Obesity in America: The Growing Face of Rural Communities

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“Genetics loads the gun—
the environment pulls the trigger.”

George Bray, 1996
• The Obesity Epidemic
• Rural-urban differences in behavioral determinants
• Healthcare challenges
• Solutions through partnerships

• Questions
The Obesity Epidemic
Body Mass Index

• Ratio of Weight to Height
• kg/m (2)
• Estimate of body fat content
Degrees of Obesity

**NORMAL**
BMI 18.5 — 24.9

**OVERWEIGHT**
BMI 25 — 29.9

**OBESE**
BMI 30 — 34.9

**SEVERE OBESE**
BMI 35 — 39.9

**MORBIDLY OBESE**
BMI > 40

Class I

Class II

Class III
Obesity Trends* Among U.S. Adults
BRFSS, 1985

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2000

(*BMI ≥30, or ~30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2010

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2017

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

WHY?
Caveman Survival

Humans are genetically engineered to survive starvation

- Conversion of dietary sugars and fats into fat storage allows survival in famine
- Humans can live without food for 21 days, but can only live 3 days without water
- Food availability means that we constantly “store” fat energy and don’t ever “burn”
No Cold Turkey Option

• We must eat in order to live, so the “cravings” never go away
• Diets don’t work, because they are short term and lead to excess weight regain - “Yo-Yo effect”
• Years of “Yo-Yoing” often lead to morbid obesity
“Will NOT Work for Food”

- Food is easily and readily available
- No energy expended to procure food
- We eat to stay full, not when calorically needed
- Few of us have ever experienced true “hunger”
The average restaurant meal today is more than four times larger than in the 1950s.
Impact of Obesity

- Comorbid Diseases
- Premature Death
- Disability
- Reduced QOL
- Medical Costs

OBESITY
Obesity is one of the driving forces for rural-urban chronic disease disparities.

NIH: NHANES (2005-2008)
Obesity is more prevalent (a BMI between 30-40) in rural than urban settings for:

- Men (39% vs 32%)
- Women (47% vs 38%)
- Children (22% vs 17%)
The differences are even more alarming when it comes to severe obesity (a BMI of >40): Rural vs Urban

- Men (10% vs 4%)
- Women (14% vs 8%)
- Children (9% vs 5%)

Rural and Remote Health 2015
Rural-Urban Differences in Behavioral Determinants (physical activity, sedentary lifestyle, diet)
According to the 1999-2006 CDC National Health and Nutrition Survey:
Compared to urban adults, more rural adults reported **NO** leisure time activity: 38.8% vs 31.8%

Only 41.5% of rural adults vs 47.2% of urban adults reported they met or exceeded physical activity recommendations.
Rural residents had:

- a lower intake of fiber and fruits and higher intake of sweetened beverages.
- a significantly higher fat consumption.
- Less access to healthful foods.
For rural residents, marital status (and corresponding lifestyle surrounding family meals) was significantly associated with obesity whereas education was not.
But everyone who lives in the country lives on a farm, works hard on land, and eats the crops they grow. Right???

WRONG!
Agriculture, forestry, and fishing sectors constitute only about 12% of employment in rural areas in the US.

It’s adding up…
\[ \downarrow \text{Physical Activity} + \uparrow \text{Consumption Unhealthy Foods} = \]

the Growing Face, and Waistline, of Rural America
Challenges in Preventing Obesity
Physical Activity

Diet/Nutrition

Transportation

Healthcare
Physical Activity

• Destinations for physical activity

• Limited options for transportation

“Few places to play and no way to get there”
Diet/Nutrition

- Federal and School Nutrition Programs

- 29% of rural households with children participate in at least one federal nutrition program.
Studies show the even children with access to food in the schools may not be getting proper nutrition.

- High consumption of soft drinks and sodium
- Average intake of fruits and vegetables (> 1 serving of each per day)
- Smaller, rural schools may rely heavily on cheaper and/or prepackaged less healthy items over whole grains, fresh fruits, and vegetables.

Altarum.org: Barriers to Healthy Country Living
• Access to fresh and healthful foods

• Cost of healthy foods

Food deserts vs Food swamps
Transportation

• Geography/distance
• Access to public transportation
• The roads themselves, higher speed limits
• Fear of crime in public spaces
Healthcare
- Access to Care
- Distance/Transportation
- Physician Shortage
- Quality of Care
- Specialty Care
- Cost/Insurance
Provider Resources, or Lack Thereof

• Time
• Training
• Resources for Patient
• Patient Commitment
• Money

“My Mom had diabetes, my Mamaw had diabetes, I’ll have diabetes.”
Where do we go from here?
Strategies and Opportunities

It takes a village...
Engage a variety of stakeholders and:

- Determine the root causes of the problem
- Assess needs and resources
- Focus on what’s most important
- Choose the right programs and policies
Establish cross-sector collaborations

- Build coalitions and community partnerships
- Coordinate financial support
- Develop consistent messaging
- Incorporate health and obesity prevention in decision-making processes
Work with the schools

- Support gym class and recess
- Coordinate transportation for after-school activities (late buses, organized car pools)
- Offer healthy school meal choices and limit access to soda and vending machines
Partner with programs and groups already working in rural areas

- UT Extension/4-H Youth Development
- Farmers and or Master Gardeners
- Faith-based communities
- Philanthropic Organizations
Engage larger health care providers or health systems

• Provide education and training for rural health care providers
• Develop a website where health care providers can access materials related to obesity
• Create a collaborative network among health professionals
• Assess opportunities for obesity education and treatment via telemedicine
• Influence health policies
Questions?