

THE CHALLENGES OF ADOLESCENTS WITH HIV

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OUTLINE

- Review HIV/AIDS facts concerning adolescents
- Discuss adolescence as a maturational process
- Highlight approach to various adolescents infected by HIV
- Propose potential prevention activities



AIDS in the U.S.*

~40,000 new HIV infections in 2003.
~4,000 in Florida.

The # 1 cause of death in African Americans aged 25-44.

524,060 AIDS DEATHS

~1.039 – 1.185 million people living with HIV in the US**

~25% new HIV infections in people under 25.
In 13 to 19-year-olds, male-to-female ratio = 1:1.

~100,000 people living with HIV in Florida.***

*Based on 2003 CDC data and estimates

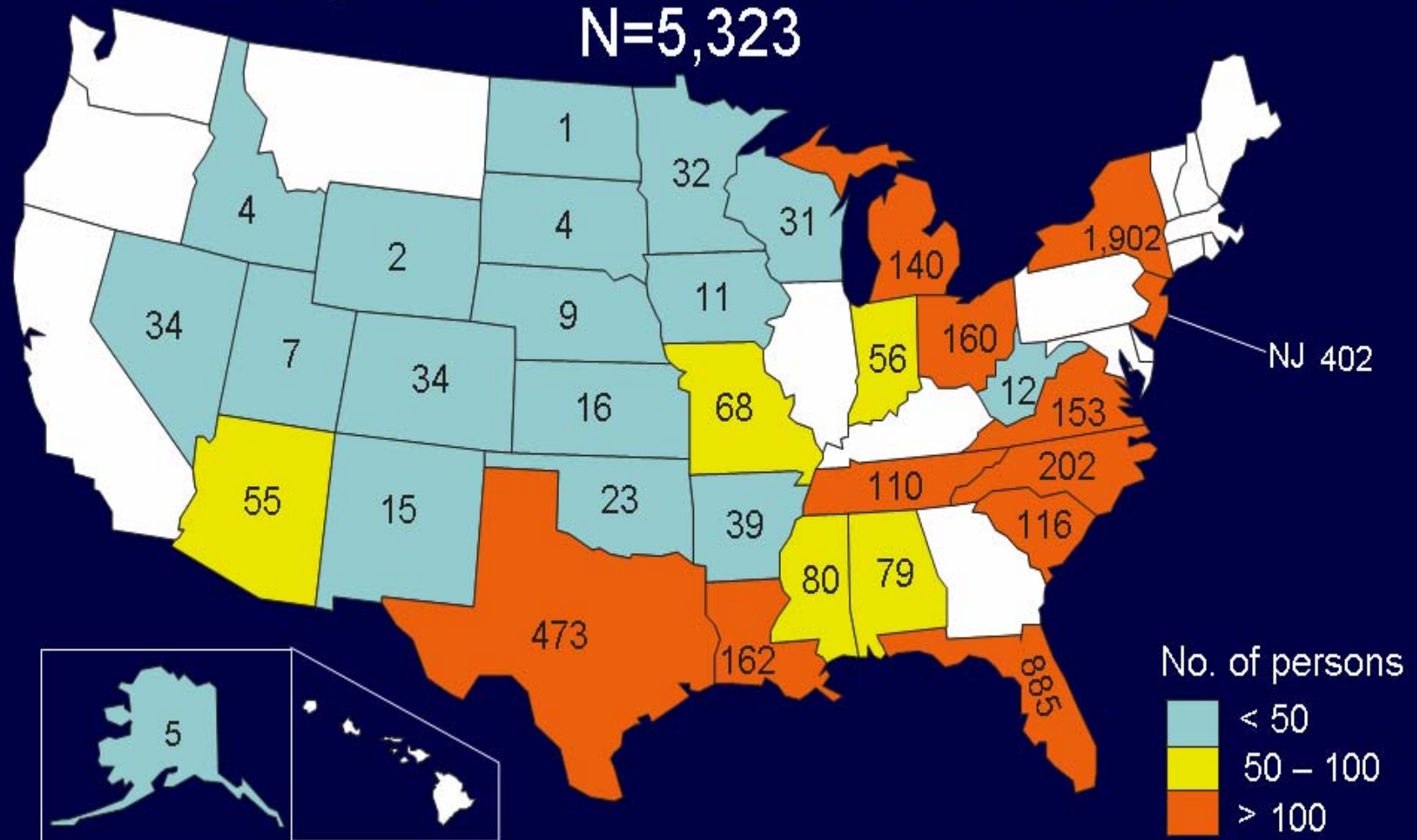
**Based on 2005 CDC estimates

***Bureau of HIV / AIDS 2003 estimate

LEADING CAUSES OF DEATH FOR AGES 15 - 24

- Accidents
- Homicides
- Suicides
- Malignant Neoplasms
- Cardiovascular Diseases
- **HIV Spectrum of Diseases**

Adolescents 13 to 19 Years of Age Living with HIV/AIDS, 2005—33 States N=5,323



Note. Data include persons with a diagnosis of HIV infection regardless of AIDS status at diagnosis.
Data from 33 states with confidential named-based HIV infection reporting since at least 2001.
Data have been adjusted for reporting delays.



Reported Cases of HIV Infection (not AIDS), by Age Group at Diagnosis, Cumulative through 2005—38 States and U. S. Dependent Areas

<u>Age (years)</u>	<u>HIV Infection (not AIDS)</u>	
	<u>No.</u>	<u>%</u>
<13	5,082	2
13–14	416	<1
15–24	39,278	16
25–34	87,271	35
35–44	76,481	31
45–54	30,771	12
55–64	8,192	3
≥ 65	2,459	<1
<u>Total</u>	<u>249,950</u>	

Note. Data from 38 states and U. S. dependent areas with confidential name-based HIV infection reporting a of December 2005.



