

# OREGON HEALTH TRENDS

Center for Health Statistics (503) 731-4354

STATE OF OREGON • HEALTH DIVISION • DEPARTMENT OF HUMAN RESOURCES

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## HIV/AIDS KNOWLEDGE and Risky Behavior Among Oregon Youth 1995

This article examines the knowledge of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) among Oregon youth and the relationship between that knowledge and the youths' attitudes and behavior. Data come from the 1995 Oregon Youth Risk Behavior Survey (YRBS).

The survey shows that knowledge has generally decreased since the 1993 YRBS except concerning the risk of HIV infection through unprotected sexual activity (failure to use a condom). More knowledgeable students were:

- more likely to be female;
- more likely to be older; and
- more likely to be willing to attend class with a student with HIV.

While the majority of students reported talking with parents or other adult family about HIV, the *primary* source of HIV information was their school.

Survey data are compared to three goals from the national Year 2000 Health Objectives adopted by CDC regarding sexual abstinence and condom use. Oregon students have met two of the three: reducing the proportion of *older* adolescents who have engaged in sexual intercourse and increasing the proportion of sexually active unmarried people who used a condom.

Over the last decade, health educators in Oregon have created curriculum and informational materials to increase knowledge and awareness of HIV/AIDS and other sexually transmitted diseases (STDs). New strategies have been developed and reviewed in an effort to reach at-risk youth.

The purpose of health education programs such as these is to increase knowledge and build skills, so that students will be able to make decisions about behaviors that affect their health. Students' knowledge of and ability to assess risk can influence their concerns about their own health and the precautions they take to prevent illness.

It's equally important to assess the programs' effectiveness. The Oregon Youth Risk Behavior Survey (YRBS) was developed by a collaboration of the Oregon Department of Education, Oregon Health Division, and the federal Centers for Disease Control and Prevention (CDC) to measure the knowledge, attitudes, and behaviors that affect the health of high school students.

When reviewing the following report, bear in mind that YRBS results may imply trends and changes, but due to survey methodology, those results cannot be used to explain the effectiveness of any

COMING  
SOON!

**AIDS: THE PREVENTABLE EPIDEMIC** Curriculum and Guide for Kindergarten-12, written by the Oregon Health Division and the Department of Education, is currently being updated. Most of the updates will be to the HIV and AIDS statistics and changes in terminology. The supplemental reading for grades 9-12 will be changed to ***Straight Talk: HIV/AIDS and Other STDs (3rd edition)***. Oregon Revised Statutes will also be updated. One copy of the 1996 revised curriculum will be mailed to each school when it is completed. If you have questions regarding the availability of **AIDS: THE PREVENTABLE EPIDEMIC** call the Oregon Health Division HIV Program: (503) 731-4029.

**Survey Methodology**

Forty high schools were randomly selected, according to the federal Centers for Disease Control and Prevention (CDC) protocol, to participate in the 1995 Youth Risk Behavior Survey (YRBS). Because only 17 agreed to participate, the sample was insufficient to meet CDC guidelines. Therefore, results from an additional 33 "volunteer" schools are included in this year's data. (All school superintendents for each of Oregon's 230 public schools having grades 9,10, 11, or 12 were invited to participate in the 1995 YRBS.) Ultimately, about one in ten high school students were surveyed; 14,891 surveys were returned.

School participation required permission from both district and school levels. To be included in the survey, schools were required to notify parents of the survey and give parents the option to withdraw their child (children) from participation. In addition, students themselves could decline to take the survey.

In order to verify the honesty of responses, surveys were checked visually and then by computer for consistency between questions. Three percent (437 surveys) were not counted because of answers to a verification question. Four percent of the surveys were removed because they had ten or more inconsistencies (e.g. drank more alcohol in the last month than they had drunk in their life), out of range answers (e.g. answered "H" on a question with "A" to "D" responses allowed), and multiple answers where only one answer was allowed. Another 140 surveys were not usable in final tabulations because gender or grade was missing. A total of 6 percent of the surveys (899) were eliminated by the above methods. All inconsistent pairs, out of range answers, and multiple answers were counted as missing data on the remaining surveys.

