes
worksites
restaurants
decision makers
we can do this
kids
adults
availability
national
resources

Cancer Prevention Works

What Can CCC Programs and Partners Do?

Mary Puckett, PhD

Division of Cancer Prevention and Control
Centers for Disease Control and Prevention

What can CCC programs and partners do?

Outline

- What strategies are appropriate?
- Where can I find programs and interventions?
- What should I consider when adapting programs?
- How can you measure your effectiveness?
- Success Stories

What are communities doing?

In schools and early childhood centers

- Encouraging walk-to-school and bike-to-school programs.
- Supporting quality physical education.
- Increasing healthy food options.

In homes

- Promoting breastfeeding.
- Encouraging families to participate in physical activities together.
- Encouraging families to limit screen time.

In the workplace

- Encouraging stairs.
- Encouraging walking clubs or walking meetings.
- Increasing healthy food options in vending machines and cafeterias.

The CDC's National Comprehensive Cancer Control Program supports comprehensive cancer control efforts, including environmental approaches that promote physical activity and healthy food options in communities.

For all their residents

- Increasing access to walking trails.
- Allowing the community to use school facilities outside of school hours for physical activity.
- Building roads that are safe for all types of transportation to share.
- Working with real estate developers to increase pedestrian-friendly developments.
- Increasing access to farmers' markets.
- Planting community gardens.
- Promoting community messaging about healthy eating, physical activity, and risks of obesity.

Source: Journal of Community Health, 2016. http://bit.ly/2fwJhWL

CDC Vital Signs. Obesity and Cancer. 2017.

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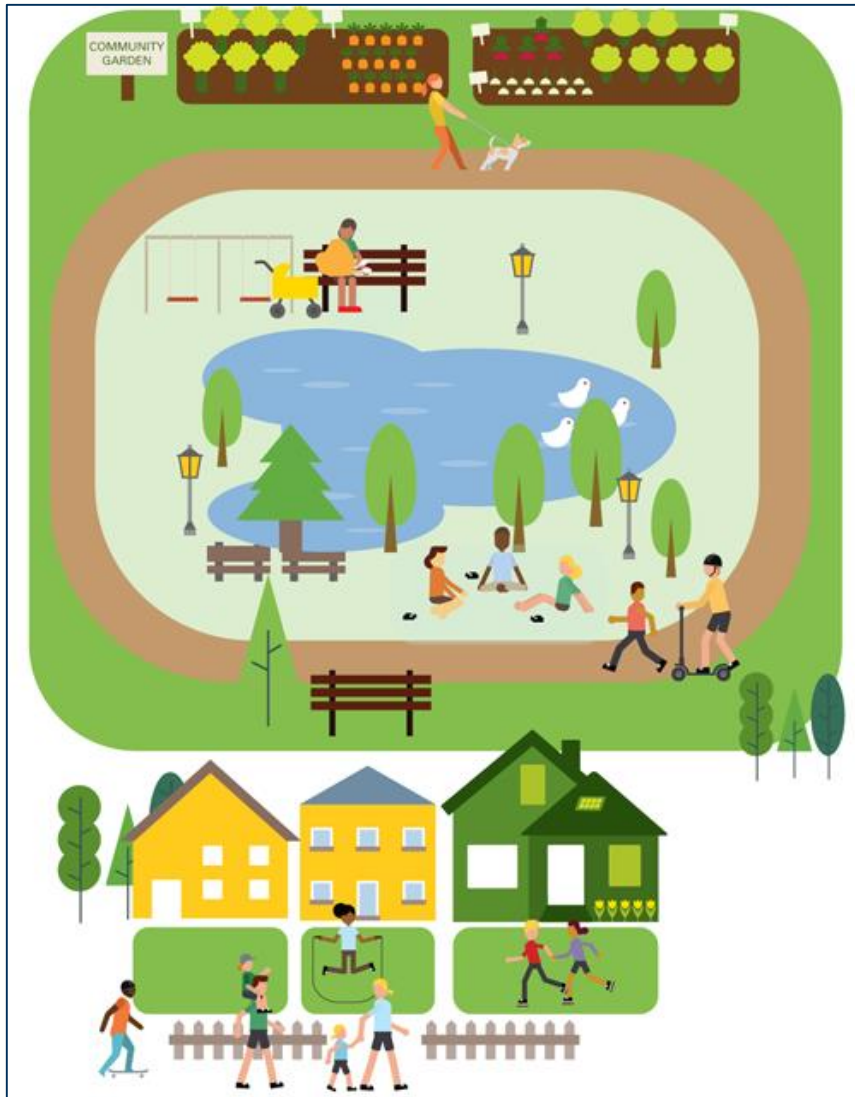