HIV/AIDS Cases among Male Adolescents and Young Adults, by Transmission Category 2001–2005—33 States

Transmission category	13–19 years		20–24 years	
	N	%	N	%
Male-to-male sexual contact	2,365	78	8,451	75
Injection drug use (IDU)	208	7	853	8
Male-to-male sexual contact and IDU	120	4	588	5
High-risk heterosexual contact*	340	11	1,360	12
Other/not identified†	9	< 1	30	< 1
Total	3,042	100	11,282	100

Note. Data include persons with a diagnosis of HIV infection regardless of AIDS status at diagnosis. Data from 33 states with confidential name-based HIV infection reporting since at least 2001. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



HIV/AIDS Cases among Female Adolescents and Young Adults, by Transmission Category 2001–2005—33 States

Transmission Category	13–19 years		20–24 years	
	N	%	N	%
Injection drug use	328	13	791	14
High-risk heterosexual contact*	2,095	86	4,758	85
Other/not Identified†	22	< 1	46	< 1
Total	2,444	100	5,595	100

Note. Data include persons with a diagnosis of HIV infection regardless of AIDS status at diagnosis. Data from 33 states with confidential name-based HIV infection reporting since at least 2001. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

* Heterosexual contact with a person known to have, or at high risk for, HIV infection.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



AIDS Cases among Male Adolescents and Young Adults, by Transmission Category 2001–2005—United States and Dependent Areas

Transmission category	13–19 years		20–24 years	
	N	%	N	%
Male-to-male sexual contact	706	60	3,800	70
Injection drug use (IDU)	110	9	530	10
Male-to-male sexual contact and IDU	39	3	327	6
High-risk heterosexual contact*	146	12	751	14
Other/not identified†	183	16	55	< 1
Total	1,184	100	5,462	100

Note. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

* Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



AIDS Cases among Female Adolescents and Young Adults, by Transmission Category 2001–2005—United States and Dependent Areas

Transmission Category	13–19 years		20–24 years	
	N	%	N	%
Injection drug use	122	13	473	17
High-risk heterosexual contact*	580	63	2,237	81
Other/not Identified†	225	24	55	2
Total	926	100	2,766	100

Note. Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.

* Heterosexual contact with a person known to have, or at high risk for, HIV infection.

† Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.



**MINISTRY OF HEALTH
NATIONAL HIV/STD CONTROL PROGRAM
JAMAICA HIV/AIDS EPIDEMIC UPDATE**

**Summary of AIDS Cases
by 5-Year Age Groups
1982 – June 2006**

Age Group	Male	Female	TOTAL
00-04	289	256	545
05-09	127	127	254
10-14	13	13	26
15-19	25	95	120
20-24	247	367	614
25-29	668	730	1398

Who is an Adolescent?

- AAP: 12-21 years old
- SAM: 10-24 years old
- APA: 10-18 years old
- AMA: 11-21 years old
- WHO: 10-19 years old
- (WHO uses term “young people” for 10-24)

In general: second decade of life

Adolescents are:



- Not children
- Not adults
- Childlike in thought and behavior maybe
- Adult physically perhaps
- Ongoing brain changes and cognitive maturation evident

MILESTONES OF ADOLESCENT DEVELOPMENT

- **Body image concerns/puberty:** early adolescence mostly, cognitive changes begin
- **Independence/emancipation:** ongoing throughout, risk-taking during middle adolescence
- **Identity formation (including *sexual identity*):** ongoing
- **Future orientation/delineation of functional role:** late adolescence mostly, mortality issues

PROCESSES ARE UNIVERSAL AND CONSISTENT

AAP Survey: Attitudes and Practices Regarding Adolescent Care/Barriers to Providing That Care

- Pediatricians estimated that an average of 20.7% of their patients were adolescents
- A majority of pediatricians say they discuss tobacco use (77.9%), substance abuse (77.5%), school issues (73.3%), sexual activity and pregnancy/STD prevention (72.7%), nutrition and eating disorders (58.7), fitness (59.2%), with almost all of their adolescents

AAP Survey: What would help in reducing barriers?

- 61.4% - Availability of clearly defined state statutes on confidentiality & other legal issues.
- 57.2% - Statements regarding confidentiality, consent and ethics of adolescent care by state medical boards, AAP, and malpractice insurers.
- 52.6% - Training in the area of confidentiality, informed consent, and making ethical decisions at continuing medical education sessions.
- 50.4% - Training on how to communicate effectively with adolescents.

Emancipated Minor

- Married
- Pregnant – limited to treatment for pregnancy
- Parent – limited to treatment of infant
- Member of military
- Self-supporting
- Criminal conviction as an adult
- Court determination of adult status

Minor's Consent for Confidential Health Care

- Evaluation and treatment of sexually transmitted diseases (includes HIV in many states)
- Family planning, including pregnancy and contraception (but not abortion)
- Substance abuse
- Mental health concerns
- Child abuse/domestic violence/sexual assault

Impact of Sexual Behaviors CDC, 2005

- 831,000 pregnancies occur each year among persons aged 15 – 19 years
- 9.1 million cases of sexually transmitted diseases occur each year among persons aged 15 – 24 years
- An estimated 4,842 cases of HIV/AIDS occur annually among persons aged 15 – 24 years

Confidentiality: Practical Applications

- Age appropriate office décor and atmosphere
- Characteristics of office personnel
- Advance notice to parents and patients
- Office signage, brochures, letters, etc.
- Defining “privacy” and “confidentiality” for youth patients and parents
- Confirming maturation and budding adulthood
- Health consumer support
- Communication/contact information for youth
- Medical records, billing, and insurance concerns

Attitudes of Interviewer

- Respect for youth as the patient, not parent
- Understand confidence that parents place on clinician
- Genuine interest and concern
- Ability to listen with non-judgmental demeanor
- Observation of youth's non-verbal communication
- Awareness of own body language
- Avoidance of over-identification and argument
- Refraining from offering “advice”; rather, education!
- **Remembrance of our important role in youth's life**

Adolescent Medical History

- Necessary information from parents
- Different perspective often from adolescent
- Opportunity for youth to assume and demonstrate some responsibility (at least for health care)
- Establish rapport in trusting, private environment that is age-appropriate (hopefully)
- Open-ended questioning style in *interview* format
- Flexible approach to order (HPI, PMH, FH, SH, ROS)
- Summation of findings

HEADS (social hx)

- **H:** Home
- **E:** Education (may include employment)
- **E:** Eating practices
- **A:** Activities (including sports/exercise)
- **D:** Drugs and other substances
- **D:** Depression (including mental health)
- **S:** Sexuality and sexual activities
- **S:** Suicide (including depression and mental health)
- **S:** Safety practices
- **S:** Savagery (including violence and criminal/legal matter)

