

Childhood Obesity & Health Education

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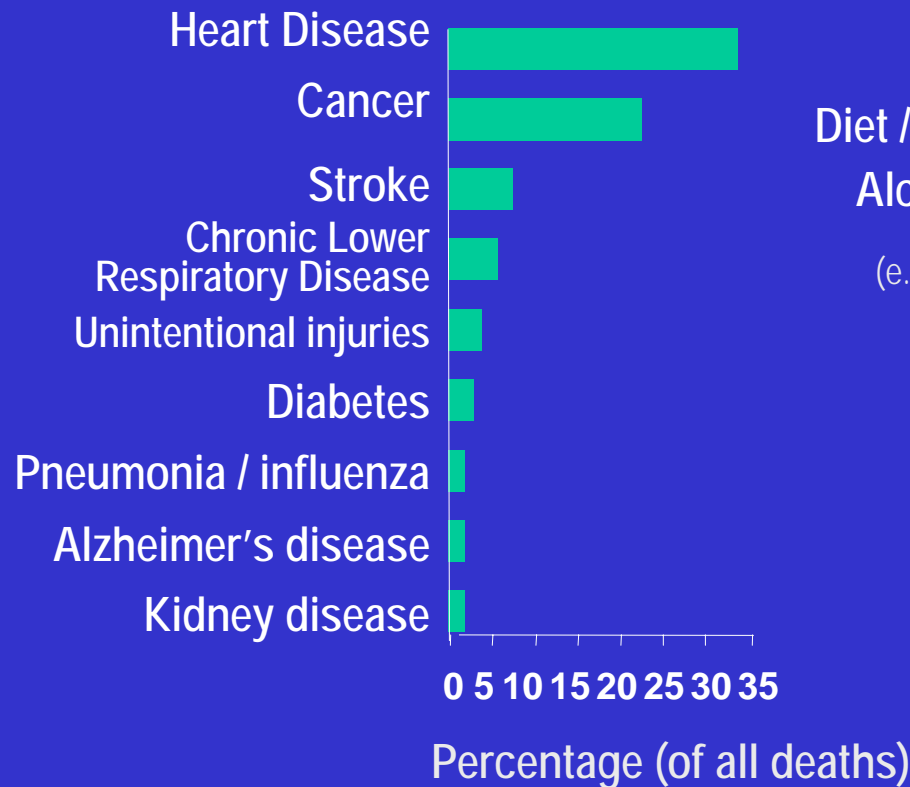
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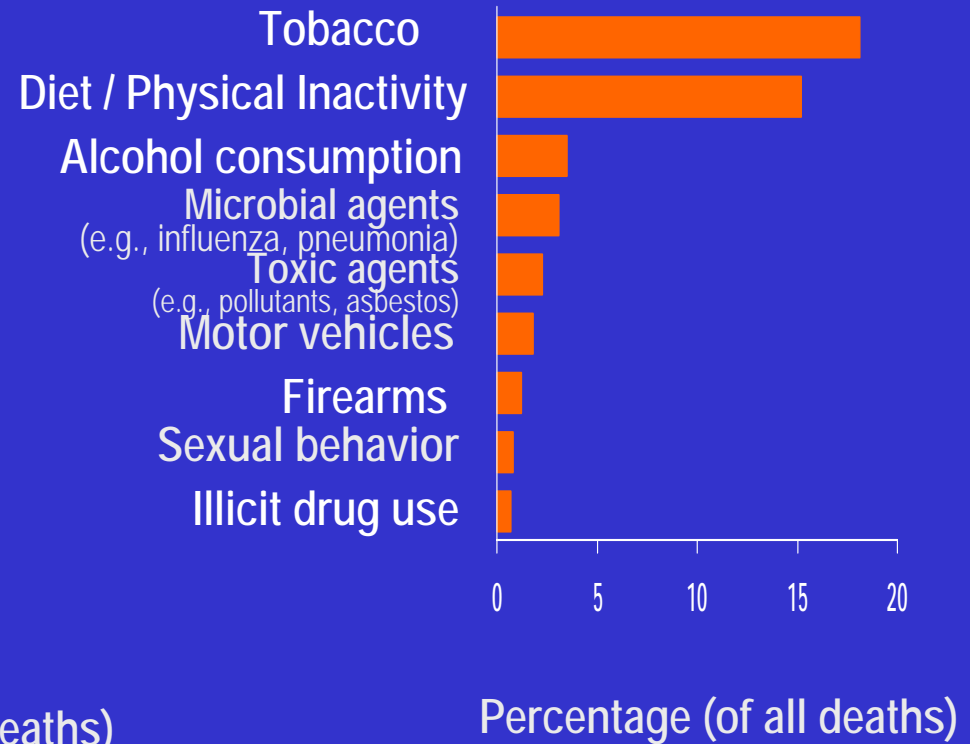
Kansas Department of Health & Environment

Health Problems in the U.S.

