



North Carolina  
metamorphosis  
project

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*healthy adolescents. healthy futures.*

# The Current State of Adolescent Health in North Carolina

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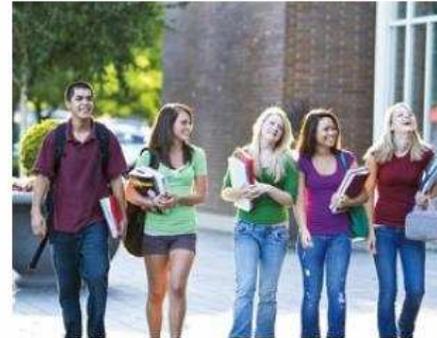
NC Multi-disciplinary Adolescent Research Consortium & Coalition for Health (NC MARCH)

Director, NC Metamorphosis Project

# 2009 Portrait of Adolescent Health in North Carolina

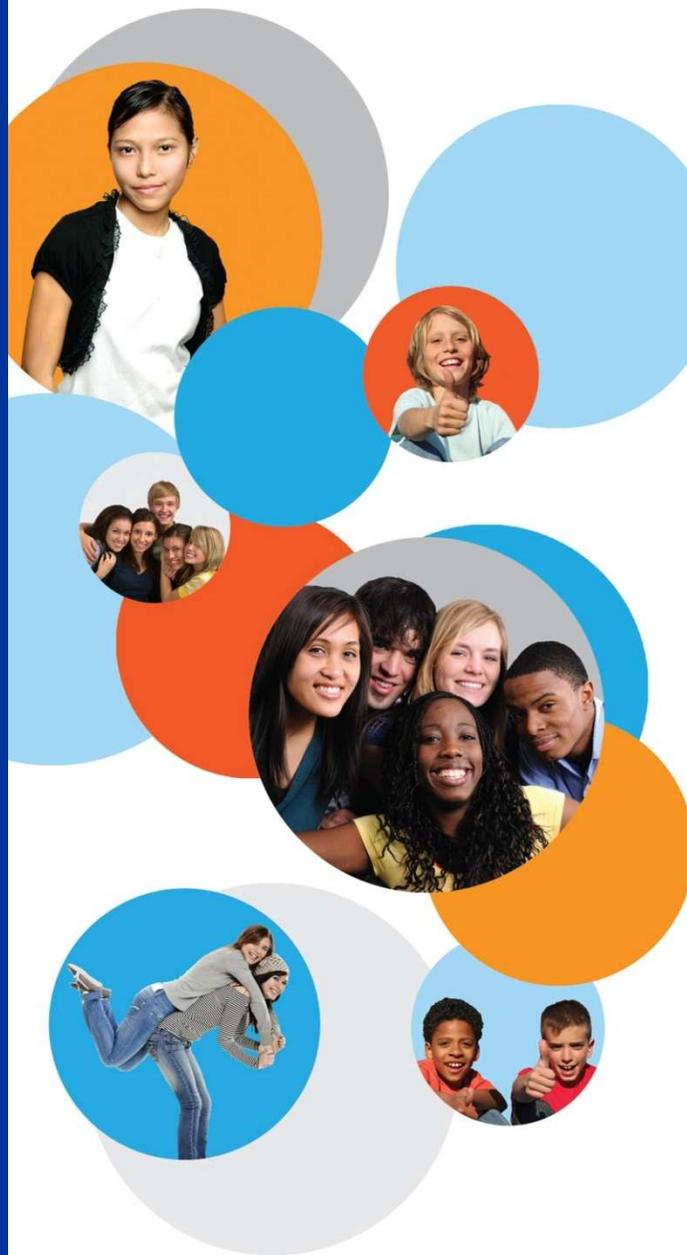


Adolescence is a time of metamorphosis. Much like in early childhood, adolescents' brains develop at a rapid pace. Their bodies transform from those of children into those of adults. Adolescents' decisions and behaviors affect their health, and patterns of behaviors established during this period may accompany them into adulthood. Experiences adolescents have in their families, schools and communities strongly influence what happens during this time period. Adolescents are guided by the relationships they build with adults, as well as the programs and policies that make needed services and opportunities available. We must invest in supporting adolescent health. A competitive North Carolina is only possible with a healthy, trained workforce and engaged citizenry.



## KEY FINDINGS

- 1 Many adolescents in North Carolina face barriers to healthy development and a pathway to successful adulthood because they lack healthy foundations.
  - One in five adolescents feels alone in his or her life, suggesting the lack of a strong connection with family or other important supportive adults.
  - Many adolescents lack connections to health care. Less than half of adolescents report having a consistent relationship with a medical professional. One-quarter of adolescents ages 18-21 lack health insurance coverage.
  - More than one-third of adolescents do not complete high school within four years, and those who drop-out often lack connections to training or job programs.
- 2 Adolescents participate in behaviors that can negatively impact their health today and in the future.
  - More than one in three high school students reported consuming alcohol during the past 30 days.
  - Nearly 40 percent of sexually active adolescents did not use a condom during their last sexual encounter. Chlamydia, gonorrhea and HIV rates among adolescents aged 13 to 19 have increased from 2003 to 2007.
- 3 Many adolescents are making better decisions and are more engaged in their community than four years ago.
  - The smoking rate has declined by 30 percent from 2003 to 2007.
  - Nearly 2 out of 3 adolescents are engaged in extracurricular activities.



# Healthy Foundations for Healthy Youth:

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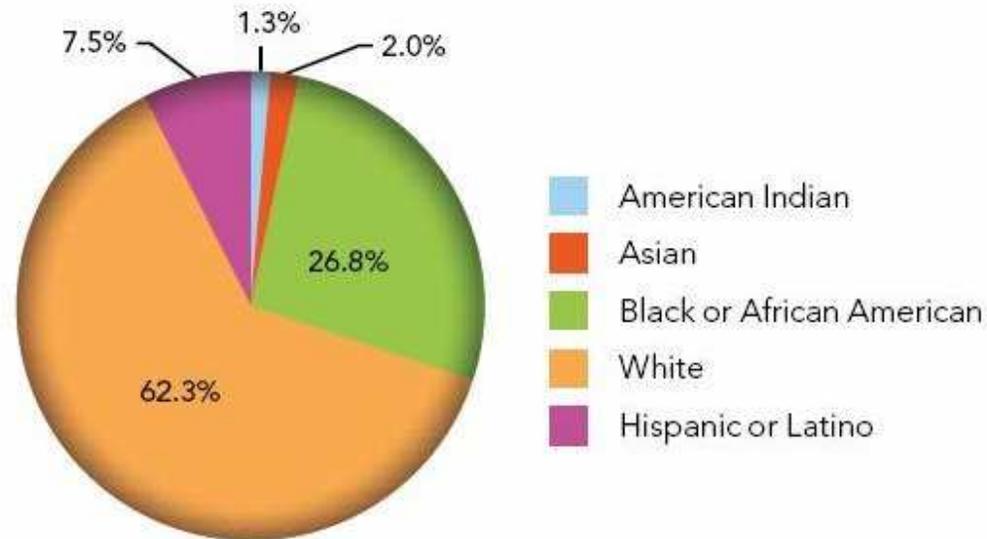


# NC Adolescent Population

- 1,450,077 young people between 10 & 20
- Nearly 20% of our state's population
- Diverse population
  - Wide variations in normal development during the second decade of life

# Racial and Ethnic Diversity

**ADOLESCENT POPULATION  
(10 TO 21 YEARS OLD) BY RACE/ ETHNICITY**



*Source: Population Reference Bureau, analysis of the 2007 ACS PUMS data and CDC Bridged-Race Population Estimates (Vintage 2007). Calculations based on the ACS total population for 10 to 21 year olds of 1.4 million.*