Sexual History

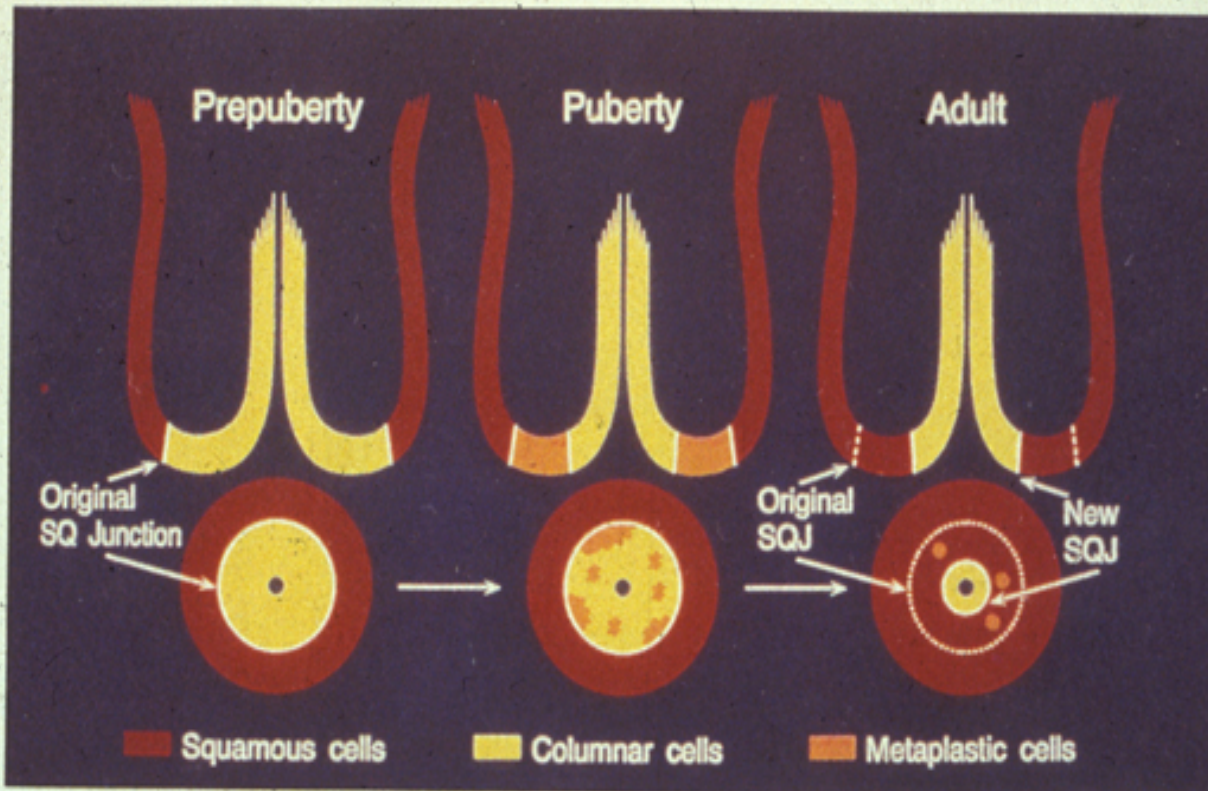
- Comfort with confidentiality and privacy precepts
- Establishment of “need to know”
- Non-judgmental questioning manner
- Gender-neutral questions about sexual practices
- Contraception knowledge and use
- History of STDs?
- Symptoms of STDs?
- History of molestation/abuse, forced sex, rape, etc.
- *Any questions from youth patient?*

Physical Exam for Adolescents

- Privacy and modesty importance
- Further history-taking opportunity
- Assurance of normalcy of changes (especially for patient)
- Growth monitoring, including Tanner staging (SMR)
- Blood pressure, scoliosis screening, vision testing
- Pelvic examination for females?
- Rectal exam not routine, but considered
- Opportunity for education

FIGURE 2

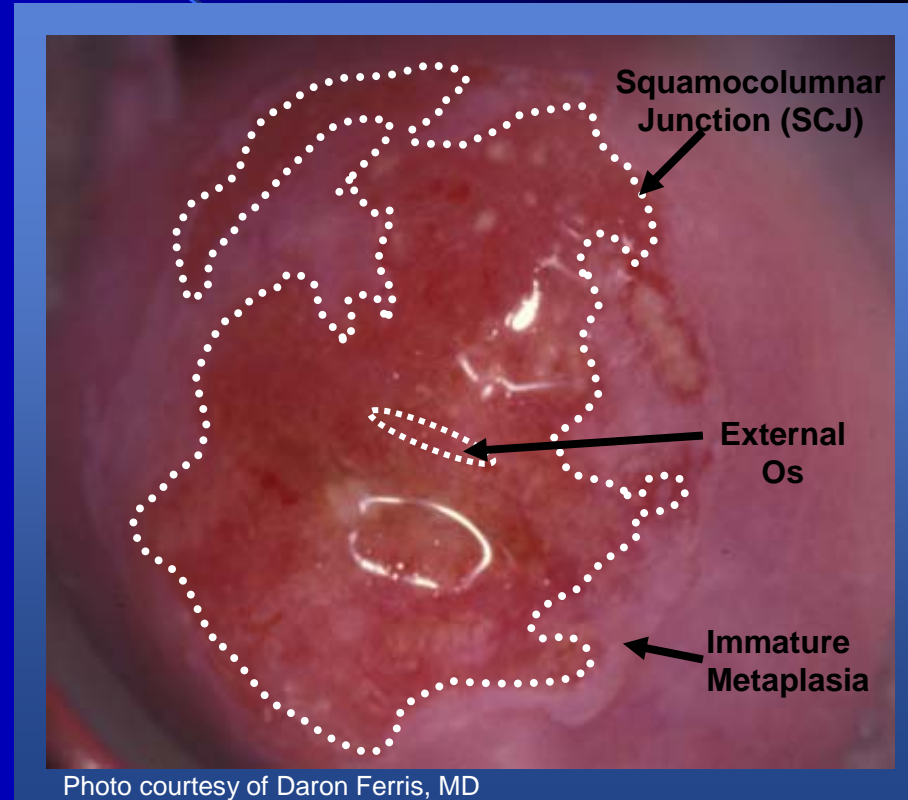
Cervical development



In most prepubertal females, the original squamocolumnar junction (SQJ) is located well onto the ectocervix. During puberty, uncommitted germ cells of the columnar epithelium differentiate into squamous cells during a process called squamous metaplasia. This process begins at the original SQJ and continues caudally. Thus, the pubertal cervix is in a transitional state. By adulthood, the transformation results in a new SQJ now found near or in the endocervix.