Leading Causes of Death*
United States, 2000



Actual Causes of Death†
United States, 2000



*Minino AM, Arias E, Kochanek KD, Murphy SL, Smith BL. Deaths: final data for 2000. National Vital Statistics Reports 2002; 50(15):1-20.

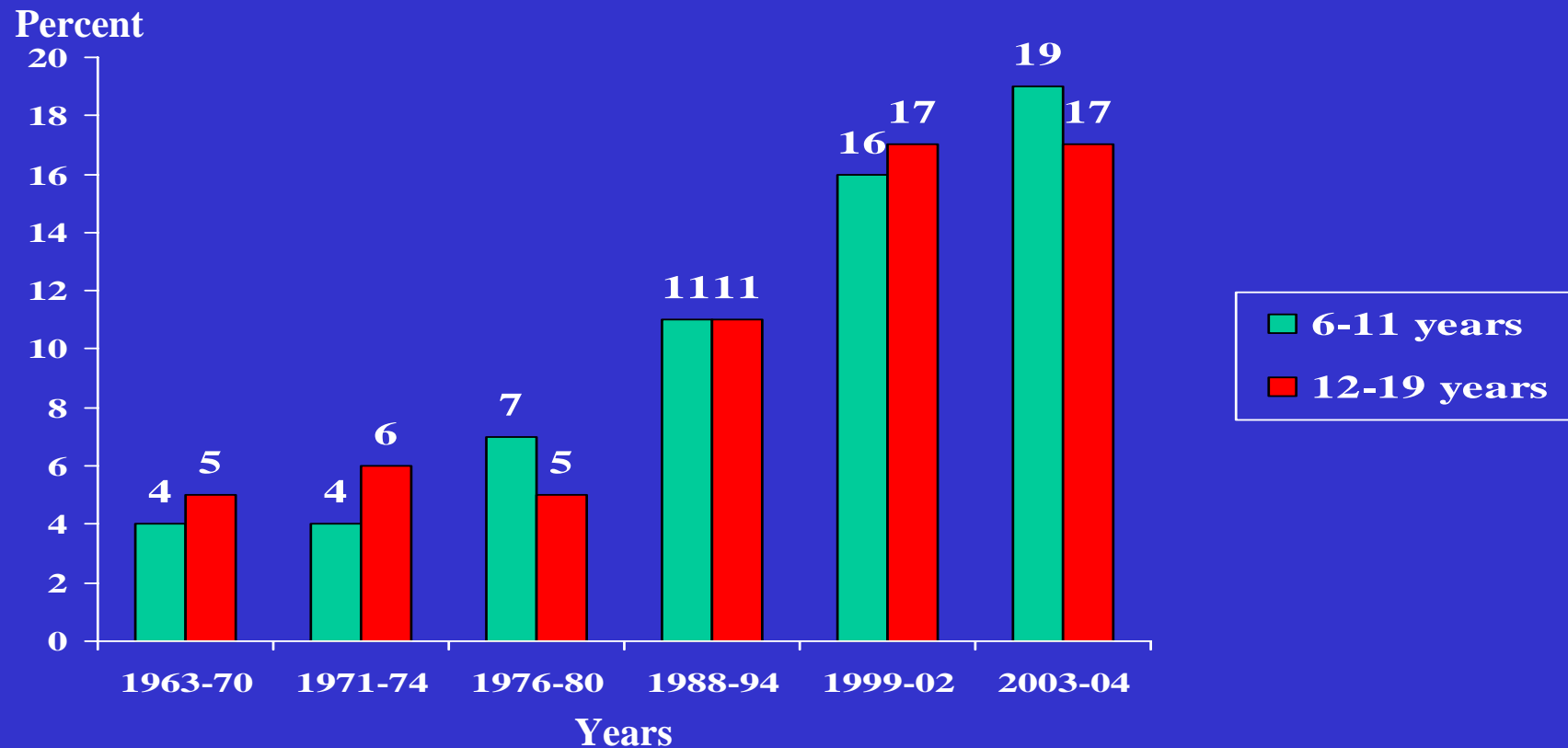
†Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. JAMA. 2004;291 (10): 1238-1246. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Correction: Actual Causes of Death in the United States, 2000. JAMA. 2005;293 (3): 293.

