OREGON DEPARTMENT OF HUMAN SERVICES

Injury Prevention and Epidemiology Program

Youth Suicide Attempts in Oregon

Adolescent Suicide Attempt Data System

2007 Data Report

Data for this report were compiled from a number of published and unpublished Oregon Department of Human Services sources.

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Oregon Department of Human Services

Public Health Division

Injury Prevention and Epidemiology

http://www.oregon.gov/DHS/ph/ipe/index.shtml

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EXECUTIVE SUMMARY

Suicide is a public health problem in Oregon, and suicide risk increases considerably in the teen years. The Oregon Injury Prevention and Epidemiology Program uses a public health approach to suicide prevention—an approach that addresses suicide prevention primarily at the community level. Part of the public health approach to suicide prevention involves assessing occurrences of suicide attempts. Understanding when suicide attempts happen, how often, when, and to whom all help in directing efforts aimed at reducing the frequency of attempts among Oregon youth. The Adolescent Suicide Data System (ASADS) was established by the Oregon legislature to monitor youth suicide attempts, where youth present for treatment at a hospital. ASADS provides information that helps:

- Estimate the frequency of suicide attempts among Oregon adolescents and monitor possible increases, decreases and trends.
- Monitor factors associated with suicide and suicide attempts among adolescents.
- Increase public awareness.
- Develop programs that support suicide prevention.

Findings

There were 681 suicide attempts among youth under 18 years of age reported through ASADS in 2007. Attempts were more common among female youth compared to males, with about 3 times more attempts reported among females than males. Children as young as 5 years of age were reported, although the majority of attempts occurred among teens 15 and older. The most commonly used means of suicide attempt was pharmaceutical drugs. Most attempts occured in the youth's own home. About a third of youth had told someone else about their plans to attempt suicide.

Recommendations

Suicide is a serious public health problem, and identifying and tracking suicide attempts is an important step in preventing suicide and reducing the burden of suicide in Oregon communities. However, communities, individuals, government agencies, hospitals and other health care providers must all act to prevent suicide and suicide attempts from ever occurring. Important steps include:

- Reduce harassment in schools and communities
- Enhance crisis services

- Establish and maintain crisis response teams
- Support suicide survivors
- Eliminate the stigma associated with behavioral health care
- Support efforts to reduce youth access to lethal means of self-harm
- Recognize and respond appropriately to troubled youth that vocalize plans for suicide
- Improve follow-up care for suicide attempters
- Refer all attempters for follow-up care. Oregon statute requires that all youth presenting to a hospital following a suicide attempt must be referred to in-patient or out-patient community resources, crisis intervention or other appropriate intervention by facility staff
- Improve access to affordable behavioral health care
- Reporting facilities (hospitals) should adhere to the ASADS reporting protocol as detailed by DHS (www.oregon.gov/DHS/ph/ipe/ysp/ASADS2.shtml) to improve the validity and reliability of data. Accurate, timely, and reliable information leads to improved outcomes.

Conclusions

ASADS provides data for public health action to prevent youth suicide. As part of the effort to understand patterns of suicidal behavior in a vulnerable population, ASADS is an integral part of monitoring attempts and outcomes to help reduce the burden of self-harm and suicide in Oregon.

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INTRODUCTION

The risk of suicide begins early in the course of life. Among 15-24 year old Oregonians, suicide is the second leading cause of death. Data in recent years have shown that youth as young as 5 years of age are not invulnerable to suicidal behavior. In 2007, there were 681 suicide attempts made by Oregon youth, and reported by hospitals throughout the state. This number does not reflect the true magnitude of suicide attempts by Oregon youth, since the Adolescent Suicide Attempt Data System (ASADS), from which data this report is based, collects only data from those attempts where youth subsequently present to hospital emergency rooms.

Both suicide and suicide attempts are preventable. The Oregon Injury Prevention and Epidemiology Program, in conjunction with community partners, set forth a plan to reduce youth suicide in 2001 called *A Call to Action: the Oregon Plan for Youth Suicide Prevention* (http://www.oregon.gov/DHS/ph/ipe/ysp/2000plan/index.shtml). This plan outlines an initiative through which Oregonians can help

- Break through denial and cultural taboos about suicide
- End the shame associated with suicide
- Foster the conviction that not even one youth has to die by suicide
- Take responsibility by openly and honestly joining with other Oregonians to reduce suicide among our youth.

The 15 strategies for state and community-based action require a commitment to partnership and shared responsibility among state agencies, between state and local governments, and between public and private sectors. Oregon's plan recognizes that the impact of suicide goes beyond any individual—it impacts whole communities, and public health approaches to preventing injury death focus on communities in ways that address prevention across the population:

- Training school staff to recognize the signs of depression and suicide
- Educating parents, teachers, and students about the risks and prevention of suicide
- Screening and referral to mental health counseling

- Raising community awareness to end the stigma associated with behavioral health care
- Creating and sustaining cross-system referral networks

Part of the public health approach to suicide prevention involves assessing the incidence of suicide attempts. Understanding when suicide attempts happen, when, and to who helps direct efforts to curb the frequency of attempts among Oregon youth.

ASADS was established by the Oregon legislature to monitor youth suicide attempts, where the youth present for treatment at a hospital. In 2008, the Injury Prevention and Epidemiology Program (IPE) assumed operation of ASADS from the state Center for Health Statistics.

ASADS was established in 1987 by Oregon Revised Statute 441.750, mandating that hospitals refer youth who attempt suicide to in-patient or out-patient community resources, crisis intervention or other appropriate intervention by the patient's attending physician, hospital social work staff or other appropriate staff, provide information to patients, and report attempt information to The Department of Human Services. The Injury prevention and Epidemiology Program within the state Public Health Division uses ASADS data to monitor changes in the patterns of incidence of suicide attempts.

This report describes data collected via ASADS during the 2007 report year, for all reported attempts that occurred in 2007, describes the activities of the Oregon Injury Prevention and Epidemiology Program in preventing youth suicide, and concludes with recommendations on preventing youth suicide attempts through a public health approach and strengthen public health infrastructure for suicide prevention.

DATA LIMITATIONS

ASADS is a system that collects data on youth suicide attempts for the purpose of directing population level prevention efforts. Data are collected only for youth ages 17 and younger.

Although collection of data is required by state statute, there is variation in the uniformity of timely and complete reporting among hospitals, so caution must be exercised when comparing the numbers and rates of attempts across time periods. This is especially relevant for county-level data, where variation in reporting practices among a small group of hospitals can lead to substantial variation in the number of suicide attempts reported from year to year.

The ASADS system only captures data on suicide attempts among persons who present to hospitals or hospital emergency rooms. It is not known how many attempts occur among youth in Oregon who are never reported because the person who attempts does not present to a hospital emergency room. As a result, the number reported here should be considered a minimum.

Data include all attempts reported to the ASADS system, possibly including some attempts that resulted in death. Since ASADS data does not include patient names, no patient information was matched with death certificate information to identify attempts that resulted in death. A change in 2008 data collection methods will facilitate identification of attempts that end in death.

Because of data limitations that prevent reliable identification of individuals, it is not known how many persons in the 2007 (and previous years) data set are represented by repeat attempts within the same reporting year.

Reports of suicide attempts may not include all data variables requested (e.g. sex, ethnicity, living situation, etc. not reported). As a result, some tables shown may have missing values for some variables, and table totals may not sum to the total number of attempts reported. Due to rounding, table percentages may not sum precisely to 100. Also, the denominator for some percents may not be shown in the table, and may be greater than the frequency of events shown (e.g. the percent of males with major depression may have a denominator of the total number of males, not the total number of males reporting a psychological condition).

Data are collected by various staff within hospitals, which can also lead to reliability issues with the reported data. Some hospitals collect data at the

point of patient presentation, which is recommended. Others report data using coded patient records, sometime after a patient has been seen by medical staff.

Although the ASADS data are helpful for broadly describing occurrences among youth that attempt suicide, there are limitations to the data in comparing risk factors. While these data have a somewhat limited application in providing a profile for youth most at risk, the data can help direct prevention efforts by describing the magnitude of what are generally known risk factors among youth.

For further information regarding suicide attempts in Oregon utilizing different sources of data, refer to the Injury Prevention and Epidemiology Program's website at www.oregon.gov/DHS/ph/ipe/index.shtml.

For information on ASADS reporting protocols, or to download forms, refer to the ASADS website at http://www.oregon.gov/DHS/ph/ipe/ysp/ASADS2.shtml.