# Adolescence is Experienced Within Very Diverse Contexts

- Examples:
  - 1/5 living in poverty (ages 10-20)
  - 1/5 living with chronic health condition or disability (ages 12-17)
  - In 2007, Child Protective Services found nearly 9,000 young people ages 10-17 to be victims of abuse, neglect, or in need of services
  - More than 1,000 homeless (grades 9-12)

# Overview of Health Outcomes

# Health Outcomes

- 80% of deaths among young people ages 15-24 are from:
  - Motor vehicle crashes
  - Other unintentional injury
  - Homicide
  - Suicide

Mental Health Outcomes	2003	2007
Agree/strongly agree that they feel alone in their life*	16.3%	20.4%
Felt so sad/hopeless almost everyday for at least 2 weeks during the past year that they stopped doing normal activities*	30.6%	26.9%
Seriously considered suicide within the past 12 months*	18.1%	12.5%
Suicide rate per 10,000 (15-24 yo)	1.12	0.88

\* From 2007 NC Youth Risk Behavior Survey of 9<sup>th</sup>-12<sup>th</sup> grade students

<b>Sexual Health Outcomes</b>	<b>2003</b>	<b>2007</b>
Teen pregnancy rate per 1,000 (15-17 yo)	36.0	34.8
Chlamydia rate per 100,000 (13-19 yo)	1293.3	1321.7
Gonorrhea rate per 100,000 (13-19 yo)	501.3	504.3
HIV rate per 100,000 (13-19 yo)	8.3	12.0

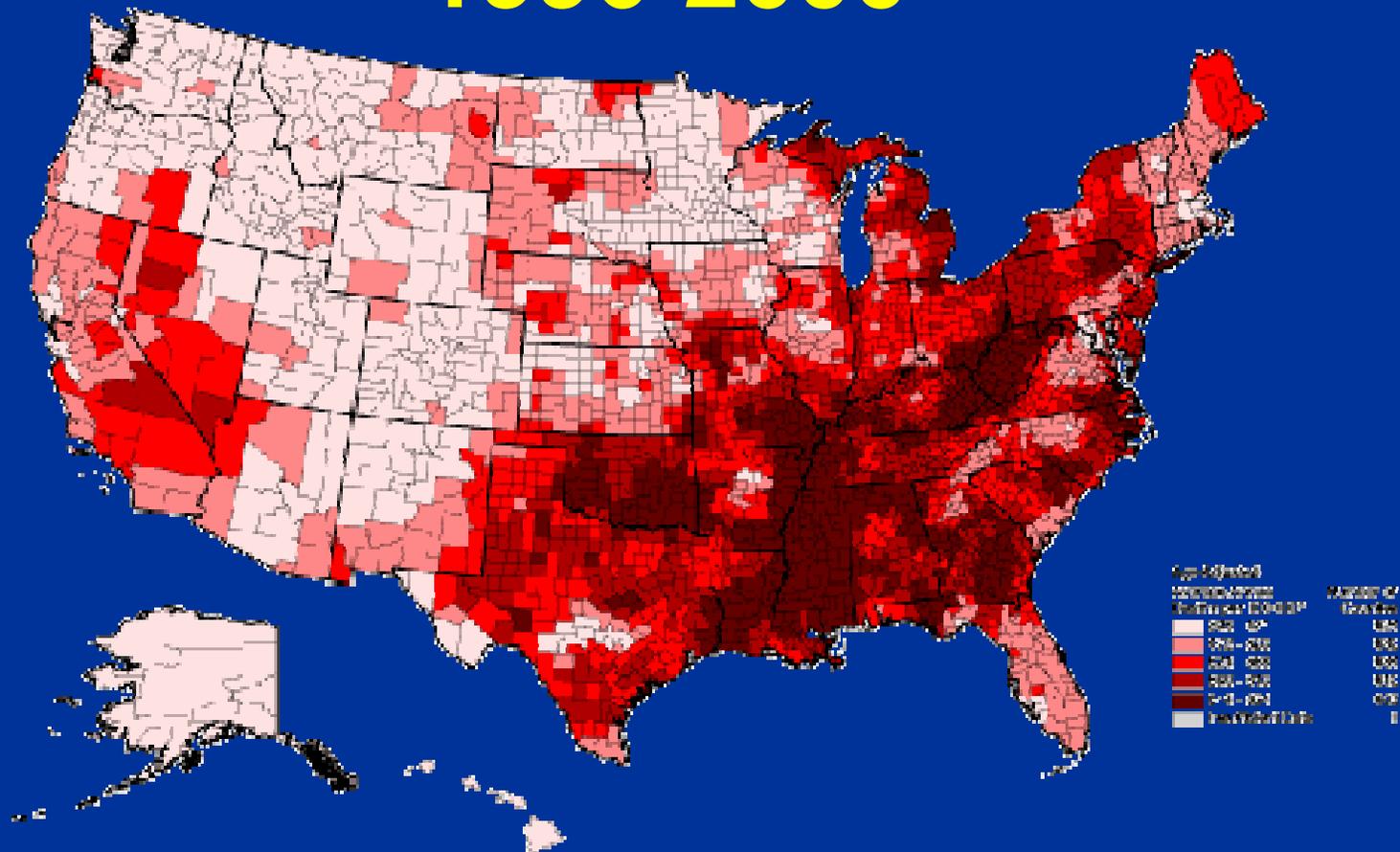
Risk Factors Identified During  
Adolescence