Obesity:

- Obesity is referred among children as overweight – defined as Body Mass Index (BMI) values at or above the 95th percentile of the age- & sex-specific BMI charts of the Center for Disease Control & Prevention.
- Over the past four decades, the prevalence of overweight/obesity has increased among children and adolescents - can be considered as an epidemic.
- Significant immediate and long term implications through its link to several chronic disease risks.

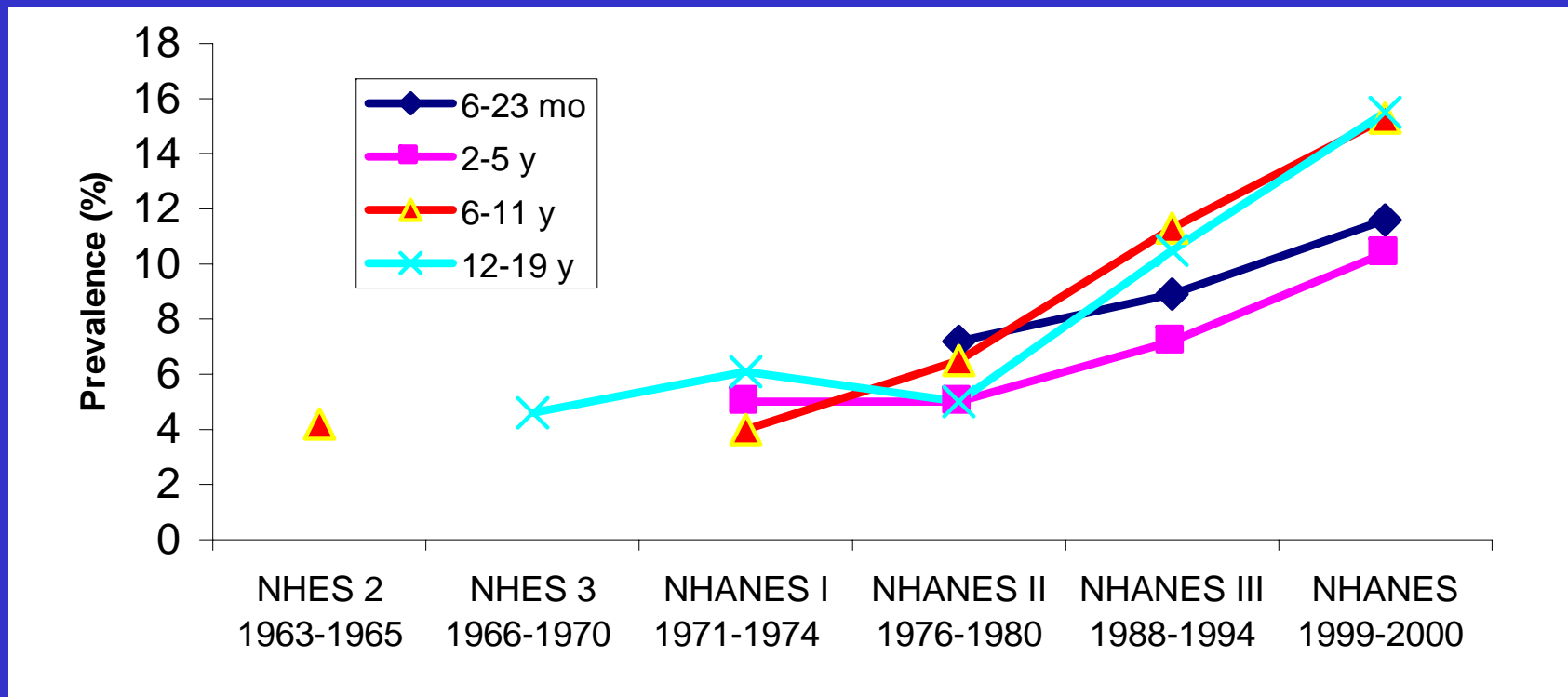
Childhood Obesity has increased at a disturbing rate over last four decades.

Trends for Overweight among Children & Adolescents 6 – 19 years of age – United States, 1963-2004.



Source: NHANES - 1963-65 through 2003-04. Overweight is defined as $\geq 95^{\text{th}}$ percentile for body mass index, by age & sex).