SUICIDE DEATHS

The rate of teen suicide in Oregon has decreased substantially compared to the rate in 1990 of 14.7 per 100,000 teens. In 2003 the rate dropped below the US rate, a trend which continued through 2005. However, the rate increase that begins in 2003 marked the beginning of an upward trend in rate that continued through 2006. The number of suicide attempts reported to ASADS from Oregon hospitals declined in recent years, however, the decline in the number of attempts is partly due to a lack of reporting follow-up that occurred in 2005-2007. National suicide mortality data for 2006 and 2007 were not available at the time of this report.

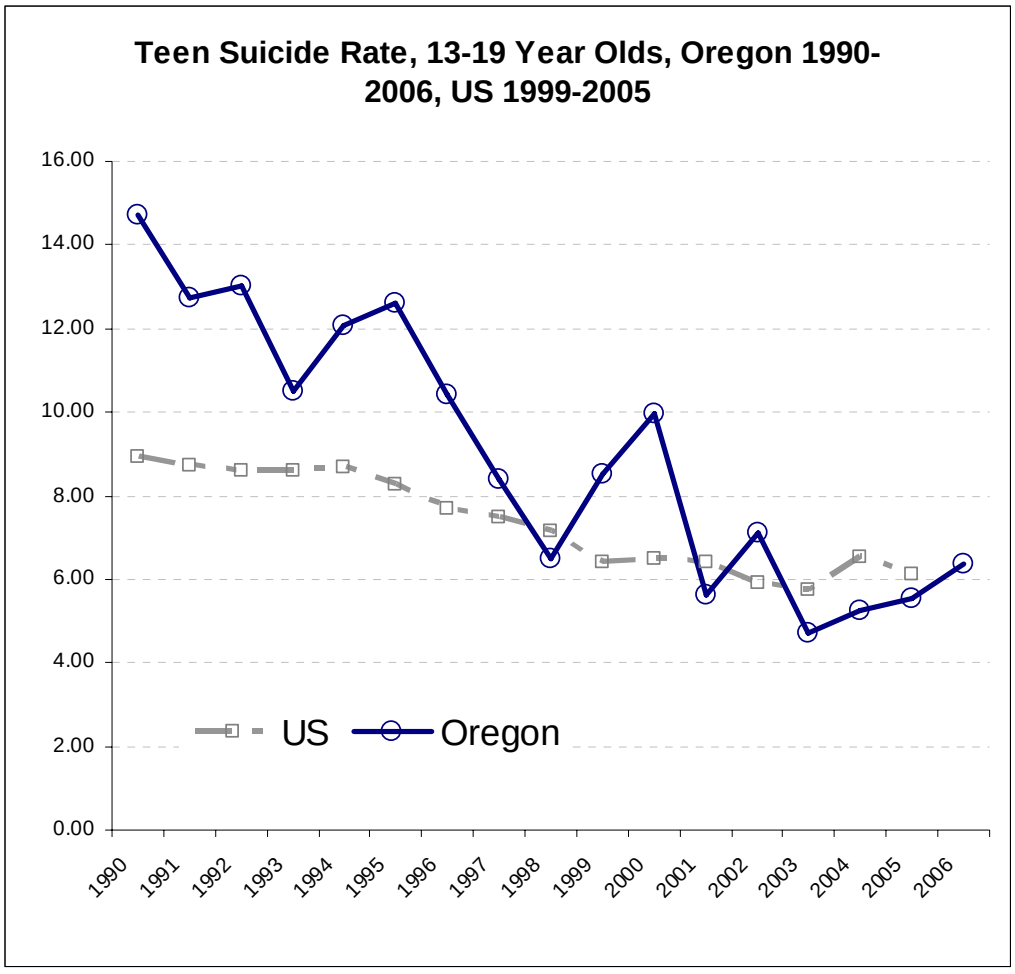


Figure 1. Suicide rate among Oregon (1990-2006) and US Teens (1990-2005).

ATTEMPT DATA

SEX AND AGE

The frequency of reported suicide attempts is higher among girls compared to boys. In 2007, 74% of all reported attempts were among girls. A similar proportion of girls compared to boys is noted in past years.

Table 1. Number of Attempts by Year and Sex: 1988-2007

Year	Total	Male	Female
1988	648	110	535
1989	624	120	499
1990	526	118	406
1991	577	124	453
1992	685	141	544
1993	723	113	610
1994	773	187	586
1995	753	150	603
1996	778	163	615
1997	736	151	585
1998	761	190	571
1999	738	180	558
2000	802	178	624
2001	865	202	663
2002	876	221	655
2003	922	207	715
2004	920	209	711
2005	773	188	585
2006	621	142	475
2007	681	172	506

There are differences in the proportion of girls attempting suicide across age groups. In 2007, 61% of attempts among children 12 and under were girls, while 79% among 13-14 year old children were girls. Seventy-four percent of attempts among children 15-17 were girls. The number of attempts increases dramatically for girls between 14 and 16, while attempts among boys increases more gradually with age.

Although girls are more likely than boys to attempt suicide, boys are more likely to use more lethal means in their attempts. In 2006, the suicide death rate among males 15-24 years of age was 6 times higher than females in the same age group—a trend that generally continues throughout the life course among males.

In 2007, there were a total of 34 attempts by pre-teens, which were just under 5% of all attempts reported. There were 17 children under the age of 12 that attempted suicide, the youngest of which was five years old.

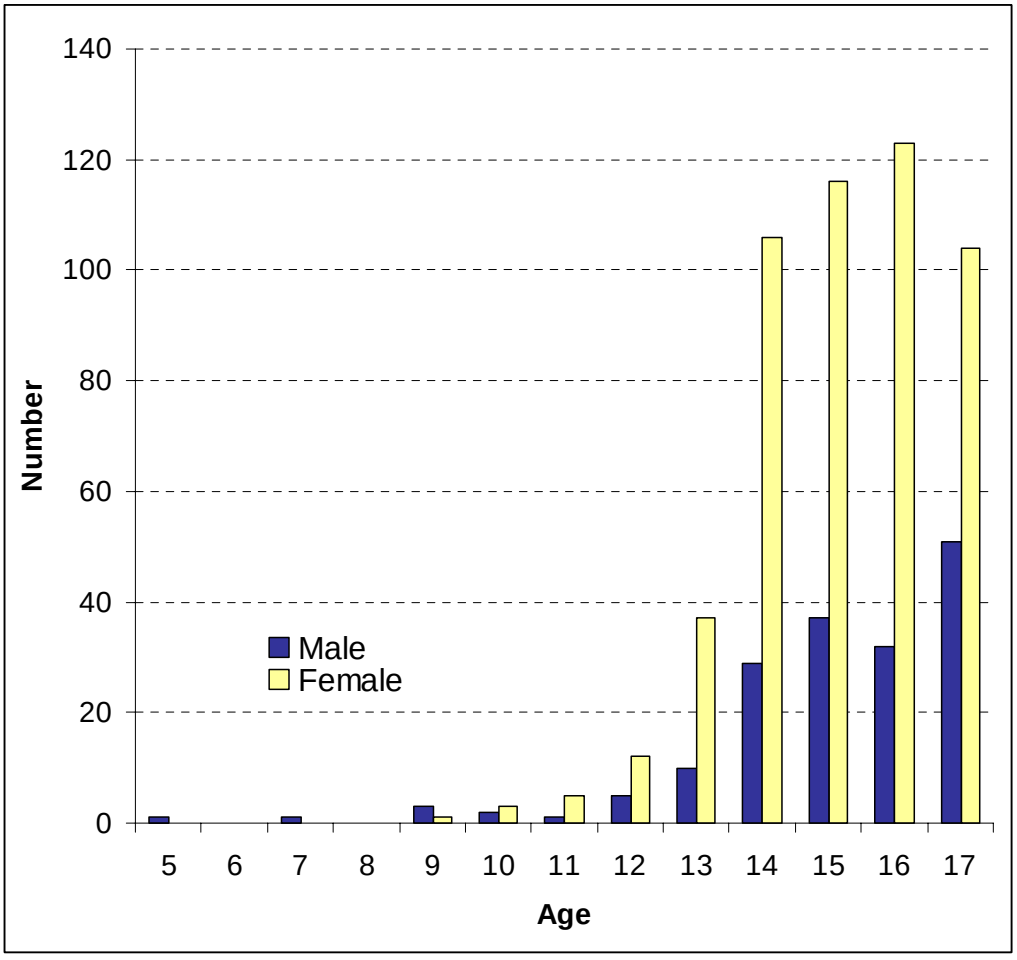
Table 2. Suicide attempts* by age group, 2007.