Biological Factors Increasing Susceptibility of Female Adolescents to HPV Infection

- Inadequate production of cervical mucus, which may act as a barrier against infection^{1,2}
- Immature columnar epithelial cells in the transformation zone of the cervix are especially susceptible to HPV^{1,2}
- Incomplete local immunity against certain infections^{1,2}
- Increased susceptibility to minor trauma during sexual intercourse^{1,2}



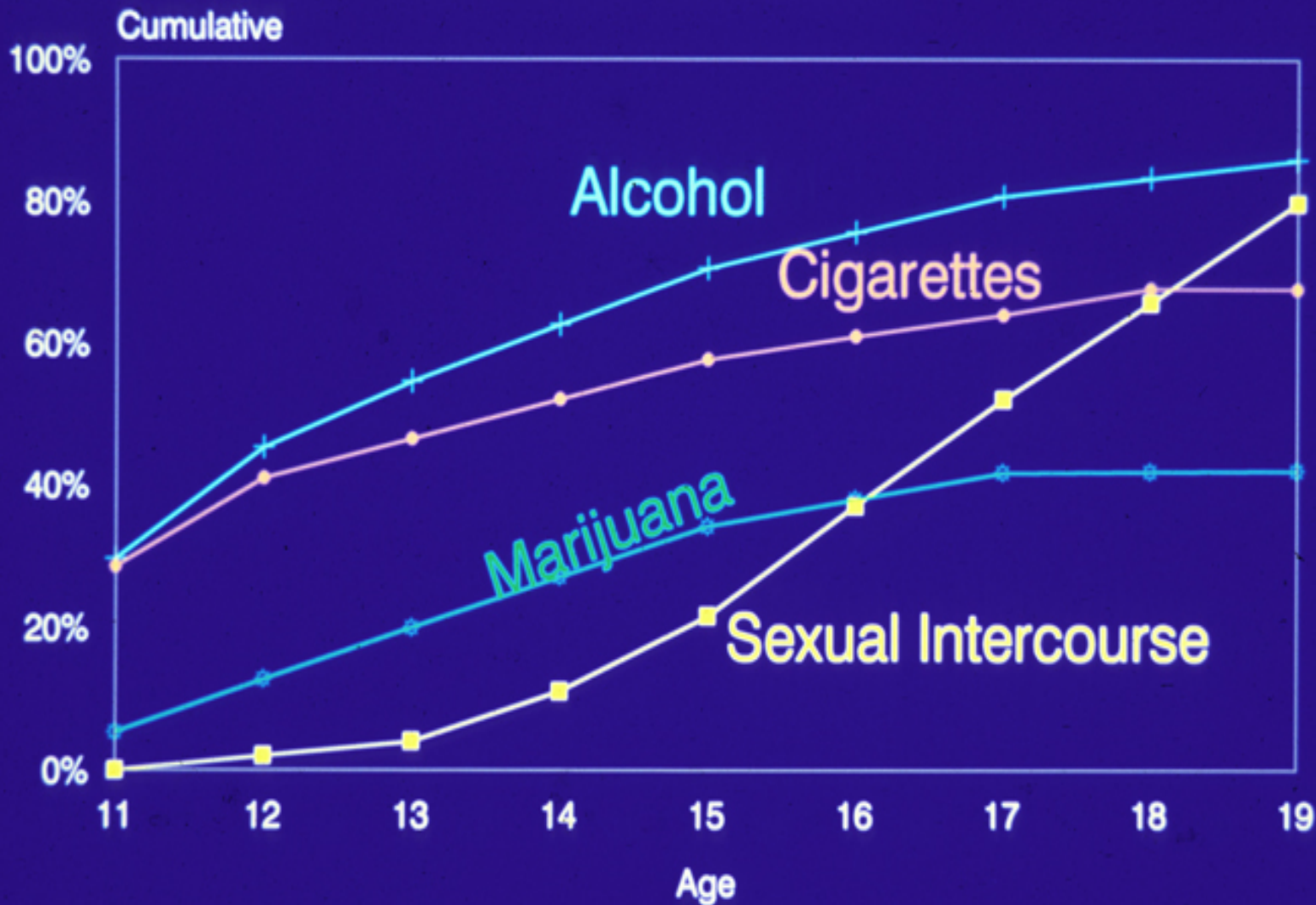
Health Care Maintenance

- Open and non-judgmental approach
- Confidentiality
- Clearly defined goals of therapy
- Interdisciplinary team
- Support services
- School performance
- Hopes/aspirations-school, work, life, children
- Immunizations
- General growth and development

Psychosocial Issues of Care

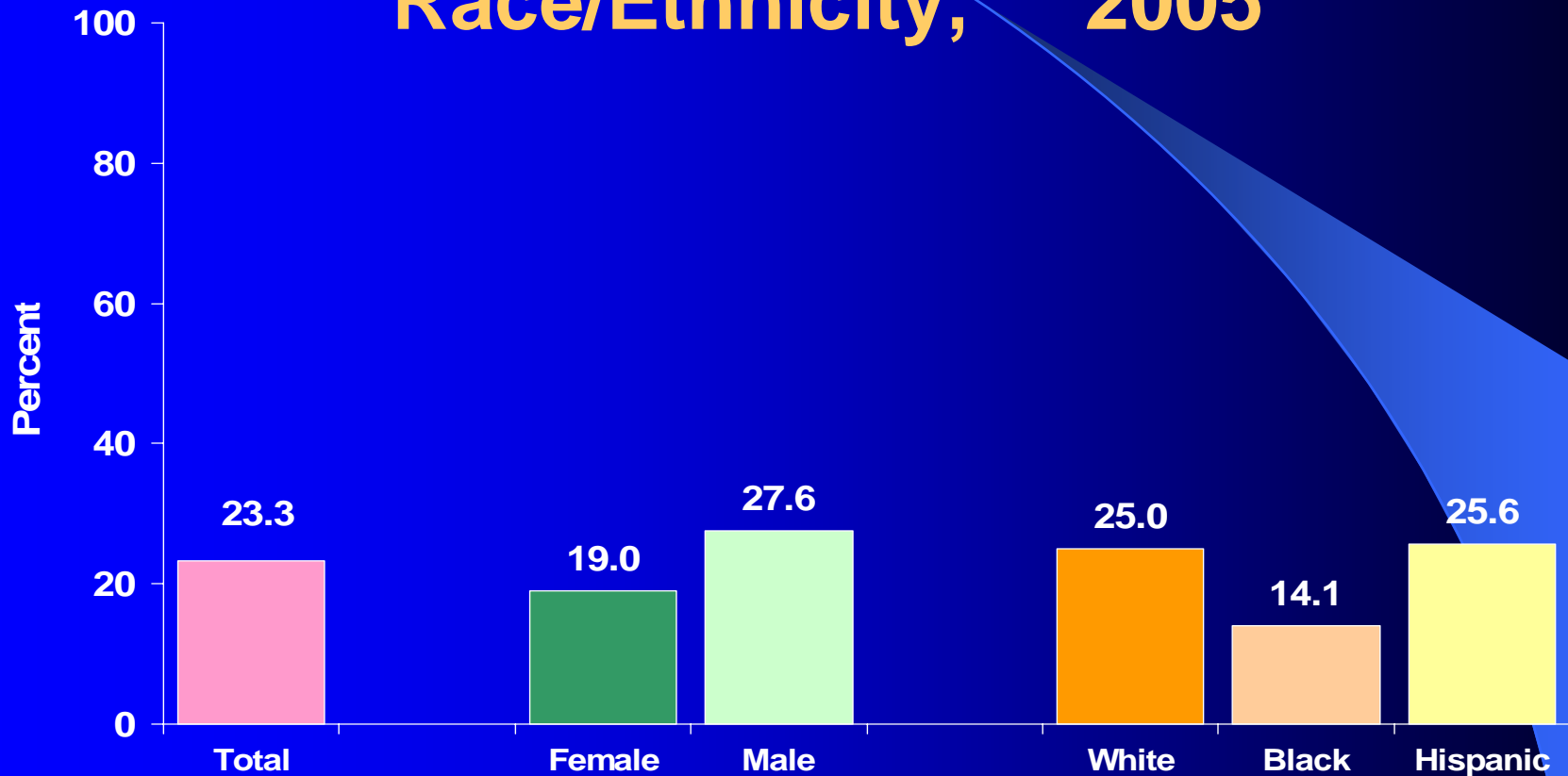
- Substance abuse
- Educational needs
- Mental health care
- Housing
- Transportation
- Financial assistance
- Legal/juvenile justice involvement