Adult  
Cardiovascular Disease &  
Cancer

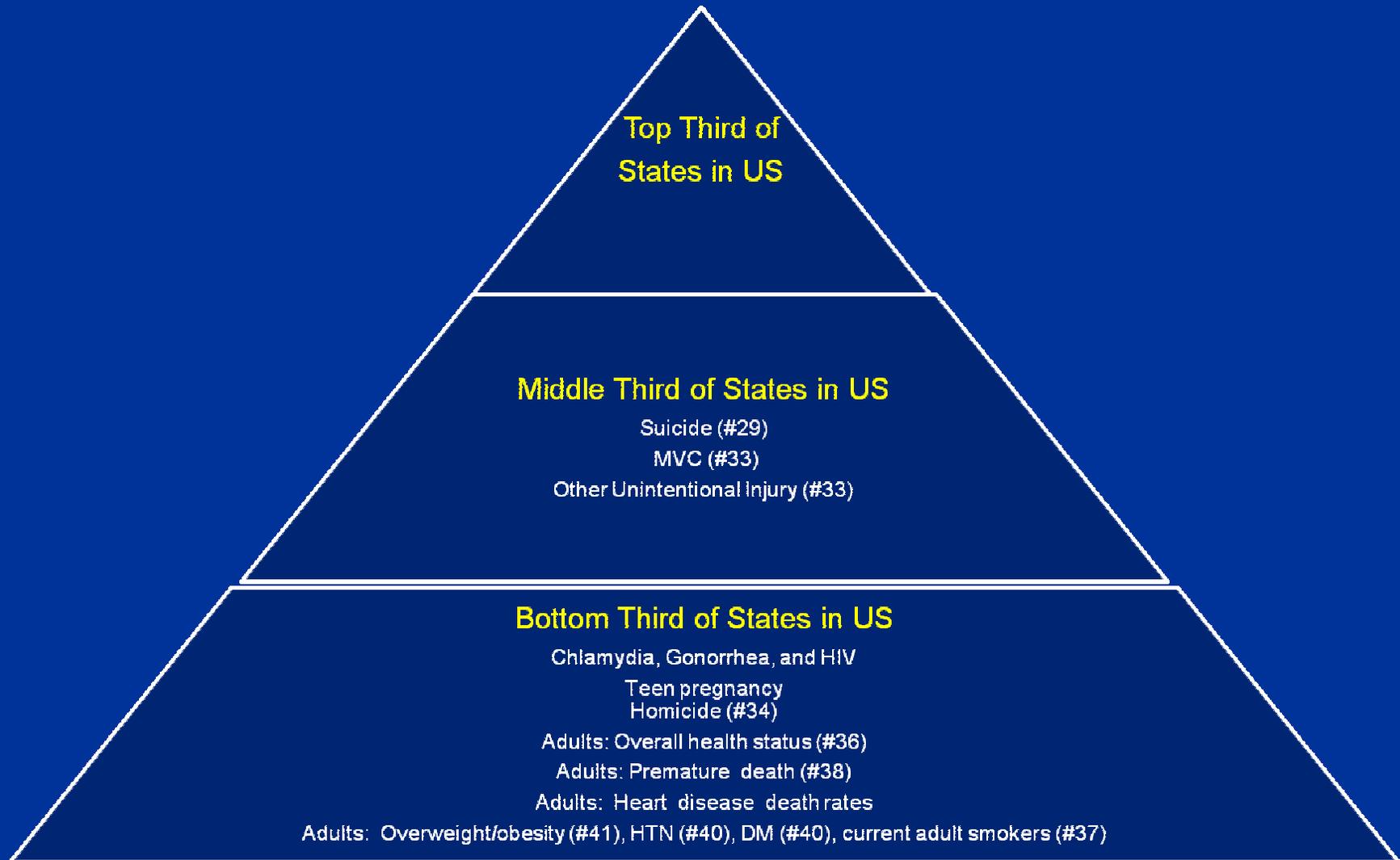


# Heart Disease Death Rates- Adults Ages 35 Years and Older, 1996-2000



(Centers for Disease Control and Prevention)

# Where Does NC Rank Compared to Other States?



# Framework

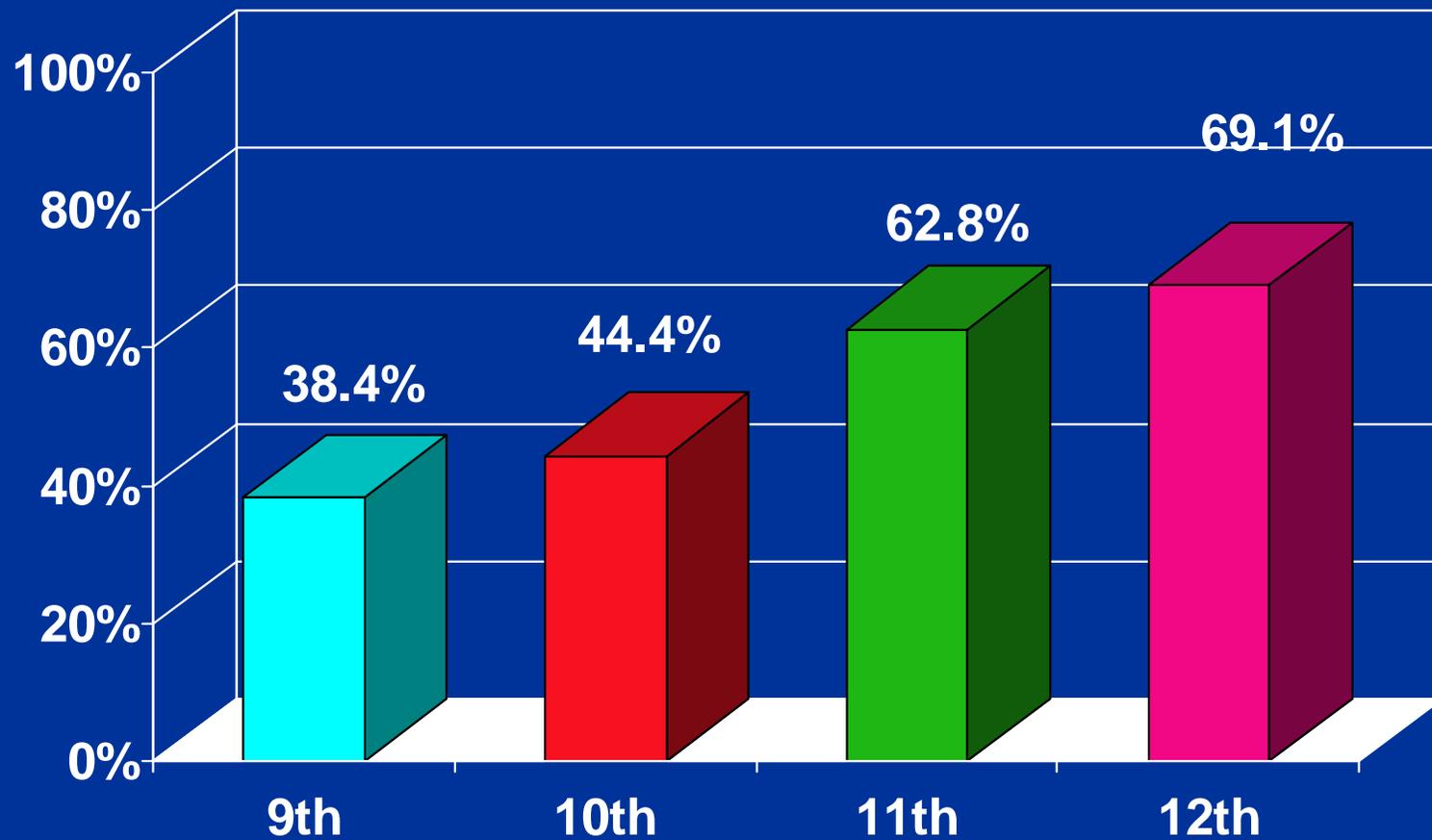


## Health Behaviors Among NC High School Students

<b>Substance and Alcohol Abuse</b>	<b>2003</b>	<b>2007</b>
Smoked cigarettes in the past 30 days	27.3%	19.0%
Used alcohol in past 30 days	39.4%	37.7%
Used cocaine in their lifetime	8.4%	4.7%
Used methamphetamines in their lifetime	6.6%	4.7%
<b>Sexual Behaviors</b>		
Ever had sexual intercourse	47.5%	52.1%
Did not use a condom at last sexual intercourse	NA	38.5%
<b>Violence</b>		
Did not go to school because felt unsafe	5.8%	7.0%
<b>Physical Activity</b>		
Watched TV 3 or more hours per day	NA	35.3%

