CDC PUBLIC HEALTH GRAND ROUNDS

Adolescence: Preparing for Lifelong Health and Wellness

August 18, 2015

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Adolescents in the United States

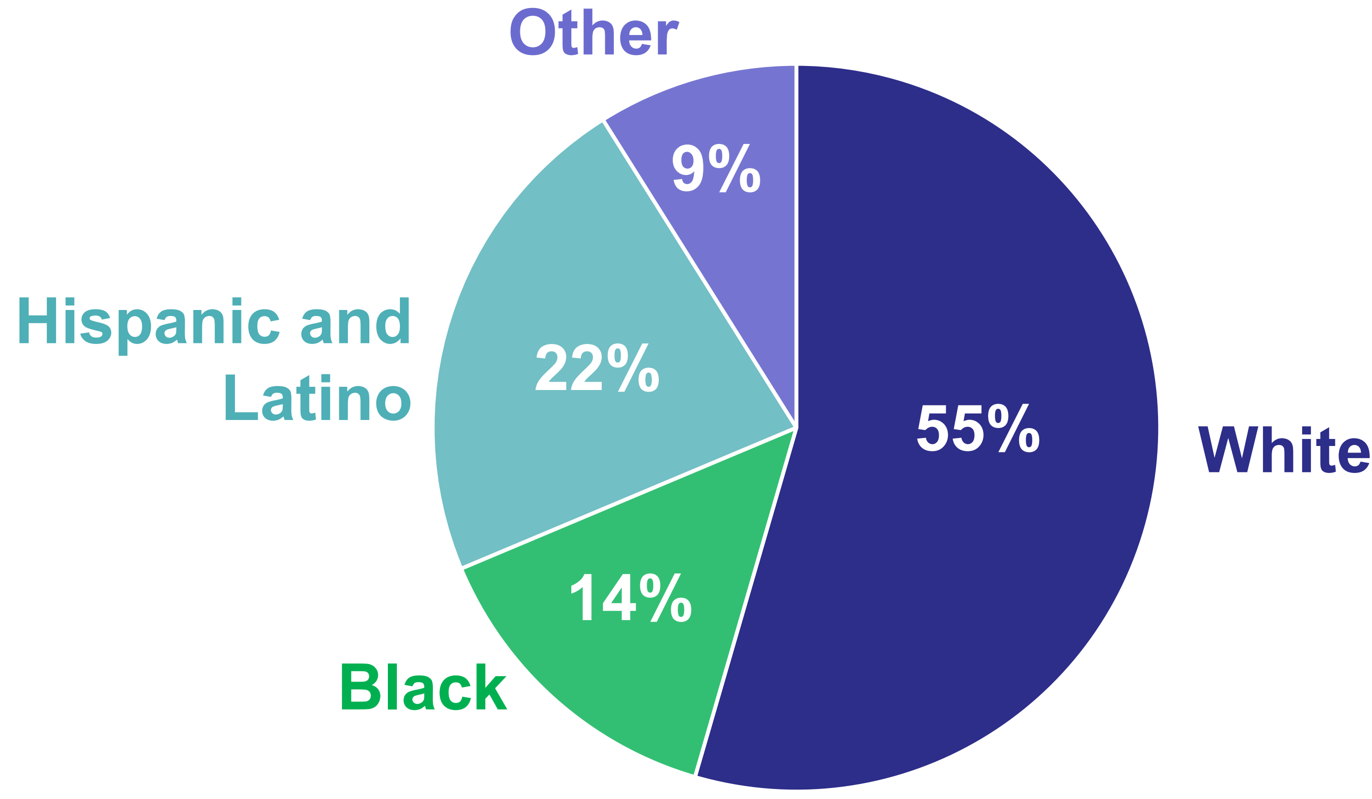
Stephanie Zaza, MD, MPH
Director, Division of Adolescent and School Health
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Defining Adolescence

- **Developmental stage**
  - Physical, intellectual, emotional, and psychological changes
  - Puberty and maturation occur
- **Corresponding years**
  - Pre-teen and teenage years
  - Middle school and high school years
- **Associated age range**
  - Varies by organization
  - Today's presentation: 10–19 years

Racial and Ethnic Distribution of U.S. Adolescents, Ages 10–19 Years

41,844,000 adolescents, 13% of U.S. population



US Census Bureau, 2013 estimates, accessed June 3, 2015

School Enrollment and Dropout Rate of U.S. Adolescents

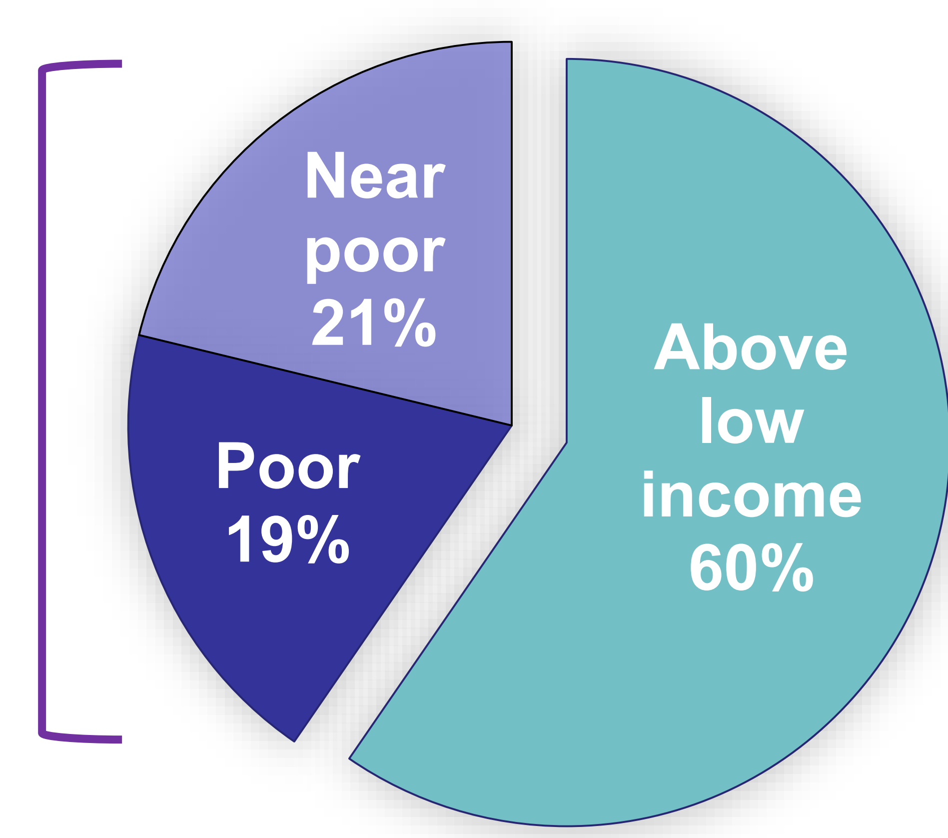
- **37,765,000 students are enrolled**
- **Dropout rate: 7%**
  - White: 5%
  - Black: 9%
  - Hispanic: 13%

Dropout Rate
- **Noninstitutionalized 16 to 24-year-olds**
- **Not enrolled in high school**
- **Without a high school diploma or GED**

US Census Bureau, Current Population Survey, 2012
http://nces.ed.gov/pubs2015/2015144.pdf

Many U.S. Adolescents Are in Low-income Families

Low Income = 40%



Federal Poverty Threshold (FPT)

- **Near Poor = 100–199% FPT**
- **Poor < 100% FPT**

http://nccp.org/publications/images/age12-17-2015-fig1.png

Homelessness Among U.S. Adolescents

- **500,000 to 2.8 million youth are homeless per year**
- **1.6 million adolescents ran away, 2002**
  - 12–13 years: 24%
  - 14–15 years: 30%
  - 16–17 years: 46%

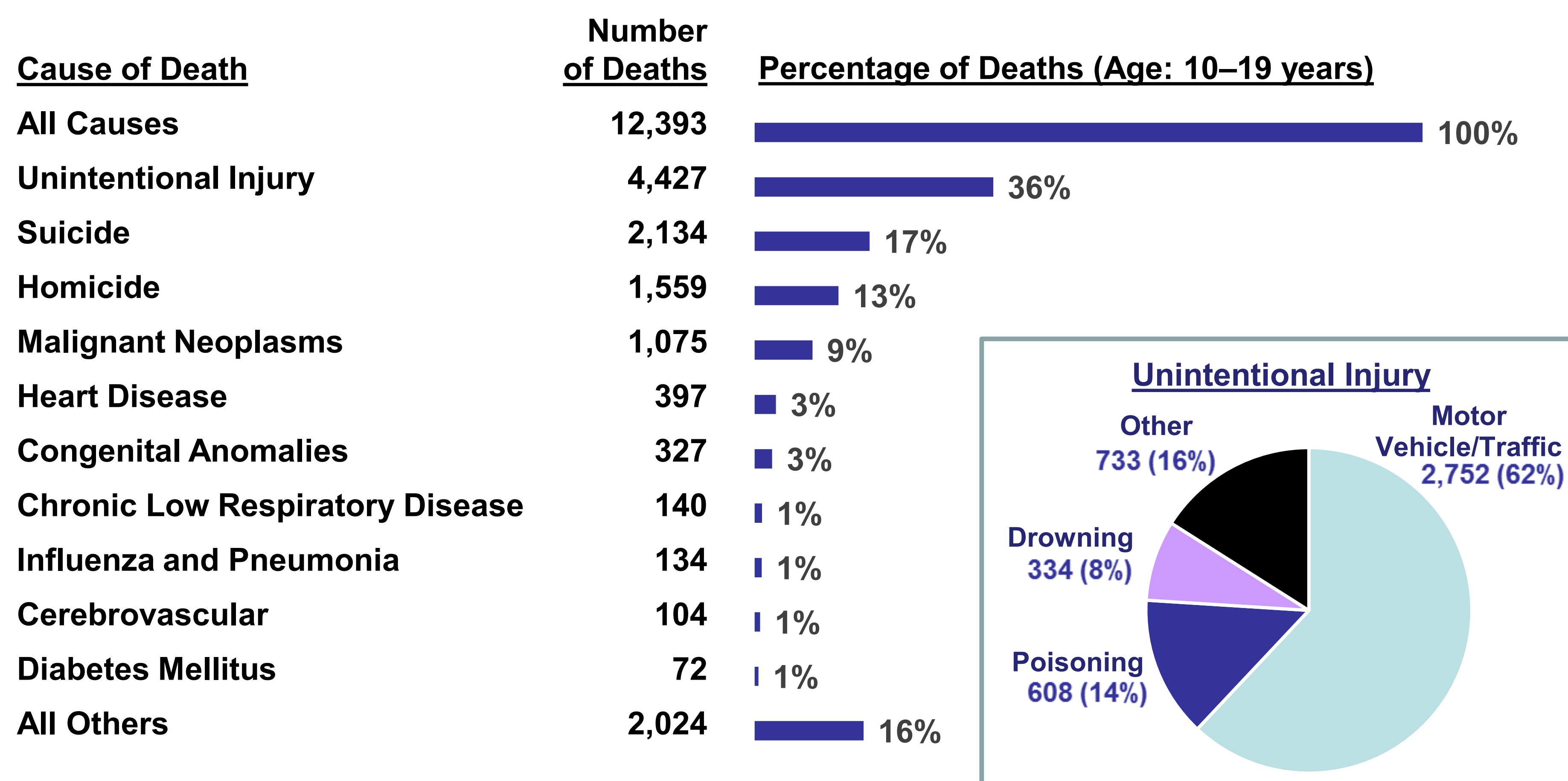
http://assets.opencrs.com/rpts/RL31933_20060323.pdf
http://www.samhsa.gov/data/2k4/runaways/runaways.pdf