Involvement in Health Risk Behaviors



Sources: See LIT Module 1 reference list

Percentage of High School Students Who Drank Alcohol or Used Drugs Before Last Sexual Intercourse,* by Sex** and Race/Ethnicity,*** 2005



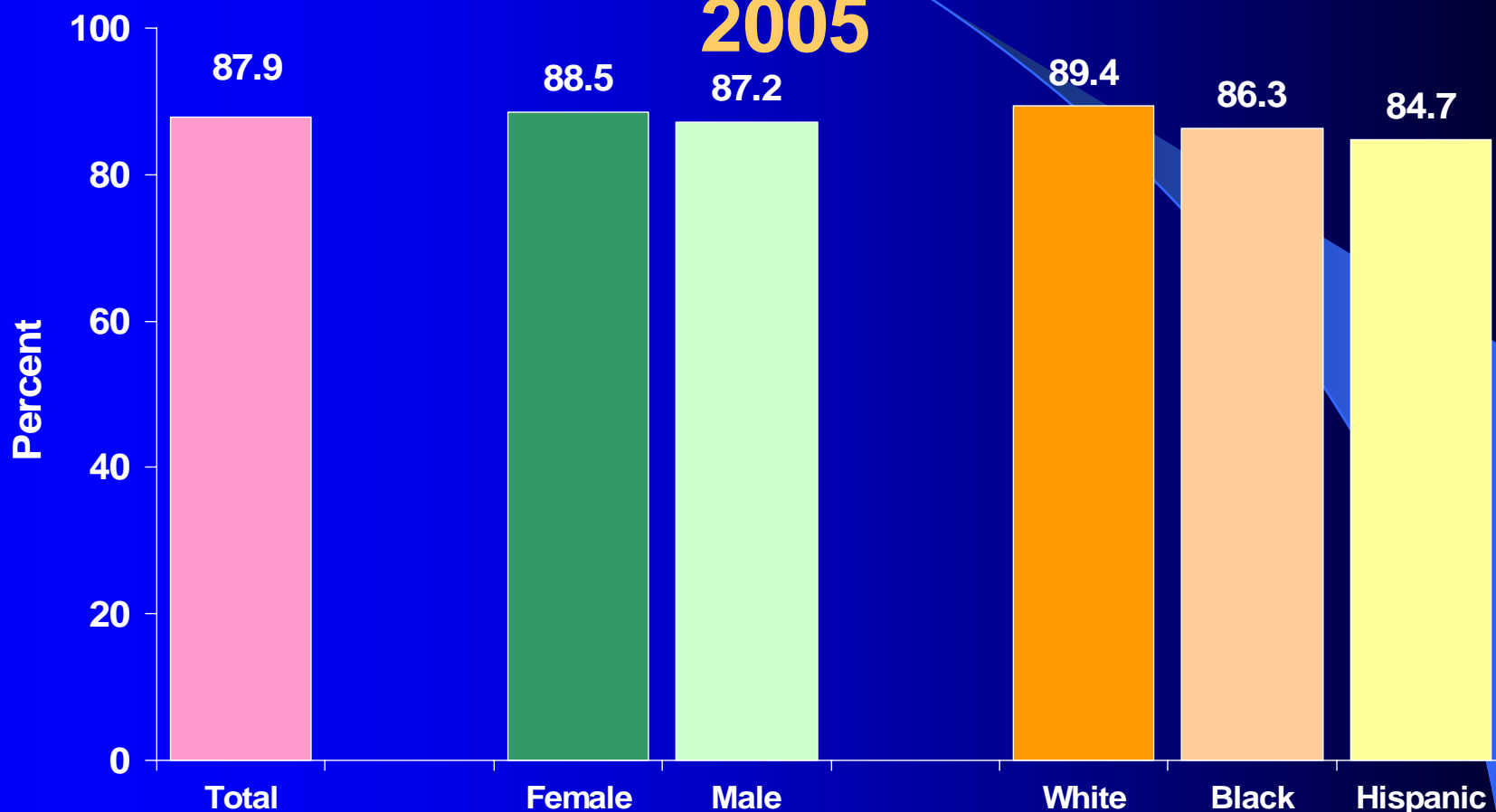
* Among the 33.9% of students nationwide who had sexual intercourse with one or more persons during the three months preceding the survey