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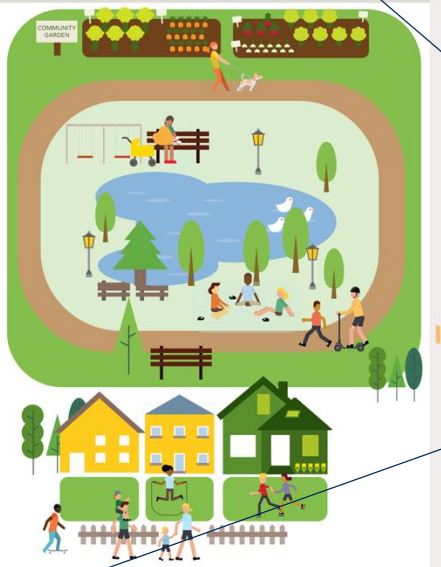

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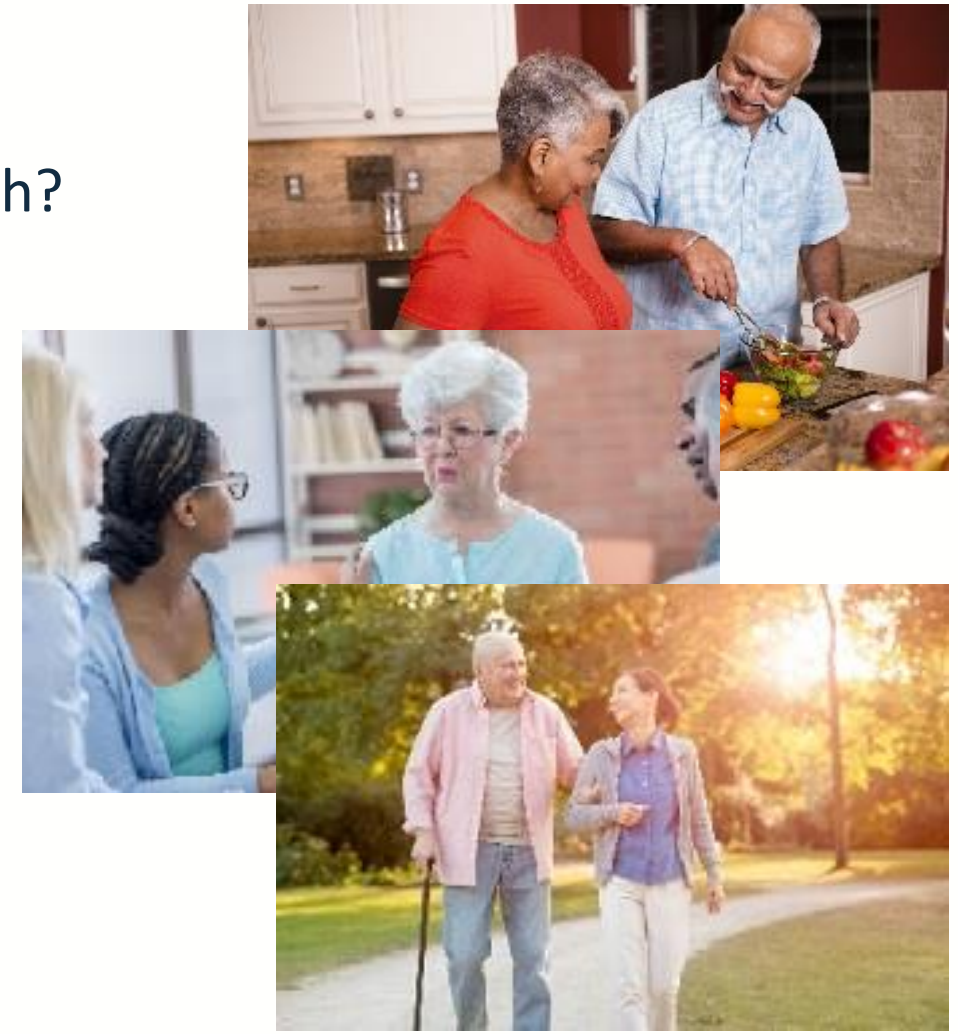
Program Considerations