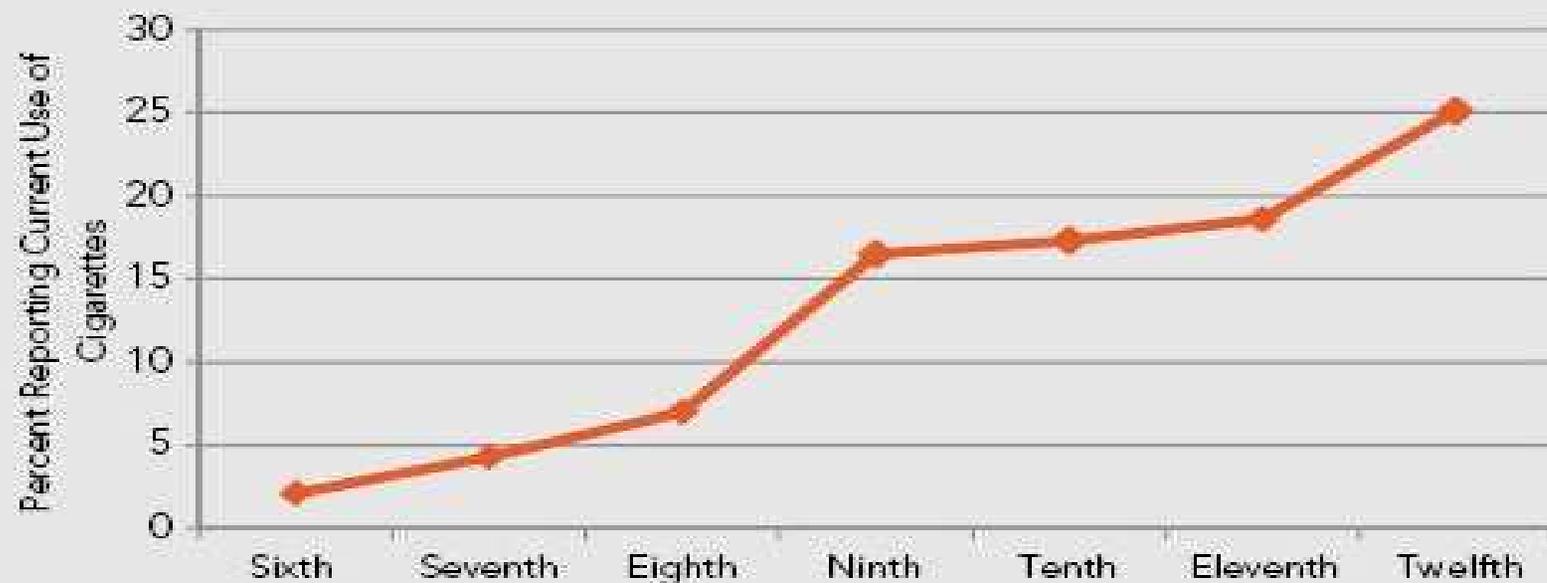
\*Data from NC Youth Risk Behavior Survey of 9-12<sup>th</sup> grade students

## Percent of NC students who ever had sexual intercourse, by grade



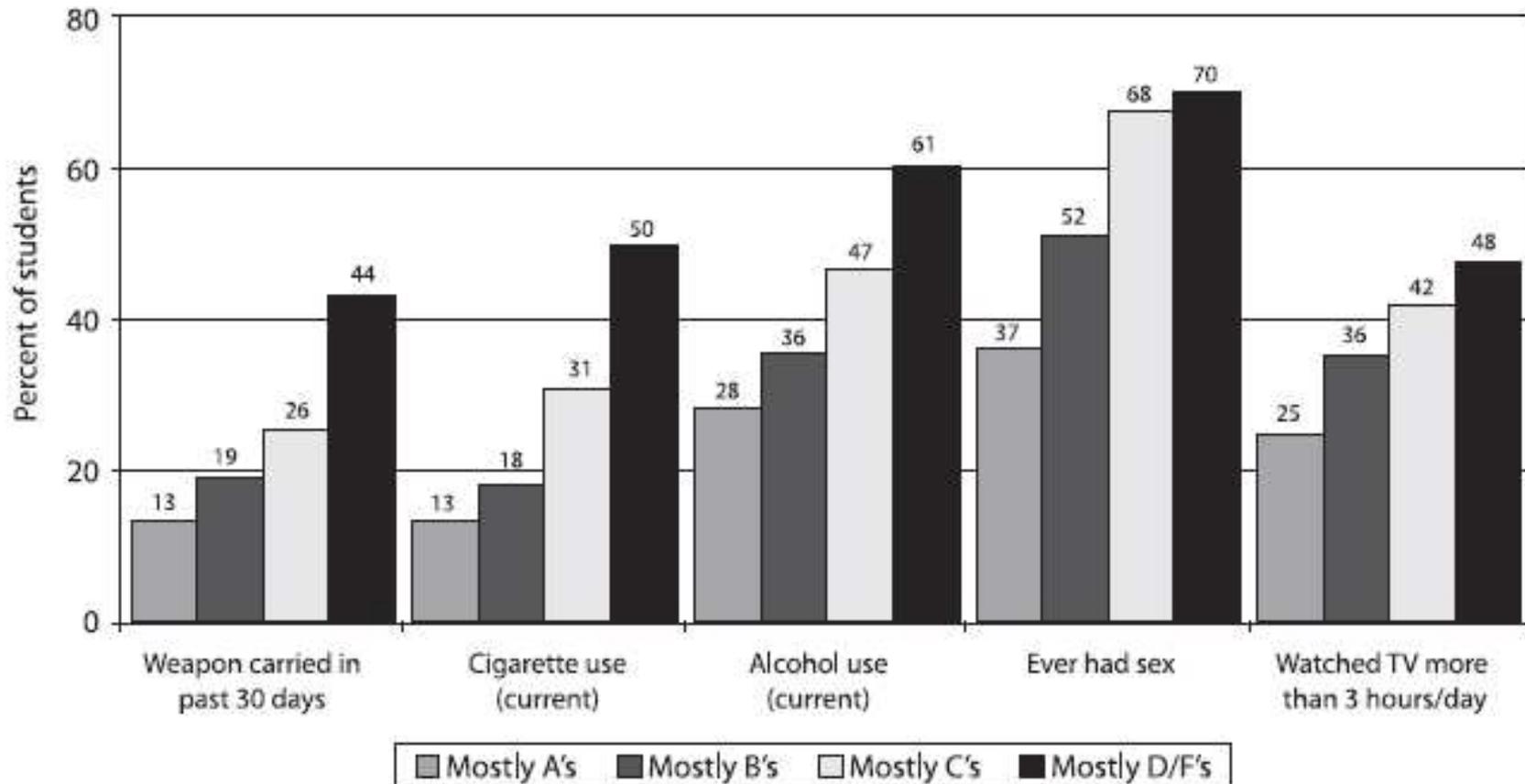
(2007 Youth Risk Behavior Surveillance Survey)

***Cigarette use by adolescents increases sharply between eighth and ninth grades and again between eleventh and twelfth grades.*** Cigarette use early in life can establish a life-long addiction and have implications for cardiovascular health in adulthood.<sup>xvi</sup>



*Source: North Carolina Tobacco Survey, Statewide Results, 2007. N.C. Department of Health and Human Services.*

**Figure 1.**  
**Percentage of North Carolina High School Students Engaging in Selected Health Risk Behaviors, Stratified by Level of Academic Achievement**



Source: 2007 North Carolina High School Youth Risk Behavior Survey  
 Produced by: North Carolina State University Center for Urban Planning and Community Service

Source: Reeve RH, SM Langer, AS Bernholc. Running the Numbers. *NC Med J.* Nov/Dec 2008; 69(6): 511:512.