	Age Group			Total N
	<=12	13-14	15-17	
Male	(7.6%) 13	(22.7%) 39	(69.8%) 120	172
Female	(4.0%) 20	(28.3%) 143	(67.8%) 343	506
All	**33**	**182**	**463**	**678**

* Numbers in parentheses are row percents.

About two thirds—68% of all attempts, were made by those 15 to 17 years of age. Overall, the largest proportion of reported attempts was among girls 16 years of age.

Figure 2. Suicide attempts by sex and age group, 2007.



RACE

Eighty-eight percent of attempts included race as a reported variable. Ninety-four percent (N=565) of these attempts were among white youth, 2.8% were among Black and 2.8% reported "other" race. Report forms included a category for both race and Hispanic-origin. Overall, 3.5% of youth were reported as "Hispanic". Three percent of white youth were reported as Hispanic, while 19% of "other" race youth were reported as Hispanic on report forms.

Table 3. Suicide attempts by race and ethnicity, 2007.

	Hispanic	Not Hispanic	Unknown	Total N
White	(3.5%) 20	(75%) 424	(21.4%) 121	**565**
Black	(17.6%) 3	(76.5%) 13	(17.6%) 3	**17**
Other	(23.5%) 4	(76.5%) 13	(23.5%) 4	**17**
Total	**21**	**450**	**128**	**599**

* Numbers in parentheses are row percents.

HOUSEHOLD SITUATION

Of 678 reported attempts with data reported for living situation, 30% reported living with their mother only; 25% reported living with both parents, and 14% reported living with a parent and step parent. Three percent were living at a juvenile facility, 5% reported living with their father alone, and 4% reported living with grandparents. For 9% of reported attempts, the youth's living situation was unknown.

Table 4. Suicide attempts by household situation, sex, and age group, 2007.

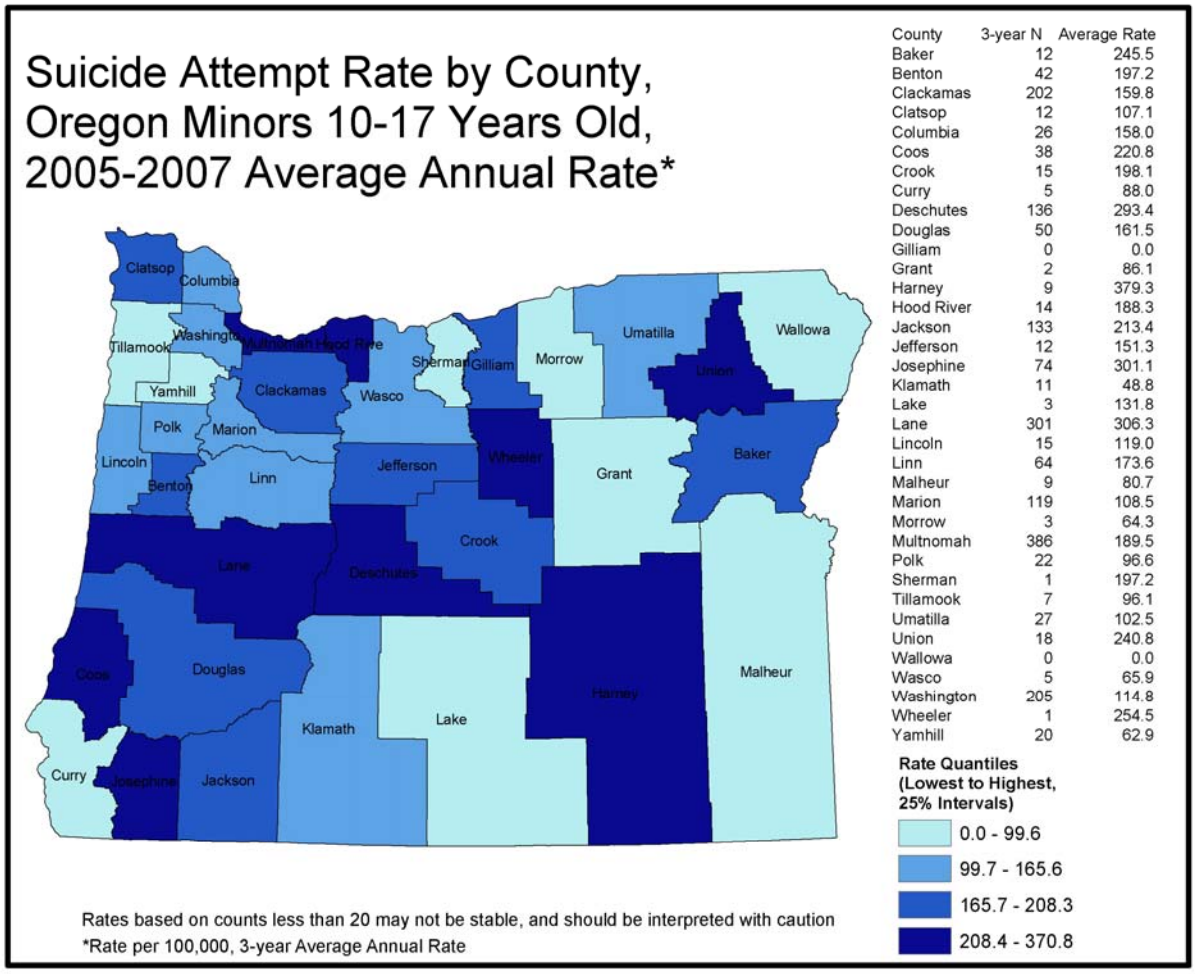
Lives with:	Sex						Total N
	Male			Female			
	Age Group			Age Group			
	<=12	13-14	15-17	<=12	13-14	15-17	
	N	N	N	N	N	N	N
Mother	(15.4%) 2	(20.5%) 8	(22.5%) 27	(55.0%) 11	(44.1%) 63	(27.1%) 93	(30.0%) 204
Both Parents	(38.5%) 5	(33.3%) 13	(27.5%) 33	(30.0%) 6	(17.5%) 25	(25.4%) 87	(24.8%) 169
Parent & Stepparent	(0%) 0	(12.8%) 5	(15.0%) 18	(5.0%) 1	(17.5%) 25	(12.8%) 44	(13.7%) 93
Father	(7.7%) 1	(7.7%) 3	(8.3%) 10	(5.0%) 1	(2.8%) 4	(5.0%) 17	(5.3%) 36
Grandparents	(0%) 0	(2.6%) 1	(2.5%) 3	(0%) 0	(2.1%) 3	(5.5%) 19	(3.8%) 26
Foster Parents	(7.7%) 1	(7.7%) 3	(1.7%) 2	(0%) 0	(3.5%) 5	(3.8%) 13	(3.5%) 24
Juvenile Facility	(15.4%) 2	(0%) 0	(5.0%) 6	(0%) 0	(1.4%) 2	(2.3%) 8	(2.6%) 18
Friends	(0%) 0	(0%) 0	(0.8%) 1	(0%) 0	(0%) 0	(3.5%) 12	(1.9%) 13
Adoptive Parents	(0%) 1	(2.6%) 1	(2.5%) 3	(0%) 0	(1.4%) 2	(1.5%) 5	(1.6%) 11
Other Relative	(0%) 2	(0%) 0	(4.2%) 5	(0%) 0	(0.7%) 1	(1.25) 4	(1.5) 10
Aunt	(0%) 3	(0%) 0	(1.7%) 2	(0%) 0	(0.7%) 1	(1.7%) 6	(1.3%) 9
Boyfriend	(0%) 4	(0%) 0	(0%) 0	(0%) 0	(0%) 0	(0.6%) 2	(0.3%) 2
Homeless	(0%) 5	(0%) 0	(0.8%) 1	(0%) 0	(0%) 0	(0%) 0	(0.1%) 1
Unknown or Not Stated	(15.4%) 2	(12.8%) 5	(7.5%) 9	(5.0%) 1	(8.4%) 12	33	(9.5%) 65

* Numbers in parentheses are column percents; total N is column N (e.g. total number of males <=12, total reported attempts).

The data suggest that there is much variation in the living situations among youth who attempt suicide. It is not clear whether any of the aforementioned categories of living situation are proportionately different from that of youth who do not attempt suicide.