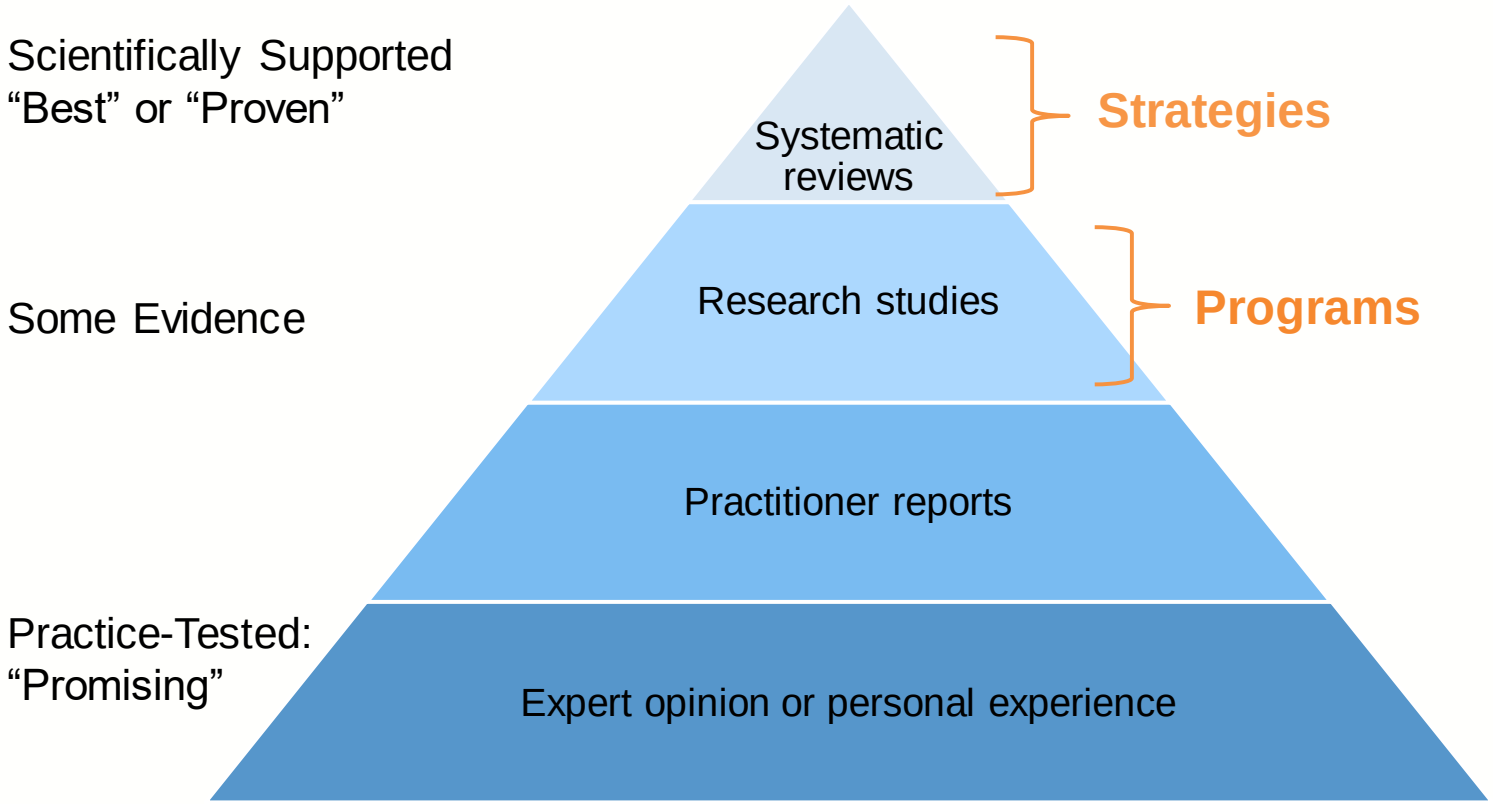
- Who are the cancer survivors you are trying to reach?
  - Cancer type, demographics, culture
- What are their needs?
- What are your strengths?
- What partners can you engage?