Overall Health Status of U.S. Adolescents

Indicator	Percent
Health is excellent, very good, or good	97%
Limitation of activity due to health issue	11%

National Health Interview Survey, 2012
Park MJ, et al. Journal of Adolescent Health, 2014

Leading Causes of Death
U.S. Adolescents, 2013



Cause of Death	Number of Deaths	Percentage of Deaths (Age: 10–19 years)
All Causes	12,393	100%
Unintentional Injury	4,427	36%
Suicide	2,134	17%
Homicide	1,559	13%
Malignant Neoplasms	1,075	9%
Heart Disease	397	3%
Congenital Anomalies	327	3%
Chronic Low Respiratory Disease	140	1%
Influenza and Pneumonia	134	1%
Cerebrovascular	104	1%
Diabetes Mellitus	72	1%
All Others	2,024	16%

CDC, WISQARS accessed 8/13/2015

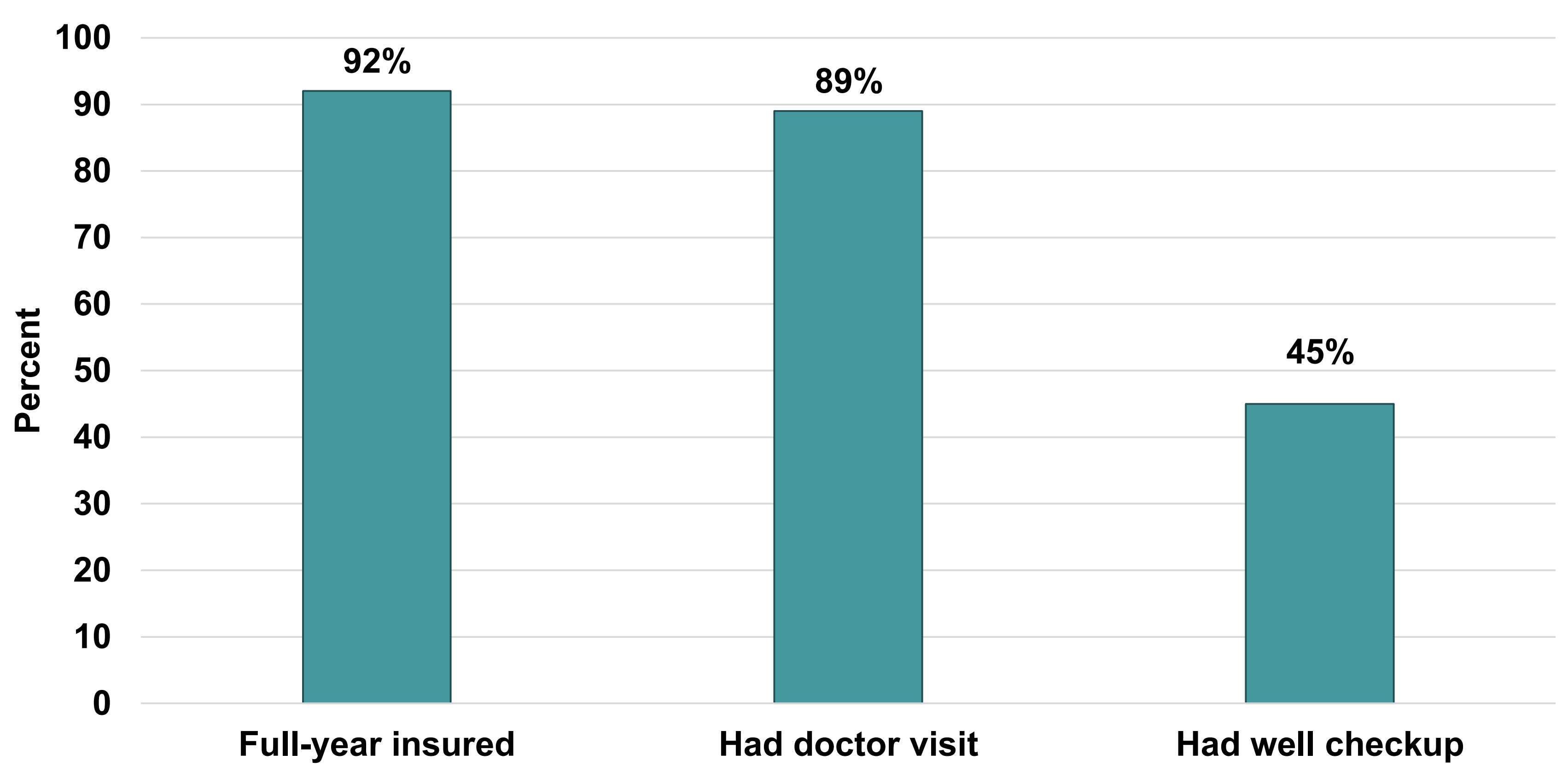
Nonfatal Health Outcomes U.S. Adolescents

Indicator	Estimate
Unintentional injuries (10–19 years)	**4,373,717**
Nonsexual assault (10–19 years)	**260,949**
Suicide attempt (9th–12th grade)	**8%**
Births (15–19 years)	**273,000**
Chlamydia (15–19 years)	**395,612**
Gonorrhea (15–19 years)	**72,092**
Asthma (0–17 years)	**10%**
Overweight (95%>BMI≥85th%) (12–19 years)	**14%**
Obese (BMI≥95th%) (12–19 years)	**21%**

National Electronic Injury Surveillance System, 2013
Youth Risk Behavior Survey, 2013
CDC Vital Signs: Preventing Teen Pregnancy

CDC STD Surveillance Statistics, 2013
CDC Vital Signs: Asthma in the US, 2011
National Health and Nutrition Examination Survey, 2011-2012

Health Care Access and Use Among U.S. Adolescents



U.S. Census Bureau, Current Population Survey, 2013
National Committee for Quality Assurance, Healthcare Effectiveness Data and Information Set, 2013

Risk Behaviors of Adolescents

Injury Risk Behaviors	Percent
Rarely or never wear a bicycle helmet	88%
Text or email while driving a car	41%
In a physical fight	25%
Obesity and Chronic Disease Risk Behaviors	
At least 60 minutes of physical activity daily	27%
Use computers for 3 or more hours per day (non-school work)	41%
Eat breakfast daily	38%

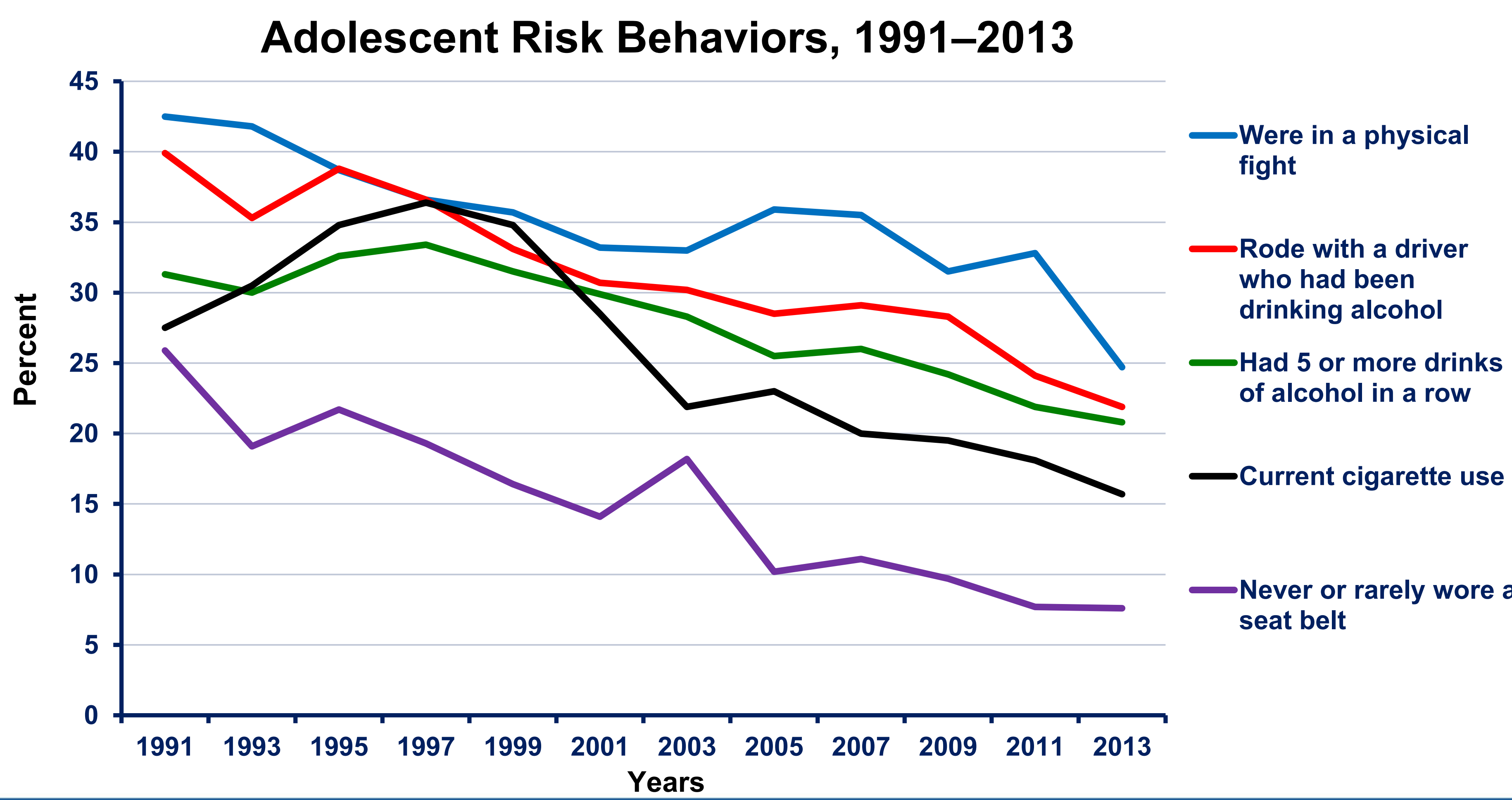
Youth Risk Behavior Survey, 2013

More Risk Behaviors of Adolescents

Sexual and Reproductive Health Risk Behaviors	Percent
Among sexually active females, not using IUD or implant	98%
Among sexually active, not using a condom	41%
Substance Use Risk Behaviors	
Currently use alcohol	35%
Currently use marijuana	23%
Currently use tobacco (all forms)	22%

Youth Risk Behavior Survey, 2013

Improving Trends in Risk Behavior Among Adolescents



Youth Risk Behavior Surveys, 1991–2013

Adolescents Are Preparing for Lifelong Health and Wellness

- **Adolescent population in the U.S. is large and diverse**
  - Socioeconomically vulnerable
- **Adolescents are in relatively good health**
  - Healthcare access and utilization is high
  - Preventive care is under-used
- **Modifiable and preventable risk behaviors lead to mortality and morbidity**
  - Contribute to current and future health risk
  - Amenable to public health intervention