GEOGRAPHIC DISTRIBUTION

The three-year average rate (2005-2007) of reported youth suicide attempts among youth 10-17 in the state overall was 169.1per 100,000 youth, according to ASADS data. The rate among counties varies substantially, and in many cases, a single year's data cannot be used to calculate the rate due to sparse data. In this case, county-level rates are calculated on a three-year average as shown in Figure 3 (table inset in map). The rate for some counties is still not reliable when aggregating data because the number of events on which the rate is based is less than 20. As a result, rates based on sparse data must be interpreted with caution, especially when comparing data across years. Incomplete reporting by some hospitals requires caution in interpreting single-year rates for some counties.



County	3-year N	Average Rate
Baker	12	245.5
Benton	42	197.2
Clackamas	202	159.8
Clatsop	12	107.1
Columbia	26	158.0
Coos	38	220.8
Crook	15	198.1
Curry	5	88.0
Deschutes	136	293.4
Douglas	50	161.5
Gilliam	0	0.0
Grant	2	86.1
Harney	9	379.3
Hood River	14	188.3
Jackson	133	213.4
Jefferson	12	151.3
Josephine	74	301.1
Klamath	11	48.8
Lake	3	131.8
Lane	301	306.3
Lincoln	15	119.0
Linn	64	173.6
Malheur	9	80.7
Marion	119	108.5
Morrow	3	64.3
Multnomah	386	189.5
Polk	22	96.6
Sherman	1	197.2
Tillamook	7	96.1
Umatilla	27	102.5
Union	18	240.8
Wallowa	0	0.0
Wasco	5	65.9
Washington	205	114.8
Wheeler	1	254.5
Yamhill	20	62.9

Figure 3. Geographic distribution of youth suicide attempts.

Most of the attempts reported in 2007 occurred in Multnomah county (N= 126) followed by Lane County (N= 104), and both these counties are within the highest 25% quantile for the 3-year average annual rates, as were Coos, Deschutes, Harney, Hood River, Josephine, Union, and Wheeler county. Gilliam, Grant, Morrow, and Wallowa counties had no reported attempts in 2007. Figure 3 may be as much a reflection of the distribution of health care resources (and access) and reporting compliance as it is a representation of the actual distribution of youth suicide attempts.

PLACE OF ATTEMPT

For 67% of reported attempts, the place of attempt was the youth's own home. Five percent occurred in the home of another, and 4% occurred at school. Fifteen percent did not report the place of attempt. Females were more likely to attempt in their own home compared to males (69% versus 60%). Males were more likely to attempt at school (7% versus 3%) or at a juvenile facility (4% versus 2%), compared to females.

Table 5. Place of attempt by sex, 2007.

Place	Male	Female
Own Home	(59.9%) 103	(69.2%) 350
Another's Home	(2.3%) 4	(5.3%) 27
School	(7.0%) 12	(2.8%) 14
Other	(6.4%) 11	(2.8%) 14
Juvenile Facility	(4.1%) 7	(2.2%) 11
Foster Home	(1.2%) 2	(1.8%) 9
Public Place	(0.6%) 1	(1.6%) 8
Unknown or Not Stated	(18.6%) 32	(14.4%) 73
Total N	172	506

* Numbers in parentheses are row percents.

A child's home is where various mechanism of attempt may be more readily accessible, such as poisons (e.g. pharmaceuticals) and firearms. In many cases, children are aware of the availability of pharmaceutical medicines, and firearms in the home, and many are not prevented from accessing these mechanisms. It is important for parents, providers, and school staff to understand that attempt mechanisms within the home can be hazardous to children that might be at risk for suicide, and to assure, where possible, that these mechanisms are not accessible to children at risk.

TIME OF YEAR

Most attempts occur from September to May, with the highest peaks in the months of February and May. The fewest attempts occurred July and August. This overall pattern is similar among both boys and girls.

The peak periods of attempt risk occur during months when youth are in school attendance, indicating that effective prevention efforts that engage school staff might help reduce the burden of suicide and suicide attempts among Oregon youth. Parents and healthcare provider awareness of risk periods within the year can help address prevention.

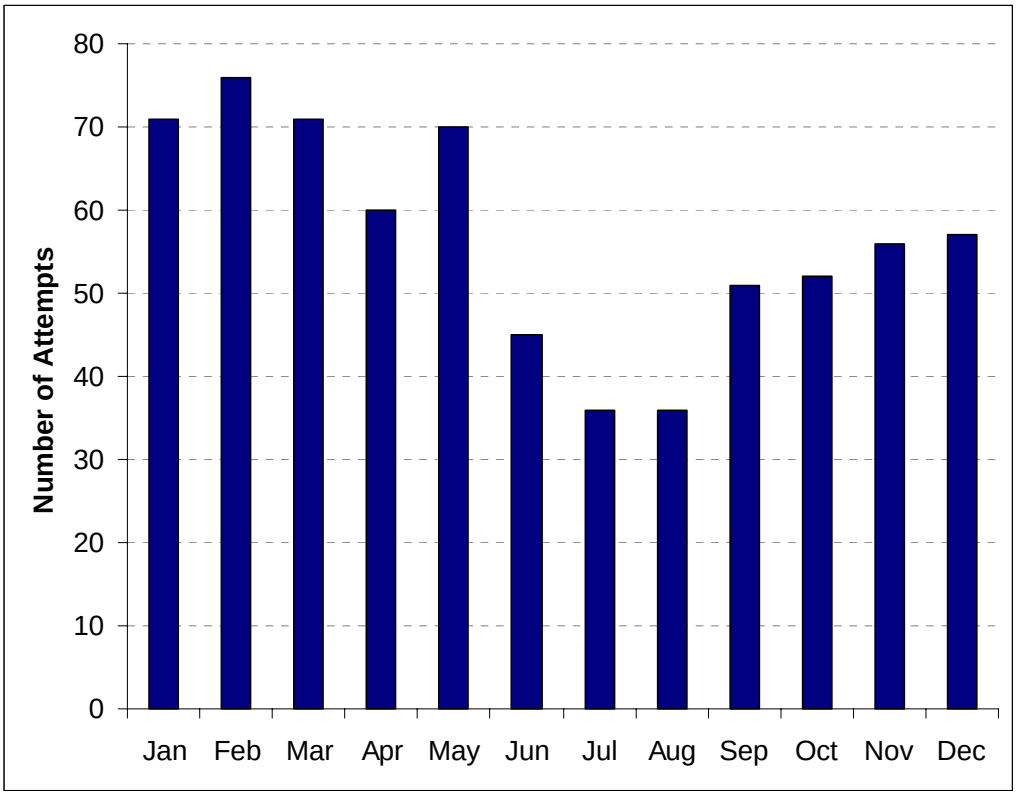


Figure 4. Attempts by month, 2007.

PAST ATTEMPTS

Less than half of all youth—43%, did not report a previous suicide attempt. Fifteen percent had reported one previous attempt. Slightly fewer girls were first time attempters compared to boys—41% had not previously attempted suicide compared to 50% of boys. About one fourth of all case reports omitted data on history of attempts.

History of a previous attempt is an important factor given that a previous attempt is the most reliable predictor of a future attempt, and possible, of completed suicide. Increased efforts to conduct follow-up and active outreach to youth treated for an attempt has potential value as a community-level intervention.

Table 6. Number of attempts by sex, 2007.

	Male	Female
None	(50.0%) 86	(40.7%) 206
One	(11.0%) 19	(16.6%) 84
Two	(2.3%) 4	(4.7%) 24
Three	(0.6%) 1	(1.4%) 7
Four or More	(2.3%) 4	(1.65) 8
Unknown Number of Attempts*	(9.35) 16	(11.9%) 60
Not Stated	(24.45%) 42	(23.1%) 117
Total N	172	506

*Attempts reported, but the total number was not specified

STATED INTENT

The proportion of boys that told another person prior to an attempt was similar to girls—38% and 34%, respectively. This indicates that amore than third youth told someone else about their intent to commit suicide. Of those who told someone of their plans, 60% of boys and 49% of girls told their parents of their plans; 25% of boys who told another and 23% of girls told a friend.

Table 7. Stated intent by age and sex, 2007.