The final sample included 13,992 usable surveys. For tabulations, the survey data was weighted to more accurately represent Oregon's population of high school students. Each student's survey was assigned a weight based on their school's size and socioeconomic ranking.

The YRBS included a large number of Oregon students and the results are useful in tracking trends and changes in the health risk behaviors of youth in our state. This survey may not be representative of those who dropped-out of school or declined to participate in the survey.

TABLE A.  
STUDENT RESPONSES TO HIV/AIDS QUESTIONS AND RELATED HEALTH RISK BEHAVIORS, YOUTH RISK BEHAVIOR SURVEY, OREGON 1993 AND 1995

		PERCENT	
		1993	1995
<b>KNOWLEDGE (% OF CORRECT ANSWERS)</b>			
Have you ever been taught about AIDS/HIV infection in school?	% yes	92	94
Can you tell if people are infected with the AIDS virus (HIV) just by looking at them?	% no	91	89
Is it safe to have unprotected sex (no condom used) with a person who has tested negative for HIV?	% no	84	85
Can a person get AIDS/HIV infection from being bitten by mosquitoes or other insects?	% no	73	70
Can a person get AIDS/HIV infection from donating blood?	% no	59	49
<b>CONCERN</b>			
How concerned are you personally about getting a sexually transmitted disease other than AIDS?	extremely concerned	43	36
How concerned are you personally about getting the HIV/AIDS virus?	extremely concerned	52	43
<b>ATTITUDE</b>			
Would you be willing to be in the same class with a student with HIV/AIDS infection?	% yes	77	79
<b>HIGH RISK BEHAVIORS ASSOCIATED WITH HIV AND STD</b>			
During your life, have you ever injected (shot up) any illegal drug?	% yes	3	1
The last time you had sexual intercourse, did you or your partner use a condom?	% of sexually active answering yes	56	58
During your life, with how many people have you had sexual intercourse?	4 or more partners, % of all	16	11
	4 or more partners, % of ever sexually active	44	28
During the past 3 months, with how many people did you have sexual intercourse?	more than 1 partner, % of all	8	5
	more than 1 partner, % of sexually active	18	14
<b>SOURCES OF HIV/AIDS INFORMATION</b>			
Have you ever talked about AIDS/HIV infection with your parents or other adults in your family?	% yes	68	64
What do you consider to be the one most important source from where you have gotten your information about AIDS/HIV infection?	% who identified school as primary source	62	64
If you think you may have been exposed to the HIV/AIDS virus, where would you go to get tested?	% who knew somewhere to get tested	82	78
If you wanted them, where would you go to get condoms?	% of sexually active who could identify a place	90	80

one particular program or intervention. In addition, the 1995 YRBS survey was conducted among 50 schools that volunteered to participate (see box for methodology); the results are therefore *not statistically* representative of public high school students in Oregon.

## Students' HIV/AIDS Knowledge

Five knowledge questions were asked based on HIV/AIDS curriculum used in Oregon schools. Oregon Department of Education and Health Division health educators judged these issues would have been covered within a school's health curriculum before a student entered the ninth grade.

Among individual questions, the proportion of correct answers ranged from 49 percent to 94 percent. In 1995, 70 percent of survey respondents correctly reported that they could not get HIV from a mosquito, a slight decrease from the 73 percent in 1993 but still better than the answers scored in 1991. However, the proportion correctly answering questions about transmission by donating blood fell again. In 1991, 67 percent of respondents correctly reported they *could not* get HIV by donating blood; correct response rates dropped to 59 percent in 1993, and then dipped even lower to 49 percent in 1995.