** M > F

*** W, H > B

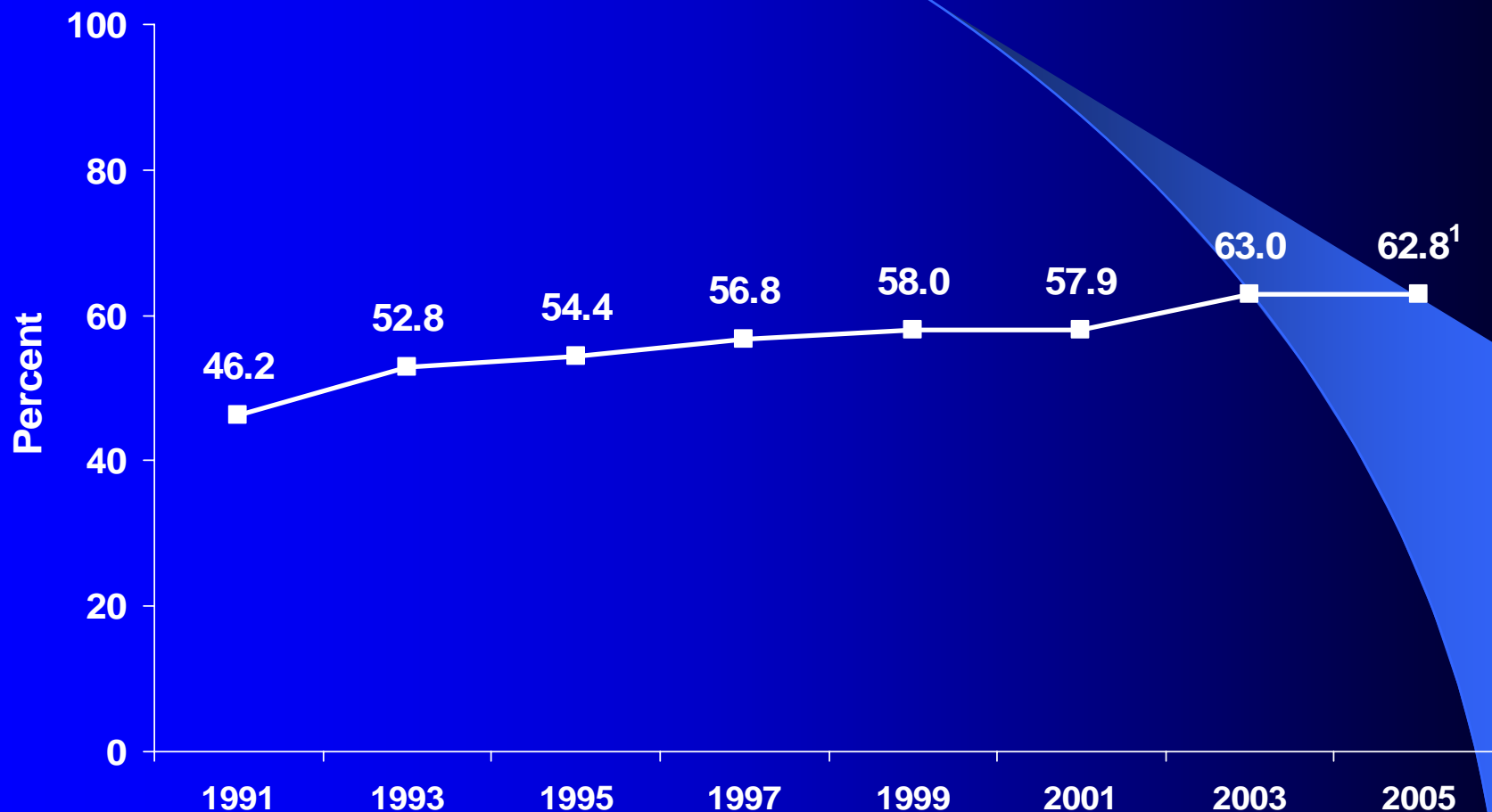
Percentage of High School Students Who Were Taught in School about AIDS or HIV Infection, by Sex and Race/Ethnicity,*

2005



* W > B, H

Percentage of High School Students Who Used a Condom During Last Sexual Intercourse,* 1991 – 2005



* Among students who had sexual intercourse with one or more persons during the 3 months preceding the survey

¹ Significant linear increase, $P < .05$

National Youth Risk Behavior Surveys, 1991 – 2005

Role of STDs in HIV Transmission

CDC 2002 Summary

- At least 2 to 5-fold increased risk of HIV seroconversion (confirmed by data from four continents)
- Greater infectiousness because of prevalence & magnitude of HIV shedding increased by STDs (treatment reduces shedding to baseline levels)
- HIV susceptibility likely increased through inflammation and endocervical/urethral CD4 recruitment by nonulcerative STDs
- Also through “portal of entry” created by ulcers

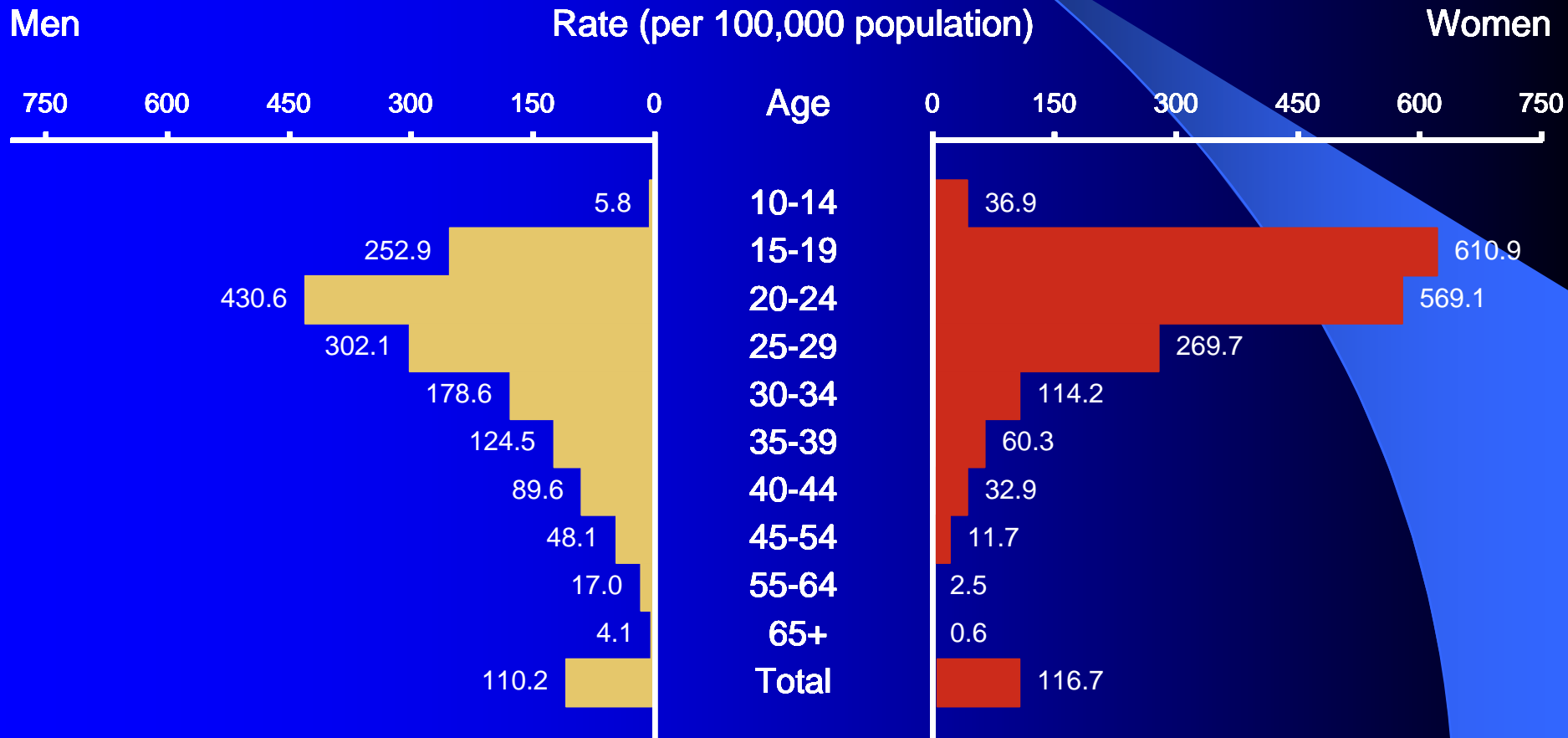
“Risky Contact” for the Spread of Sexually Transmitted Diseases