Prevention for a Moving Target

Patricia J. Dittus, PhD

Lead Behavioral Scientist

Social and Behavioral Research and Evaluation Branch

Division of STD Prevention

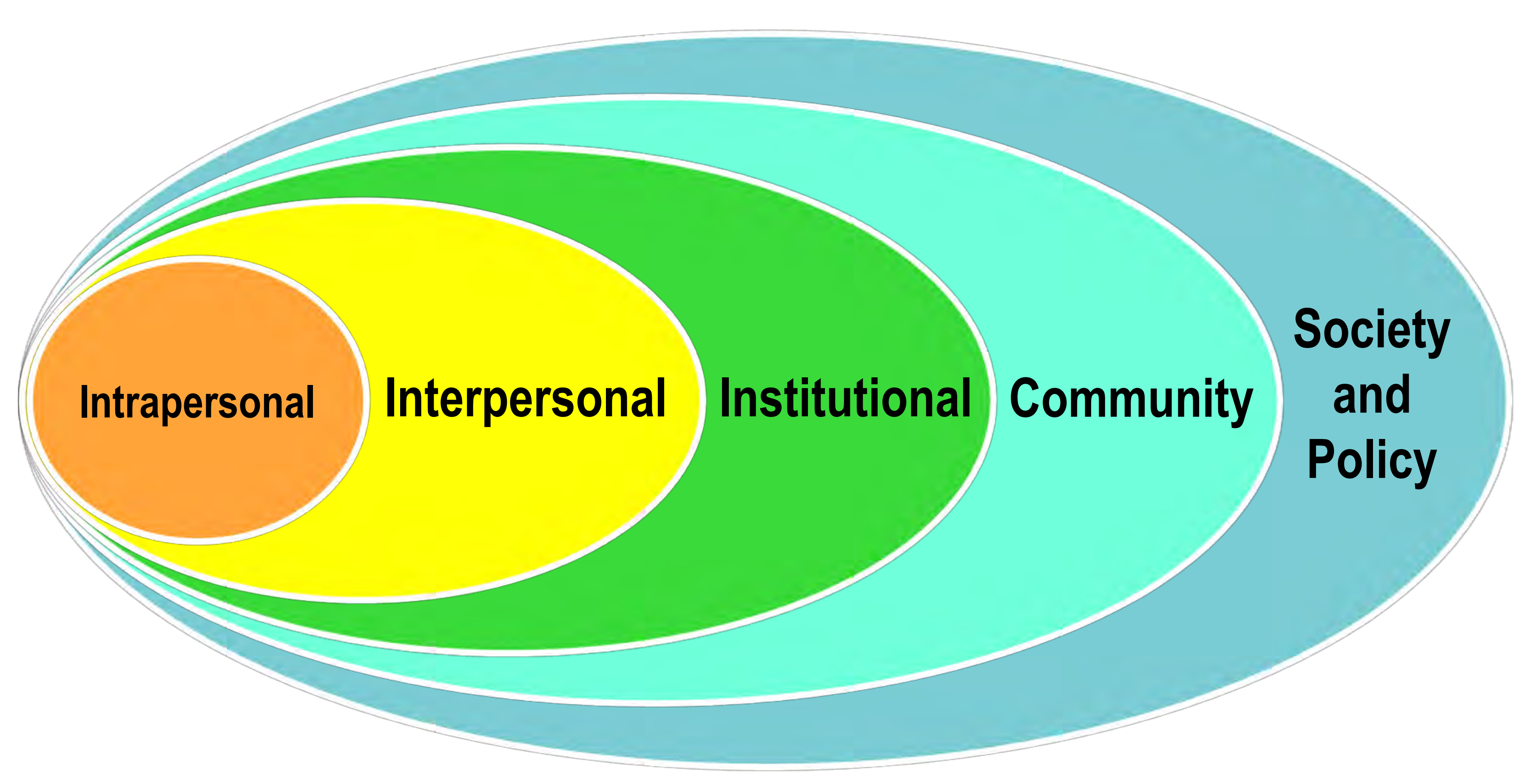
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Three Stages of Adolescent Development

- **Three stages of adolescence**
  - Early adolescence, ages 11–13
  - Middle adolescence, ages 14–18
  - Late Adolescence, ages 19–21
- **Three areas of development**
  - Physical
  - Cognitive
    - Brains continue developing into late adolescence
    - Executive function – weighing long-term consequences and controlling impulses last to mature
  - Social-Emotional
    - Parent conflict
    - Peer influence

Adapted from the American Academy of Child and Adolescent's Facts for Families, 2008

Multiple Levels of Influences on Adolescent Behavior

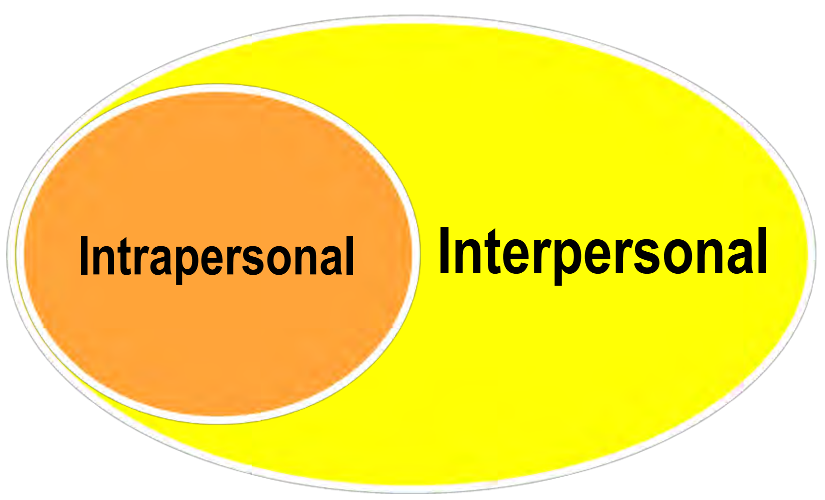


Intrapersonal or Individual-level Influences on Adolescent Behavior

Individual attitudes, beliefs, knowledge, and developmental influences

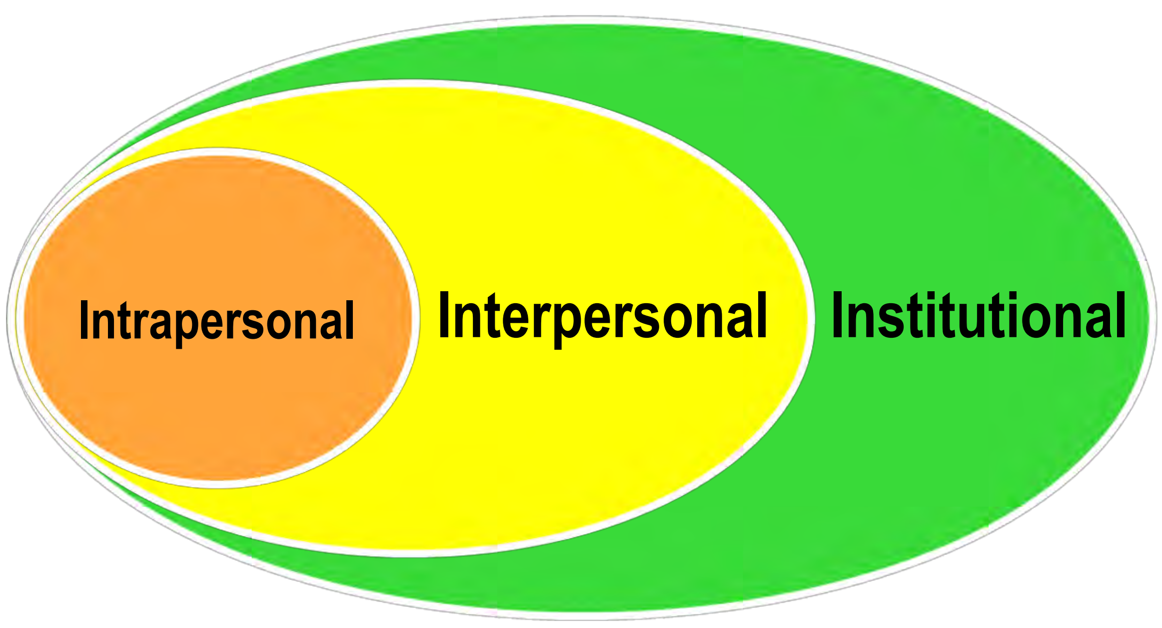
Interpersonal or Relationship-level Influences on Adolescent Behavior

Family, peer, and romantic relationships



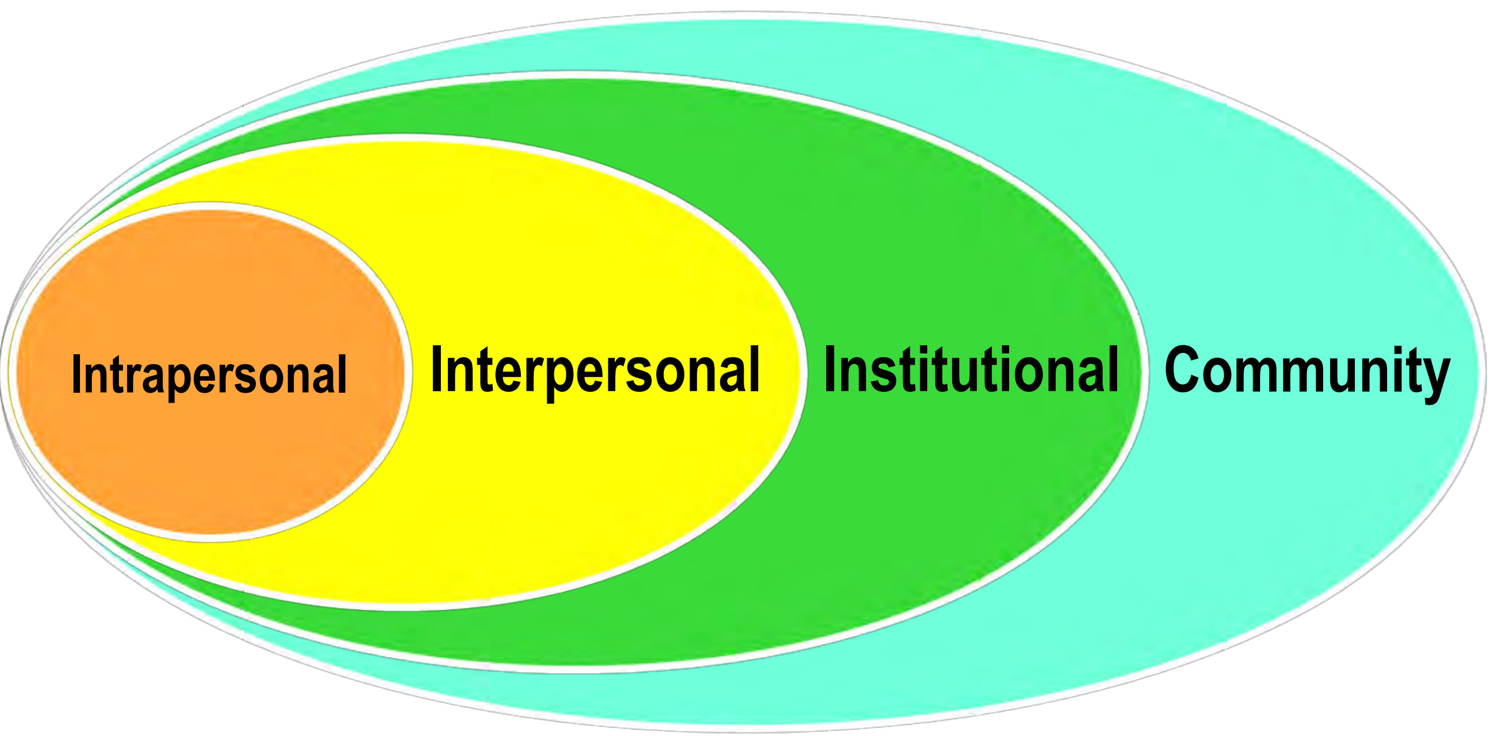
Institutional-level Influences on Adolescent Behavior