- Which intervention is right for your goals?
  - Is it evidence based?
  - Will it need to be adapted?

Evidence-Based Interventions

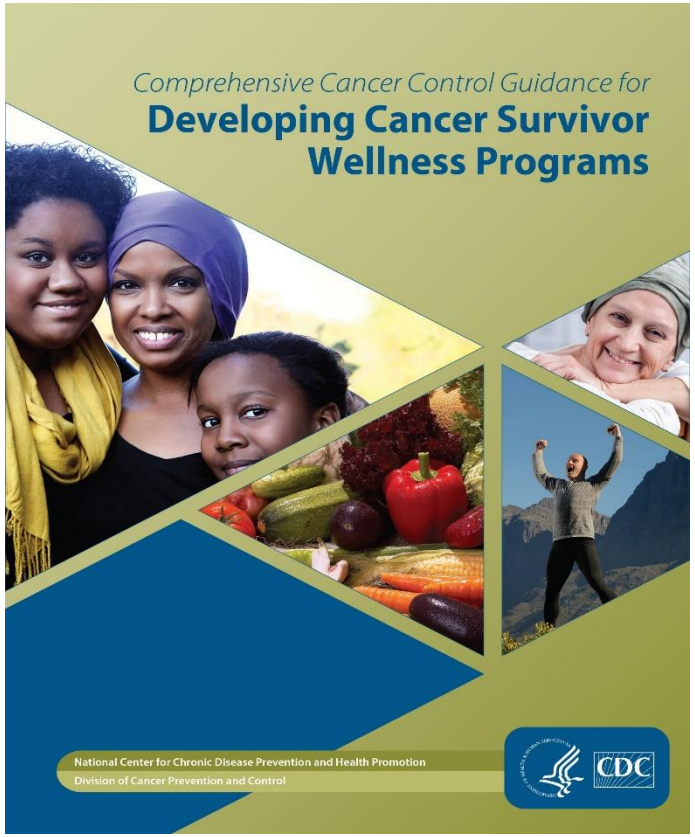
- What does it mean to be evidence-based?
  - A program, policy, or strategy that has been found to be effective in one or more well-designed research studies



Source: CPCRN Putting Public Health Evidence in Action, 2017

Resources for finding Nutrition and Physical Activity Programs/Interventions

- CDC's *Comprehensive Cancer Control Guidance for Developing Cancer Survivor Wellness Programs*
- The Community Guide: https://www.thecommunityguide.org/
- National Cancer Institute's Research-Tested Intervention Programs (RTIPS)



The Community Guide

NIH NATIONAL CANCER INSTITUTE

Examples of Interventions found in The Community Guide

- Community Guide provides general intervention information vs. specific programs
- Combined Nutrition and Physical Activity Interventions
  - Combined Diet and Physical Activity Promotion Programs to Prevent Type 2 Diabetes Among People at Increased Risk
  - Obesity Worksite Programs
- Physical Activity Interventions
  - Point-of-Decision Prompts to Encourage Use of Stairs
  - Creating or Improving Places for Physical Activity
  - Individually Adapted Health Behavior Change Programs
  - Social Support Interventions in Community Settings
  - Interventions Including Activity Monitors for Adults with Overweight or Obesity
  - Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design
- Additional School-based interventions

The Community Guide

https://www.thecommunityguide.org/

Examples of Interventions from RTIPs

- RTIPs includes specific interventions
- Combined Nutrition and Physical Activity Interventions
  - Healthy Body Healthy Spirit
  - Reach Up & Out: Toward a Healthy Lifestyle
  - StrongWomen - Healthy Hearts
  - Complete Health Improvement Program (CHIP)
- Physical Activity Interventions
  - Fit & Strong!
  - Wheeling Walks
  - Body & Soul
- Nutrition Interventions
  - SIPsmartER
  - The Mediterranean Eating Plan
  - 5 A Day Peer Education Program
  - The Stanford Nutrition Action Program (SNAP)

https://www.thecommunityguide.org/

Adapting interventions to your population and resources

- Why adapt a program?
  - Your program should resonate with your survivors
    - Demographic, geographic, or cultural considerations
  - You may have different resources available.
  - Your timeline may be different.
- Resource from Cancer Prevention and Control Resource Network (CPCRN): http://cpcrn.org/pub/evidence-in-action/