- There doesn't have to be sexual intercourse to contract a STD
 - Many STIs are spread by direct skin contact
 - Everyone who has “risky contact” is at risk
 - Teens and young adults are more “at risk” than other populations (serial monogamy, more contacts over time, immaturity)
 - Time of sexual debut, lack of resources and information, feelings of invulnerability, etc.
 - Consider possibility of forced encounters

Gonorrhea

Age- and sex-specific rates

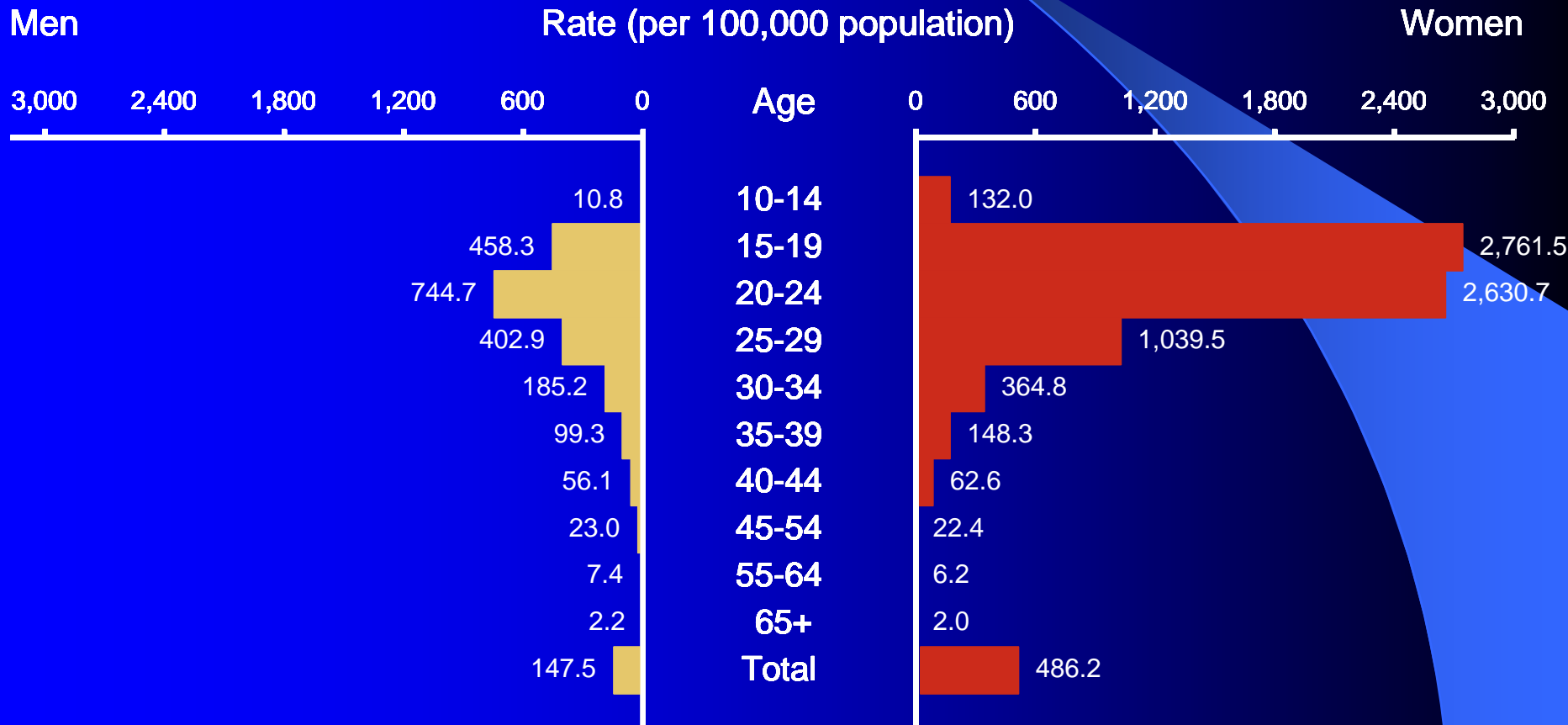
United States, CDC 2003



Chlamydia

Age- and sex-specific rates

United States, CDC 2003



Testing for STIs

- No single test detects all STIs.
- No test is perfect.
- Screening tests (when no symptoms are present).
 - HPV (visual examination; Pap smear)
 - Chlamydia, gonorrhea (tests of genital secretions, affected sites, or urine)
 - HIV, syphilis (specific tests)
 - No reliable test for herpes when symptoms are absent
 - **Test sexually active youth routinely**

The HIV Infected Adolescent

- Timing of infection: vertical/perinatal vs. acquired during adolescence
- Early intervention may preserve immunity and health
- Time, effort, and energy required of caretakers!
- Care may be frustrating, yet gratifying

The HIV Infected Adolescent

- Promotion of general good health
- Drug pharmacology in puberty
- Dosing based on Tanner stages
 - Use pediatric dosing schedules for those in early stages (I and II, ? III)
 - Use adult dosing schedules for those in later stages (? III, IV, V)
- For females, address gynecologic care, contraception (including interactions), and avoid efavirenz
- Prevention for both males and females
- Adherence concerns

The HIV Infected Adolescent

Challenges to adherence:

- Denial and fear of HIV infection; misinformation
- Distrust of the medical establishment
- Fear and lack of belief in the effectiveness of medications
- Low self-esteem, high rate of depression/anxiety
- Unstructured and chaotic lifestyles
- Lack of familial and social support

Decreasing Mortality for Children with Perinatal HIV

- PACTG 219
- 1996 – 7% of the children followed were receiving combination therapy including protease inhibitors.
- 1999 – 73% were receiving combination therapy including protease inhibitors.
- Mortality declined from 5.3% in 1996, to 2.1% in 1997, 0.9% in 1998 and 0.7% in 1999. (p value for trend <0.001)

Gortmaker SL et al. NEJM 2001;345(21):1522-8.

HIV Positive Children are Living Longer

- Changes in deaths reported with human immunodeficiency virus infection among United States children less than thirteen years old, 1987 through 1999.
- Retrospective review of death certificate databases for all 50 states and D.C.
- Selik RM and Lindegren ML. *Pediatr Infect Dis J.* 2003; 22: 635-41.