<b>Connection to Family</b>	<b>2003</b>	<b>2007</b>
Ate dinner 4 or more times with family in past week*	NA	56.2%
Agree/strongly agree that they feel along in their life*	16.3%	20.4%
<b>Connection to Health Care</b>		
Uninsured (10-20)	17.8%	16.7%
Have a medical home (11-17)	NA	44.5%
<b>Connection to School</b>		
Participate in extracurricular activities at school*	61.6%	62.4%
Not in school, not in work (16-19yo)	10%	9%
Four-year high school completion rate	NA	68.1%
<b>Connection to Community</b>		
Volunteer rate (16-18yo)	23%	27%
State- and federally-funded after school programs	NA	514

\* Data from NC Youth Risk Behavior Survey of 9-12<sup>th</sup> grade students

# % Insured at Time of Survey Nationwide and in North Carolina – NSCH and BRFSS 2007

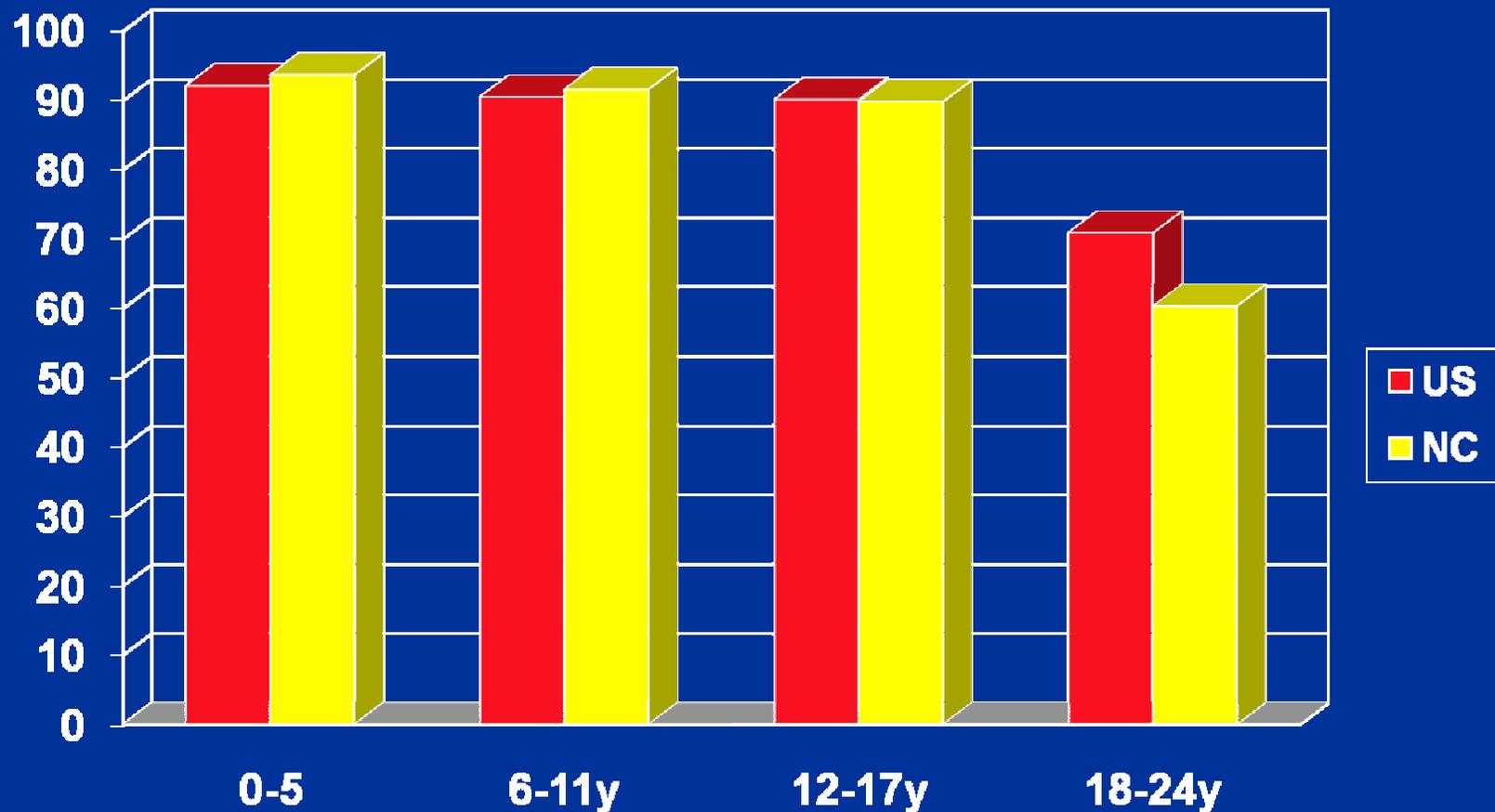
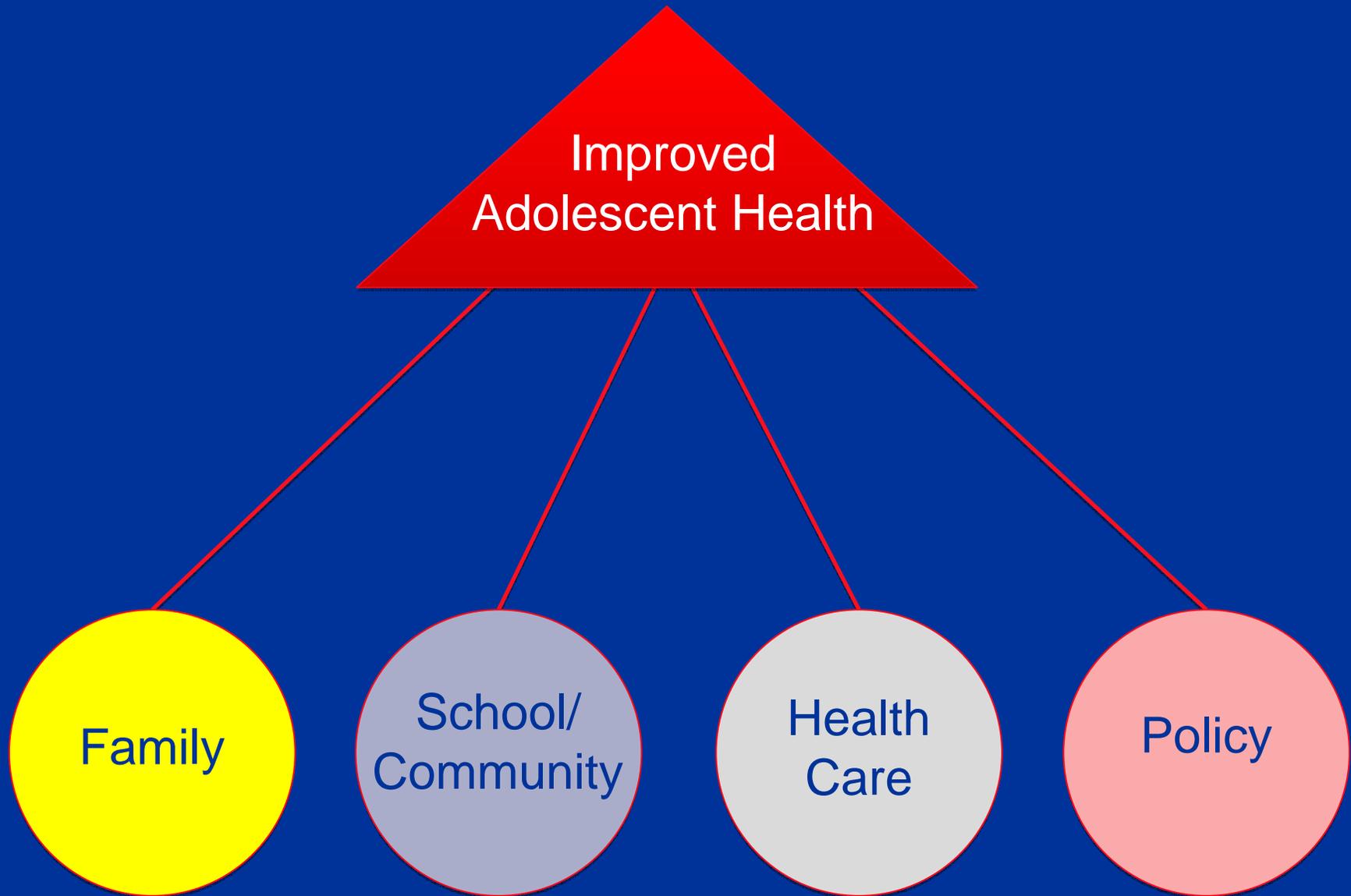