Adapting Interventions: Appropriate Changes

Can be Changed	Change with Caution	Cannot be Changed
• Names of health care centers or systems • Pictures of people and places and quotes • Hard-to-read words that affect reading level • Wording to be appropriate to audience • Cultural indicators based on population • Ways to reach and recruit your audience • Incentives for participation • Timeline (based on adaptation guides)	• Substituting activities and/or adding new activities • Changing the order of the curriculum or steps (sequence) • Altering the length of program activities • Shifting or expanding the primary audience • Varying delivery format/process steps • Modifying who delivers the program • Adding activities to address other risk factors or behaviors	• The health communication model or theory • The health topic/behavior • Deleting core components or whole sections of the program • Reduction of program • Timeline • Dosage (e.g., activities, time/session) • Putting in more strategies that detract from the core components

Source: CPCRN Putting Public Health Evidence in Action, 2017

Measuring effectiveness

- What information do you want to collect?
- What data sources are available?
  - Primary data collection
    - Participant surveys
    - Key Informant Interviews
  - Existing data sources
    - Program documents
    - Process measurement data
  - State or national datasets
    - BRFSS
    - YRBSS
- How will you use this data?

https://www.freepik.com/free-photos-vectors/business

Success Stories

https://www.cdc.gov/cancer/ncccp/state.htm

- Treadmill desks
  - Identified a segment of the workforce not benefitting from current wellness initiatives
  - Employees use fitness trackers
  - Participants increased steps and lost weight
  - Improved morale
- Complete streets initiatives
  - Organized community training and information sessions with partners
  - Held events for residents to show what complete streets look like
  - Passed a city ordinance for 6 miles of bike lanes
- Reducing sugar-sweetened beverages
  - Stay tuned for next month's webinar!

Burleigh County Pilots Treadmill Desk to Increase Employees' Physical Activity

By: Janna Pastir

A National Comprehensive Cancer Control Program Success Story

Summary

Lack of physical activity is a major risk factor for developing some cancers. The North Dakota Comprehensive Cancer Control Program collaborated with the North Dakota Department of Health's Nutrition and Physical Activity Division to motivate employers and partners to increase physical activity in the workplace. Burleigh County installed a treadmill desk for sedentary employees without access to its wellness program. Their average number of steps increased from 1,634 steps per shift at

Complete Streets Initiative Addresses Physical Activity and Obesity in Louisiana

By: Mikal Giancola

A National Comprehensive Cancer Control Program Success Story

Summary

Louisiana has one of the highest rates of obesity (36%) in the United States. To reduce obesity rates in Lake Charles, Louisiana, Calcasieu Parish convened a multi-sector coalition through the Southwest Louisiana Area Health Education Center to make active lifestyles safe and convenient for everyone. In June 2017, Lake Charles City Council successfully implemented Complete Streets, an initiative that increases access to places for physical activity by using multiple strategies to make a community more walkable or bikeable. Lake Charles now has 6 miles of bike paths and plans to add pedestrian-friendly crosswalks and sidewalks.

Challenge

Lake Charles has a combined overweight and obesity rate of almost 70%.[1] Being overweight or obese increases the risk for at least 13 kinds of cancer. In 2014, over 630,000 people in the United States were diagnosed with one of these cancers.[2] Physical activity is an essential component of weight control and lack of physical activity is independently linked to some kinds of cancer.[3]

The Partnership for Healthier Southwest Louisiana, the Louisiana Comprehensive Cancer Control Program, the Calcasieu Parish Police Jury, the Southwest Louisiana Economic Alliance, the City of Lake Charles, and the Imperial Calcasieu Metropolitan Planning Organization formed a coalition to improve transportation options for residents, who identified walkability and bikeability as an important priority for physical activity. The coalition chose Complete Streets because it creates a culture of health by safely and conveniently linking people to schools, parks, and businesses. These initiatives also slow traffic, which reduces pedestrian fatalities.

Solution

To begin implementing Complete Streets, the partners organized a community training and information session featuring initiative founder, Smart Growth America, to share successes in similar settings. John Robert, former Mayor of Meridian, Mississippi, inspired local leaders in Lake Charles by describing the success of Complete Streets in his city. The training educated key community stakeholders, including local businesses, politicians, and community organizations, along with regional leaders, who learned about Complete Streets for their own parishes and municipalities. The partners also used local print, online, and televised media to inform community members.