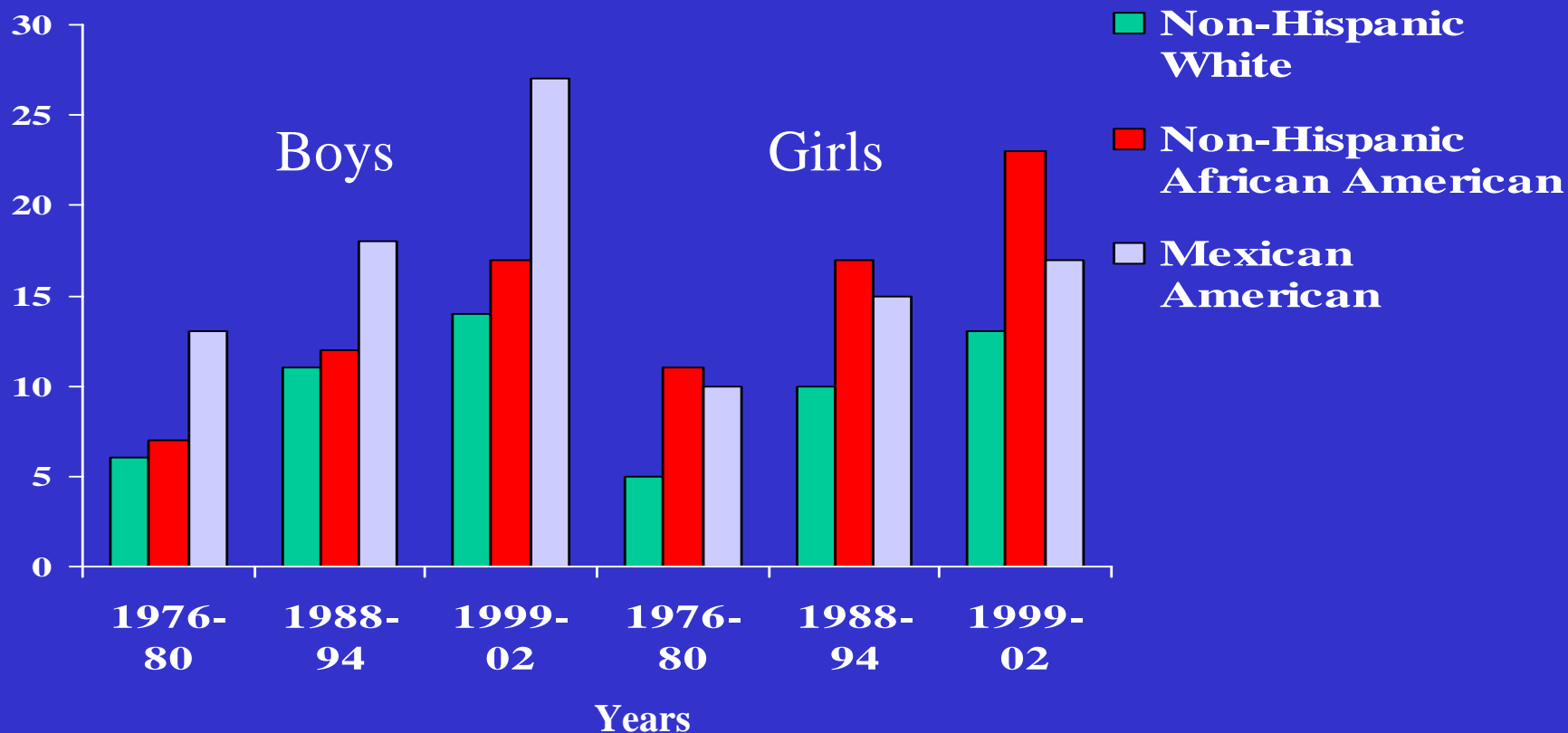
Trends for Overweight Prevalence among Children & Adolescents – United States, 1963-2000.



Source: NHANES - 1963-65 through 1999-02.