	Sex		Age Group			Total N
	Male	Female	<=12	13-14	15-17	
Told another?						
Did tell	(39.0%) 67	(33.8%) 171	(48.5%) 16	(39.6%) 72	(32.6%) 151	(35.1%) 239
Did not tell	(35.5%) 61	(40.7%) 206	(36.4%) 12	(42.3%) 77	(38.9%) 180	(39.5%) 269
Unknown, or not stated	(25.6%) 44	(25.5%) 129	(18.2%) 6	(18.1%) 33	(28.9%) 134	(24.2%) 165
Told Who?						
Parent	(23.3%) 40	(16.4%) 83	(21.2%) 7	(23.6%) 43	(15.8%) 73	(18.1%) 123
Friend	(9.9%) 17	(7.7%) 39	(3.0%) 1	(8.2%) 15	(8.6%) 40	(8.2%) 56
Counselor	(0.6%) 1	(1.8%) 9	(0%) 0	(2.2%) 4	(1.3%) 6	(1.5%) 10
Teacher	(1.2%) 2	(0.6%) 3	(6.1%) 2	(0.5%) 1	(0.4%) 2	(0.7%) 5
Sibling	(0%) 0	(0.4%) 2	(3.0%) 1	(0%) 0	(0.2%) 1	(0.3%) 2
Other, or not specified	(4.1%) 7	(6.9%) 35	(15.2%) 5	(4.9%) 9	(6.3%) 29	(6.3%) 43

* Numbers in parentheses are column percents; total N is column N (e.g. total number of males <=12, total reported attempts).

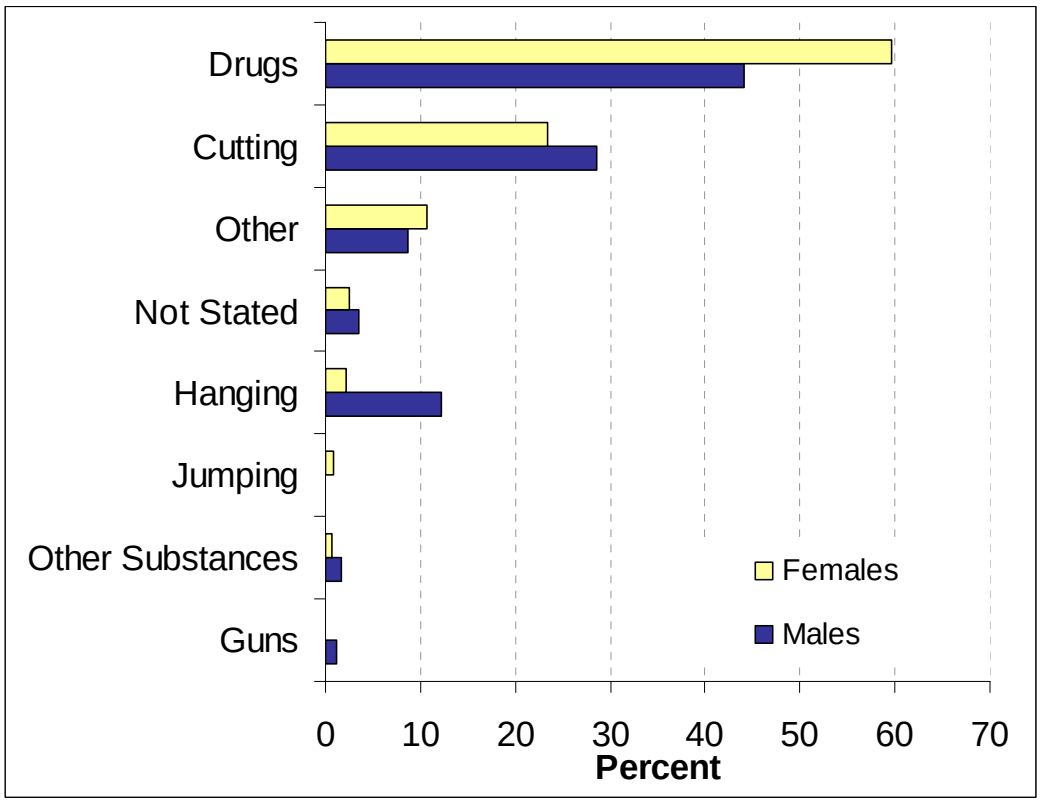
Since about one third of youth had informed somebody of their intent to attempt suicide, an intervention preventing an attempt could have occurred for a large proportion of the youth reported by the ASADS system. Parents have a particularly important role in preventing suicide attempts, since parents were the people most frequently informed about a potential attempt.

Raising awareness of youth suicide risk and suicide prevention resources helps increase the likelihood that at-risk youth that tell another person will be connected to prevention resources such as crisis centers, hotlines, or community/school gatekeepers.

METHOD

Most attempts involve a single method. The ASADS system was updated in 2007 to allow for multiple attempt types to be entered (formerly, only 3 attempt types could be entered). Each attempt reported in the database may capture multiple methods, which include the major categories of attempt type—drugs, cutting, hanging, jumping, other substances, and guns.

Figure 5. Method of suicide attempts, percent by sex, 2007.



The method category "drugs" includes over the counter medicines, pharmaceuticals, and street drugs. Sixty percent of girls and 44% of boys used drugs in an attempt. Between age groups, 26% of children 12 and under used drugs in an attempt; 54% of 13-14 year olds used drugs, and 58% of 15-17 year olds did. Overall, acetaminophen was involved in 46% of all attempt involving drugs—26% of all suicide attempts involved acetaminophen. Other analgesics were involved in 8% of drug-related attempts.

Twenty-five percent of all attempts involved cutting. Compared to girls, boys were more likely to employ cutting in attempt—64% of boys versus 39% of girls. Boys were also more likely to employ hanging—28% versus 4% of girls.

Table 8. Method of attempt by sex and age group, 2007

	Sex		Age Group			Total N
	Male	Female	<=12	13-14	15-17	
Drugs	(44.2%) 76	(59.7%) 302	(27.3%) 9	(53.8%) 98	(58.7%) 272	(55.7%) 379
Cutting	(28.5%) 49	(23.3%) 118	(36.4%) 12	(31.3%) 57	(21.2%) 98	(24.5%) 167
Other	(8.7%) 15	(10.7%) 54	(9.1%) 3	(5.5%) 10	(12.3%) 57	(10.3%) 70
Hanging & Suffocation	(12.2%) 21	(2.2%) 11	(27.3%) 9	(3.8%) 7	(3.7%) 17	(4.8%) 33
Not Stated	(3.5%) 6	(2.6%) 13	(3.0%) 1	(3.8%) 7	(2.4%) 11	(2.8%) 19
Other Substances	(1.7%) 3	(0.6%) 3	(0%) 0	(1.1%) 2	(0.9%) 4	(0.9%) 6
Jumping	(0%) 0	(0.8%) 4	(0%) 0	(0.5%) 1	(0.6%) 3	(0.6%) 4
Firearm	(1.2%) 2	(0.2%) 1	(0%) 0	(0%) 0	(0.6%) 3	(0.4%) 3

* Numbers in parentheses are column percents; total N is column N (e.g. total number of males <=12, total reported attempts). Total category is independent of age groups or sex.

HOSPITAL ADMISSION

Forty-two of youth that attempted suicide were admitted to hospitals as inpatients. Fifty percent of boys and 42% of girls were admitted as inpatients.

Table 9. Hospital admission by sex and age group, 2007.

		Inpatient	Outpatient	Transferred	Not Stated
Sex	**Age Group**				
Male	**<=12**	(42.6%) 6	(23.1%) 3	(30.8%) 4	(0%) 0
	13-14	(30.8%) 12	(48.7%) 19	(12.8%) 5	(7.7%) 3
	15-17	(50.8%) 61	(31.7%) 38	(17.5%) 21	(0%) 0
Female	**<=12**	(20.0%) 4	(65.0%) 13	(10.0%) 2	(5.0%) 1
	13-14	(39.9%) 57	(46.9%) 67	(11.2%) 16	(2.1%) 3
	15-17	(61.3%) 149	(56.4%) 137	(23.0%) 56	(0.4%) 1

* Numbers in parentheses are row percents; total N is column N (e.g. number of males <=12).

Youth living with both parents were less likely to be admitted as an inpatient than either as an outpatient or transfer. Forty-three percent were outpatients, compared to 38% inpatient admissions, and 18% transferred to another facility. Fifty-six of youth living with one parent and a step parent were admitted as inpatients. Most youth living with their mother only were admitted as inpatients (44%) compared to outpatient status or transferred to another facility.

Youth with at least one previous attempt were 1.5 times more likely to be admitted as inpatients compared to youth with no previous attempts.

PSYCHOLOGICAL CONDITIONS

In the general population, a very high proportion of completed suicides are associated with psychological conditions including depression and substance abuse. In Oregon, this is about 80% of all suicides, according to the Oregon Violent Death Reporting System (http://www.oregon.gov/DHS/ph/ipe/nvdrs/index.shtml)Psychological conditions coupled with other stressors—such as family discord—increase the risk of suicide.