Schools and health care institutions



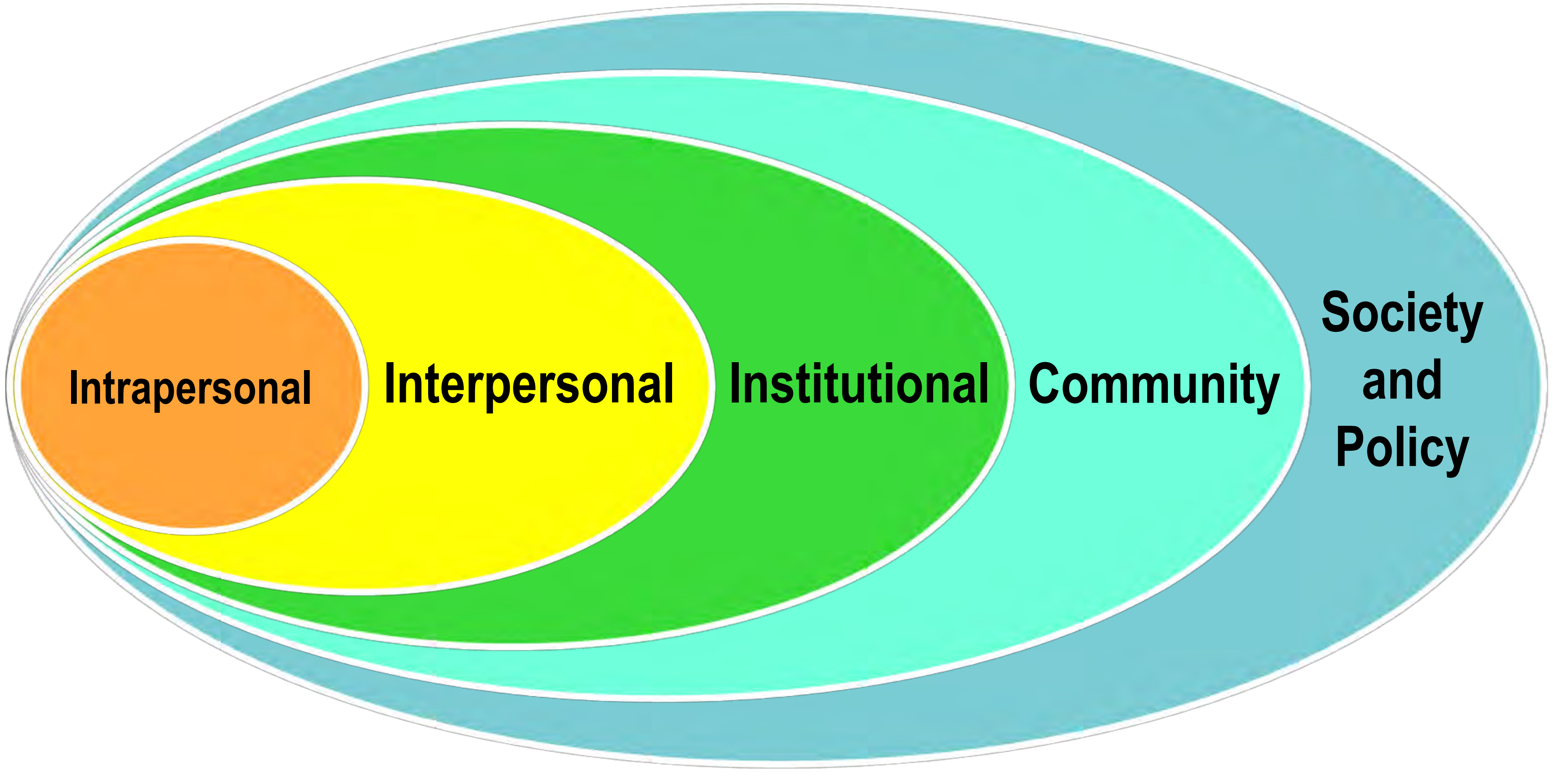
Community-level Influences on Adolescent Behavior

Neighborhood characteristics, community resources, and norms



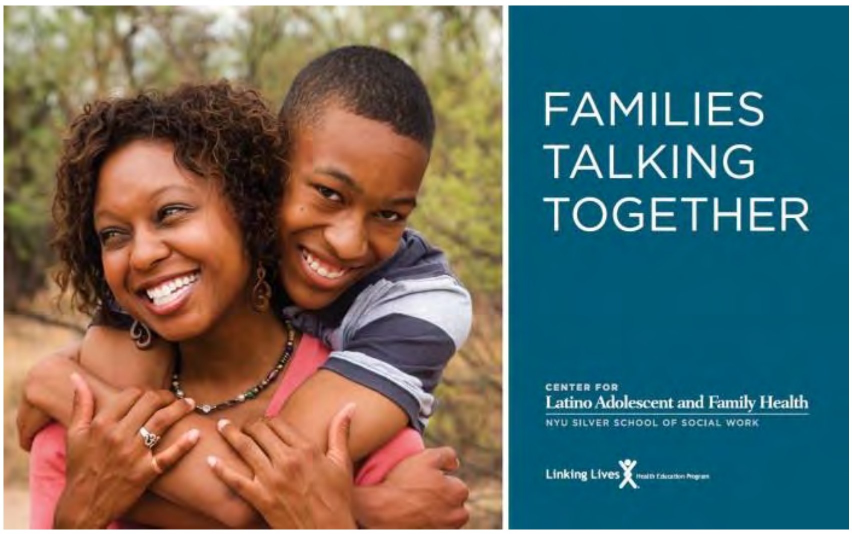
Society and Policy-level Influences on Adolescent Behavior

Cultural, policy, and media



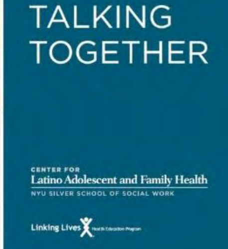
Parent-level Intervention: Families Talking Together (FTT)

- **Designed to improve communication between parents and adolescents**
  - Avoiding too early or risky sex
- **Program components**
  - Brief face-to-face sessions
  - Nine written modules
  - Short booster calls to follow-up
  - Provider/school endorsement
- **Key parenting behaviors**
  - Talk about sex
  - Monitor and supervise adolescent
  - Improve quality of parent-adolescent relationship



Evaluation and Results of Families Talking Together

- **Two randomized clinical trials in New York City**
  - 1 in 5 public middle schools
  - One in community healthcare clinic
- **2,016 mother-adolescent dyads in school study**
- **Follow-up conducted 12 months after intervention**
- **Students in intervention schools reported**
  - Increases in talking with their mothers about sex
  - Improved parental monitoring
  - Improved quality of relationship with mothers



Guilamo-Ramos V, et al. Journal of Adolescent Health, 2011

Effective Parent-level Interventions Can Reduce Sexual Initiation in Adolescents

FAMILIES
TALKING
TOGETHER

CENTER FOR
Latino Adolescent and Family Health
NYU SILVER SCHOOL OF SOCIAL WORK

Linking Lives

Impact of FTT				
Sexual Behavior Outcome	**FTT Intervention**		**Control**	
	Baseline	**Follow-up**	**Baseline**	**Follow-up**
Ever had vaginal intercourse	**7%**	**7%***	**6%**	**22%**
Average frequency of sex in past 30 days	**1.0**	**1.1***	**1.0**	**1.5**

*$p < .05$
FTT is endorsed by the HHS Office of Adolescent Health
Guilamo-Ramos V, et al. Journal of Adolescent Health, 2011

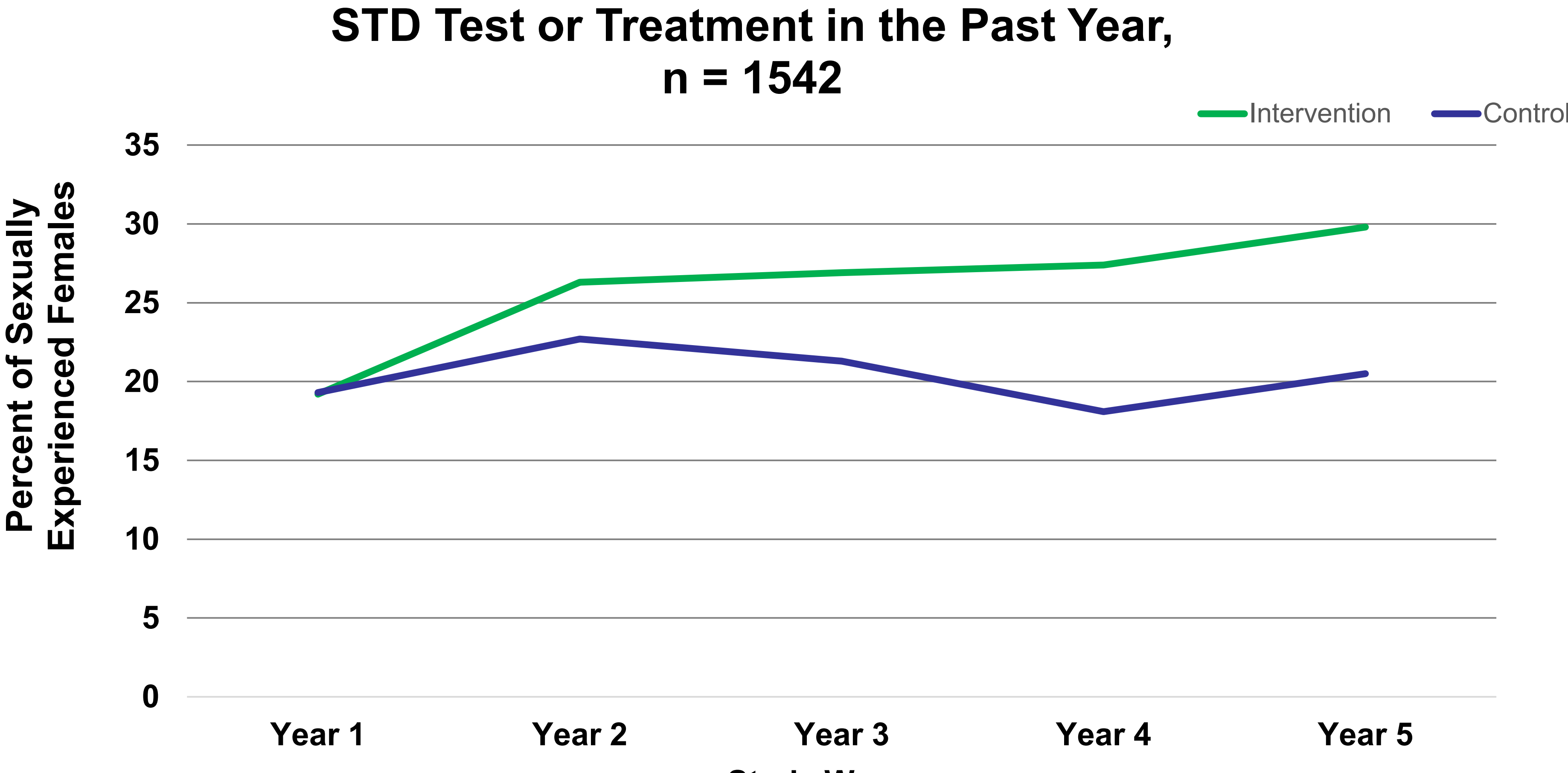
School-level Intervention:

- **Designed to increase use of sexual and reproductive healthcare**
- **Connects at-risk youth with healthcare providers**
  - In their community
  - Already providing recommended services
- **Develops provider referral guide**
- **Trains key people in schools to make referrals to providers**

Evaluation and Results of Project Connect

- **Evaluated in 12 public high schools in the Los Angeles Unified School District**
- **Surveyed 29,823 students in five yearly cross-sectional samples**
  - 76% Latino
  - Average age was 16 years
  - 47% had already had sex at the start of the study
- **Effective for sexually experienced females, but not effective for males**
  - Adaptations are being evaluated to connect males to care

Increased STD Testing or Treatment in Sexually Experienced Females



Dittus P, et al. Journal of Adolescent Health, 2014
Project Connect is recommended as an effective strategy by Division of STD Prevention and by Division of Adolescent and School Health, CDC

Project Connect

Community-level Intervention: Communities that Care (CTC)

- **Designed to reduce alcohol and tobacco use, delinquency, and violence**
- **Components include**
  - Community-wide survey to assess risk and protective factors
  - Forming coalition of local stakeholders
  - Menu of effective interventions for families, schools, and the community
    - Families (e.g., Strengthening Families 10-14)
    - Schools (e.g., Life Skills Training)
    - Communities (e.g., Stay Smart)
  - Ongoing evaluations and community assessments of progress

www.sdrg.org/CTCInterventions.asp
http://www.communitiesthatcare.net/how-ctc-works/

Evaluation of Communities that Care (CTC): Community Youth Development Study

- **Randomized controlled trial**
  - In 7 states
  - 24 communities (12 matched pairs)
- **Students surveyed annually**
  - 4,407 5th graders
  - Variety of health risk behaviors, including
    - Alcohol use
    - Tobacco use, all types
    - Delinquency and violence
- **Analysis controlled for baseline differences in prevalence, student- and community-level covariates**

Hawkins JD, et al. Archives of Pediatrics and Adolescent Medicine, 2009

Communities that Care Reduced Use of Alcohol, Smokeless Tobacco, and Delinquency

Outcomes at Grade 8	Communities that Care	Control Communities
Alcohol use (%) in past 30 days	16*	21
Smokeless tobacco (%) in past 30 days	2**	4
Binge drinking (%) in past 2 weeks	6*	9
Average number of delinquent behaviors in past year	0.8**	1.1

*p<.05; ** p<.01
Communities that Care is a SAMHSA evidenced-based program
Hawkins JD, et al. Archives of Pediatrics and Adolescent Medicine, 2009

Society and Policy-level Intervention: Graduated Driver Licensing (GDL) Systems

- **Graduated Driver Licensing**
  1. Learner's permit
  2. Provisional license
  3. Regular driver's license

- **All states have GDL laws with these 3 graduated stages**
- **Some have additional restrictions, varies by state**
  - Require parent or licensed adult to supervise adolescents who drive during high-risk hours
  - Nighttime curfew
  - Restrictions on number and ages of passengers

Evaluation of Graduated Driver Licensing (GDL) Systems

- Fatal crashes among drivers 16–17 years old were compared to fatal crashes among drivers 19–20 and 21–25 years old
- GDL laws were rated and those with 5 of 7 additional restrictions were defined as “good”
- Zero tolerance alcohol laws were assessed too
  - Illegal for persons under age 21 to drive with any amount of alcohol in their system

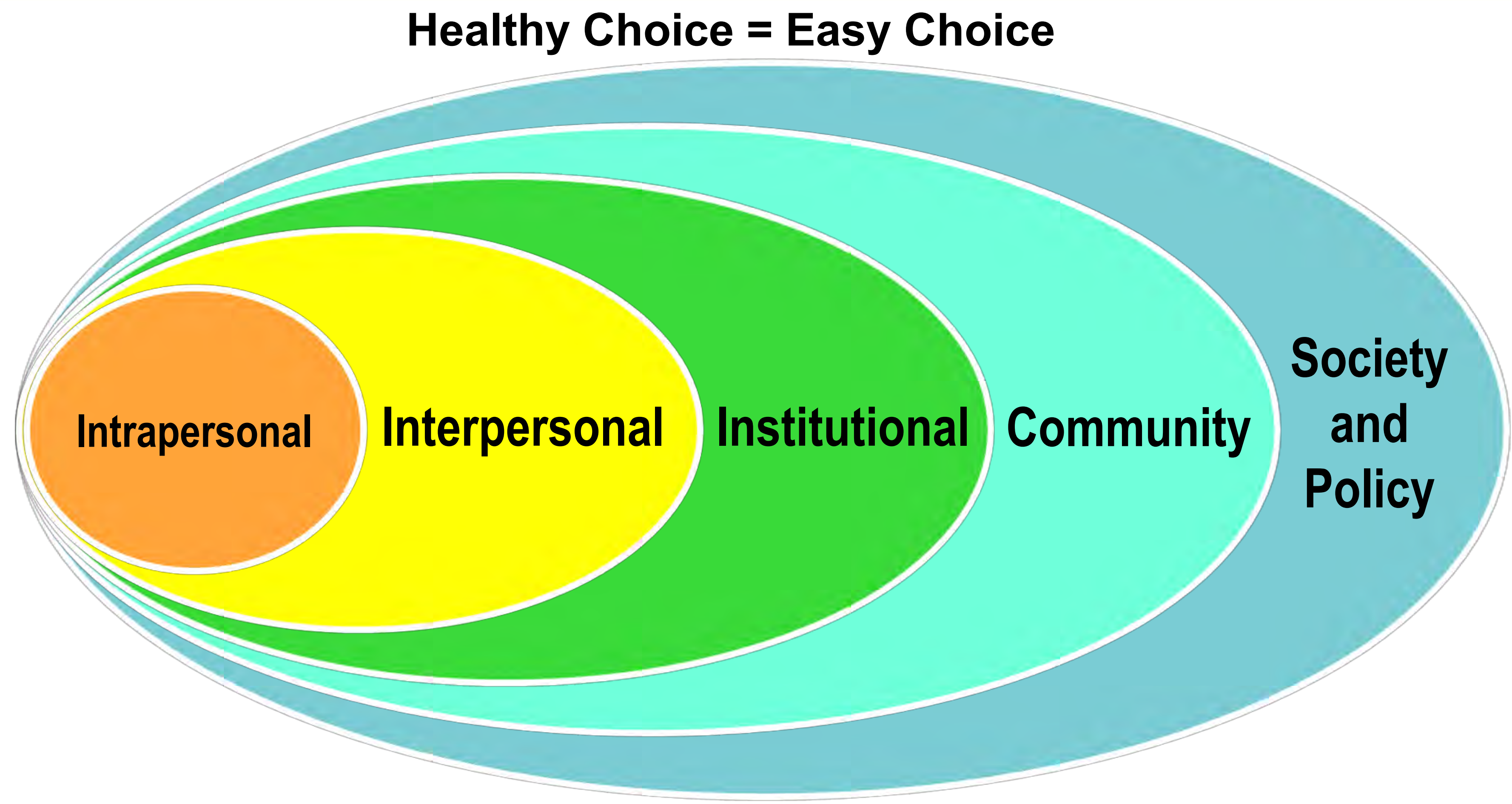
Fell JC, et al. Traffic Injury Prevention, 2011

Graduated Driver Licensing (GDL) Systems Led to Fewer Fatal Crashes

- **GDL programs reduced fatal crashes among 16- and 17-year-olds by 7%–14%, relative to older age groups**
- **States with good GDL laws had fewer fatal crashes**
  - Good = at least 5 of 7 additional components
- **States with good GDL laws and zero tolerance alcohol laws had fewest fatal crashes**
- **Additional restrictions to GDL laws are important**

Fell JC, et al. Traffic Injury Prevention, 2011

Using Multiple Interventions to Reach Adolescents

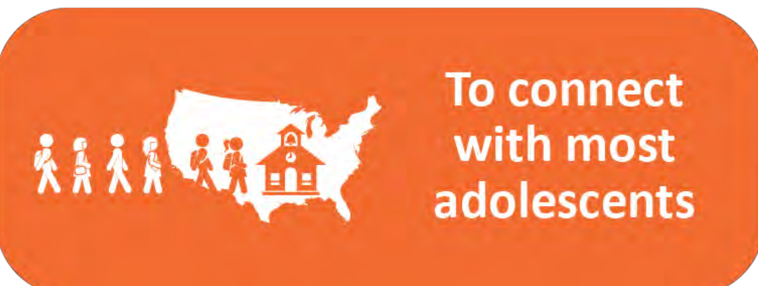


Schools as a Venue for Promoting Health and Wellness

Shannon L. Michael, PhD, MPH
Health Scientist, School Health Branch
Division of Population Health
National Center for Chronic Disease Prevention and Health Promotion

Why Schools?

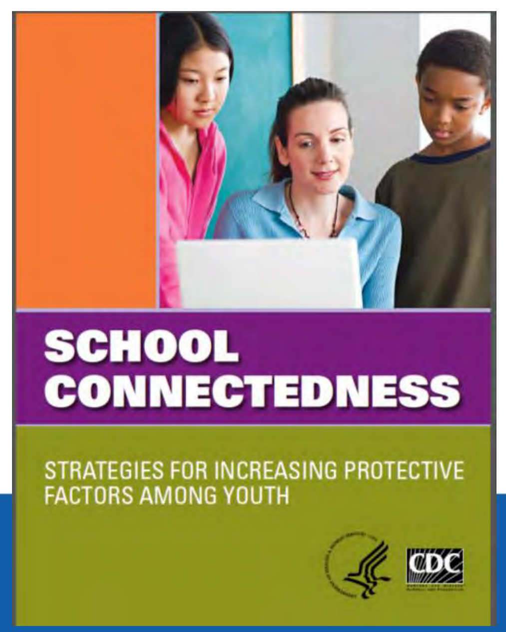
Schools Are An Ideal Place



How Can Schools Impact Adolescent Health?