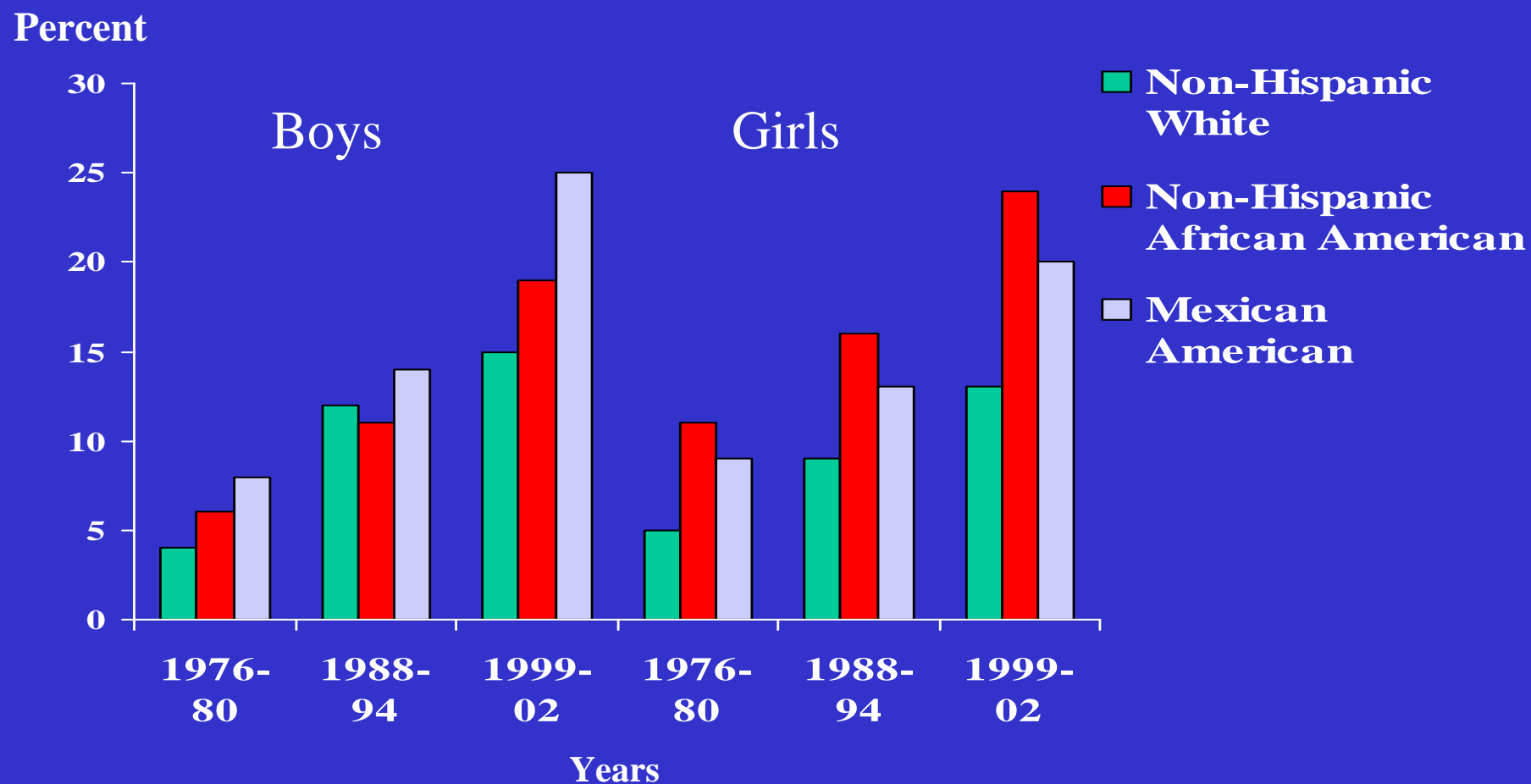
Trends for Overweight among Children 6 - 11 years of age – United States, 1976-2002 – Racial/Ethnic Disparities.

Percent



Source: NHANES – 1976-80 through 2000-02. Overweight is defined as $\geq 95^{\text{th}}$ percentile for body mass index, by age & sex).

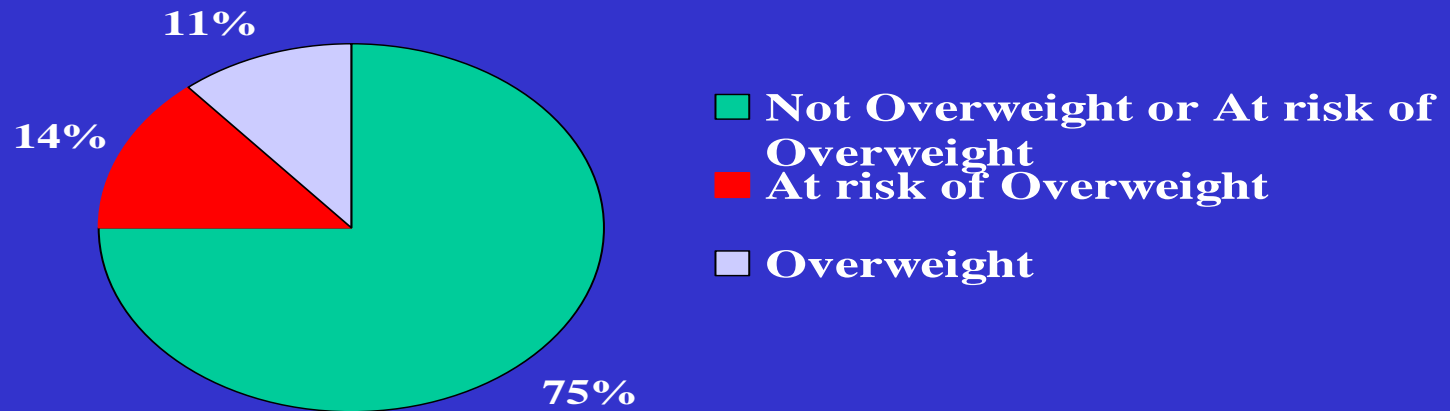
Trends for Overweight among Children & Adolescents 12 - 19 years of age – United States, 1976-2002 - Racial/Ethnic Disparities.