Multiple psychological conditions can be reported in collecting data for ASADS. The majority—81% of reported youth, had at least one psychological condition with the majority of those (49%) reporting depression.

Similar proportions of boys and girls reported a psychological condition—80% of male and 81% of females. Depression was reported for 51% of girls and 49% of boys.

Fourteen percent of boys and 10% of girls were reported to be bipolar. Twenty percent of boys and 9% of girls were reported to have attention deficit disorder. More girls reported post-traumatic stress disorder than boys—8% compared to 4% of boys.

Table 10. Reported psychological conditions by sex and age group, 2007.

	Sex		Age Group			Total N
	Male	Female	<=12	13-14	15-17	
Any Condition	(82.0%) 141	(81.2%) 411	(81.8%) 27	(81.9%) 149	(81.2%) 376	(81.1%) 552
Major Depression	(45.9%) 79	(50.8%) 257	(21.2%) 7	(44.5%) 81	(53.6%) 248	(49.3%) 336
Other Psychological Conditions	(33.7%) 58	(29.4%) 149	(39.4%) 13	(32.4%) 59	(29.2%) 135	(30.4%) 207
Attention Deficit Disorder	(22.1%) 38	(9.1%) 46	(36.4%) 12	(15.9%) 29	(9.3%) 43	(12.3%) 84
Bipolar Disorder	(11.6%) 20	(10.3%) 52	(9.1%) 3	(9.3%) 17	(11.2%) 52	(10.6%) 72
Post-traumatic Stress Disorder	(4.1%) 7	(7.9%) 40	(12.1%) 4	(6.6%) 12	(6.7%) 31	(6.9%) 47
Conduct Disorder	(11.6%) 20	(4.9%) 25	(6.1%) 2	(9.9%) 18	(5.4%) 25	(6.6%) 45
Adjustment Disorder	(5.2%) 9	(6.3%) 32	(15.2%) 5	(9.3%) 17	(4.1%) 19	(6.0%) 41
Eating Disorder	(1.2%) 2	(4.2%) 21	(3.0%) 1	(6.0%) 11	(2.4%) 11	(3.4%) 23
Dysthymia	(0.6%) 1	(1.4%) 7	(0%) 0	(0.5%) 1	(1.5%) 7	(1.2%) 8
Schizophrenia	(0%) 0	(0%) 0	(0%) 0	(0%) 0	(0%) 0	(0%) 0

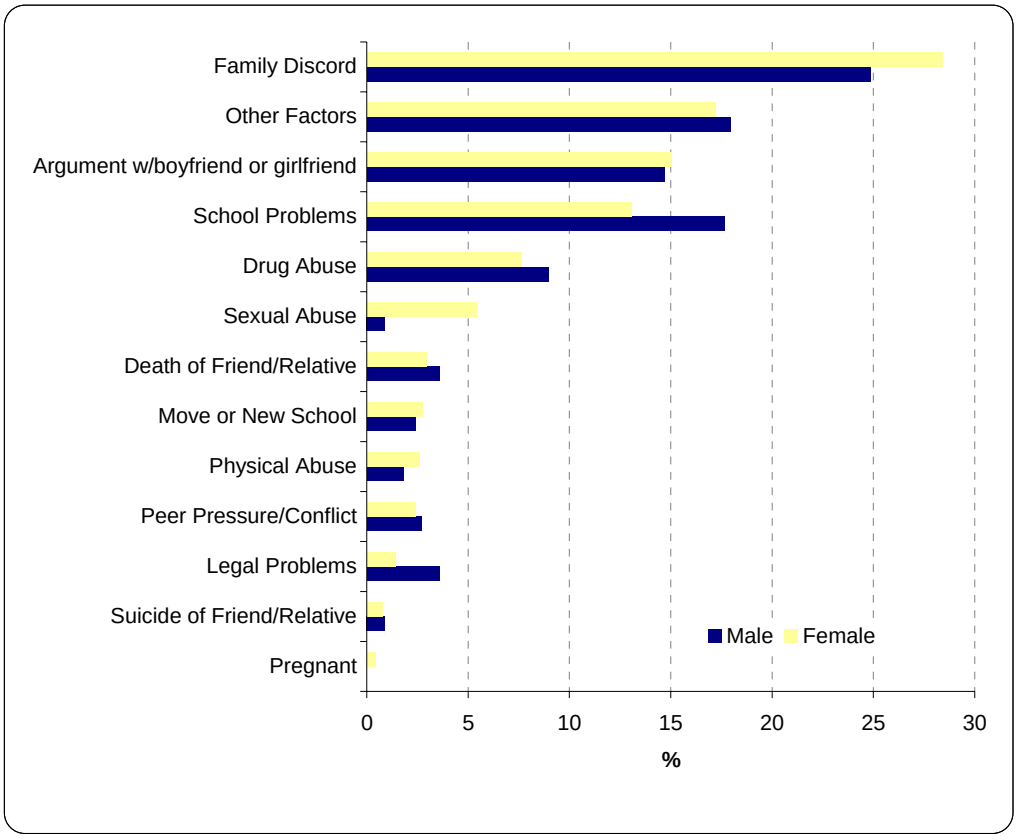
* Numbers in parentheses are column percents; total N is column N (e.g. total number of males <=12, total reported attempts). Total category is independent of age groups or sex.

Across age groups, there were similar proportions of youth that had at least one psychological condition. Data suggest that depression may play more of a role in suicide attempts among older age groups—21% of youth 12 and under were reported to have depression, while 45% of those 13-14 years of age and 53% of those 15-17 years of age were reported to have major depression. Children 12 and under were reported to have adjustment disorder more frequently than those in the older age groups.

RECENT PRECIPITATING EVENTS

Multiple factors contribute to suicidal behavior. The ASADS report form allows for multiple recent precipitating events that contributed to suicidal behavior to be recorded. Family discord was reported by 51% of those youth with a reported attempt. Females were more likely to report family discord—52% compared to 47% of males.

Figure 6. Percent of suicide attempts by reasons given, by sex, 2007.



For youth 12 and under, 50% were reported to have family discord as a factor in their attempt. Forty-eight percent of youth 15-17 were reported to have family discord as a factor; 58% of youth 13-14 were also reported to have this factor. Of those youth with a history of suicide attempt, 52% reported family discord as a precipitating factor in the most recently reported attempt.

School-related problems were reported for 26% of youth. School problems were reported for 34% of males and 24% of females. Twenty-nine percent of children 12 and under reported school problems, while 23% and 23% of youth 13-14 and 15-17, respectively, were reported to have school-related

problems as precipitating factors in suicidal behavior. Among youth with a history of suicide attempt, 27% reported school-related problems as a precipitating factor of the most recently reported attempt.

Table 11. Precipitating events by sex and age group, 2007.

	Sex		Age Group			Total N
	Male	Female	<=12	13-14	15-17	
Family Discord	(48.3%) 83	(51.6%) 261	(51.5%) 17	(58.2%) 106	(47.7%) 221	(50.5%) 344
Other Factors	(34.9%) 60	(31.2%) 158	(6.1%) 2	(30.2%) 55	(34.8%) 161	(32.0%) 218
Argument w/boyfriend or girlfriend	(28.5%) 49	(27.3%) 138	(12.1%) 4	(22.5%) 41	(30.7%) 142	(27.5%) 187
School Problems	(34.3%) 59	(23.7%) 120	(30.3%) 10	(33.0%) 60	(23.5%) 109	(26.3%) 179
Drug Abuse	(17.4%) 30	(13.8%) 70	(3.0%) 1	(12.6%) 23	(16.4%) 76	(14.7%) 100
Sexual Abuse	(1.7%) 3	(9.9%) 50	(9.1%) 3	(10.4%) 19	(6.7%) 31	(7.8%) 53
Death of Friend/Relative	(7.0%) 12	(5.3%) 27	(3.0%) 1	(7.1%) 13	(5.4%) 25	(5.7%) 39
Move or New School	(4.7%) 8	(4.9%) 25	(6.1%) 2	(6.6%) 12	(4.1%) 19	(4.8%) 33
Peer Pressure or Conflict	(5.2%) 9	(4.3%) 22	(3.0%) 1	(7.7%) 14	(3.5%) 16	(4.6%) 31
Physical Abuse	(3.5%) 6	(4.7%) 24	(0%) 0	(8.2%) 15	(3.2%) 15	(4.4%) 30
Legal Problems	(7.0%) 12	(2.6%) 13	(0%) 0	(4.9%) 9	(3.5%) 16	(3.7%) 25
Suicide of Friend/Relative	(1.7%) 3	(1.4%) 7	(0%) 0	(1.1%) 2	(1.7%) 8	(1.5%) 10
Pregnant	-	(0.8%) 4	(0%) 0	(0.7%) 1	(0.6%) 3	(0.8%) 4

* Numbers in parentheses are column percents; total N is column N (e.g. total number of males <=12, total reported attempts). Total category is independent of age groups or sex.

