Cancer Prevention in Rural Communities: Challenges and Opportunities to Decrease Risk

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Talking Points

• What role does nutrition, physical activity and obesity play in cancer prevention?

• What are some challenges to maintaining “healthy lifestyles” in rural communities?

• Where are the opportunities for cancer prevention in rural communities?
Cancer: Public Health Significance

• Cancer is the 2nd leading cause of death in the United States.
  • In 2013, more than 584,000 people died from cancer (CDC, 2015)

• Beyond loss of life, the costs of cancer (direct medical costs, lost productivity due to illness and premature death) were estimated at $263.8 billion in 2010. (NIH, 2011).

• More than 14 million people living in the US have a current or prior cancer diagnosis.
Age-Adjusted Death Rates* for United States, 2011
All Cancer Sites, All Races (includes Hispanic),
Both Sexes, All Ages

Cancer and Rural United States

• Residents of rural areas may experience higher risk of cancer
  • Limited healthcare facilities and other resources
  • Limited transportation
  • Lower incomes
  • More time working
  • Focus more on treatment than prevention
  • Higher rates of obesity and tobacco use

Source: Centers for Disease Control and Prevention. 
http://www.cdc.gov/cancer/healthdisparities/basic_info/challenges.htm
Health Behaviors

• A healthy diet can help sustain a healthy weight and lower risk of cancers

• Regular physical activity protects against the buildup of excess body fat and against cancer, independently

• Overweight and obesity contribute to an estimated 20% of all cancer-related deaths

Percent of adults (≥ 18 years) who report consuming fruit less than one time daily*(2013)

Percent of adults (≥ 18 years) who report consuming vegetables less than one time daily*(2013)

Challenges to Healthy Eating

• Larger portion sizes served at family meals.

• Limited access to healthy affordable foods: smaller grocers/convenience stores.

• Southern dietary pattern (added fats, fried foods, eggs, organ and processed meats, sugar-sweetened beverages) associated with increased risk of chronic disease.


Shikany, JM et al., Southern dietary pattern is associated with hazard of acute coronary heart disease……Circulation; 2015, 132(9): 804-14
Age-adjusted County-level Estimates of Leisure-time Physical Inactivity among Adults aged ≥ 20 years: 2011

Source: www.cdc.gov/diabetes
Geographic Differences

FIGURE 1 - Nonoccupational leisure-time physical inactivity by degree of urbanization and geographic region of the United States: 2001 BRFSS; # see Appendix.

Nonoccupational Physical Activity by Degree of Urbanization and U.S. Geographic Region.
REIS, JARED; BOWLES, HEATHER; AINSWORTH, BARBARA; DUBOSE, KATRINA; SMITH, SHARON; LADITKA, JAMES

Challenges to Active Living

• Limited Access/Availability of Services
  • Fewer parks, recreational facilities, etc. and/or greater distances to get to them

• Built Environment
  • Limited connectivity and sidewalks
  • Highways
  • Infrastructure and weather


Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2014

Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

Sources: [http://www.cdc.gov/obesity/data/adult.html](http://www.cdc.gov/obesity/data/adult.html)
Deep South Network for Cancer Control

2000-2016
Edward Partridge, MD – Principal Investigator
Claudia Hardy, MPA – Program Director
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• Unique 15-year collaboration between academic researchers, health professionals and specialists, local leaders, and community volunteers from Alabama and Mississippi to eliminate cancer health disparities by conducting community based participatory education, training and research.

➢ Cancer outreach and screening
➢ Promotion of healthy behaviors
➢ Weight management
➢ Training
Community-Based Participatory Research (CBPR)

A collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community and has the aim of combining knowledge with action and achieving social change to improve community health and eliminate health disparities.

W.K. Kellogg Community Scholar’s Program (2001)
Community Health Advisors as Research Partners (CHARPs)

- Individuals who are indigenous to the community and agree to be a link between community members and the service delivery system


• Embedded in a long-term academic-community partnership focused on eliminating cancer disparities in the Deep South

• Behavioral weight loss program adapted from evidence-based behavioral trials\textsuperscript{1,2,3} and delivered by trained local staff and volunteers.

• Community strategies selected from evidence-based models\textsuperscript{4} and delivered by local government or community-based organizations.

\textsuperscript{1} Wadden et al., \textit{Obes Res.} 2004; 12(Suppl 3): 151S-62S;  
\textsuperscript{3} Brantley et al., Clin Trials. 2008; 5(5):546-56.  
Community Strategies

Promote Availability of Affordable Healthy Food and Beverages

| Increase availability of healthier food and beverage choices at public service venues (e.g., vending machine options) | Improve availability of grocery or supermarkets in underserved areas |
| Provide incentives to retailers to locate in/offer healthier food choices in underserved areas | Improve opportunities to purchase from farms/farmers |

Strategies to Create Safe Communities that Support Physical Activity

| Improve access to outdoor recreational facilities | Enhance personal safety in areas where persons are or could be physically active |
| Enhance infrastructure supporting walking | Enhance traffic safety in areas where persons are or could be physically active |

Lessons Learned

Community Strategies

• Awarded “mini-grants” to local communities
• Expansion of Farmer’s Market and Community Garden
• Incentives for Farmer’s Market Purchases
• Park Improvements
• Indoor Walking Trail
Participant Recruitment and Retention

- The JTBH trial (recently completed) enrolled 409 overweight or obese African American women from eight rural counties part of the Deep South Network. High retention was noted at 6-, 12- and 24-months (99.5%, 98.5%, and 75%, respectively).

- The DSN CARES study (ongoing) has met over 50% of targeted enrollment of 450 cancer survivors and family members. With average retention of 98% among counties reaching the initial follow-up period.
Participant Outcomes

- Statistically (p <0.001) and clinically significant weight loss among both intervention conditions (similar improvements in waist circumference, blood pressure, total cholesterol and triglycerides) at 6-months.
Conclusions

• CBPR methods associated with significant reach of target population

• Multi-level intervention for cancer prevention can be effectively implemented by non-professional local staff and volunteers

• Findings suggest initial improvements in health outcomes and good potential for program sustainability
What We Don’t Know

• Very limited published research targeting cancer prevention in rural communities

• Long-term impacts and sustainability of existing programs is not clear

• What are the key factors to support programs with limited traditional resources (e.g., access to primary care, cancer centers, etc.)?
What We Can Do Now

• Increase efforts to target rural communities for cancer prevention research and practice

• Take advantage of community engagement to develop and implement programs that meet the unique needs and resources of rural communities

• Seize opportunities in the Affordable Care Act to engage community health workers and other non-licensed professions in the provision of preventive services AND evaluate these programs
THANK YOU!!

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