The findings and conclusions in this success story are those of the author(s) and do not necessarily represent the official position of the funding agencies of the Centers for Disease Control and Prevention (CDC). To learn more about the National Comprehensive Cancer Control Program, visit www.cdc.gov/cancer/ncccp.

NATIONAL Comprehensive Cancer Control PROGRAM

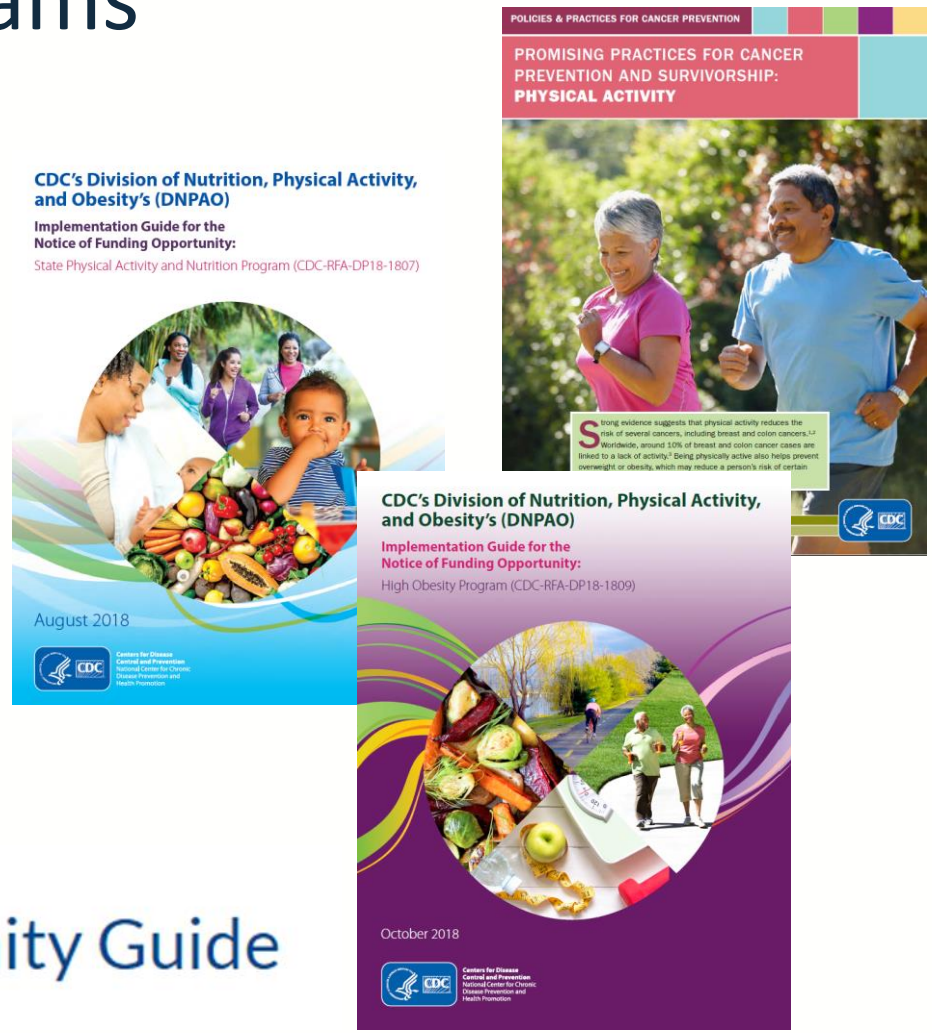
Collaborating to Conquer Cancer

Resources for Information and Programs

- CDC: https://www.cdc.gov/cancer/

  https://www.cdc.gov/healthyweight/index.html
- The Community Guide: https://www.thecommunityguide.org/
- National Cancer Institute's Research-Tested Intervention Programs (RTIPS): https://rtips.cancer.gov/rtips/index.do
- American Institute for Cancer Research (AICR): http://www.aicr.org/
- American Cancer Society

  https://www.cancer.org/



NIH NATIONAL CANCER INSTITUTE

The Community Guide

Thank you!

Go to the official federal source of cancer prevention information:

www.cdc.gov/cancer

MPuckett1@cdc.gov

770-488-6451

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