An argument with a boyfriend or girlfriend was reported for 27% of youth. Females and males were nearly equally likely to have an argument reported as a precipitating factor in suicidal behavior—28% and 27%, respectively. Not unexpectedly, the likelihood of an argument reported as a precipitating factor increased with age. Twelve of youth 12 and under had an argument reported, while 23% of youth 13-14 and 31% of youth 15-17 had an argument reported. Among youth with a history of suicide attempt, 29% reported an argument with a boyfriend or girlfriend as a precipitating factor of the most recently reported attempt.

Overall, substance abuse was reported among 15% of youth. Males were more likely than females to have substance abuse reported—17% compared to 14% of females. Thirteen percent of 13-14 years olds and 16% of 15-17 year olds had substance abuse reported. Among youth with a history of suicide attempt, 18% were reported as having a substance abuse issue as a precipitating factor of the most recently reported attempt.

Peer pressure or conflict was reported among 5% of youth, with 5% of males and 4% of females having this factor reported. Eight percent of 13-14 year olds and 3% of 15-17 years olds were reported as having conflict or peer pressure as a factor in suicidal behavior. Peer pressure or conflict was reported for one child 12 and under.

Sexual abuse was reported for 8% of youth, with 2% of males and 10% of females having sexual abuse reported as a factor. Nine percent of children 12 and under, 10% of 13-14 year olds, and 7% of 15-17 year olds had sexual abuse reported as a precipitating factor.

Table 12. Precipitating events by attempt history, 2007.

	No Previous Attempts	Previous Attempts	Unknown or not stated	Total
Family Discord	(56.7%) 166	(52.2%) 119	(38.1%) 61	(50.8%) 346
Other Factors	(32.1%) 94	(35.1%) 80	(28.1%) 45	(32.2%) 219
Argument w/boyfriend or girlfriend	(30.0%) 88	(28.5%) 65	(21.9%) 35	(27.6%) 188
School Problems	(35.2%) 103	(26.8%) 61	(10.6%) 17	(26.6%) 181
Drug Abuse	(16.0%) 47	(18.4%) 42	(6.9%) 11	(14.7%) 100
Sexual Abuse	(5.8%) 17	(13.2%) 30	(4.4%) 7	(7.9%) 54
Death of Friend/Relative	(5.5%) 16	(7.9%) 18	(3.1%) 5	(5.7%) 39
Move or New School	(6.8%) 20	(4.4%) 10	(1.9%) 3	(4.8%) 33
Peer Pressure/Conflict	(5.8%) 17	(4.8%) 11	(1.9%) 3	(4.6%) 31
Physical Abuse	(5.1%) 15	(5.3%) 12	(1.9%) 3	(4.4%) 30
Legal Problems	(3.4%) 10	(4.8%) 11	(2.5%) 4	(3.7%) 25
Suicide of Friend/Relative	(1.7%) 5	(2.2%) 5	(0%) 0	(1.5%) 10
Pregnant	(5.0%) 1	(1.4%) 2	(0.3%) 1	(0.6%) 4

* Numbers in parentheses are column percents (e.g. total number of previous attempts). Multiple precipitating events can be reported per attempt, therefore, percents in 'Total' column do not sum to 100. 'N' for pregnancy includes female population only.

The death of a friend or family member was reported among 6% of youth; 7% among males and 5% among females. There was little difference between age groups as well, with 3% of those 12 and under, 7% of those 13-14, and 5% of those 15-17 experiencing the death of a friend or family member as a possible contributing factor to suicidal behavior.

A move to a new school was reported as a precipitating factor among 5% of youth, with 5% of both males and females having this event reported. Between age groups, 6% of youth 12 and under, 27% of youth 13-14 years of age, and 4% of youth 15-17 were reported as having a move to a new school as a factor in suicidal behavior.

Physical abuse was reported among 4% of youth. Physical abuse was a precipitating factor among 3% of males and 5% of females. Fifteen percent of 13-14 year-olds reported physical abuse, compared to 3% of 15-17 year-olds and no children 12 and under.

Legal problems were a factor for 4% of youth— 7% for males 3% of females. Five percent of 13-14 year olds and 3% of 15-17 year olds had legal problems reported a factor.

Suicide by a friend or relative was reported for 1% of all youth, with little difference between groups.

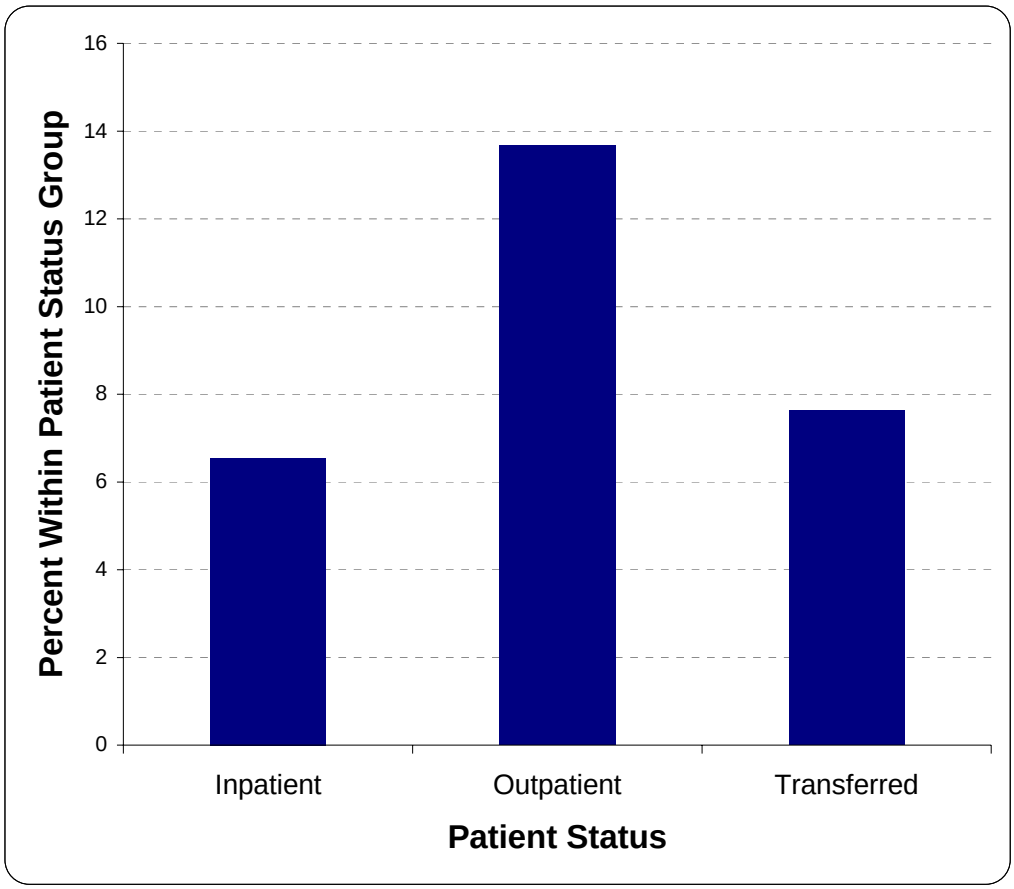
Pregnancy was reported as a factor among less than 1% of females. For both 13-14 year olds and 15-17 year old girls, pregnancy was a factor for less than 1% of attempts.

Other reasons not classified were reported as factors for 32% of attempts, with males more likely to have unclassified reasons for suicidal behavior. There was a increased likelihood of unclassified factors reported as age increased. For children 12 and under 6% had an unclassified factor reported, while 30% of children 13-14 and 35% of children 15-17 had another (unclassified) reason for suicidal behavior.

REFERRAL

Hospitals that treat any adolescent for a suicide attempt are required by Oregon statute to refer those youth for follow-up care, such as in-patient or out-patient community resources, crisis intervention or other appropriate intervention. In 2007, about 10% of youth that presented to a hospital because of a suicide attempt were not referred for follow-up care. Nearly 14% percent of outpatients were not referred, and just over 6% of inpatient youth were not referred.