Image by Juli Leonard

BITTERSWEET

# Opportunities to Improve Adolescent Health

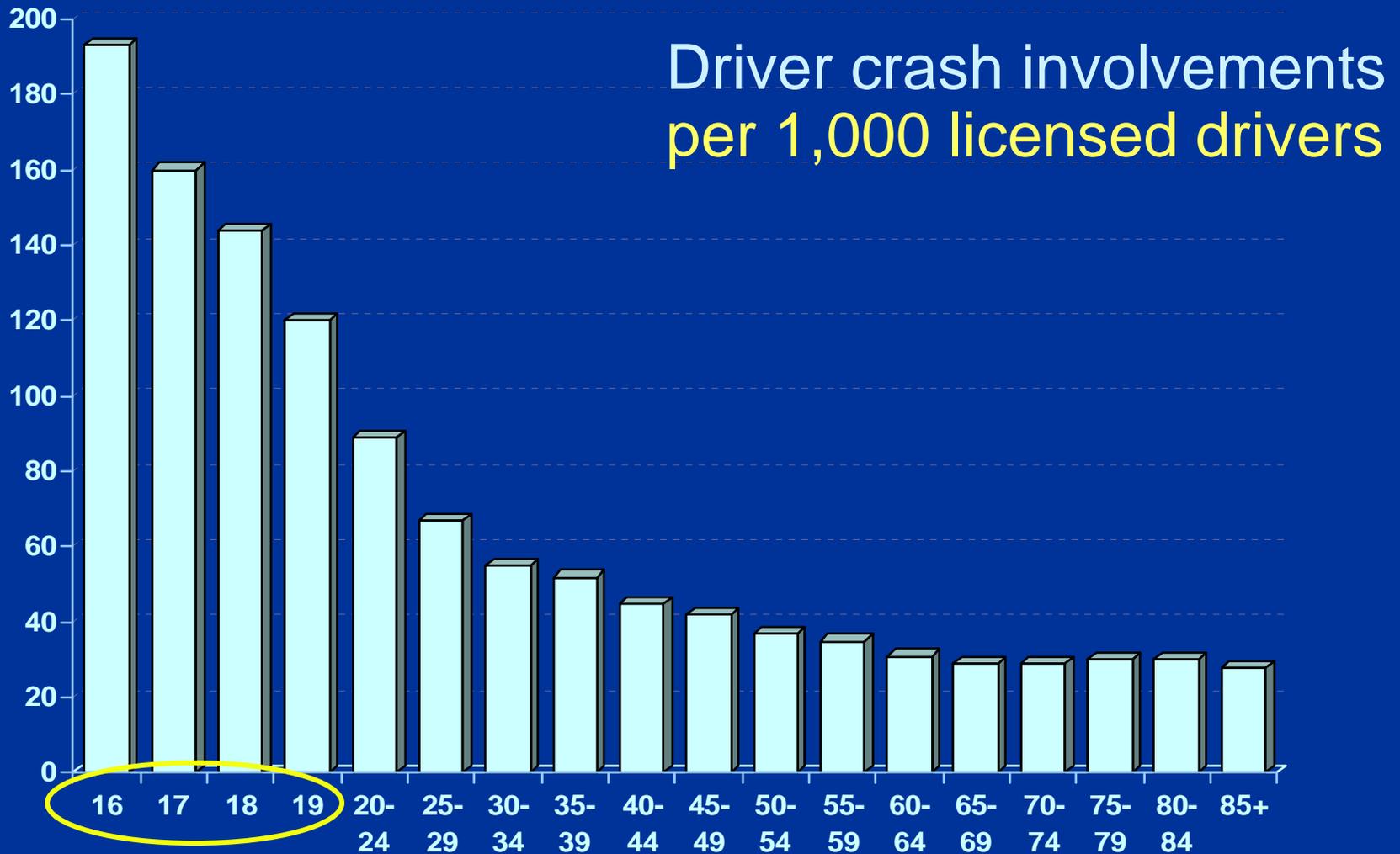


# Opportunities to Improve Adolescent Health

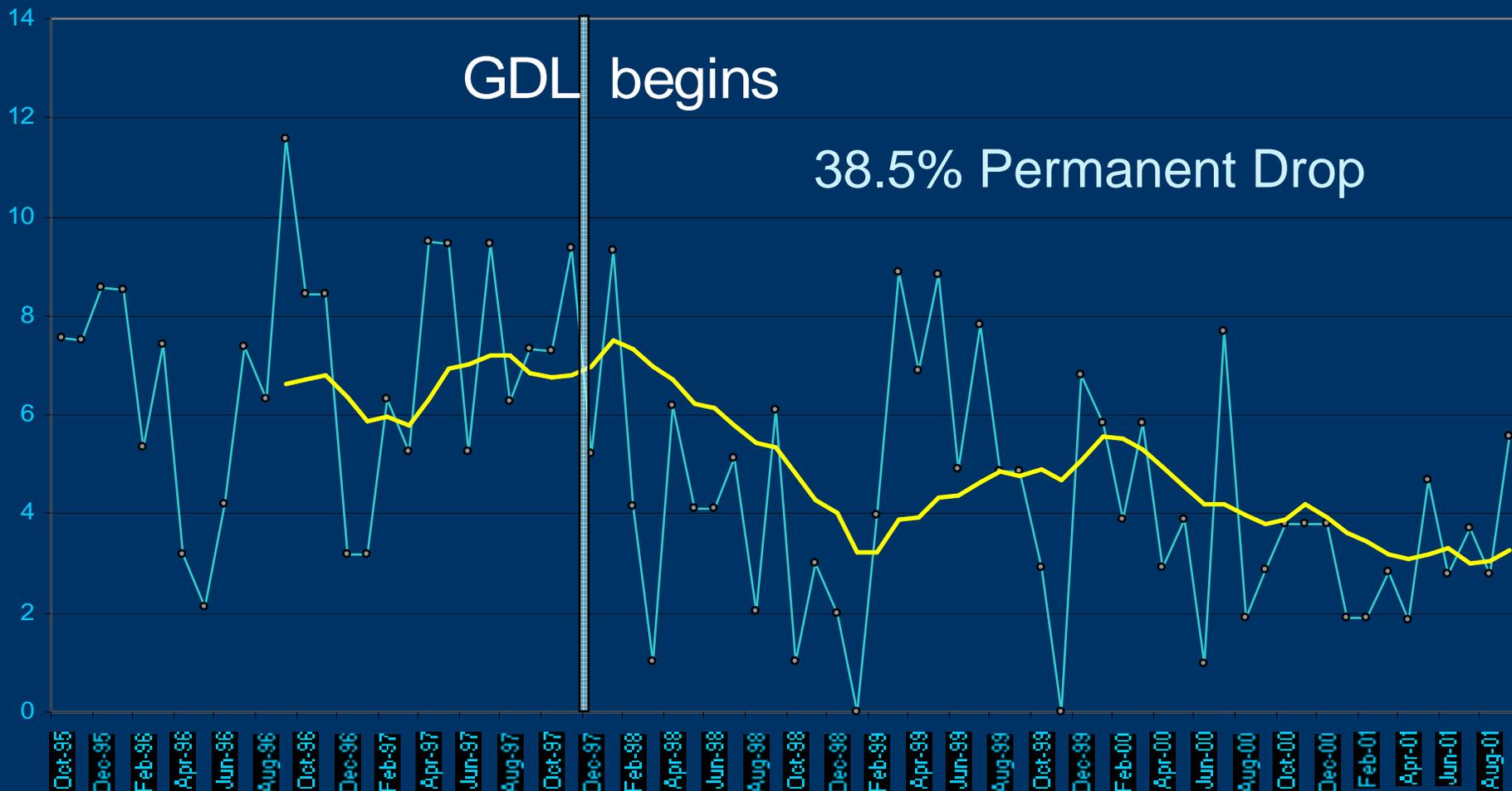
- Youth development approaches work
- “Problem behaviors” are preventable/modifiable
- Good science exists to guide us
- Parents want healthy adolescents who are on track in life and prepared for adulthood

Examples of how science  
can guide us.....