Aspects of Healthy School Environments

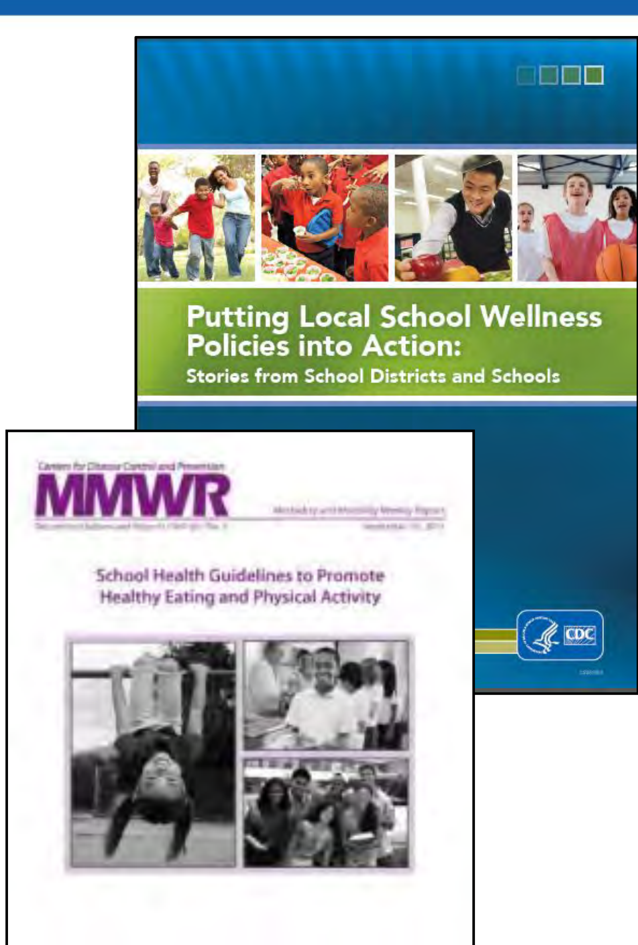
- **School climate is the quality and character of the school**
  - Motivates learning
  - Prevents or reduces risk behaviors
- **School connectedness reflects relationships with peers, teachers, and parents**
  - Improves academic achievement
  - Prevents or reduces risk behaviors
- **Policies and practices should be**
  - Health specific
  - Evidence-based



Thapa A, et al. Rev Educ Res, 2013
http://www.cdc.gov/healthyyouth/protective/pdf/connectedness.pdf
MMWR. 2011;60(RR-5):1-76

Support Evidence-based Policies and Practices in Schools through Local School Wellness Policies

- **District wellness policies address nutrition and physical activity**
- **Schools should ensure their policies and practices are evidence-based**
- **CDC's School Health Guidelines for Promoting Healthy Eating and Physical Activity**
  - 9 evidence-based guidelines
  - 33 evidence-based strategies



http://www.cdc.gov/healthyyouth/npao/wellness.htm
MMWR 2011;60(RR-5):1-76

What is Happening?
Nutrition Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Fewer than 20% of schools have vending machines, school stores, or snack bars that sell foods and beverages high in fat or added sugar		Only 6% of schools have vending machines, school stores, or snack bars that sell fruits or vegetables
Almost 75% of schools permit students to carry a drinking water bottle during the school day		Almost 25% of schools allow soft drink companies to advertise soft drinks on vending machines

School Health Policies and Practices Study 2014, in press.

What is Happening?
Nutrition Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Fewer than 20% of schools have vending machines, school stores, or snack bars that sell foods and beverages high in fat or added sugar		Only 6% of schools have vending machines, school stores, or snack bars that sell fruits or vegetables
Almost 75% of schools permit students to carry a drinking water bottle during the school day		Almost 25% of schools allow soft drink companies to advertise soft drinks on vending machines

School Health Policies and Practices Study 2014, in press.

What is Happening?
Nutrition Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Fewer than 20% of schools have vending machines, school stores, or snack bars that sell foods and beverages high in fat or added sugar		Only 6% of schools have vending machines, school stores, or snack bars that sell fruits or vegetables
Almost 75% of schools permit students to carry a drinking water bottle during the school day		Almost 25% of schools allow soft drink companies to advertise soft drinks on vending machines

School Health Policies and Practices Study 2014, in press.

What is Happening?
Nutrition Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Fewer than 20% of schools have vending machines, school stores, or snack bars that sell foods and beverages high in fat or added sugar.		Only 6% of schools have vending machines, school stores, or snack bars that sell fruits or vegetables
Almost 75% of schools permit students to carry a drinking water bottle during the school day		Almost 25% of schools allow soft drink companies to advertise soft drinks on vending machines

School Health Policies and Practices Study 2014, in press.

What is Happening?
Nutrition Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Fewer than 20% of schools have vending machines, school stores, or snack bars that sell foods and beverages high in fat or added sugar		Only 6% of schools have vending machines, school stores, or snack bars that sell fruits or vegetables
Almost 75% of schools permit students to carry a drinking water bottle during the school day		Almost 25% of schools allow soft drink companies to advertise soft drinks on vending machines

School Health Policies and Practices Study 2014, in press.

What is Happening?
Physical Activity Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Almost 90% of schools follow national, state, or district physical education standards		Only 4% of schools provide daily physical education throughout the school year
Over 90% of schools with students in grades K–5 have regularly scheduled recess		Only 45% of schools provide opportunities for students to take physical activity breaks outside of physical education class

School Health Policies and Practices Study 2014, in press.

What is Happening?
Physical Activity Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Almost 90% of schools follow national, state, or district physical education standards		Only 4% of schools provide daily physical education throughout the school year
Over 90% of schools with students in grades K–5 have regularly scheduled recess		Only 45% of schools provide opportunities for students to take physical activity breaks outside of physical education class

School Health Policies and Practices Study 2014, in press.

What is Happening?
Physical Activity Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Almost 90% of schools follow national, state, or district physical education standards		Only 4% of schools provide daily physical education throughout the school year
Over 90% of schools with students in grades K–5 have regularly scheduled recess		Only 45% of schools provide opportunities for students to take physical activity breaks outside of physical education class

School Health Policies and Practices Study 2014, in press.

What is Happening?
Physical Activity Policies and Practices in Schools

Doing a Good Job…		Needs Improvement…
Almost 90% of schools follow national, state, or district physical education standards		**Only 4% of schools provide daily physical education throughout the school year**
Over 90% of schools with students in grades K–5 have regularly scheduled recess		**Only 45% of schools provide opportunities for students to take physical activity breaks outside of physical education class**

School Health Policies and Practices Study 2014, in press.

Provide Heath Education and Physical Education

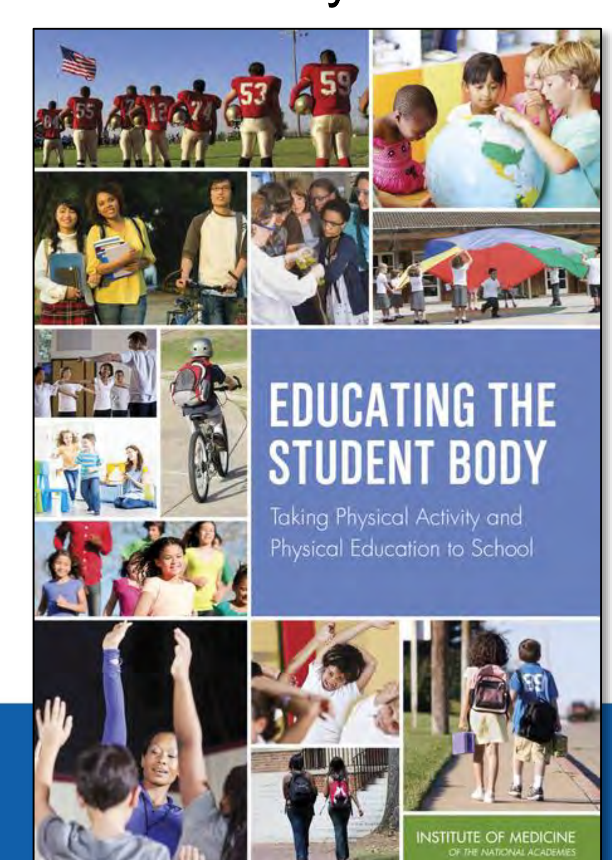
Teach Students How to Be Healthy

- **Health education**
  - Increases knowledge about health and healthy behaviors
  - Teaches skills for practicing healthy behaviors
- **Affects health behaviors and outcomes**
  - Increases condom use
  - Improves BMI (body mass index)
  - Decreases smoking

MMWR 2011;60(RR-5):1-76
Flay, B. Tobacco Induced Diseases, 2009
Vicinanza N, Niego S, Park MJ, et al. (2008). Model programs for adolescent sexual health: Evidence-based HIV, STI, and pregnancy prevention interventions. (pp. 197-206)

Equip Students to Be Physically Active

- **Physical education**
  - Provides knowledge, skills, and confidence to be physically active
  - Helps adolescents get recommended 60 minutes of daily physical activity
- **Students should have 225 minutes every week of physical education in middle and high schools**
- **Students should spend at least 50% of class time engaged in moderate–to–vigorous physical activity**



http://www.nap.edu/catalog.php?record_id=18314

Schools Can Adopt Enhanced Physical Education

- **In 2013, the Community Preventive Services Task Force recommended *enhanced* physical education**
  - *Enhanced* physical education increases the time students spend in moderate-to-vigorous physical activity by
    - Improving teaching strategies through activity selection, class organization and management, and instruction
    - Encouraging teachers to supplement students' participation in sports with moderate-vigorous activities
- **National Initiatives**
  - First Lady's *Let's Move!* Active Schools
  - Presidential Youth Fitness Program

Task Force on Community Preventive Services. Am J Prev Med, 2002
Lonsdale C, et al. Prev Med, 2013
http://www.letsmoveschools.org/

Provide School Health Services

School-based Nursing Services Are Cost Beneficial

Massachusetts Essential School Health Services Program

Program Costs	Estimated Costs Averted (millions)		Net Benefit	Cost-Benefit Ratio
$79 Million	Medical care costs	$20	$98 Million	1:2.2
	Loss of parents' productivity	$28		
	Loss of teachers' productivity	$129		
	Total Costs Averted	**$177**		

Wang L, et al. JAMA Pediatr, 2014

Comprehensive School-Based Health Services Improve Adolescents’ Health

- **School-based health centers can provide comprehensive health services**
- **Task Force review found improvements in health-related outcomes**
  - Vaccination and other preventive services
  - Asthma morbidity
  - Emergency department use and hospital admission
  - Contraceptive use among females
  - Prenatal care and birth weight
  - Alcohol consumption and illegal substance use

Task Force: Community Preventive Services Task Force
www.thecommunityguide.org/healthequity/education/schoolbasedhealthcenters.html.

Comprehensive School-Based Health Services Improve Adolescents' Education

- **Task Force review found improvements in educational outcomes**
  - Grade point average
  - Grade promotion
  - Suspension rates
  - Non-completion rates
- **The Task Force recommends implementation and maintenance of school-based health centers in low-income communities**

Task Force: Community Preventive Services Task Force
www.thecommunityguide.org/healthequity/education/schoolbasedhealthcenters.html

Denver School-Based Health Centers (SBHCs)