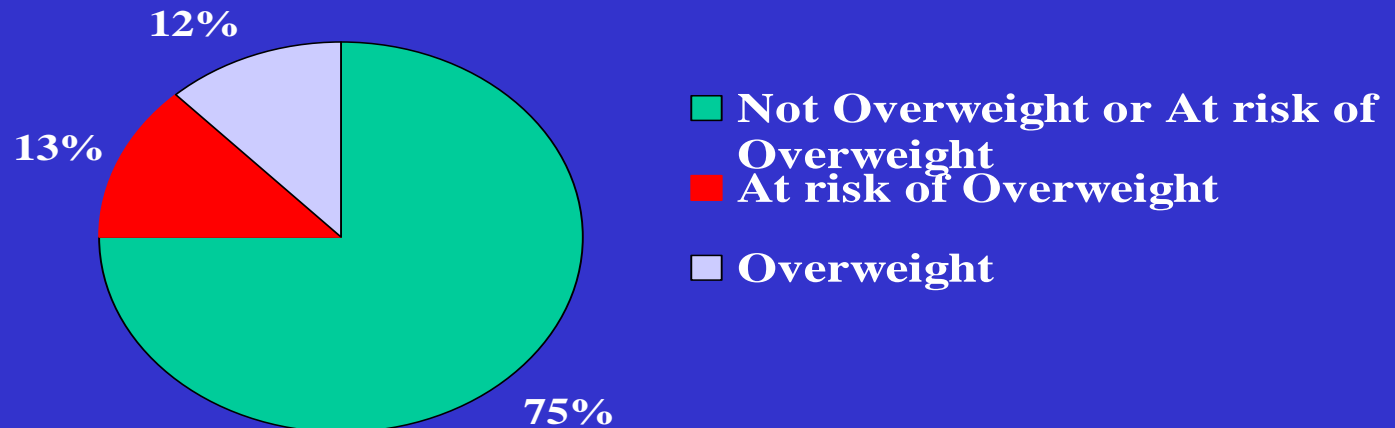
Source: NHANES – 1976-80 through 2000-02. Overweight is defined as $\geq 95^{\text{th}}$ percentile for body mass index, by age & sex).

Childhood Obesity in Kansas:

Kansas Students, Grades 6 – 12, YTS 2002-03

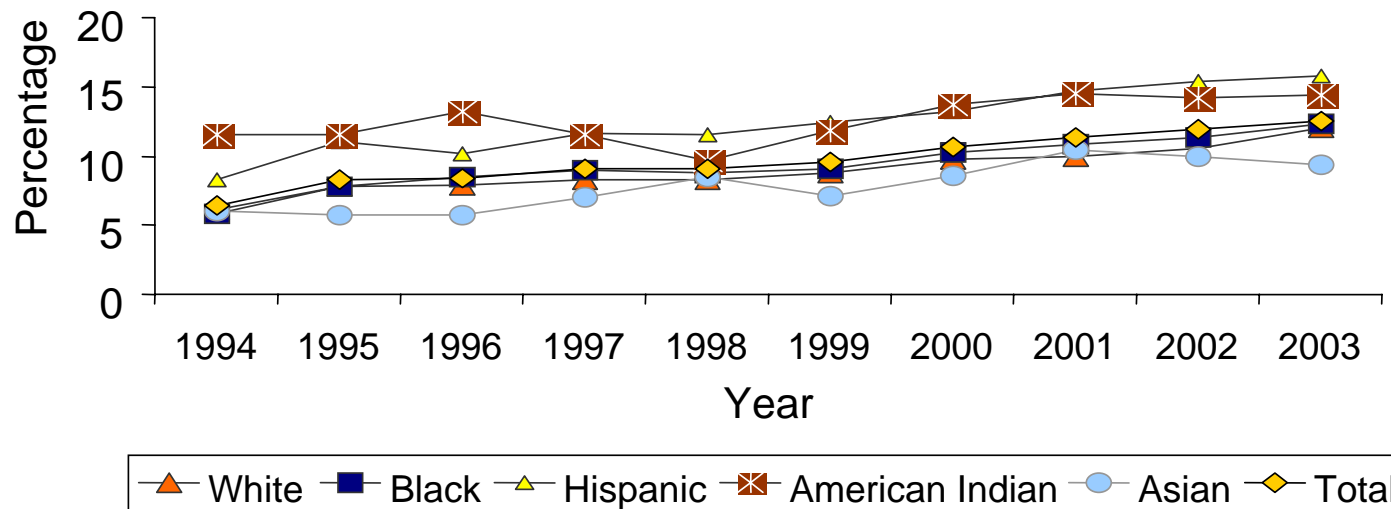


Kansas Students, Grades 9 – 12, YRBS 2005



Source: 2002-03 Kansas Youth Tobacco Survey; 2005 Kansas Youth Risk Behavioral Survey.

Trends for Prevalence of Overweight among Children younger than 5 years of age, by Race and Ethnicity, WIC data



Overweight prevalence for children younger than 5 years of age in KS WIC population was doubled (6.4% to 12.5%) from 1994 to 2003.

- 6% to 12% among white children,
- 5.8% to 12.3% among African American children,
- 8.3% to 15.8% among Hispanic children,
- 11.5% to 14.4% among American Indian children and
- 5.7% to 9.4% in Asian children.

Source: Kansas Pediatric Nutrition Surveillance System, table 18C, 2003

Implications of Childhood Obesity:

- Significant immediate and long term impact on child's health.
- Approximately 60% of obese children had at least one cardiovascular risk factor & 25% had two or more CVD risk factors.
- Incidence of type 2 diabetes in young children is increasing dramatically - becoming a disease of children and adolescents.
- Increase in new childhood cases of type 2 diabetes (1990s vs. before 1990s).

Implications of Obesity - continued

- High lifetime risk of being diagnosed with diabetes.
- Higher lifetime risk for developing diabetes among ethnic minority groups.
- Increase in risk of developing serious psychosocial problems - impairs academic and social functioning and carry into adulthood.
- Increase in health care costs – through its relationship to chronic diseases.
- Reduction in overall adult life expectancy may occur.

Lifestyle Factors among Kansas Children & Adolescents:

- Currently, only 1 in 5 (21%) students in grades 9 – 12 consume at least five servings of fruits and vegetables per day.
- Currently, less than half (41%) of the students in grades 9-12 are physically active for 60 or more minutes per day on five or more days/week.
- Currently about 1 in 3 students in grades 9 – 12 watch TV for 3 or more hours per day.

Source: Kansas Youth Risk Behavioral Survey, 2005

Promising Practices for Preventing Obesity:

- Breastfeeding
- Adequate physical activity
- Limited screen time
- Achieving optimal level of fruit and vegetable consumption
- Achieving Energy Balance

Source: Centers for Disease Prevention and Health Promotion

Recommendations – Guide To Community Preventive Services:

Physical Activity

- Community wide campaigns.
- Point of decision prompts.
- Individually-adapted health behavior change.
- School-based physical education.
- Non-family social support.
- Creation &/or enhanced access to places for physical activity combined with informational outreach (policy and environmental changes to increase PA).

Source: The Guide to Community Preventive Services. www.thecommunityguide.org

Nutrition

- Multi-component nutrition interventions to improve knowledge/attitudes and consumption patterns and environments to enhance healthy food choices through:
 - Educational components (such as classroom instruction by teachers, integrating nutrition education across curricula, peer training)
 - Environmental components (such as school menus, classroom snacks & special treats)
 - Other components (such as physical activity, family education & involvement, community involvement)

Source: The Guide to Community Preventive Services. www.thecommunityguide.org

Tobacco Use in Kansas Children & Adolescents:

- Single most preventable cause of death and disease – Best practices for prevention & control are known.
- Every year, nearly 4,000 Kansans die from tobacco-related diseases.
- High Health care cost related to tobacco-related illness.
- Tobacco users typically begin the habit in early adolescence.
- Almost all first time use occurs prior to high school graduation.
- An estimated 550 Kansas youth become regular smokers each month.