# Crash Rates by Age



# Monthly 16 Year-old Driver Hospitalization rate per 100,000 population, 1995 - 2001



## **We Know What Works!**

CDC Recommends, based on the evidence:

[www.thecommunityguide.org](http://www.thecommunityguide.org)

### **Reducing Tobacco Use Initiation**

Increasing the **unit price** for tobacco products

**Mass media education campaigns** combined with other interventions

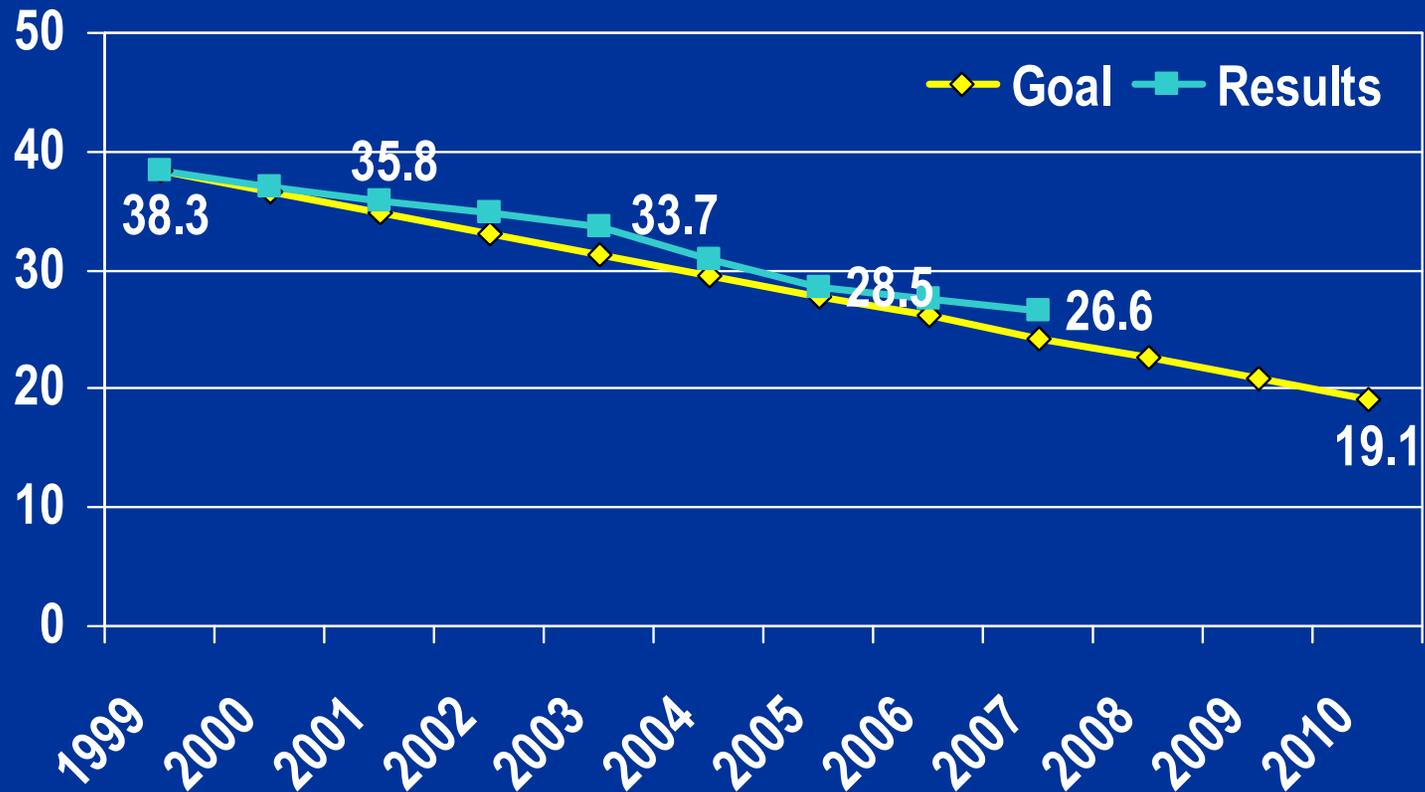
### **Increasing Tobacco Use Cessation**

- Increasing the **unit price** for tobacco products
- **Reducing client out-of-pocket costs** for effective cessation therapies
- Multi component interventions that include **client telephone support**
- **Mass media education** campaigns combined with other interventions
- Healthcare provider reminder systems with provider education, with or without client education

### **Reducing Environmental Tobacco Smoke**

- **Smoking bans and restrictions**
- **Restricting Minors' access to tobacco products**
- Community mobilization when combined with additional interventions (stronger local laws directed at retailers, active enforcement of retailer sales laws, retailer education with reinforcement)

# By 2010, Decrease Overall Teen Tobacco Use From 38.3% to 19.1%



Data source: NC YTS 1999-2007

## Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases (Kirby)

- This is complex area, but:
  - Youth development programs can work
  - Abstinence-only programs do not work
  - Comprehensive education programs can work
  - Contraception works

## Multiple Evidence-Based Reviews with Solid Recommendations to Reduce Substance Use

Reviewing Agency	Web Address
Blueprints Promising Programs Guide	<a href="http://www.coloradfo.edu/cspv/blueprints/modelprograms.html">http://www.coloradfo.edu/cspv/blueprints/modelprograms.html</a>
NIDA Research-Based Guide	<a href="http://www.drugabuse.gov/pdf/prevention/redbook.pdf">http://www.drugabuse.gov/pdf/prevention/redbook.pdf</a>
National Registry of Evidence-based Programs and Practices (NREPP)	<a href="http://www.nrepp.samhsa.gov/find.asp">http://www.nrepp.samhsa.gov/find.asp</a>
Substance Abuse and Mental Health Services Administration's Model Programs Guide (SAMHSA)	<a href="http://modelprograms.samhsa.gov/model.htm">http://modelprograms.samhsa.gov/model.htm</a>

# High Quality Health Care

- Examples where evidence of benefit is clear:
  - Immunizations
  - Routine chlamydia testing
  - Routine depression screening
  - For specific health conditions

# Science is Evolving...

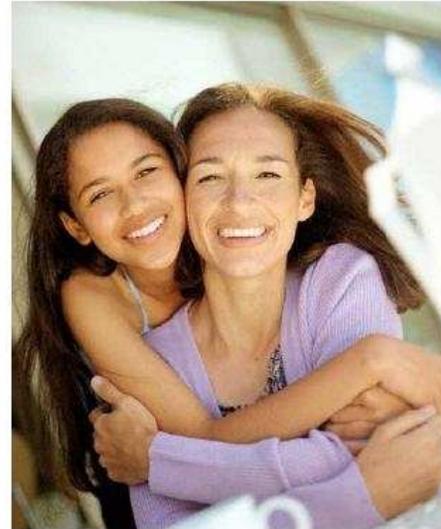
- Since Task Force work completed:
  - CDC publishes “Science-Based Approaches to Improve Adolescent Reproductive Health”
  - Institute of Medicine publishes review of research on “Preventing Mental, Emotional, and Behavioral Problems among Young People”
  - Child Trend publishes “What Works for Parent Involvement Programs for Adolescents: Lessons from Experimental Evaluations”

## Listening to Parents' Perspectives on Adolescent Health

Parents and families are invested in the health and well-being of their adolescent children. When adolescents are healthy and stay on track in their lives, these investments pay off, not just for adolescents and their families, but for the state of North Carolina – both today and in the future. Adolescents with support at home, and in their schools, communities, and health care settings, are better positioned to enter adulthood and succeed.