When the five knowledge questions are scored as a group (Table A), 32 percent of students answered all five correctly; another 33 percent answered four correctly. Females were significantly more likely than males to answer all five questions correctly (36% vs. 28%). General knowledge increased with grade level; fewer ninth graders than 12th graders answered all five ques-

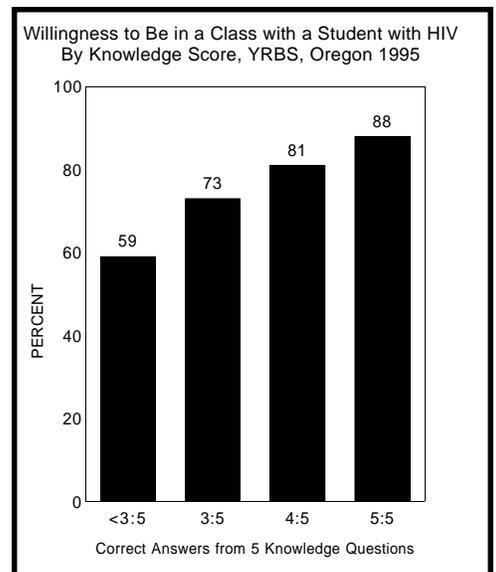
tions correctly (21% vs. 46%). Overall general knowledge decreased slightly.

**DISPARITY AMONG SCHOOLS**  
HIV/AIDS curriculum is mandated by the Oregon Department of Education to be age-appropriate for the student. As an aggregated group by school, most students perceived that their school had provided them with some HIV/AIDS curriculum. By site, 80 percent to 99 percent of students perceived that HIV/AIDS was included in their course work. Of students in the six schools where curriculum perception was lowest (only 80 percent to 88 percent of the students knew they had HIV/AIDS education), their knowledge scores were very dissimilar to the student bodies of other schools. Fifty-six percent of students in 44 high-perception schools could answer two of four questions correctly<sup>1</sup>, while only 27 percent of the students in the six lower-perception schools could answer correctly. It appears that students' actual knowledge of the subject is related to their perception of curriculum offerings on HIV/AIDS.

**ATTITUDE TOWARDS HIV INFECTED PERSONS**  
Most students (79%) that participated in the YRBS would be willing to be in the same classroom with a student infected with the HIV/AIDS virus. As students' level of knowledge increased, so did their willingness to attend class with someone who was infected with HIV. Only 59 percent of the least knowledgeable (those who correctly answered fewer than three questions) were willing to attend class with an infected person, compared to 88 percent of the most knowledgeable (those who correctly answered all five questions).

<sup>1</sup> The knowledge score was adjusted to exclude the question: "Have you ever been taught about AIDS or HIV in school?"

*Knowledge level is high but has declined slightly.*



## Concern About HIV

In 1995, slightly more than 43 percent of students surveyed reported they were extremely concerned about getting HIV/AIDS. There was no difference in concern levels between genders. As students aged, concern levels decreased: 45 percent of ninth graders were extremely concerned versus 41 percent of 12th graders.

### ASSOCIATED WITH BEHAVIOR

Health educators hope an increase in knowledge and concern will motivate teens to change the behaviors that may put them at high risk of HIV infection. This is a difficult concept to measure in a short survey. It suggests somewhat the old chicken-or-egg riddle: Does a "very concerned" student avoid risk behavior because of that concern, or does a student who takes risks become "very concerned" because of the risky activity? This relationship cannot be fully explained by the YRBS survey, but is examined for different levels of sexual activity.

Compared to students who reported never having had sex, students who reported having had sex were more likely to be "extremely concerned" about becoming infected with HIV (52% of sexually active vs. 38% of abstinent students).

The YRBS examines three specific behaviors associated with increased risk of HIV/AIDS transmission.:

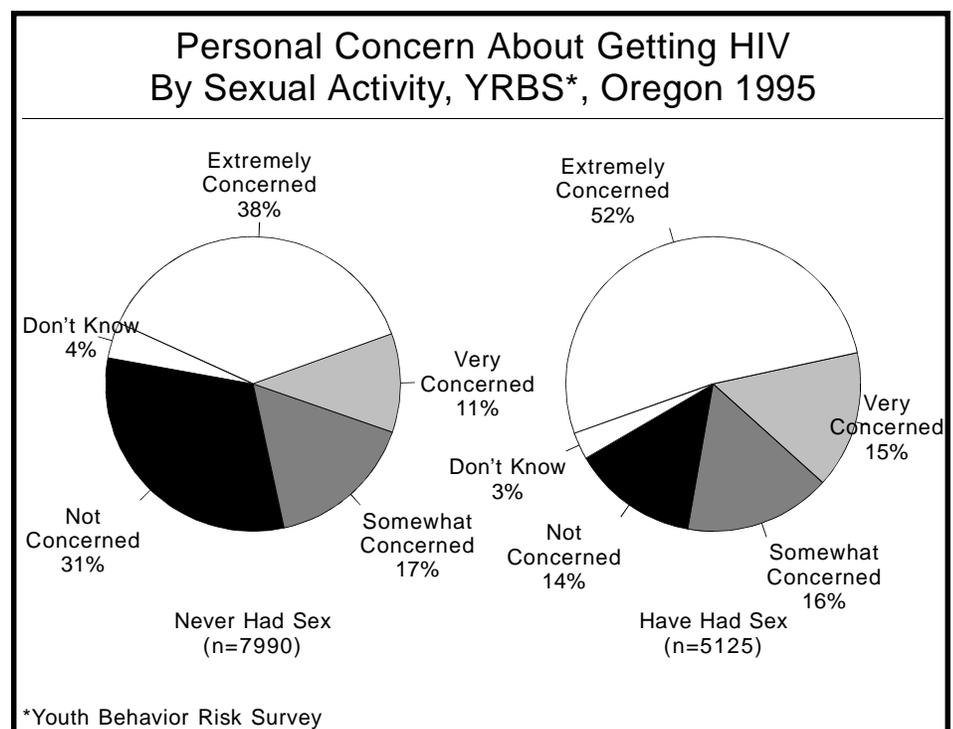
- intravenous drug use,
- engaging in sex without a condom
- multiple sexual partners.

### INTRAVENOUS DRUG USE

One percent of students reported they had used a needle to inject an illegal drug. Within this survey intravenous drug use was not found to relate significantly to knowledge about HIV or a personal concern for contracting the virus.

### CONDOM USE

Forty percent of the teens who participated in the YRBS survey said they had previously had sexual intercourse; 60 percent were still sexually abstinent. Of