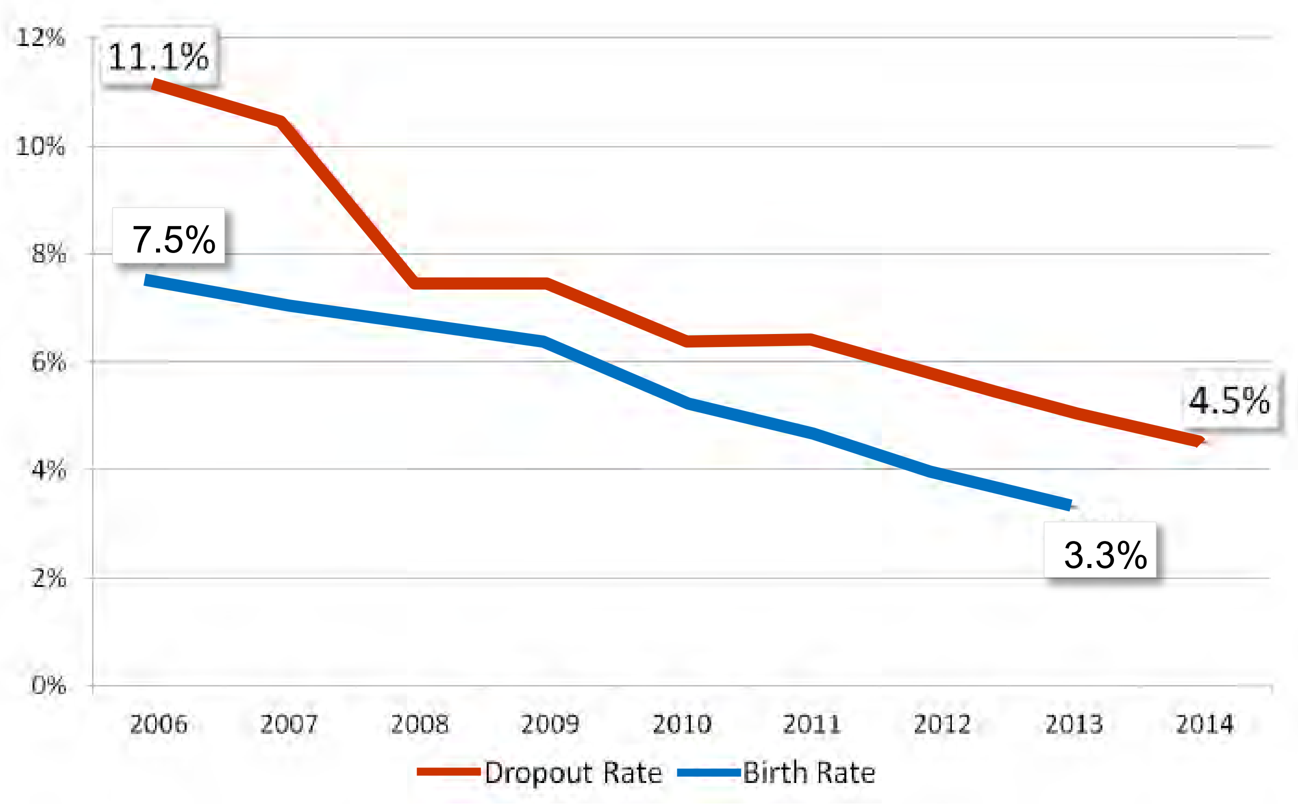
Evie Denis Campus, Denver, CO

- **All 16 SBHCs provide**
  - STD testing and treatment
  - Comprehensive reproductive health education
  - Pregnancy testing
- **13 of 16 SBHCs dispense condoms and contraception**
- **Connect adolescents to community clinics with health educators**

http://www.denverhealth.org/medical-services/primary-care/our-services/school-based-health-centers

Denver School Drop-out Rates Drop

Drop-out Rate Compared to Birth Rates for Denver Teens



Vital Statistics, Health Statistics Section, Colorado Department of Public Health and Environment, CDC/NCHS, National Vital Statistic System

Schools Can Impact Adolescent Behaviors to Improve Lifelong Health and Wellness

CREATE A HEALTHY ENVIRONMENT

using evidence-based policies and practices

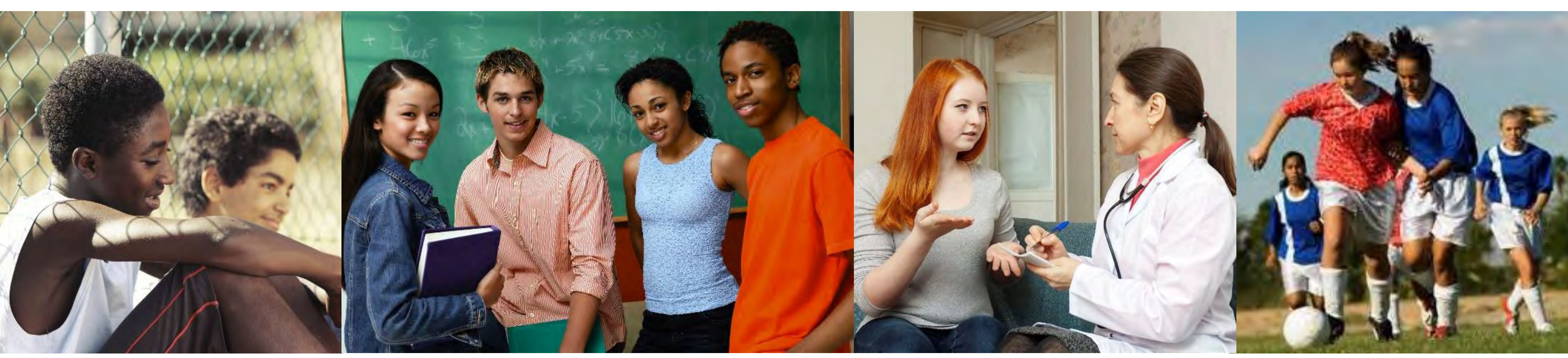
TEACH HEALTH EDUCATION & PHYSICAL EDUCATION

to establish healthy behaviors

PROVIDE HEALTH SERVICES

either at the school or off-site

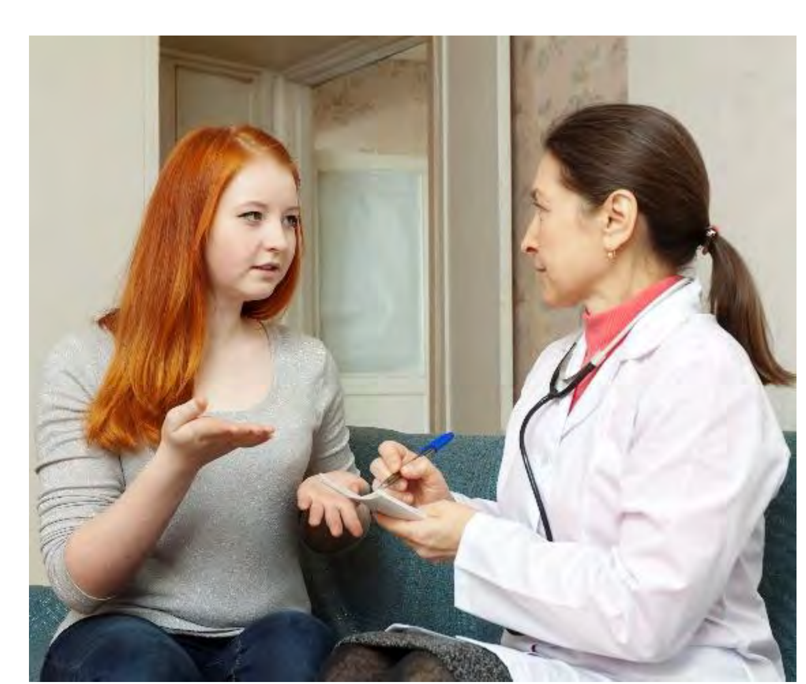
Health Care for Adolescents: How to Improve It



Claire D. Brindis, DrPH
Professor of Pediatrics and Health Policy
Director, Philip R. Lee Institute for Health Policy Studies
Co-Project Director, Adolescent and Young Adult Health – National Resource Center
University of California, San Francisco

How Can We Improve Health Care for Adolescents?

- Improve access to clinical preventive health services
- Use opportunities provided by the Affordable Care Act
- Design interventions within healthcare systems that improve population health
- Assure health care is adolescent friendly



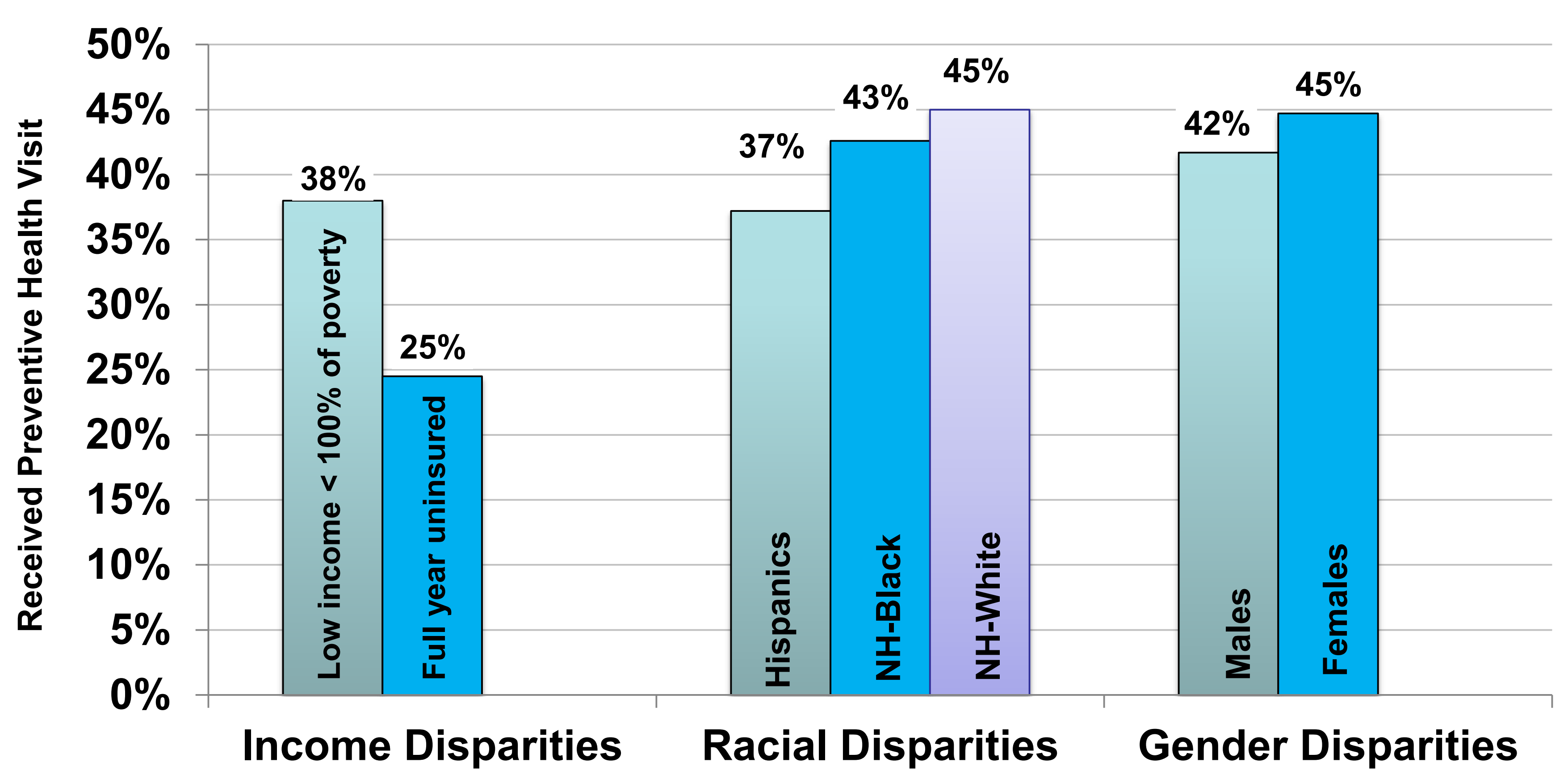
Challenges to Providing Care to Adolescents

Received Preventive Care

	Medicaid	Commercial
Well-Child Visit	50%	45%
Chlamydia Screening	55%	41%
Immunizations	70%	68%

Healthcare Effectiveness Data and Information Set (HEDIS)
National Committee on Quality Assurance (NCQA) Guidelines: The State of Health Care Quality, 2013

Can Adolescents Access Services?



Adams et al, 2015 citing MEPS, 2011

Do Healthcare Visits Provide Anticipatory Guidance?