Figure 7. Percent of suicide attempt patients not referred for follow-up care or follow-up care status unknown, by admission status, 2007.



CONCLUSIONS

Suicide is a serious public health problem, and identifying and tracking suicide attempts is an important step in preventing suicide and reducing the burden of suicide in Oregon communities. However, communities, individuals, government agencies, hospitals and other health care providers must all act to address the goal of preventing suicide and suicide attempts from ever occurring. The following recommendations are based on information gathered through ASADS and the Oregon Youth Suicide Prevention Plan.

Communities

- Establish comprehensive prevention programs in schools
- Reduce harassment in schools and communities
- Enhance crisis services
- Establish and maintain crisis response teams
- Support suicide survivors
- Eliminate the stigma associated with behavioral health care
- Support efforts to reduce youth access to lethal means of self-harm
- Implement prevention programs in schools

Individuals

- Get involved in the local community in suicide prevention efforts
- Recognize and respond appropriately to troubled youth that vocalize plans for suicide
- Parents: increase awareness of suicide risk factors, restrict means for at-risk youth

The health care community

- Improve follow-up care and implement outreach to suicide attempters
- Refer all attempters for follow-up care. Oregon statute requires that all youth presenting to a hospital following a suicide attempt must be referred for follow-up care
- Increase compliance with state law by providing timely, valid and reliable data to the ASADs system
- Improve access to affordable behavioral health care
- Reporting facilities (hospitals) should adhere to reporting protocol as detailed by DHS (http://www.oregon.gov/DHS/ph/ipe/ysp/ASADS2.shtml) to improve the validity and reliability of data. Accurate, timely, and reliable information leads to improved outcomes

GLOSSARY

Depression: a constellation of emotional, cognitive, and physiological signs and symptoms including sustained sad mood or lack of pleasure.

Frequency: the number of occurrences of a disease or health outcome within a specific period of time.

Intentional: an injury that is the result of purposeful human action directed against oneself or others.

Means: The mechanism or object used in an intentionally injurious act.

Means restriction: procedure, policy or method of limiting access to the mechanisms or methods used for intentionally injurious acts.

Method: procedure or technique used in self-inflicted harm.

Mortality: the rate or number of deaths in a specified population.

Prevention: a strategy that decreases the risk of onset of a condition or delays the harm associated with a condition.

Public health approach: a systematic approach to population health in which a problem is defined, risk and protective factors are identified, interventions are developed and tested, and effective interventions are widely adopted.

Rate: The number of events per unit of population, per time period (e.g. 5 deaths per 100,000 persons per year).

Risk factor: factors that increase the likelihood of an event.

Screening: using an assessment tool to identify persons that may be at risk.

Substance abuse: maladaptive patterned use of legal or illegal substances, resulting in recurrent adverse consequences through repeated use.

Suicidal ideation: Thoughts of harming or killing oneself.

Suicide attempt: self-inflicted destructive act with explicit or inferred intent to die, with a non-fatal outcome.

Suicide: a fatal self-inflicted injurious act with explicit or inferred intent to die.

Surveillance: an ongoing and systematic collection of data for public health action.

APPENDIX

Table 1A. Number of suicides among Oregon youth by age and sex, 2000-2006.

		Age										
		10	11	12	13	14	15	16	17	18	19	
		N	N	N	N	N	N	N	N	N	N	Total
Year	sex											
2000	F	1	0	0	1	1	1	0	1	2	1	8
	M	0	1	0	1	0	4	1	5	13	4	29
2001	F	0	0	0	0	3	0	0	0	1	1	5
	M	0	0	0	1	1	1	2	5	1	4	15
2002	F	0	0	0	1	0	1	0	2	1	1	6
	M	0	0	0	1	1	1	5	1	3	5	17
2003	F	0	0	0	0	0	1	0	0	1	1	3
	M	0	0	0	0	0	1	4	2	2	4	13
2004	F	0	0	0	0	1	1	1	0	0	0	3
	M	0	0	0	1	0	1	2	3	1	7	15
2005	F	0	0	0	0	0	0	2	0	0	0	2
	M	1	0	0	0	2	3	3	3	3	4	19
2006	F	0	0	0	0	0	0	1	0	3	2	6
	M	0	0	0	0	2	2	0	4	1	7	16

Table 2A. Number of suicides among Oregon youth under 20 years of age by county of residence, 2000-2006.

	Year							
	2000	2001	2002	2003	2004	2005	2006	
	N	N	N	N	N	N	N	Total
County of Residence								
Baker	0	0	0	0	0	0	0	0
Benton	1	0	1	1	0	0	0	3
Clackamas	3	0	3	1	1	1	1	10
Clatsop	1	1	1	0	0	0	0	3
Columbia	0	0	0	0	0	1	0	1
Coos	0	0	0	0	1	0	2	3
Crook	0	1	0	0	0	0	0	1
Curry	0	0	1	1	0	0	0	2
Deschutes	0	0	2	0	0	3	1	6
Douglas	1	2	1	0	1	1	1	7
Gilliam	0	0	0	0	0	0	0	0
Grant	1	0	0	1	0	0	0	2
Harney	1	0	0	0	0	0	0	1
Hood River	0	1	0	0	0	0	0	1
Jackson	4	2	0	0	2	1	1	10
Jefferson	1	1	0	0	0	0	0	2
Josephine	1	1	0	2	1	0	1	6
Klamath	3	2	0	0	0	2	1	8
Lake	0	0	0	0	0	0	0	0
Lane	3	2	1	1	1	2	1	11
Lincoln	1	0	0	0	0	0	0	1
Linn	0	1	2	0	1	0	1	5
Malheur	0	0	0	1	0	0	0	1
Marion	3	1	3	1	0	2	2	12
Morrow	1	0	0	0	0	0	0	1
Multnomah	3	1	5	4	4	2	6	25
Polk	1	0	0	1	0	0	0	2
Sherman	0	0	0	0	0	0	0	0
Tillamook	1	0	0	0	0	0	0	1
Umatilla	2	0	0	0	0	1	1	4
Union	1	0	0	0	1	0	0	2
Wallowa	0	0	0	0	1	0	0	1
Wasco	1	0	1	0	0	0	0	2
Washington	3	3	1	2	2	2	3	16
Wheeler	0	0	0	0	0	0	0	0
Yamhill	0	1	1	0	2	3	0	7

Table 3A. Number of suicides attempts (reported to ASADS) among Oregon youth under 18 years of age by residence county, age, and sex, 2007. (* Indicates data not shown to avoid breeching confidentiality).

	Sex						
	Male			Female			
	Age Group			Age Group			
	<=12	13-14	15-17	<=12	13-14	15-17	Total
	N	N	N	N	N	N	N
County							
Baker	*	*	*	*	*	*	6
Benton	1	0	3	0	2	5	11
Clackamas	0	4	6	1	14	36	61
Clatsop	*	*	*	*	*	*	3
Columbia	*	*	*	*	*	*	9
Coos	0	0	0	1	4	5	10
Crook	*	*	*	*	*	*	7
Curry	*	*	*	*	*	*	2
Deschutes	0	3	11	1	10	24	49
Douglas	1	2	4	0	0	3	10
Gilliam	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0
Harney	*	*	*	*	*	*	3
Hood River	*	*	*	*	*	*	1
Jackson	5	6	9	4	8	18	50
Jefferson	*	*	*	*	*	*	2
Josephine	0	2	6	1	2	13	24
Klamath	*	*	*	*	*	*	3
Lake	*	*	*	*	*	*	1
Lane	3	7	17	0	25	52	104
Lincoln	*	*	*	*	*	*	4
Linn	0	1	6	1	6	18	32
Malheur	*	*	*	*	*	*	5
Marion	0	0	5	1	5	17	28
Morrow	0	0	0	0	0	0	0
Multnomah	0	6	27	5	35	53	126
Polk	*	*	*	*	*	*	4
Sherman	*	*	*	*	*	*	1
Tillamook	*	*	*	*	*	*	2
Umatilla	*	*	*	*	*	*	5
Union	0	0	2	0	0	8	10
Wallowa	*	*	*	*	*	*	0
Wasco	*	*	*	*	*	*	2
Washington	2	2	9	3	11	38	65
Wheeler	*	*	*	*	*	*	1
Yamhill	*	*	*	*	*	*	5