As part of the North Carolina Metamorphosis Project, we were interested in listening to the voices of parents who are doing the complex work of raising adolescents. A total of 1305 parents from across the state with children between 11 and 17 years of age participated in the 2008 North Carolina Child Health Assessment and Monitoring Program (N.C. CHAMP) survey, and their voices are summarized here. Fifty-two percent of parents answered questions about a son, and 48 percent answered questions about a daughter. Parents were asked about their perspectives on issues related to adolescent health and health care, and also about their own desires to learn more about adolescent health issues.

This snapshot summarizes survey results. Parents are a critically important resource for promoting sound adolescent development, and these results suggest that they are seeking greater engagement and information to support their adolescents. Whether working to strengthen

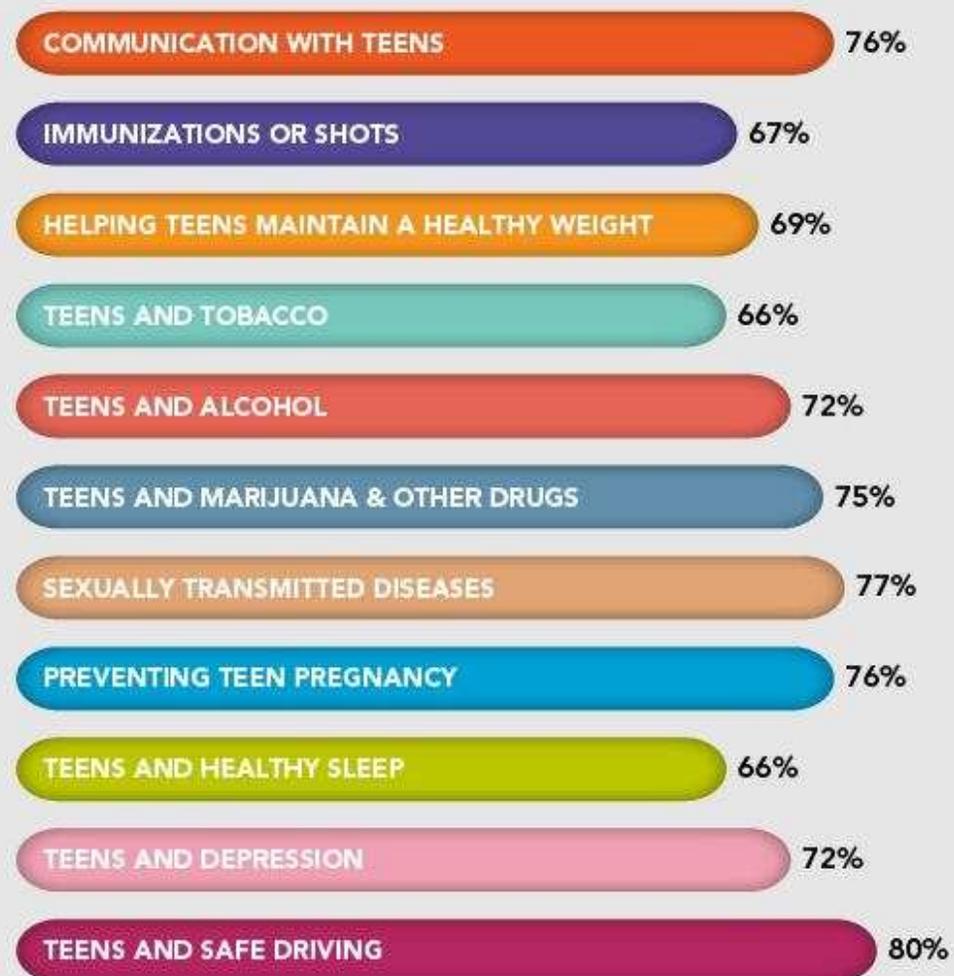


parents' connections and relationships with their own children or developing effective family and community partnerships with health care providers and policymakers, there are important opportunities to work with parents to increase investments in adolescents for significant returns in North Carolina.

# Interesting Findings

- Only 55% of parents report that their adolescent is in excellent health
- Over 90% support yearly check ups
- 72% report that they would like to know more about teen health issues

PERCENT OF PARENTS REPORTING THAT IT WOULD BE HELPFUL TO LEARN ABOUT SPECIFIC ADOLESCENT HEALTH ISSUES



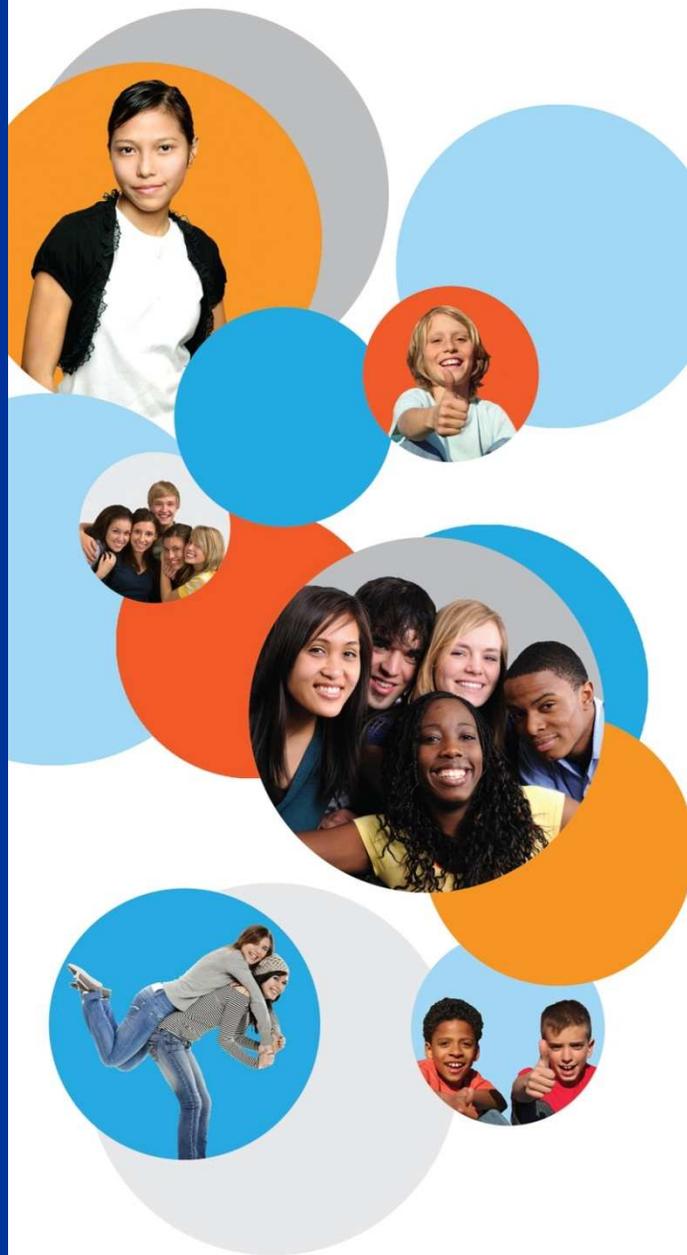
[Data from 957 parents of adolescents ages 11-17 who participated in 2008 NC CHAMP survey]



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