- **Anticipatory guidance includes screening and counseling for behaviors**
  - Healthcare providers can identify adolescent strengths and risks
- **Some adolescents receive anticipatory guidance**
  - Fewer than 1 in 3 counseled on using seat belts, helmets and dangers of secondhand smoke
  - Fewer than 1 in 2 counseled on healthy eating
- **Only 1 out of 10 adolescents had all 6 recommended prevention topics addressed**

Irwin CE Jr, Adams SH, Park MJ, Newacheck PW. Pediatrics, 2009

The Promise of the Affordable Care Act

Closing the Insurance and Healthcare Gap

1. Insurance coverage
2. Designated medical home
3. Access to preventive services
4. Transition to adult care

1. Insurance Coverage

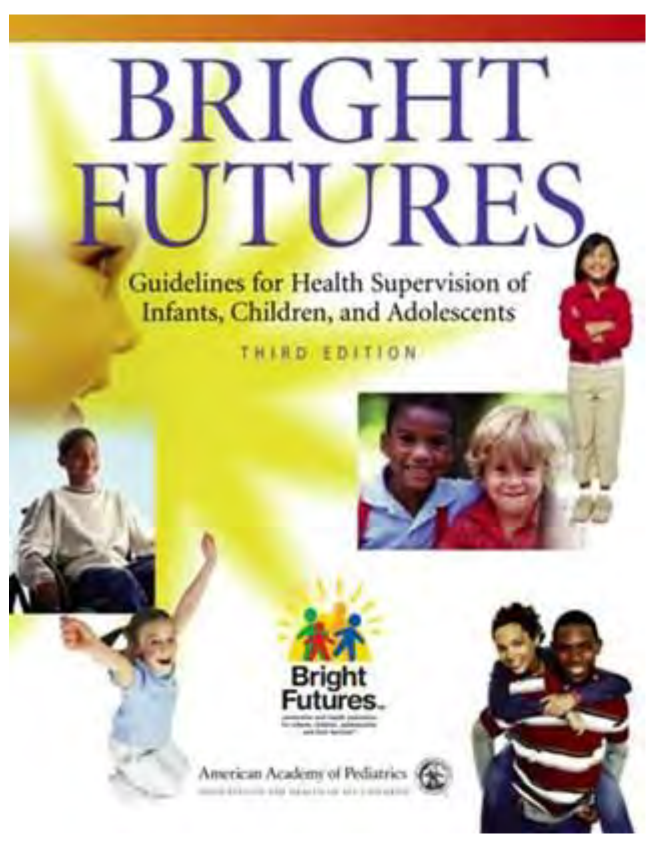
- ✓ Medicaid expansion
- ✓ Health insurance exchanges
- ✓ Subsidies and cost sharing
- ✓ Dependent coverage

2. Designated Medical Home

- **Improves coordination and continuity of care by**
  - Increasing access to care
  - Reducing fragmentation of care
- **54% of adolescents received care in a medical home**
  - Among those with a mental health condition, only 46% did
  - Among those with a mental health condition AND a physical health condition, only 35% did

Irwin CE Jr, Adams SH, Park MJ, Newacheck PW. Pediatrics, 2009
Adams SH, et al. Acad Pediatr, 2013
National Health Interview Survey 2010

3. Access to Preventive Services



- **Provided by plans without cost sharing to members**
- **Requirements established by**
  - US Preventive Services Task Force, “A” and “B”
  - Bright Futures Guidelines
  - ACIP Immunization Recommendations
  - Institute of Medicine Recommendations for Women’s Health
- **Services must be administered by a provider within the healthcare network**

https://brightfutures.aap.org

4. Transition to Adult Care

- **Medical homes provide systematic transition to adult care**
- **Opportunity for adolescents to grow into active consumers of health care**
  - Navigation skills
  - Informed health consumers
  - Health literacy
  - Self-advocacy

Challenges to the Promise of Affordable Care Act

- **Failure of adolescents to enroll in health insurance**
- **Failure to seek annual preventive health visits**
- **Lack of access in non-Medicaid-expansion states**
- **Failure to seek sensitive services due to privacy concerns**
  - Sexual and reproductive health services
  - Substance use services
  - Mental health services

Healthcare System Interventions Can Be Designed to Improve Adolescent Health

- **Data showed potential to increase preventive services for adolescents**
- **Intervention designed to integrate screening and counseling into clinic culture**
- **Pediatricians and Nurse Practitioners trained to screen and counsel adolescents**
- **Specific screening questions and scripts tailored to adolescent risk behaviors**
  - Affirm positive health behaviors
  - Anticipatory guidance for risk behaviors
- **Reinforcement by other members of healthcare team**

Ozer EM, et al. Pediatrics, 2005

Clinician and System Intervention Led to More Adolescents Screened and Counseled

	INTERVENTION		COMPARISON	
	Pre-training	Post-training	Pre-training	Post-training
Screened				
Seat belt use	43%	82%*	51%	47%*
Helmet use	42%	81%*	30%	30%
Total	58%	83%*	53%	52%
Counseled				
Seat belt use	44%	85%*	46%	54%*
Helmet use	39%	81%*	35%	46%*
Total	54%	82%*	46%	51%*

*$p < .001$
Ozer EM, et al. Pediatrics, 2005

Clinician and System Intervention Led to More Adolescents Being Screened and Counseled

	INTERVENTION		COMPARISON	
	Pre-training	Post-training	Pre-training	Post-training
Screened				
Seat belt use	43%	82%*	51%	47%*
Helmet use	42%	81%*	30%	30%
Total	58%	83%*	53%	52%
Counseled				
Seat belt use	44%	85%*	46%	54%*
Helmet use	39%	81%*	35%	46%*
Total	54%	82%*	46%	51%*

*$p < .001$
Ozer EM, et al. Pediatrics, 2005

Clinician and System Intervention Led to More Adolescents Being Screened and Counseled

	INTERVENTION		COMPARISON	
	Pre-training	Post-training	Pre-training	Post-training
Screened				
Seat belt use	43%	82%*	51%	47%*
Helmet use	42%	81%*	30%	30%
Total	58%	83%*	53%	52%
Counseled				
Seat belt use	44%	85%*	46%	54%*
Helmet use	39%	81%*	35%	46%*
Total	54%	82%*	46%	51%*

*p < .001
Ozer EM, et al. Pediatrics, 2005

Clinician and System Intervention Led to More Adolescents Being Screened and Counseled

	INTERVENTION		COMPARISON	
	Pre-training	Post-training	Pre-training	Post-training
Screened				
Seat belt use	43%	82%*	51%	47%*
Helmet use	42%	81%*	30%	30%
Total	58%	83%*	53%	52%
Counseled				
Seat belt use	44%	85%*	46%	54%*
Helmet use	39%	81%*	35%	46%*
Total	54%	82%*	46%	51%*

*$p < .001$
Ozer EM, et al. Pediatrics, 2005

Why Such Progress After Training?

Critical Ingredients to Intervention's Success

- **Support from Chief and other system champions**
  - Outpatient Director
  - Director of Nursing
  - Health educators, lead clerks
- **Partnerships forged between external experts and health plan experts**
  - All trained at same time
  - Patient Support Materials integrated
- **Focus on clinic-wide implementation with fidelity to intervention design led to change in culture**

Increases in Safety Among Adolescents After Screening and Counseling

Safety Measure	INTERVENTION		COMPARISON	
	Year 1	Year 2	Year 1	Year 2
	Age 14	Age 15	Age 14	Age 15
Seat belt use 100%	51%	60%+	49%	54%*
Helmet use 100%	17%	24%*	14%	11%

*$p < .05$
+$p < .10-.14$
Ozer EM, et al. Pediatrics, 2005

General Principles of Youth-friendly Health Care

- **Availability—**Appointment wait time is reasonable
- **Appropriateness—**Care is tailored to adolescents' needs
- **Accessibility—**Transportation is available and easy to use
- **Approachability—**Center and staff are welcoming
- **Acceptability—**Staff show respect and are nonjudgmental

Society for Adolescent Health and Medicine, 2004

Adolescents Have Rights to Confidentiality

- **Confidentiality means information told to someone will not be shared with others (e.g., parents, schools, or third-parties)**
  - "It's private."
- **Information disclosed to a health care provider is covered by confidentiality**
  - Talking with your healthcare provider is considered "private"
- **Information disclosed has limits on how and when it can be disclosed to a third party**

Adolescents Can Consent to a Variety of Treatments

- **Minor Consent Laws enable minors to consent to some types of health care**
  - Depends on the type of care
  - Varies tremendously by state
- **Sensitive health care services**
  - Treatment and screening for sexually transmitted infections
  - Mental health counseling
  - Substance use treatment and counseling
  - Reproductive health care
  - Contraceptive care
- **Minor Consent Laws and confidentiality are parts of healthcare privacy**

http://healthpolicy.ucsf.edu/sensitive-health-care-and-electronic-health-records

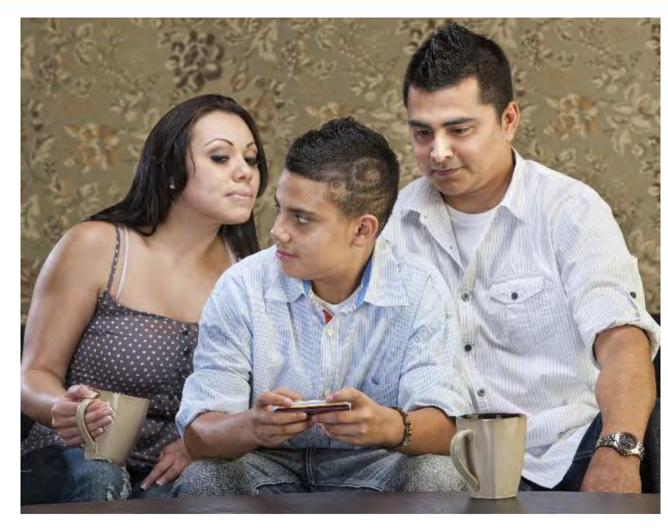
Adolescents Are Concerned About Privacy Before Their Visit

	Example of Adolescent Concern	What you can do
Before the visit	**Can I make an appointment myself to be seen?** (Setting up an appointment)	Know about your state's confidentiality and consent laws

Adolescents Are Concerned About Privacy During Their Visit

	Example of Adolescent Concern	What you can do
During the visit	**Who else is going to hear what I say to the healthcare provider?** (Content of the Care)	Reassure adolescent that confidentiality is part of their care and important to you

Adolescents Are Concerned About Privacy After Their Visit



	Example of Adolescent Concern	What you can do
After the visit	**Who else is going to see the bill or insurance claim?** (Claims information)	Know about your state's Explanation of Benefits for sensitive services

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Incorporate health promotion, disease prevention, and youth development

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Incorporate health promotion, disease prevention, and youth development

Coordinate services

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Incorporate health promotion, disease prevention, and youth development

Coordinate services

Engage young people

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Incorporate health promotion, disease prevention, and youth development

Coordinate services

Assure access to vulnerable populations

Engage young people

Bringing Together the Pieces to Improve Adolescent Health Care

Enhance provider capacity

Incorporate health promotion, disease prevention, and youth development

Coordinate services

Assure consent & confidentiality

Assure access to vulnerable populations

Engage young people

Adolescence:
Preparing for Lifelong Health and Wellness

Parents Can Help Adolescents Prepare for Lifelong Health and Wellness

Schools Can Help Adolescents Prepare for Lifelong Health and Wellness

Healthcare Providers Can Help Adolescents Prepare for Lifelong Health and Wellness

Communities Can Help Adolescents Prepare for Lifelong Health and Wellness

Together We Can Help Adolescents Prepare for Lifelong Health and Wellness