Adolescent Issues

- Disclosure
- HIV knowledge
- Identity
- Self respect
- Physical growth
- Sexual development
- Emotional maturity
- Responsibility
- Negotiation skills
- Decision making
- Health choices -
responsibility +
participation
- Sexual awareness and
activity
- Transition to
adulthood
- Pregnancy

Challenges in Adolescents with Perinatally-Acquired HIV

- May not know their own diagnosis (younger pts.)
- Losses (parents, siblings, illness)
- Complications of chronic illness and ARV experience
- Multiple drug resistance
- Problems with adherence and rebellion
- Evolving sexual awareness, sexual identity
- Secrecy versus disclosure
- Pregnancy and childbearing
- HIV secondary prevention and legal concerns

Pregnancy in Perinatally HIV-Infected Adolescents

- August 1998 to May 2002 – 10 pregnancies in 8 perinatally infected adolescents/young adults in Puerto Rico.
- Median age – 18 years
- 7 pregnancies – no perinatal transmission (80% ARV therapy, median viral load 35,822, median CD4 218, highly ARV experienced)
- 3 pregnancies – 2 elective abortions, 1 spontaneous

Strength Based Approaches

- Support Mastery
- Identify Strengths
- Start with what's Right
- If a behavior change is needed, use helping skill or motivational interviewing

The Helping Skill

- Identify the Issue
- Explore the Options
- Consider the Consequences
- Make a Plan
- Follow-up

The University of Vermont

Comprehensive Health Education Foundation,

<http://www.chef.org>

Prolonged Survival--Perinatal New Complications of HIV?

- Increased incidence of cognitive diseases
 - Learning disabilities
 - Speech problems
 - Loss of IQ
- Attention Deficit Disorder
 - Poor attention span/concentration
 - School failure
 - Hyperactivity

Prolonged Survival--Perinatal New Challenges

- Disclosure of HIV diagnosis
 - Overcoming concerns
 - Planning for disclosure
- Support groups
 - For adolescents
 - For siblings of children with HIV--to prevent them from contracting HIV
 - For the caregivers (mothers, fathers, foster parents, grandparents, other relatives)
- Compliance and adherence
 - To medications
 - To appointments
 - Teenage years are most difficult!

Current Approaches to Treatment of HIV

- Halt the replication of HIV
- Prevent opportunistic infections
- Treat infections as they occur
- Maintain physical and mental well being
- KISS: Keep It Simple and Safe
- Usual adult HHS/IAS treatment guidelines
- Secondary prevention!

University of Miami

Division of Adolescent Medicine

- **Multi-disciplinary service** (MDs, ARNPs, SWs, health educators, youth outreach workers, etc.)
- **Clinical programs for adolescent health care** (primary care, gynecology, chronic diseases, school-based, diabetes, etc.)
- **Educational activities** for medical students, residents, community agencies and youth, middle and high school students and teachers, juvenile justice participants and personnel, etc.
- **Funded research efforts** (NIH, CDC, HRSA, SAMHSA, Florida DOH, Miami-Dade County, private foundations)
- **Projects** in HIV testing and care, STD screening and treatment, mental health stressors, firearm injury reduction/violence prevention, sexual education of chronically ill youth, substance use prevention for Hispanics, school-based clinic education, community initiatives

University of Miami

Division of Adolescent Medicine

HIV Services

- **Special Adolescent Clinic (SAC)** for HIV-infected youth and young adults since 1990 as a **Ryan White Title IV-Miami Family Care Program** component (Division of Pediatric Immunology and Infectious Diseases)
- Founding member of NIH's **Adolescent Medicine HIV/AIDS Research Network** for *REACH Study*, 1994-2001 (HD32858)
- Subsequent continual participation in NIH's **Adolescent Trials Network for HIV/AIDS Interventions (ATN)**, 2001-06 and 2006-11 (HD40494)
- Collaboration on **Pediatric AIDS Clinical Trials Group (PACTG)** and **IMPAACT** (Division of Immunology and Infectious Diseases) since 1999
- **Adolescent Counseling and Testing Service (ACTS)** for HIV and STD testing (FL DOH) since 1997
- Component of **FL/Caribbean AETC** since 2001

Gettin' busy?

PUT IT ON BEFORE YOU - GET IT ON !

To buy the Gettin' Busy ? CD

log on to www.gettinbusymiami.com or call (305) 218 - 3950



IF YOU'RE 13 TO 24 GET TESTED

CALL **1•877 HIV•TEEN** 448-8336

email: www.gettinbusymiami.com

Prevention Messages

CDC 2003

- Should be tailored to the client's personal risk
- Interactive counseling approaches are effective
- Despite adolescents' greater risk of STDs, providers often fail to inquire about sexual behavior, assess risk, counsel about risk reduction, screen for asx infection
- Should include specific actions necessary to avoid acquisition or transmission of STDs
- **ABC** = **a**bstinence, **b**e faithful, use **c**ondoms
- Clients should be informed which specific tests will be performed
- Refer sex partners for evaluation and treatments

Advancing HIV Prevention (AHP) CDC Recommendations, 2003

- Routinize HIV testing as part of medical care
- Implement new models for diagnosing HIV infection outside medical settings
- Prevent new infections by working with persons diagnosed with HIV and their partners
- Further decrease perinatal HIV transmission

Improving Prevention for Youth

- Continued school-based risk reduction education, including abstinence information
- Greater efforts to reach out-of-school youth (drop-outs, homeless/runaway, juvenile offenders)
- Community-based programs
- Targeted efforts toward young gay/bisexual males
- Integrated substance abuse programs
- Attention to treatments and condom availability
- Assuring Hepatitis B and HPV immunizations
- **Sustained efforts!**

UNAIDS and WHO

Youth Prevention Recommendations

2006

- Assure access to information, education, life skills, and services
- Include young people in design of programs
- Address vulnerability and cultural concerns
- *Steady-Ready-Go* findings: utilize targeted mass media and social marketing techniques, incorporate effective programs from developed world
- Mobilize resources and political will

•RESOURCES

- Friedman LB, Dyson JA, Rathore MH; “Adolescent Issues” in HIV/AIDS Primary Care Guide, Beal J, et. al. (eds.), Crown House Publishing Company LLC, Norwalk, CN; pp 485-493 (Chapter 35), 2006.
- CDC Website: www.cdc.gov
- FL/Caribbean AETC: www.faetc.org
- HRSA HIV/AIDS Bureau: www.hab.hrsa.gov
- Advocates for Youth: www.advocatesforyouth.org

•RESOURCES

- Sexually Transmitted Diseases Treatment Guidelines; MMWR 55 (RR-11), CDC; 1-100, 2006.
- American College Health Association Website:
www.acha.org
- Pan American Health Organization Website:
www.paho.org
- World Health Organization Website:
www.who.org