Tobacco - continued

- Currently, 29% of high school students report using at least one form of tobacco.
- 1 in 5 (21%) high school students smoke Cigarettes.
- 5.5% middle school students smoke cigarettes.
- In 2004, 38% of kids were able to purchase cigarettes even though the selling tobacco products to children is illegal. This non-compliance rate is nearly double the acceptable limit.

Tobacco - continued

- Annual smoking related health care expenditures include neonatal costs associated with maternal smoking.
- Currently, 12.7% of pregnant women smoke.
- 19% of pregnant women ages 15-19 years smoke.
- Environmental Tobacco Smoke (ETS) affects general population including children. An estimated 350 – 600 deaths occur each year due to exposure to ETS.
- **Good news – science-based strategies are available for prevention & control of tobacco use to prevent premature death & disease.**

How to address these complex issues related to child's health ?

- A comprehensive approach is needed to help children and adolescents for increasing their health knowledge and establish healthy lifestyle and behaviors.

Coordinated School Health Program:

- A collaborative program between KSDE & KDHE.
- Utilizes a model with a multi-faceted approach (comprised of 8 components).
- The vision is to eventually implement every component of the Coordinated School Health model in every school in Kansas.

Components Of A Coordinated School Health Model



Coordinated School Health Program – continued

- Establishment of state-level Advisory Group.
- Provision of technical assistance, trainings and a grant program to school districts by state agencies.
- Technical Assistance for :
 - Facilitation of planning process
 - Coordination of School Health Risk Behavior Surveys
 - Development of School Health Councils
 - Mini-grants for school districts.

Coordinated School Health Program – continued

- Role of School Health Council
 - Conduct School Health Index to
 - > Establish priorities &
 - > Develop plan (within the context of the model) to address nutrition, physical activity, or tobacco use prevention within the school or district.
 - School Health councils created consensus agenda for improving their school's health environment.
- To date, 59 school districts, representing 109 schools & 66,094 students in 27 counties are engaged in implementing at least some aspects of the Coordinated School Health model.

Coordinated School Health Program – continued

- Successful collaboration between two agencies to support schools in implementation of the Coordinated School Health Model at the local level.
- Structuring the state team to capitalize on the strengths & resources of each agency can leverage support for engaging school districts in :
 - Promoting wellness &
 - Providing healthy environments for students, their families & school staff.

References:

1. Minino AM, Arias E, Kochanek KD, et al. Deaths: final data for 2000. *National Vital Statistics Reports* 2002;50(15):1-20.
2. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. *JAMA*. 2004;291 (10): 1238-1246.
3. Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Correction: Actual Causes of Death in the United States, 2000. *JAMA*. 2005;293 (3): 293.
4. NHANES - 1963-65 through 2003-04.
5. NHANES - 1963-65 through 1999-02.
6. NHANES – 1976-80 through 2000-02.
7. 2002-03 Kansas Youth Tobacco Survey.
8. 2005 Kansas Youth Risk Behavioral Survey.
9. Kansas Pediatric Nutrition Surveillance System, table 18C, 2003
10. Freedman Ds, Dietz WH, et al. The relation of overweight to cardiovascular risk factors among children and adolescents: The Bogalusa Heart Study. *Pediatrics*. 1999;103(6 Pt 1):1175-1182.
11. Fagot-Campagna A, Pettitt DJ, et al. Type 2 diabetes among North American children and adolescents: An epidemiologic review and a public health perspective. *J Pediatr*. 2000;136(5):664-672.
12. Narayan KM, Boyle JP, et al. Lifetime risk for for diabetes mellitus in the United States. *J Am Med Assoc*. 2003;290(14):1884-1890.

References:

13. Schwartz MB, Puhl R. Childhood obesity: A societal problem to solve. *Obese Rev.* 2003;4(1):57-71.
14. Ebbeling CB, Pawlak DB, et al. Childhood obesity: Public health crisis, common sense cure. *Lancet.* 2002;360(9331):473-482.
15. Seidell JC. Societal and personal costs of obesity. *Exp Clin Endocrinol Diabetes.* 1998;106(Suppl 2):7-9.
16. Fontaine KR, Redden DT, et al. Years of life lost due to obesity. *J Am Med Assoc.* 2003;289(2):187-193.
17. Centers for Disease Prevention and Health Promotion
18. The Guide to Community Preventive Services. www.thecommunityguide.org
19. SAMMEC
20. State of Kansas Annual SYNAR Report.
21. MMWR, October 8, 2004.
22. Kansas Mortality Statistics, Center of Health & Environmental Statistics, KDHE.
23. Chronic Disease Epidemiology and Control, Second Edition. American Public Health Association. 1998.
24. www.kshealthykids.org