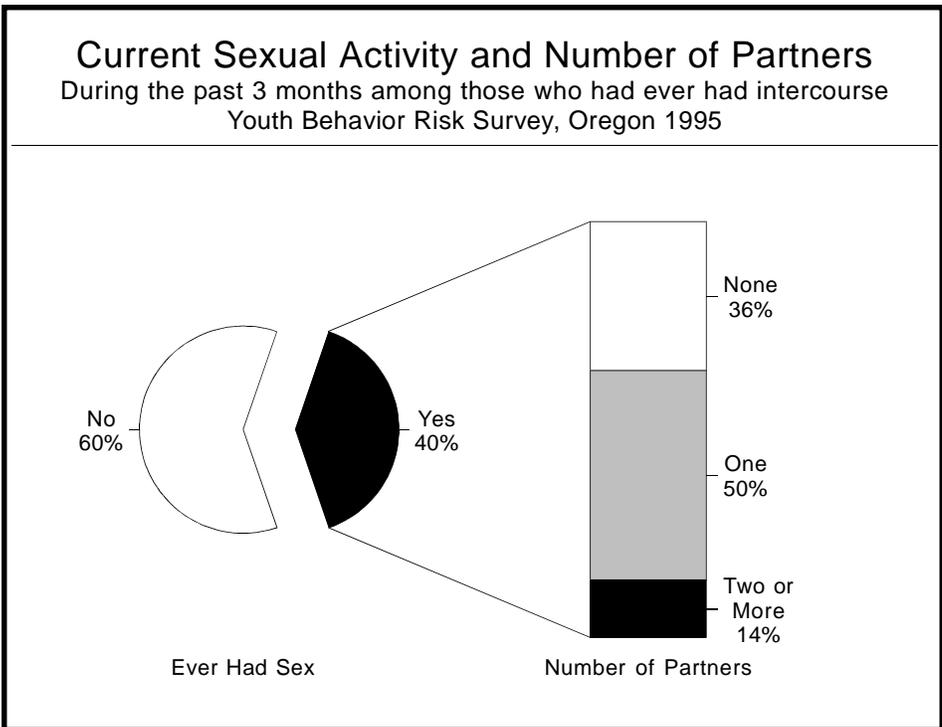
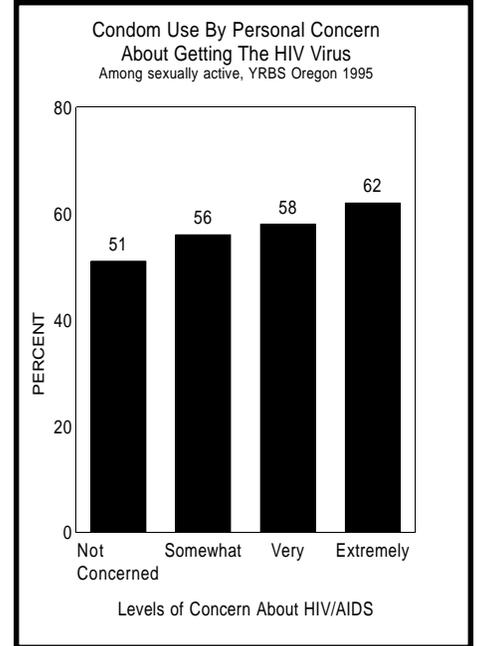
sexually active teens, 58 percent used a condom the last time they had sexual intercourse (Table A). The remaining students exposed themselves to a higher risk of HIV transmission. This equates to nearly 16 percent of all Oregon teens being at risk for HIV due to unprotected sexual intercourse. Of these sexually active teens, females were more at risk for HIV transmission, because they were less likely to use a condom than were males (47% of females did not use a condom vs. 37% of males).

It is assumed that as individuals age, they become more "wise," careful, or mature as a result or realization of the consequences of their actions. On the contrary, teens participating in the YRBS survey put themselves at higher risk for HIV transmission as they aged. Of sexually active ninth graders, 32 percent did not use a condom at last intercourse, whereas 51 percent of 12th graders did not use one. There was no significant association in the use of condoms by sexually active students and their knowledge of

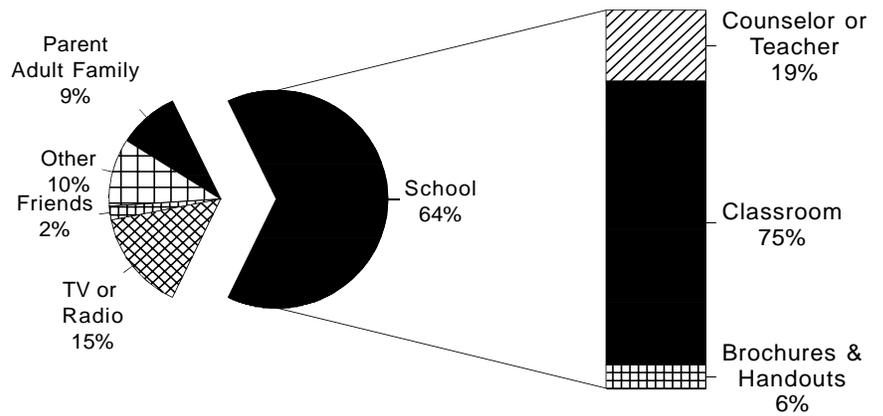
HIV. Among the sexually active, those who expressed the most concern were more likely to use a condom (62%) than those expressing no concern about their risk of HIV(51%).

**MULTIPLE PARTNERS**

Twenty-eight percent of sexually active students (or 11 percent of all students) have had sexual intercourse with four or more people in their lifetime. There was no difference between males and females, but females showed a slight pattern of increase in the numbers of sexual partners as they aged. Twenty percent of ninth grade females reported they had at least four partners in their lifetime, while 31 percent of 12th grade females reported multiple partners. This is not an unexpected finding: Increasing age brings a person more time to engage in sexual behavior with a greater number of people. Overall among students who had reported ever having sexual intercourse, 36 percent were currently abstinent during the preceding three months. The majority or 50 percent had only one partner,



Most Important Source Of HIV/AIDS Information  
Oregon Teen Respondents of YRBS Survey, 1995



and 14 percent had two or more partners. Within the last three months before the survey, 12 percent of sexually active females reported that they had more than one partner. There was no difference in reporting this risk behavior among grade levels for females. Males showed a different pattern: 20 percent of sexually active ninth graders reported they had more than one partner during the last three months; by 12th grade, only 12 percent of males reported this risk behavior.

The majority of students (64%) reported having had conversations with their parents or other adult family members about HIV/AIDS, a slightly lower percentage than reported in 1993 (Table A). Females were more likely than males to report a conversation on this topic. As grade level increased, students of both genders were more likely to have had a conversation about HIV with their parents. Sexual activity was not associated with the likelihood of having such a conversation. Although the majority of students reported discussing HIV with their parents, 64 percent of all students identified school as their *primary* source of information about HIV/AIDS. School sources included classroom instruction, discussions with counselors or teachers, and brochures available at school.

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**Sources of HIV  
Information**

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**Year 2000 Health  
Objectives**

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U.S. Healthy People 2000 Objectives				
	Goal	1995 Status		
Reduce the proportion of adolescents who have engaged in sexual intercourse to :	by age 15	<15%	21%	-
	by age 17	<40%	32%	met
Increase to at least 50 percent the proportion of sexually active unmarried people who used a condom at last sexual intercourse.	>50%	58%		met

Year 2000 Health Objectives are the national health promotion and disease prevention goals from the U.S. Public Health Service, as set forth in the report *Healthy People 2000*. The national strategy presented in that report seeks to avoid wasteful costs for treating diseases and injuries that could have been prevented. The YRBS survey can be used to assess Oregon's progress toward Year 2000 health objectives.

The first objective is far from being met among younger adolescents: 21 percent of YRBS respondents under 15 report already having had sexual intercourse. If this objective is to be met by the year 2000, messages and prevention education should be started by at least fourth grade; information about abstinence should be focused on sixth graders.

Initiation of sexual activity increases dramatically at age 14, usually within the freshman or first year of high school. For this reason, it is very important that middle schools students be provided a comprehensive HIV/AIDS education.

Among older adolescents, however, the second objective appears to have been met: 32 percent of YRBS respondents under age 17 reported they had sexual intercourse.

Participants in the Oregon YRBS

met the third objective on condom use. Fifty-eight percent of sexually active students reported using a condom during their last sexual intercourse. A slight improvement on this objective was realized between the 1993 and 1995 YRBS survey.

## Discussion

Data from the Youth Risk Behavior Survey suggest that students consider their schools to be their most important source of HIV/AIDS information. Regardless of sexual activity, the most knowledgeable students identify school as the primary source of information

In view of this, schools should not assume that students pick up valid, current information from other sources and thus allow their HIV curriculum to languish.

Information on transmission sources and methods needs to be strengthened at the middle school level. Also, intervention strategies need to be created or strengthened at the middle school level since initiation to risk behavior increases dramatically upon entering high school.

As measured by the YRBS, increased concern among sexually active students is associated with fewer partners and greater condom use. It appears not to be related to

increases in high risk behaviors associated with HIV transmission.

Strengthened educational efforts can reinforce lessons students have been taught and to further promote the messages and methods of prevention. Education can also be used to correct misconceptions about HIV transmission through blood donations and mosquito bites.

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### 1995 SUMMARY AVAILABLE YOUTH RISK BEHAVIOR SURVEY

This 76 page report contains a short narrative and summary graphics of each question asked in the 1995 survey. It also includes a description of the methodology. Order an individual copy by calling 731-4354.

Additional detail of each question by grade and gender can be found on the internet at:

**[gopher://gopher.state.or.us](http://gopher://gopher.state.or.us)**

Then choose government agencies, Health Division, youth risk behaviors.

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